IMPORTANT:
To aid reporting in case of loss or theft, please record the product's model and serial numbers in the space provided. The numbers are located in the rear of the product.

U.S.A. ONLY

Model No.:

Serial No.:
IMPORTANT INFORMATION

WARNING: TO REDUCE THE RISK OF FIRE OR ELECTRIC SHOCK, DO NOT EXPOSE THIS PRODUCT TO RAIN OR MOISTURE.

CAUTION
RISK OF ELECTRIC SHOCK
DO NOT OPEN

CAUTION: TO REDUCE THE RISK OF ELECTRIC SHOCK, DO NOT REMOVE COVER. NO USER-SERVICEABLE PARTS INSIDE. REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.

The lightning flash with arrowhead symbol, within a triangle, is intended to alert the user to the presence of uninsulated “dangerous voltage” within the product’s enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.

The exclamation point within a triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the product.

WARNING:
FCC Regulations state that any unauthorized changes or modifications to this equipment not expressly approved by the manufacturer could void the user’s authority to operate this equipment.

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

This product utilizes a CR coin Lithium battery which contains a Perchlorate material. Special handling for this material may apply. California residents, see www.dtsc.ca.gov/hazardouswaste/perchlorate/ Others, consult local environmental officers.

U.S.A. ONLY
DEAR SHARP CUSTOMER

Thank you for your purchase of a SHARP LCD product. To ensure safety and many years of trouble-free operation of your product, please read the Safety Precautions carefully before using this product.

SAFETY PRECAUTIONS

Electricity is used to perform many useful functions, but it can also cause personal injuries and property damage if improperly handled. This product has been engineered and manufactured with the highest priority on safety. However, improper use can result in electric shock and/or fire. In order to prevent potential danger, please observe the following instructions when installing, operating and cleaning the product. To ensure your safety and prolong the service life of your LCD product, please read the following precautions carefully before using the product.

1. Read instructions — All operating instructions must be read and understood before the product is operated.
2. Keep this manual in a safe place — These safety and operating instructions must be kept in a safe place for future reference.
3. Observe warnings — All warnings on the product and in the instructions must be observed closely.
4. Follow instructions — All operating instructions must be followed.
5. Cleaning — Unplug the power cord from the AC outlet before cleaning the product. Use a dry cloth to clean the product. Do not use liquid cleaners or aerosol cleaners. Do not use dirty cloths. Doing so may damage the product.
6. Attachments — Do not use attachments not recommended by the manufacturer. Use of inadequate attachments can result in accidents.
7. Water and moisture — Do not use the product near water. Do not install the product in a place where water may splash onto it. Be careful of equipment which drains water such as an air-conditioner.
8. Ventilation — The vents and other openings in the cabinet are designed for ventilation.
   Do not cover or block these vents and openings since insufficient ventilation can cause overheating and/or shorten the life of the product. Do not place the product on a sofa, rug or other similar surface, since they can block ventilation openings. Do not place the product in an enclosed place such as a bookcase or rack, unless proper ventilation is provided or the manufacturer’s instructions are followed.
9. Power cord protection — The power cords must be routed properly to prevent people from stepping on them or objects from resting on them.
10. The LCD panel used in this product is made of glass. Therefore, it can break when the product is dropped or applied with impact. Be careful not to be injured by broken glass pieces in case the LCD panel breaks.
11. Overloading — Do not overload AC outlets or extension cords. Overloading can cause fire or electric shock.
12. Entering of objects and liquids — Never insert an object into the product through vents or openings. High voltage flows in the product, and inserting an object can cause electric shock and/or short internal parts.
   For the same reason, do not spill water or liquid on the product.
13. Servicing — Do not attempt to service the product yourself. Removing covers can expose you to high voltage and other dangerous conditions. Request a qualified service person to perform servicing.
14. Repair — If any of the following conditions occurs, unplug the power cord from the AC outlet, and request a qualified service person to perform repairs.
   a. When the power cord or plug is damaged.
   b. When a liquid was spilled on the product or when objects have fallen into the product.
   c. When the product has been exposed to rain or water.
   d. When the product does not operate properly as described in the operating instructions.
      Do not touch the controls other than those described in the operating instructions. Improper adjustment of controls not described in the instructions can cause damage, which often requires extensive adjustment work by a qualified technician.
   e. When the product has been dropped or damaged.
   f. When the product displays an abnormal condition. Any noticeable abnormality in the product indicates that the product needs servicing.
15. Replacement parts — In case the product needs replacement parts, make sure that the service person uses replacement parts specified by the manufacturer, or those with the same characteristics and performance as the original parts. Use of unauthorized parts can result in fire, electric shock and/or other danger.
16. Safety checks — Upon completion of service or repair work, request the service technician to perform safety checks to ensure that the product is in proper operating condition.
17. Wall mounting — When mounting the product on a wall, be sure to install the product according to the method recommended by the manufacturer.
18. Heat sources — Keep the product away from heat sources such as radiators, heaters, stoves and other heat-generating products (including amplifiers).
SAFETY PRECAUTIONS (Continued)

19. Batteries — Incorrect use of batteries may cause the batteries to burst or ignite. A leaky battery may corrode the equipment, dirty your hands or spoil your clothing. In order to avoid these problems, make sure to observe the precautions below:
   • Use the specified batteries only.
   • Install the batteries with due attention to the plus (+) and minus (-) sides of the batteries according to the instructions in the compartment.
   • Do not mix old and new batteries.
   • Do not mix batteries of different types. Voltage specifications of batteries of the same shape may vary.
   • Replace an exhausted battery with a new one promptly.
   • If you will not use the remote control for a long time, remove the batteries.
   • If leaked battery fluid gets on your skin or clothing, rinse immediately and thoroughly. If it gets into your eye, bathe your eye well rather than rubbing and seek medical treatment immediately. Leaked battery fluid that gets into your eye or your clothing may cause a skin irritation or damage your eye.

20. Usage of the monitor must not be accompanied by fatal risks or dangers that could lead directly to death, personal injury, severe physical damage or other loss, including nuclear reaction control in nuclear facility, medical life support system, and missile launch control in a weapon system.

21. Do not stay in contact with the parts of the product that become hot for long periods of time. Doing so may result in low-temperature burns.

22. Do not modify this product.

**WARNING:**
This is a Class A product. In a domestic environment this product may cause radio interference in which case the user may be required to take adequate measures.

To maintain compliance with EMC regulations, use shielded cables to connect to the following terminals: HDMI input terminal, D-sub input terminal, RS-232C input/output terminals, DVI-D input terminal and DisplayPort input/output terminals.

If a monitor 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 fixing devices like wall mount brackets recommended by the manufacturer.
- Only using furniture that can safely support the monitor.
- Ensuring the monitor is not overhanging the edge of the supporting furniture.
- Not placing the monitor on tall furniture (for example, cupboards or bookcases) without anchoring both the furniture and the monitor to a suitable support.
- Not standing the monitors on cloth or other materials placed between the monitor and supporting furniture.
- Educating children about the dangers of climbing on furniture to reach the monitor or its controls.
- This equipment is not suitable for use in locations where children are likely to be present unsupervised.

**Especially for child safety**
- Don’t allow children to climb on or play with the monitor.
- Don’t place the monitor on furniture that can easily be used as steps, such as a chest of drawers.
- Remember that children can become excited while watching a program, especially on a “larger than life” monitor. Care should be taken to place or install the monitor where it cannot be pushed, pulled over, or knocked down.
- Care should be taken to route all cords and cables connected to the monitor so that they cannot be pulled or grabbed by curious children.
TIPS AND SAFETY INSTRUCTIONS

- The TFT color LCD panel used in this monitor is made with the application of high precision technology. However, there may be minute points on the screen where pixels never light or are permanently lit. Also, if the screen is viewed from an acute angle there may be uneven colors or brightness. Please note that these are not malfunctions but common phenomena of LCDs and will not affect the performance of the monitor.

- Do not display a still picture for a long period, as this could cause a residual image.

- Never rub or tap the monitor with hard objects.

- Please understand that SHARP CORPORATION bears no responsibility for errors made during use by the customer or a third party, nor for any other malfunctions or damage to this product arising during use, except where indemnity liability is recognized under law.

- This monitor and its accessories may be upgraded without advance notice.

- Do not use the monitor where there is a lot of dust, where humidity is high, or where the monitor may come into contact with oil or steam. Do not use in an environment where there are corrosive gases (sulfur dioxide, hydrogen sulfide, nitrogen dioxide, chlorine, ammonia, ozone, etc.). As this could lead to fire.

- Ensure that the monitor does not come into contact with water or other fluids. Ensure that no objects such as paper clips or pins enter the monitor as this could lead to fire or electric shock.

- Do not place the monitor on top of unstable objects or in unsafe places. Do not allow the monitor to receive strong shocks or to strongly vibrate. Causing the monitor to fall or topple over may damage it.

- Do not use the monitor near heating equipment or in places where there is likelihood of high temperature, as this may lead to generation of excessive heat and outbreak of fire.

- Do not use the monitor in places where it may be exposed to direct sunlight. Risk of cabinet deformation and failure if the monitor is used in direct sunlight.

- If the monitor is installed in a location exposed to sunlight such as next to a window, measures to reduce ultraviolet and infrared radiation and temperature measures are required. For details, consult your dealer.

- Please be sure to constantly remove dust and garbage that has attached to the ventilation opening. If dust collects in the ventilation opening, it may lead to excessive heat, outbreak of fire, or malfunction.

- As a standard, clean the inside of the monitor once every year. If dust collects inside the monitor, it may lead to excessive heat, outbreak of fire, or malfunction. Please request a cleaning of the inside of the monitor from an authorized SHARP servicing dealer or service center.

- Images cannot be rotated on this monitor. When using in portrait orientation, you will need to prepare appropriately orientated content in advance.

- The AC outlet shall be installed near the equipment and shall be easily accessible.

The Power Cord

- Use only the power cord supplied with the monitor.

- Do not damage the power cord nor place heavy objects on it, stretch it or over bend it. Also, do not add extension cords. Damage to the cord may result in fire or electric shock.

- Do not use the power cord with a power tap. Adding an extension cord may lead to fire as a result of overheating.

- Do not remove or insert the power plug with wet hands. Doing so could result in electric shock.

- Unplug the power cord if it is not used for a long time.

- Do not attempt to repair the power cord if it is broken or malfunctioning. Refer the servicing to the service representative.

Manual Scope

- Microsoft and Windows are either registered trademarks or trademarks of Microsoft Corporation in the United States and/or other countries.

- The terms HDMI and HDMI High-Definition Multimedia Interface, and the HDMI Logo are trademarks or registered trademarks of HDMI Licensing, LLC in the United States and other countries.

- DisplayPort is a registered trademark of Video Electronics Standards Association.

- Adobe, Acrobat, and Acrobat Reader are either registered trademarks or trademarks of Adobe Systems Incorporated in the United States and/or other countries.

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- All other brand and product names are trademarks or registered trademarks of their respective holders.

- Language of OSD menu used in this manual is English by way of example.

- Illustrations in this manual may not exactly represent the actual product or display.

- This manual assumes use in landscape orientation, except where specifically noted.

- This manual assumes that this product will perform the same functions.

- Remote control unit buttons

  * For operation with the remote control unit, the PN-ZR02 control kit (optional) is required.

LED Backlight

- The LED backlight in this product has a limited lifetime.
  * If the screen gets dark or does not turn on, it may be necessary to replace the LED backlight.

  * This LED backlight is exclusive to this product and must be replaced by an authorized SHARP servicing dealer or service center. Please contact an authorized SHARP servicing dealer or service center for assistance.

Fan

- The fan in this product has a limited lifetime.

  * Please contact an authorized SHARP servicing dealer or service center for assistance with fan replacement.
MOUNTING PRECAUTIONS

- This product is for use indoors.
- A VESA-compliant mounting bracket is required.
- Since the monitor is heavy, consult your dealer before installing, removing or moving the monitor.
- Mounting the monitor on the wall requires special expertise and the work must be performed by an authorized SHARP dealer. You should never attempt to perform any of this work yourself. Our company will bear no responsibility for accidents or injuries caused by improper mounting or mishandling.
- Use the monitor with the surface perpendicular to a level surface.
- This monitor should be used at an ambient temperature between 32°F (0°C) and 104°F (40°C).
- Be careful of high temperatures in the surrounding area. If it is difficult to provide sufficient space for any reason such as the installation of the monitor inside a housing, or if the ambient temperature may be outside of the range of 32°F (0°C) to 104°F (40°C), install a fan or take other measures to keep the ambient temperature within the required range.
- Temperature condition may change when using the monitor together with the optional equipments recommended by SHARP. In such cases, please check the temperature condition specified by the optional equipments.
- Do not block any ventilation openings. If the temperature inside the monitor rises, this could lead to a malfunction.
- Do not place the monitor on a device which generates heat.
- Adhere to the following when installing the monitor in its portrait orientation. Failing to adhere to the following may cause malfunctions.
  - To install in landscape orientation, rotate the monitor 90 degrees to the right.
  - Set the PORTRAIT/LANDSCAPE INSTALL on the MONITOR menu to PORTRAIT. (See page 30.)
  - Be sure to clamp the power cord (supplied) onto the cable clamp attachment using the supplied cable clamp. When clamping the power cord, take care not to stress the terminal of the power cord. Do not bend the power cord excessively.
- A video wall should be only be composed of identical models. Do not use this monitor as part of a video wall that includes another model.
Supplied Components

If any components are missing, please contact your dealer.

- Liquid Crystal Display Monitor: 1
- Cable clamp: 4
- Cable clamp (insertion type): 2
- Power cord: 1
- CD-ROM (Utility Disk for Windows): 1
- Setup Manual: 1
- Remote control sensor box mounting hole concealing sticker: 2

* The remote control unit is supplied with the PN-ZR02 control kit (optional).
* SHARP Corporation holds authorship rights to the Utility Disk program. Do not reproduce it without permission.
* For environmental protection!
  Do not dispose of batteries in household waste. Follow the disposal instructions for your area.
**Part Names**

**Front view**

The rear buttons if seen from the front

1. LCD panel
2. Power LED
3. Power button
4. Cursor control (▶) button
5. Cursor control (◀) button
6. Cursor control (▲) button
7. Cursor control (▼) button
8. MENU button
9. INPUT button
10. RETURN button
11. ENTER button

**Rear view**

12. Handles
13. Fan/Fan Cover
14. Vents
15. AC input terminal (See page 15.)
16. Main power switch (See page 18.)
17. DisplayPort output terminal (See page 11.)
18. HDMI1 input terminal (See page 11.)
19. HDMI2 input terminal (See page 11.)
20. DisplayPort input terminal (See page 11.)
21. DVI-D input terminal (See page 12.)
22. D-sub input terminal (See page 12.)
23. Audio input terminal (See page 12.)
24. Audio output terminal (See page 12.)
25. Optional terminal
   This terminal is provided for possible future (optional) function expansion. Offering of this terminal is not a guarantee that future expanded functionality will be provided.
26. RS-232C input terminal (See page 12.)
27. RS-232C output terminal (See page 12.)
28. LAN terminal (See page 12.)
29. Control kit terminal (See page 12.)
30. Expansion slot
   This section is used to connect optional hardware for function expansion. Offering this attachment location is not a guarantee that future compatible hardware attachments will be released.

**Caution**

- Consult your SHARP dealer for attachment/detachment of optional parts.
- Do not block the fan cover.
Part Names

Remote control unit
(Supplied with the PN-ZR02 (optional))

1. Signal transmitter
2. Operation buttons (See pages 20 and 21.)

Remote control sensor box
(Supplied with the PN-ZR02 (optional))

1. Remote control sensor
2. Connection cable
3. Mounting bracket
Connecting Peripheral Equipment

**Caution**

- Be sure to turn off the main power switch and disconnect the plug from the power outlet before connecting/disconnecting cables. Also, read the manual of the equipment to be connected.
- Be careful not to confuse the input terminal with the output terminal when connecting cables. Accidentally reversing cables connected to the input and output terminals may cause malfunctions and the other problems.
- Do not use any cable that has a damaged or deformed terminal. Using such cables may cause malfunctions.
- Do not forcibly bend or apply force to cables. Doing so may result in wire breakage or other damage.

**TIPS**

- Images may not be displayed properly depending on the computer (video card) to be connected.
- Use the automatic screen adjustment when a computer screen is displayed for the first time using D-SUB[RGB] or when the setting of the computer is changed. The screen is adjusted automatically when SELF ADJUST in the MONITOR menu is set to ON.
- If the audio output from the playback device is connected directly to speakers or other devices, the video on the monitor may appear delayed from the audio portion. Audio should be played through this monitor by connecting the playback device to the monitor’s audio input, and connecting the monitor’s audio output to the speakers or other devices.
- The audio input terminals used in each input mode are factory-set as follows.

<table>
<thead>
<tr>
<th>Input mode</th>
<th>Audio input terminal (Factory setting)</th>
</tr>
</thead>
<tbody>
<tr>
<td>DVI-D</td>
<td>Audio input terminal</td>
</tr>
<tr>
<td>DisplayPort</td>
<td>DisplayPort input terminal</td>
</tr>
<tr>
<td>HDMI1</td>
<td>HDMI1 input terminal</td>
</tr>
<tr>
<td>HDMI2</td>
<td>HDMI2 input terminal</td>
</tr>
<tr>
<td>D-SUB[RGB], D-SUB[COMPONENT]</td>
<td>Audio input terminal</td>
</tr>
<tr>
<td>OPTION *</td>
<td>Expansion slot</td>
</tr>
</tbody>
</table>

* When you have used the expansion slot to expand the functions.

**1. DisplayPort output terminal**

- The video of the current input mode can be output to an external device.
- Use a commercially available DisplayPort cable that supports 4K.
- Outputting HDCP-encrypted video requires an external device which supports HDCP.
- This terminal can be used to make a daisy chain connection* by connecting this monitors to each other through the DisplayPort input terminal of each monitor. *: Up to 25 monitors.
  - Up to 4 monitors when the video signal is encrypted by HDCP.
  - Up to 4 monitors when the first monitor’s input mode is D-SUB[COMPONENT].
  - Up to 2 monitors when the first monitor’s input mode is DisplayPort (MST).

**TIPS**

- The length of the signal cables or surrounding environment may affect the image quality.
- The output screen may not be displayed properly. In this case, turn off the power to all the monitors connected in a daisy chain and then turn the power on again.
- When connecting monitors in a daisy chain set NO SIGNAL AUTO INPUT SEL. to OFF.
- Video output is disabled in the following cases:
  - When the power is turned off
  - When the monitor is in input signal waiting mode

**2. HDMI1 input terminal**

**3. HDMI2 input terminal**

- Use a commercially available HDMI cable (conforming to the HDMI standard).
- Select the audio input terminal to be used in HDMI1 or HDMI2 of AUDIO SELECT on the SETUP menu. When HDMI is selected, connection to the audio input terminal is unnecessary.

**4. DisplayPort input terminal**

- Use a commercially available DisplayPort cable that supports 4K.
- Select the audio input terminal to be used in DisplayPort of AUDIO SELECT on the SETUP menu. When DisplayPort is selected, connection to the audio input terminal is unnecessary.
Connecting Peripheral Equipment

5. DVI-D input terminal
   • Use a commercially available signal cable (DVI-D 24 pin).

6. D-sub input terminal
   • Set D-SUB of INPUT SELECT on the SETUP menu according to the device to be connected.

7. Audio input terminal
   • Use an audio cable without resistance.
   • Set the audio input terminal to be used in each input mode in AUDIO SELECT on the SETUP menu.

8. Audio output terminal
   • The output sound varies depending on the input mode.
   • The volume of the output sound can be fixed by setting AUDIO OUTPUT on the SETUP menu.

9. RS-232C input terminal
10. RS-232C output terminal
   • You can control the monitor from a computer by connecting a commercially available RS-232 straight cable between these terminals and the computer.

11. LAN terminal
    • You can control the monitor from a computer on a network by connecting a commercially available LAN cable between this terminal and a network.

12. Control kit terminal
    • Connects the remote control sensor box of the PN-ZR02 control kit (optional). (See page 14.)
Connecting Peripheral Equipment

Multiple monitor connection

The monitors can be aligned and used as a large screen.

[Example]

<table>
<thead>
<tr>
<th>First monitor</th>
<th>Second monitor</th>
</tr>
</thead>
<tbody>
<tr>
<td>Primary (Main unit)</td>
<td>Secondary (Expansion unit)</td>
</tr>
<tr>
<td>ID No.: 1</td>
<td>ID No.: 2</td>
</tr>
<tr>
<td>Fourth monitor</td>
<td>Third monitor</td>
</tr>
<tr>
<td>Secondary (Expansion unit)</td>
<td>Secondary (Expansion unit)</td>
</tr>
<tr>
<td>ID No.: 4</td>
<td>ID No.: 3</td>
</tr>
</tbody>
</table>

Remote control sensor box
(Supplied with the PN-ZR02 (optional))

TIPS

• Connect the RS-232 cables in order, starting with the first monitor (primary monitor). If monitors are connected in a different order they may not be operable.
• Always install the remote control sensor box on the primary monitor.

Connection with video cable

Up to 25 monitors* can be connected in a daisy chain.

*: Up to 4 monitors when the video signal is encrypted by HDCP.
Up to 4 monitors when the first monitor’s input mode is D-SUB [COMPONENT].
Up to 2 monitors when the first monitor’s input mode is DisplayPort (MST).

Connection with RS-232 cable

If you connect the monitor in a daisy chain using RS-232 cables, settings are copied from the primary (main unit) to the secondary (expansion unit) and operation from the primary can perform operation for all monitors.
Setting each ID No. in the monitor is required.

1. Connect the monitors in order.

Connect the RS-232C output terminal of the first monitor (primary) and the RS-232C input terminal of the second monitor (secondary) together using RS-232 cable (straight).
Connect in the same way to the third and subsequent monitors.
Up to 25 monitors can be connected. (Depending on the length of the cable used and the surrounding environment.)

2. Set the ID No.

Perform operation with the rear side buttons on the primary monitor. To automatically assign ID numbers in order from the primary, set AUTO ASSIGN ID No. to ON in ID SETTING on the SETUP menu. (See page 29.)
(If you attach PN-ZR02 the control kit (optional), you can perform operation of the monitors with the remote control unit.)
Connecting Peripheral Equipment

Mounting the control kit (optional) on the monitor

If performing operation of the monitor with the remote control unit, the PN-ZR02 control kit (optional) is required.

- Can perform operation of an arbitrary monitor or all monitors with the remote control unit of the first monitor.
- Can perform operation of up to 25 monitors.
- Connect the monitors together in a daisy chain with RS-232 cable.

Attach the remote control sensor box as shown in the following illustration.

For the monitor in landscape orientation

For the monitor in portrait orientation

Caution

- When attaching the remote control sensor box, turn the main power switch OFF.

1. Peel off the sticker (①) that has been affixed to the monitor’s remote control sensor box mounting hole.
2. Secure the mounting bracket by inserting the mounting screw into the monitor’s remote control sensor box mounting hole.
3. Adjust the angle of the remote control sensor box, and secure it with the fixing screw, so that it may accurately receive signals from the remote control unit.

TIPS

- To conceal the remote control sensor box mounting hole, affix an included sticker over the hole.

4. Insert the remote control sensor box connection cable into the control kit terminal.

Caution

- When attaching the remote control sensor box, turn the main power switch OFF.
- Except for the remote control sensor box connection cable, do not insert any other cable into the control kit terminal. Also, do not connect any connection cables that have been extended with commercially available cables.
Connecting the Power Cord

**Caution**

- Use only the power cord supplied with the monitor.

1. Turn off the main power switch.
2. Plug the power cord (supplied) into the AC input terminal.
3. Plug the power cord (supplied) into the AC power outlet.
The cables connected to the terminals on the rear of the monitor can be fastened with the cable clamp. Insert the cable clamp into the cable clamp attachment on the rear of the monitor and fasten the cables.
Preparing the Remote Control Unit

Installing the batteries

1. Place your finger on the part marked with the ▲, and then pull the cover off.

2. See the instructions in the compartment and put in the batteries (R-03 (“AAA” size) x 2) (supplied with the PN-ZR02 (optional)) with their plus (+) and minus (-) sides oriented correctly.

3. Close the cover.

TIPS

- When the batteries become exhausted, replace them with new (commercially available) batteries.
- The supplied batteries (R-03 (“AAA” size) x 2) may become exhausted quickly depending on how they are stored.
- If you will not be using the remote control for a long time, remove the batteries.
- Use manganese or alkaline batteries only.

Remote control operation range

The operation range of the PN-ZR02 (optional) remote control unit is approx. 23 feet (7 m) from the remote control sensor, and approx. 16.4 feet (5 m) at an angle of approx. 10° from the center to the top/bottom/right/left of the remote control sensor.

TIPS

- Do not expose the remote control unit to shock by dropping or stepping on it. This could lead to a malfunction.
- Do not expose the remote control unit to liquids, and do not place it in an area with high humidity.
- The remote control unit may not work properly if the remote control sensor is under direct sunlight or strong lighting.
- Objects between the remote control unit and the remote control sensor may prevent proper operation.
- Replace the batteries when they run low as this may shorten the remote control's operation range.
- If a fluorescent light is illuminated near the remote control unit, it may interfere with proper operation.
- Do not use it with the remote control of other equipment such as air conditioner, stereo components, etc.
- Adjust the angle of the PN-ZR02 (optional) remote control sensor and have it face the area where operation with the remote control unit will take place.
Turning Power On/Off

Caution

- Turn on the monitor first before turning on the computer or playback device.
- When switching the main power switch or the POWER button off and back on, always wait for at least 5 seconds. A short interval may result in a malfunction.

Turning on the main power

![Main power switch](image)

Caution

- The main power must be turned on/off with the main power switch. Do not connect/disconnect the power cord or turn the breaker on/off while the main power switch is on.
- For a complete electrical disconnection, pull out the main plug.

Turning power on/off

Press the POWER button to turn the power ON/OFF. You can also turn the power ON/OFF by pressing the MONITOR ON button/MONITOR OFF button on the remote control unit.

![Power LED](image)

<table>
<thead>
<tr>
<th>Status</th>
<th>Status of the monitor</th>
</tr>
</thead>
<tbody>
<tr>
<td>Green lit</td>
<td>Power on</td>
</tr>
<tr>
<td>Orange lit</td>
<td>Power off (Standby mode)</td>
</tr>
<tr>
<td>Green flashing</td>
<td>Input signal waiting mode</td>
</tr>
</tbody>
</table>

TIPS

- When the main power switch is off, the monitor cannot be turned on.
- If the monitor is in the input signal waiting mode and you press the POWER button, the monitor enters standby mode.
- Setting the SCHEDULE flashes the power LED alternately in red and orange in standby mode.
- To disable the logo screen from displaying when turning the power ON, set LOGO SCREEN to OFF on the OTHERS menu. (See page 32.)
- If you change the remote control mode to ALL MONITORS, power can be turned ON/OFF for all secondary monitors connected with RS-232 cable. (For operation with the monitor buttons, use the buttons on the primary monitor.)
Date/time setting

If the time has yet to be set when the monitor is first turned on, the date/time setting screen appears. Set the date and time.

1. Press the \(<\) or \(>\) button to select the date and time, and press the \(\uparrow\) or \(\downarrow\) button to change the numerical values.
2. Press the ENTER button.

Be sure to set the date and time.

The date/time setting screen will close automatically if no operation is performed for about 15 seconds. The date and time can be set using DATE/TIME SETTING from the SETUP menu when the date/time setting screen disappears.

TIPS

- Set the date in “Month/Day/Year” order.
- Set the time on a 12-hour basis.
- The clock is maintained by the internal battery.
- If you already set the time but the date/time setting screen appears when the power is turned on, the internal battery may be exhausted. Please contact an authorized SHARP servicing dealer or service center for assistance with battery replacement.
- Estimated service life of the internal battery: About 5 years (depending on monitor operation)
- The initial battery was inserted at the factory when the monitor was shipped, so it may run out of power before its expected operation life.

Disabling power on/off operations

Power on/power off operations can be disabled in order to protect the monitor from an accidental power off. Set the ADJUSTMENT LOCK in FUNCTION menu to “ON 2”. (See page 37.)
Basic Operation

When performing operation of multiple monitors with the remote control unit, first set the remote control unit to the appropriate remote control mode (see page 23).

1. HDMI
Switch the input mode to HDMI1 or HDMI2.

2. Numeric input buttons
When HDMI CEC LINK is set to AUTO, use these buttons to operate the device connected through the HDMI interface. 0 to 9 are also used in conjunction with the ID SET button.

3. MUTE
Turns off the volume temporarily. Press the MUTE button again to turn the sound back to the previous level.
If using the monitor buttons, either hold both the MENU button and ▼ button at the same time or select MUTE AUDIO from the OTHERS menu.

4. MODE (Color mode selection)
Each time you press this button, the color mode changes in the following order:

STD (Standard) → VIVID → sRGB → HIGH ILLUMINANCE → STD...

• HIGH ILLUMINANCE is a display with colors suited to bright locations.
• sRGB cannot be used when input mode is D-SUB[COMPONENT]. sRGB is international standard of color representation specified by IEC (International Electrotechnical Commission). Color conversion is made in taking account of liquid crystal’s characteristics and represents color tone close to its original image.
• If using the monitor buttons, select COLOR MODE from the COLOR ADJUSTMENT of the PICTURE menu.
• You can press for about 5 seconds to change the remote control mode. (See page 23.)

5. VOLUME +/- (Volume adjustment)
Pressing + or - displays the VOLUME menu.

VOLUME 15

Press + or - to adjust the volume of the sound.
If using the monitor buttons, select VOLUME of the OTHERS menu.
* If you do not press any buttons for about 4 seconds, the VOLUME menu automatically disappears.

Tips

• You can perform operation of the monitor with the rear buttons. Utilize the buttons belonging to the monitor that you would like to operate.
• Operation by using the buttons on the rear side of the product will perform the same functions.

Rear side buttons

Remote control unit buttons
This manual assumes that this product will be used with the remote control unit buttons, except where specifically noted.
6. INFORMATION
Displays monitor information.

The display changes from INFORMATION1 → INFORMATION2 → INFORMATION3 → clear display, and so on every time you press this button. When displaying INFORMATION, the display changes from INFORMATION1 → INFORMATION2 → INFORMATION3 → INFORMATION1, and so on every time you press the button. Pressing the RETURN button disappears the display.
• INFORMATION3 shows the information when you have used the expansion slot to expand the functions.
• The display disappears automatically after about 15 seconds.
• When LAN is displayed during LAN communication.
• If LAN is displayed in red, there is a duplicate IP address.
• If using the monitor buttons, select INFORMATION from the OTHERS menu.

7. FUNCTION
Use this to display the FUNCTION menu. (See page 37.)

8. ENTER
Confirms the setting.

9. FREEZE
This is not used with this monitor.

10. Buttons for operating the HDMI-connected device
When HDMI CEC LINK is set to AUTO, use these buttons to operate the device connected through the HDMI interface.

11. ID SET
Set a number on the remote control. (See page 36.)

12. OPTION
Switch the input mode to OPTION.

13. DP (DisplayPort)
Switch the input mode to DisplayPort.

14. SIZE (Screen size selection)
The menu is displayed. Press the ▲ or ▼ button to select the screen size. (See page 22.) If using the monitor buttons, select SIZE from the SCREEN menu.

15. PIP/PbyP
Each time you press the button, PIP MODES switches in the following order: OFF → PIP → PbyP → PbyP2 → OFF.

16. BRIGHT +/- (Brightness adjustment)
Pressing + or - displays the BRIGHT menu.

17. INPUT (Input mode selection)
The menu is displayed. Press the ▲ or ▼ button to select the input mode, and press the ENTER button to enter.
• You can select the input mode by pressing the INPUT button of the monitor.

18. MENU
Displays and turns off the menu screen. (See page 24.)

19. Cursor
These buttons are used to perform operations such as selecting items, changing adjustment values, and moving the cursor.

20. RETURN
Returns to the previous screen.
Basic Operation

**Switching the screen size**

Even when the screen size is changed, the display may remain the same depending on the input signal.

<table>
<thead>
<tr>
<th>Screen Size</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>WIDE</strong></td>
<td>Displays image so it fills the entire screen.</td>
</tr>
<tr>
<td><strong>ZOOM 1</strong></td>
<td>The image is enlarged to fill the entire screen without changing the aspect ratio. The edges of the image may be cut off.</td>
</tr>
<tr>
<td><strong>ZOOM 2</strong></td>
<td>Use this size if ZOOM 1 cuts off the subtitles.</td>
</tr>
<tr>
<td><strong>NORMAL</strong></td>
<td>Displays the image so it fills the screen without changing the aspect ratio.</td>
</tr>
<tr>
<td><strong>Dot by Dot</strong></td>
<td>Displays the dots of the input signals as the corresponding dots on the screen.</td>
</tr>
</tbody>
</table>

**TIPS**

- Using this monitor’s screen-size switching or dual-screen display functions to compress or expand the screen for commercial or public viewing in establishments like cafes or hotels may infringe on the rights of the creators, as protected by Copyright Law, so please be careful.
- When “Enlarge” is set, the screen size is fixed to “WIDE” mode.
- When dual-screen display is selected, the screen size cannot be changed.
- The appearance of the original video may change if you select a screen size with a different aspect ratio than the original image (e.g., TV broadcast or video input from external equipment).
- When 4:3 video is viewed with the whole screen using the screen-size switching function of this monitor, the edge of the video may be lost or appear distorted. If you wish to respect the creator’s intentions, set the screen size to NORMAL.
- When playing commercial software, parts of the image (like subtitles) may be cropped. In this case select the optimal screen size using the screen-size switching function of this monitor. With some software, there may be noise or distortion at the edges of the screen. This is due to the characteristics of the software, and is not a malfunction.
- Depending on the original image size, black bands may remain at the edges of the screen.
Remote Control Mode

With the remote control unit it's possible to perform operation of...
  • The primary monitor
  • Monitors with a specified ID No.
  • All primary/secondary monitors
It's necessary to specify which type of operation will be performed in advance.

1. If using the remote control unit, press the MODE button for approx 5 seconds.
   If using the monitor buttons, hold both the MENU button and ▲ button at the same time on the primary.

   REMOTE CONTROL MODE
   MODE [THIS MONITOR ONLY] EXPAND ITEM ID No. ID No. DISPLAY

   Operate this monitor.
   OK CANCEL END:[RETURN]

2. Press the ◄ or ► button, select the mode, then perform settings.

   **THIS MONITOR ONLY**
   Performs operation of only the primary using the remote control unit.
   [Example] If the volume is lowered, the volume of the primary will lower.

<table>
<thead>
<tr>
<th>Secondary ID No.: 2</th>
<th>Primary ID No.: 1</th>
</tr>
</thead>
<tbody>
<tr>
<td>VOLUME 10</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Secondary ID No.: 3</th>
<th>Secondary ID No.: 4</th>
</tr>
</thead>
</table>

   Lower the volume.

   **SPECIFIED MONITOR**
   Performs operation of a monitor with a specified ID No. using the remote control unit.
   Press the ◄ or ► button to select ID No., then press the ◄ or ► button to select the ID No. of the monitor that you will operate.
   * When it receives signals from the remote control unit, “Operating specified monitor.” will be displayed on the primary screen.
   [Example] If ID No. is set to 3 and the volume is lowered, the volume of the monitor for ID No.: 3 will lower.

<table>
<thead>
<tr>
<th>Secondary ID No.: 2</th>
<th>Primary ID No.: 1</th>
</tr>
</thead>
<tbody>
<tr>
<td>VOLUME 10</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Secondary ID No.: 3</th>
<th>Secondary ID No.: 4</th>
</tr>
</thead>
</table>

   VOLUME 10

   Lower the volume.

   When you would like to confirm the ID No. that is set to the monitor, press the ◄ or ► button to select ID No. DISPLAY, then press the ENTER button. The ID No. will be displayed on the screen.

   **ALL MONITORS**
   Performs operation of all primary/secondary monitors.
   * [ALL EXPAND ITEM:OFF] will be displayed on the menu of the primary.
   * When it receives signals from the remote control unit, “Operating all monitors.” will be displayed on the secondary screen. (Excluding power and input mode selection operation)
   * Settings may not be reflected depending on the state of the connected monitors.
   [Example] If the power for the primary is turned ON, the power for all the monitors will be turned ON.

   Press the ◄ or ► button to select EXPAND ITEM, and press the ◄ or ► button to perform this action or not.
   OFF ........... For all monitors, only power, input mode selection, and product information display operations will be recognized.
   ON ............ For all monitors, all operations will be recognized.
   After returning to the normal screen with procedure 3, when 5 minutes have passed from the end of operation, it will automatically return to OFF.
   * [ALL EXPAND ITEM:ON] will be displayed on the menu of the primary.
   * Even when REMOTE CONTROL MODE is set to ALL MONITORS, certain settings such as LAN settings and ID No. settings will not be reflected on the other monitors.

   3. Press the ◄ or ► button to select OK, then press the ENTER button and return to the normal screen.

   4. Perform operation.

   **Caution**
   • When the remote control mode is set to ALL MONITORS and EXPAND ITEM is set to ON, performing remote control operations that change adjustment values will result in the secondary adjustment values being the same as the primary adjustment values.

<table>
<thead>
<tr>
<th>Secondary ID No.: 2</th>
<th>Primary ID No.: 1</th>
</tr>
</thead>
<tbody>
<tr>
<td>VOLUME 12</td>
<td>VOLUME 11</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Secondary ID No.: 3</th>
<th>Secondary ID No.: 4</th>
</tr>
</thead>
</table>

   VOLUME 10

   Lower the volume.

   Be careful of this when adjusting individual displays.

   **TIPS**
   • You can copy the setting values of the primary to other monitors with COPY SETTING VALUE. (See page 29.)
   • The buttons on the monitor itself (primary) are also effective in remote control mode.
Displaying the menu screen

Video adjustment and settings of various functions are enabled. This section describes how to use the menu items. See pages 25 to 36 for details of each menu items.

**Caution**

- Do not turn the main power switch off while the menu items are being displayed. Doing so may initialize the settings.

**Example of operation**

(Adjusting CONTRAST in the PICTURE menu)

1. Press the MENU button to display the menu screen.

2. Press the ▲ or ▼ button to select PICTURE, and press the ENTER button.

3. Press the ▲ or ▼ button to select CONTRAST.

4. Press the ◄ or ► button to adjust the setting.

   For items that have ►, press the ENTER button, make settings and then press the RETURN button.

5. Press the MENU button to close the menu screen.

**TIPS**

- The menu will differ depending on the input mode.
- The menu screen will close automatically if no operation is performed for about 15 seconds. (DATE/TIME SETTING, SCHEDULE and LAN SETUP screens will close in about 4 minutes.)

**Menu screen display**

- 1 Name of the menu
- 2 Input mode
- 3 An item being selected (highlighted)
- 4 Screen resolution of input signal, and other data.

**TIPS**

- Items that cannot be selected appear in gray. (e.g. Function not supported by the current input signal)
**Menu item details**

The menu will differ depending on the input mode.

### SCREEN

You can move the menu screen display position each time the INFORMATION button is pressed.

<table>
<thead>
<tr>
<th><strong>AUTO (D-SUB[RGB])</strong></th>
<th>The CLOCK, PHASE, H-POS, and V-POS are automatically adjusted. Pressing the ENTER button performs adjustment. Use this automatic adjustment when you use the D-SUB[RGB] to display a computer screen for the first time or when you change the setting of the computer. (See page 36.)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>CLOCK (D-SUB[RGB])</strong></td>
<td>Adjusts frequency for sampling clock for applicable video. Adjust when there is flickering in the form of vertical stripes. When using the adjustment pattern (see page 36), make adjustments so that no vertical stripe noise appears in it.</td>
</tr>
<tr>
<td><strong>PHASE (D-SUB[RGB])</strong></td>
<td>Adjusts sampling clock phase for applicable video. Useful when small characters appear with low contrast and/or there are flickers at corners. When using the adjustment pattern (see page 36), make adjustments so that no horizontal stripe noise appears in it. *Adjustments to PHASE should be made only after CLOCK has been correctly set.</td>
</tr>
<tr>
<td><strong>H-POS</strong></td>
<td>Adjust the horizontal position of the image.</td>
</tr>
<tr>
<td><strong>V-POS</strong></td>
<td>Adjust the vertical position of the image.</td>
</tr>
<tr>
<td><strong>H-SIZE</strong></td>
<td>Adjust the horizontal size of the image.</td>
</tr>
<tr>
<td><strong>V-SIZE</strong></td>
<td>Adjust the vertical size of the image.</td>
</tr>
<tr>
<td><strong>SIZE</strong></td>
<td>Selects screen size. (See page 22.)</td>
</tr>
<tr>
<td><strong>RESOLUTION SETTING (D-SUB[RGB])</strong></td>
<td></td>
</tr>
<tr>
<td><strong>H-RESOLUTION</strong></td>
<td>Sets proper horizontal resolution when the resolution of input signals is not recognized properly. (Adjustment may be impossible with some signals.)</td>
</tr>
<tr>
<td><strong>V-RESOLUTION</strong></td>
<td>Sets proper vertical resolution when the resolution of input signals is not recognized properly. (Adjustment may be impossible with some signals.)</td>
</tr>
<tr>
<td><strong>INPUT SIGNAL (D-SUB[RGB])</strong></td>
<td>If a computer connected to the D-SUB[RGB] outputs any of the following resolutions, make a selection from the following options. 480 LINES ........ AUTO, 640x480 or 848x480 768 LINES ........ AUTO, 1024x768, 1280x768, or 1360x768 1050 LINES ......... 1400x1050 or 1680x1050 ZOOM2 SPECIAL SETTING (See page 35.)</td>
</tr>
<tr>
<td><strong>RESET</strong></td>
<td>Resets the values of the SCREEN menu items to the factory preset values. Select ON and then press the ENTER button.</td>
</tr>
</tbody>
</table>
### Menu Items

#### PICTURE
You can move the menu screen display position each time the INFORMATION button is pressed.

<table>
<thead>
<tr>
<th>Button</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>BRIGHT</td>
<td>Adjusts the backlight brightness.</td>
</tr>
<tr>
<td>CONTRAST</td>
<td>Adjusts the difference between the bright and dark portions of the image.</td>
</tr>
<tr>
<td>BLACK LEVEL</td>
<td>Adjusts the entire brightness of the video signals.</td>
</tr>
<tr>
<td>TINT</td>
<td>Adjusts the hue. Selecting + changes the color towards green, and selecting - changes it towards magenta.</td>
</tr>
<tr>
<td>COLORS</td>
<td>Adjusts the color intensity.</td>
</tr>
<tr>
<td>SHARPNESS</td>
<td>Adjusts the sharpness of the image.</td>
</tr>
<tr>
<td>COLOR ADJUSTMENT</td>
<td></td>
</tr>
<tr>
<td>COLOR MODE</td>
<td>Changes the color mode on the screen. The color mode on the screen can also be changed using a remote control unit. (See page 20.)</td>
</tr>
<tr>
<td>WHITE BALANCE</td>
<td></td>
</tr>
<tr>
<td>THRU</td>
<td>Displays the input signal level as is.</td>
</tr>
<tr>
<td>PRESET</td>
<td>Selects the color temperature using PRESET.</td>
</tr>
<tr>
<td>USER</td>
<td>Adjusts R-/G-/B-CONTRAST and R-/G-/B-OFFSET respectively using USER.</td>
</tr>
<tr>
<td>ADJUST UNIFORMITY</td>
<td>Adjusts UNIFORMITY, R-/G-/B-CONTRAST, R-/G-/B-OFFSET, and BRIGHTNESS VALUE respectively using ADJUST UNIFORMITY.</td>
</tr>
<tr>
<td>COPY TO USER</td>
<td></td>
</tr>
<tr>
<td>GAMMA</td>
<td>Selects the gamma. USER sets the gamma to the sent value. (See page 41.)</td>
</tr>
<tr>
<td>FLESH TONE</td>
<td>Adjust the hue control.</td>
</tr>
<tr>
<td>C.M.S.-HUE</td>
<td>Adjusts color tone with 6 colors of R (red), Y (yellow), G (green), C (cyan), B (blue), and M (magenta).</td>
</tr>
<tr>
<td>C.M.S.-SATURATION</td>
<td>Adjusts color vividness with 6 colors of R (red), Y (yellow), G (green), C (cyan), B (blue), and M (magenta).</td>
</tr>
</tbody>
</table>
## ADVANCED

### AUTO (D-SUB[RGB])

The ANALOG GAIN and ANALOG OFFSET are automatically adjusted.

Pressing the ENTER button performs adjustment.

### ANALOG GAIN (D-SUB[RGB])

Adjusts the bright portions of the video input signal.

### ANALOG OFFSET (D-SUB[RGB])

Adjusts the dark portions of the video input signal.

### NR

Reduce the image noise.

Setting a higher level reduces more noise. However, it may cause blurring on an image.

### RGB INPUT RANGE (DVI-D/HDMI/D-SUB[RGB]/DisplayPort/OPTION)

Sets the RGB input signal range.

When using HDMI, DisplayPort or OPTION set to AUTO, the RGB input signal is detected automatically. Use AUTO normally.

If the RGB input signal range cannot be set appropriately even when using AUTO, set according to the image. When the setting is different, images will be displayed with washed out blacks and compressed gradients.

### DISPLAY COLOR PATTERN

Displays a color pattern. Can be displayed while the menu screen is displayed, so you can refer to the pattern while adjusting the image. When WHITE, RED, GREEN, or BLUE is displayed, you can set the level in the range of 0 to 255.

- OFF .......... No pattern display.
- WHITE ....... White single color pattern display.
- RED .......... Red single color pattern display.
- GREEN ....... Green single color pattern display.
- BLUE ........ Blue single color pattern display.
- USER ........ Red/green/blue mixed color pattern display. When USER is selected, set each color’s level.

### UNIFORMITY

Sets the LCD panel’s discoloration correction level.

- OFF .................. Discoloration will not be corrected.
- MODE1 to MODE3 .... The effect of the discoloration correction will increase from MODE1<MODE2<MODE3.
  However, brightness and contrast will also decrease from MODE1<MODE2<MODE3.

### RESET

Resets the values of the PICTURE menu items to the factory preset values.

Select ON and then press the ENTER button.
Menu Items

**Setup**

**Date/Time Setting**
Set the date and time. Press the ◀ or ▶ button to select the date and time, and press the ▲ or ▼ button to change the numerical values.
Set the date in “Month/Day/Year” order.
Set the time on a 12-hour basis. (Factory default)

**Date/Time Format**
Sets the date/time display format.
DATE: MM/DD/YYYY, DD/MM/YYYY, YYYY/MM/DD
TIME: Select 12- or 24-hour time.

**Schedule (See page 35.)**
You can turn the power on/off and change the screen brightness at a specified time.

**Language**
Sets the display language for the menu screen.

**Input Select**

**D-sub**
Select the input mode to be used in D-sub input terminal.

**HDMI CEC Link**
- **Auto**
  - Use the HDMI CEC function.
  - If the device connected to the HDMI input terminal supports CEC, the input mode of the monitor changes to HDMI when playback starts on the device.
- **Off**
  - HDMI CEC function is not used.

**Auto Power On**
This can be set when HDMI CEC Link is set to Auto.
If the device connected to the HDMI input terminal supports CEC, you can specify whether or not the monitor power turns on when the device power is turned on.

**HDMI Auto View**
When ON is selected, the screen size is adjusted automatically according to the screen size control signal included in the video signal input from the HDMI1 and HDMI2 input terminals or the expansion slot (when the expansion function is used).

**Hot Plug Control**
Sets whether to use hot plug control for the DVI-D, HDMI1 and HDMI2 input terminals, and the expansion slot (when the expansion function is used).

**DisplayPort Stream**
Selecting MST (Multi Stream Transport) allows different images to be displayed when daisy chaining two devices through the monitor’s DisplayPort. Image may not be displayed properly depending on the computer (video card) to be connected.

**DisplayPort Setting**
Sets FILTER SETTING, GAIN, and OFFSET for the signal from the DisplayPort input terminal.

**Audio Select**
Selects the terminal used to input audio signals in each input mode.

**Audio Output**
Sets the volume of sound output from the audio output terminal.
- **Variable**
  - You can adjust the volume from the audio output terminal by using VOLUME.
- **Fixed**
  - Fixes the volume from the audio output terminal. Adjust the volume by using an external device.

**Start Input Mode**
You can set the input mode that will be in effect when the power is turned on.
When this is set to Last Input Mode, the input mode when the power was last turned off will appear.
## COMMUNICATION SETTING

### RS-232C/LAN SELECT
Selects the method with which to control the monitor from the computer.

### BAUD RATE
Selects the communication speed used for RS-232C communication.

### LAN SETUP
Configures the settings to control the monitor from the computer via LAN. (See page 51.)

### AUTO ASSIGN FIXED IP ADDR.
Can be enabled when RS-232C/LAN SELECT is LAN and the DHCP CLIENT is OFF.
Set DHCP CLIENT to OFF for the monitor connected to the RS-232C output terminal and the daisy chain of connected monitors that follows. Fixed IP addresses are automatically allocated.
If the IP address is a duplicate with a network device other than a monitor, individually change the IP address.

### Crestron Connected
Select this when using a Crestron device. When this function is set to ON, the monitor can be controlled via network using equipment and application software of Crestron Electronics, Inc.
This monitor supports application software RoomView from Crestron Electronics, Inc.
This is a function to connect a system developed by Crestron Electronics, Inc. which manages and controls multiple system devices connected to the network.
For details of Crestron Connected, refer to the Crestron Electronics, Inc. website. (Provided only In English.)
http://www.crestron.com/
For the download of RoomView Express, refer to the Crestron Electronics, Inc. website. (Provided only In English.)
http://www.crestron.com/getroomview

## ID SETTING

### ID No. SET
Assigns ID numbers to monitors connected in a daisy chain (see page 38), using the RS-232 cables.
The numbers 1 to 255 are available for ID numbers.
If “0” is set, the system regards this as the state where no ID number is set.

### AUTO ASSIGN ID No.
ID No. to be used will be automatically assigned when multiple monitors are connected with RS-232C.
Select ON, then press the ENTER button.
Perform operations using the first monitor in the daisy chain.

### REMOTE No.
Sets the number of the remote control. (See page 36.)

## COPY SETTING VALUE
When the monitor has been connected to multiple monitors by RS-232C, the settings in the monitor can be copied to the monitor connected to the RS-232C output terminal and to the daisy chain of connected monitors that follows.
Selects the settings to copy with COPY SETTING VALUE TARGET.

- **PICTURE** ONLY ..... Copies the PICTURE menu settings.*
- ALL ........................... Copies all the settings.*

Select the ID No. of the monitor that you would like copy to with COPY TO ID No., then select COPY and press the ENTER button.
If you select ALL, settings will be copied to all monitors.
When you would like to confirm the ID No. that is set to the monitor, select ID No. DISPLAY and press the ENTER button. The ID No. will be displayed on the screen.

* Certain setting details such as ANALOG GAIN, ANALOG OFFSET, and DISPLAY COLOR PATTERN cannot be copied.
Menu Items

**MONITOR**

**PORTRAIT/LANDSCAPE INSTALL**
LANDSCAPE ...... Landscape orientation
PORTRAIT .......... Portrait orientation

**ROTATE 180°**
If video is upside down when the monitor is installed in portrait orientation, you can rotate the video 180 degrees. Interlaced signals may not be displayed properly.

**INVERSE SCAN**
INVERSE SCAN
Normally this is set to OFF. To perform inverse scan, set to ON.
When ROTATE 180° is set to ON, cannot perform inverse scan.

**PICTURE FLIP**
When INVERSE SCAN is set to ON, the picture can be flipped vertically.
In portrait orientation, the picture is flipped horizontally.

**OSD H-POSITION**
Adjusts the horizontal display position of menu screen.

**OSD V-POSITION**
Adjusts the vertical display position of menu screen.

**POWER SAVE MODE**
When OFF is selected, startup time from standby mode is reduced. Note, however that, more power will be consumed in standby mode.
When ON is selected, current consumption is reduced while the monitor is in standby mode. Note, however, that the startup time from standby mode becomes longer.
If set to ON, certain RS-232C commands cannot be used in standby mode, and control via LAN will be disabled. (See pages 38 and 51.)

**OFF IF NO OPERATION**
Determines whether or not to set the monitor to go into standby mode when there is no operation from the remote control unit, RS-232C commands, or LAN.
When the setting is ON, set the time until standby mode is entered in TIME.

**POWER ON DELAY**
When ON is set, you can delay the screen display after the monitor is turned on.
When ON is selected, set the delay time with INTERVAL (interval can be set up to 60 seconds in units of 1 second).
When this function is activated, the power LED flashes (at approx. 0.5 second interval) in green.

**SELF ADJUST**
On a D-SUB[RGB] screen, specify whether to perform screen adjustment automatically or not.
When ON is selected, the screen is automatically adjusted when its resolution is 800 x 600 or higher and the timing of input signals changes. “ADJUSTING” appears on the screen during the adjustment.
If SELF ADJUST is set to ON, set the time it takes to start the SELF ADJUST function in START TIMING.
For images with black edges, etc., depending on the signal, adjustment may not be possible. In this case select OFF. (Perform manual adjustment of the screen.)
**MULTI/PIP**

**MULTI**

ENLARGE (See page 34.)

Sets whether or not to use the enlarge function.

ADVANCED (ENLARGE)

ENLARGE H / ENLARGE V

…………Sets the number of screen splits (number of monitors) in the horizontal/vertical direction used for the enlargement.

ENLARGE-POS

…………Specify the split screen to be displayed when the enlargement function is used.

H-POS / V-POS

…………Adjust the horizontal/vertical position of the enlarged screen.

BEZEL ADJUST

Sets whether or not to use the frame correction function.

ADVANCED (BEZEL ADJUST)

BEZEL ADJUST (TOP) / BEZEL ADJUST (BOTTOM) / BEZEL ADJUST (RIGHT) / BEZEL ADJUST (LEFT)

…………Adjusts so that the top/bottom/left/right connecting joints of grouped units will be displayed smoothly when a group of monitors are aligned in multiples to display a single image.

BEZEL (TOP) / BEZEL (BOTTOM) / BEZEL (RIGHT) / BEZEL (LEFT)

…………Sets the frame width of the display.

**PIP/PbyP**

**PIP MODES**

Sets the display method.

OFF…………Displays one screen.

PIP…………Displays a sub screen inside a main screen.

PbyP…………Displays a main screen and a sub screen in a line.

PbyP2…………Displays a main screen which measures 1280 pixels in the longest direction and a sub screen in a line.

**PIP SIZE**

Sets the size of the sub screen in PIP mode.

**PIP H-POS**

Adjusts the horizontal position of the sub screen in PIP mode.

**PIP V-POS**

Adjusts the vertical position of the sub screen in PIP mode.

**PIP BLEND**

In PIP mode, use this menu item to display the sub screen transparently.

**PIP SOURCE**

Selects the input signal of the sub screen in PIP, PbyP, or PbyP2 mode.

**SOUND CHANGE**

Sets the sound which is output in PIP, PbyP, or PbyP2 mode.

**MAIN POS**

Sets the position of the main screen in PbyP or PbyP2 mode.

**PbyP2 POS**

Sets the position of the sub screen in PbyP2 mode.
Menu Items

OTHERS

SCREEN MOTION

PATTERN
Residual images are reduced by moving the screen.
OFF ................. SCREEN MOTION function is disabled.
PATTERN1 ...... The whole screen moves vertically and horizontally.
PATTERN2 ...... A black screen spreads from the bottom of the screen and then shrinks to the bottom of the screen. If the monitor is installed in the portrait orientation, a black screen spreads from the left end of the screen and then shrinks to the left end of the screen.
PATTERN3 ...... A black bar moves from the left end to the right end of the screen. If the monitor is installed in the portrait orientation, a black bar moves from the top to the bottom of the screen.
PATTERN4 ...... Black screens appear from both sides of the screen, and the displayed image is compressed into the central field. If the monitor is installed in the portrait orientation, the screen is compressed from the top and bottom ends.

MOTION TIME 1
Specify a time period (operating interval) until SCREEN MOTION starts.

MOTION TIME 2
Specify a time period during which SCREEN MOTION operates (time period during which the screen will move).

POWER MANAGEMENT
POWER MANAGEMENT determines whether or not to switch modes from no signal to the input signal waiting mode.

CONNECT AUTO INPUT SELECT
Sets whether the input into the input terminal automatically changes when a video signal is input into that terminal. The input via the expansion slot is ignored.
(With some input signals, the input may not change.)

NO SIGNAL AUTO INPUT SEL.
Specify whether to change inputs automatically. When ON is selected and no signal is present in the selected input mode, the monitor automatically changes the selected mode to another mode where a video signal is present.
When there are video signals in multiple input modes, switching takes place according to the order of priority set in AUTO INPUT SELECT PRIORITY.

AUTO INPUT SELECT PRIORITY
Sets the order of input terminal priority for NO SIGNAL AUTO INPUT SEL.
When an option that supports this function is connected to the expansion slot, you can set the order in OPTION.
If the option does not support this function, “OPTION” will not appear.
Input does not change automatically for terminals without a priority setting.

LOGO SCREEN
Sets whether or not to display the logo screen.

SCAN MODE (HDMI1 / HDMI2 / D-SUB[COMPONENT] / OPTION)
Sets the scan mode used for video input.
MODE1.............. Over-scan display
MODE2.............. Under-scan display
MODE3.............. Under-scan display when the input signal is 1080i/p. Otherwise, over-scan display
* Even when MODE1 is selected, under-scan display is used when the input signal is 1080i/p and the screen size is Dot by Dot.

VOLUME
Adjusts the volume.

MUTE AUDIO
Can temporarily turn off the volume.

INFORMATION
Displays monitor information. (See page 21.)
TIPS

- When WHITE BALANCE is set to THRU, BLACK LEVEL, CONTRAST, TINT, COLORS, GAMMA, PRESET, USER, COPY TO USER, FLESH TONE, C.M.S. and ADJUST UNIFORMITY cannot be set.
- If COLOR MODE is set to sRGB, the following items cannot be set: PRESET, USER, COPY TO USER, and GAMMA.
- When the COLOR MODE is set to VIVID or HIGH ILLUMINANCE, GAMMA cannot be adjusted.
- When displaying the color pattern, it is possible to adjust certain items of the PICTURE menu. Non-adjustable items cannot be selected.
- CONNECT AUTO INPUT SELECT and NO SIGNAL AUTO INPUT SEL. do not work for the Sync-on-green signal of D-SUB[RGB] or the signals of D-SUB[COMPONENT].
**Dual screen display**

You can display two screens simultaneously. Set this function with PIP MODES of PIP/PbyP in the MULTI/PIP menu.

<table>
<thead>
<tr>
<th>Mode</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>PIP</td>
<td>A sub screen is displayed inside a main screen.</td>
</tr>
<tr>
<td>PbyP</td>
<td>A main screen and a sub screen are displayed in a line.</td>
</tr>
<tr>
<td>PbyP2</td>
<td>Displays a main screen which measures 1280 pixels in the longest direction and a sub screen in a line.</td>
</tr>
</tbody>
</table>

- The currently selected input signal is displayed on the main screen.
- The following combinations are available for display:
  - DisplayPort - DVI-D
  - DisplayPort - HDMI1 or HDMI2
  - DisplayPort - D-SUB[RGB]
  - DisplayPort - D-SUB[COMPONENT]
  - DisplayPort - OPTION
  - DVI-D - D-SUB[RGB]
  - DVI-D - D-SUB[COMPONENT]
  - HDMI1 or HDMI2 - D-SUB[RGB]
  - HDMI1 or HDMI2 - D-SUB[COMPONENT]
  - D-SUB[RGB] or D-SUB[COMPONENT] - OPTION

**TIPS**

- You might infringe on a copyright of the author which is protected by copyright law when you display the images of the computer screen and television/VCR simultaneously for profit-making or to show the image to the public.
- The screen size for dual-screen display is the same as the screen size for single-screen display. The Dot by Dot screen is displayed in NORMAL size except when it is set as the PIP main screen.
- When dual-screen display is selected, the SCREEN MOTION function is disabled.
- When dual-screen display is selected and the CONNECT AUTO INPUT SELECT function and NO SIGNAL AUTO INPUT SEL. function are disabled.
- When dual-screen display is selected, the screen cannot be enlarged.
- When dual-screen display is selected, D-SUB of the INPUT SELECT options cannot be set.
- When dual-screen display is selected and an interlaced signal (1080i, 480i) is input to the main or sub screen, the image is not displayed properly.
- When a signal of 3840×2160 or 4096×2160 is input to the sub screen, the sub screen does not display an image.
- In the following cases, you cannot set PIP MODES to PIP, PbyP, or PbyP2.
  - When DisplayPort STREAM is set to MST.
  - When ROTATE 180° is set to ON.
  - When PICTURE FLIP is set to ON.
  - When HDMI CEC LINK is set to AUTO, SOUND CHANGE on the PIP/PbyP menu may be changed to MAIN due to the switching of the monitor’s input or due to the operation of the HDMI-connected device.

**Enlarge**

- You can align several monitors and integrate them into a single large screen to display.
- Up to 5 monitors can be aligned in both the horizontal and vertical directions.
- Each monitor displays enlarged views of separated images.
  (Example)  
  Horizontal direction: 2 monitors  
  Vertical direction: 2 monitors

**Setting procedure**

Set using MULTI in the MULTI/PIP menu.

1. Set ENLARGE to ON.
2. Select ADVANCED (ENLARGE).
3. Set the number of monitors aligned in the horizontal direction in ENLARGE H.
4. Set the number of monitors aligned in the vertical direction in ENLARGE V.
5. Set the section of the separated image to be displayed on each monitor in ENLARGE-POS.
   1) Press the ENTER button.
   2) Press the ▲, ▼, ◄, or ► button to select position, then press the MENU button.

**TIPS**

- When Enlarge is used, the SCREEN MOTION function is disabled.
- When Enlarge is used, the CONNECT AUTO INPUT SELECT function and NO SIGNAL AUTO INPUT SEL. function are disabled.
- When Enlarge is used, the HDMI AUTO VIEW function is disabled.
ZOOM2 SPECIAL SETTING

If you connect a laptop computer with any of the following screen resolutions and black bands appear around the screen, set ZOOM2 SPECIAL SETTING of INPUT SIGNAL on the SCREEN menu to ON and then select ZOOM2 in the SIZE setting. This displays the area inside the black band.

<table>
<thead>
<tr>
<th>Laptop computer resolution</th>
<th>Corresponding signal*1</th>
</tr>
</thead>
<tbody>
<tr>
<td>1280x800</td>
<td>1280x1024, 1280x960, 1400x1050*2</td>
</tr>
<tr>
<td>1280x600</td>
<td>1280x720</td>
</tr>
<tr>
<td>1024x600</td>
<td>1024x768</td>
</tr>
</tbody>
</table>

*1: This setting is effective only when the screen resolution, including the black band, is one of the resolutions listed above.

*2: Use the automatic screen adjustment.

SCHEDULE

You can set the time to switch the monitor on and off. Set this function with SCHEDULE in the SETUP menu. (See page 28.)

1. Press the ▲ or ▼ button to select the SCHEDULE number, and press the ► button.
2. Set the SCHEDULE. (See the description below.) Press the ◀ or ► button to select items, and press the ▲ or ▼ button to change the setting.
3. Press the ENTER button. SCHEDULE becomes effective.

(1)
- ●: SCHEDULE effective
- -: SCHEDULE not effective

(2) POWER
- ON: Switches the monitor on at the specified time.
- OFF: Switches the monitor off at the specified time and puts the monitor in standby mode.

(3) DAY OF THE WEEK

Specifies the day of the week to execute the SCHEDULE.

0: ONLY ONCE
- Executes the SCHEDULE once on the specified day.
- Specify the day of the week to execute the SCHEDULE.

1: EVERY WEEK
- Executes the SCHEDULE on the specified day of the week every week. Specify the day of the week to execute the SCHEDULE.
- Periodic setting such as “Monday through Friday” is also possible.

2: EVERY DAY
- Executes the SCHEDULE every day regardless of the day of the week.

(4) TIME

Specifies the time to execute the SCHEDULE.
- Set the time on a 12-hour basis. (Factory default)
- Can be entered as 24-hour time using the TIME setting in DATE/TIME FORMAT.

(5) INPUT

Specifies the input mode at power-on. If you don’t specify this the input active at the last power-off will appear.
- When START INPUT MODE is set to a value other than LAST INPUT MODE, the input mode configured for START INPUT MODE will be set.
- Input modes displayed on D-SUB will depend upon the INPUT SELECT settings.

(6) BRIGHT

Sets the brightness when changing the screen brightness at a specified time.

Caution
- Do not switch off the main power after setting the SCHEDULE.
- Specify the correct date and time. (See page 28.) SCHEDULE does not function unless the date and time are specified.
- Check regularly that the set date and time are correct.
- When a temperature abnormality occurs and the backlight brightness is reduced, the brightness is not changed even if a schedule set to BRIGHT is executed.

Tips
- Up to 8 SCHEDULE items can be registered.
- Setting the SCHEDULE flashes the power LED alternately in red and orange in standby mode.
- A SCHEDULE that has a large number has precedence over that of a small number when schedules overlap.
About remote control numbers
If there is another monitor nearby, you can change the remote control number to prevent the other monitor from being operated by the remote control. Set the same number in the monitor and in the remote control.

TIPS
• You can set remote control numbers to values from 0 to 9.
• When the remote control batteries become exhausted and when you replace the batteries, the number on the remote control may be reset to 0.

Changing the remote control number on the monitor
• Set this on a monitor (primary) with a remote control sensor box (provided with the PN-ZR02 (optional)) connected.
Use REMOTE No. on the SETUP menu to set the number.
(See page 29.)
1. Use the ◀ or ▶ button to select the remote control number.
2. Select ON and press the ENTER button.
The remote control number is set on the monitor.

Changing the remote control number on the remote control
1. While holding down the ID SET button, hold down the number that corresponds to the remote control number set on the monitor for 5 seconds or more, and then release these buttons.
The remote control number is set on the remote control.

Checking the remote controller number
• Perform these steps on the remote control.
(The monitor buttons cannot be used to check the number.)
1. Press the INFORMATION button to display INFORMATION1.
2. Check that REMOTE No. is the remote control number that you have set in the above procedure.
3. Press the RETURN button to close the monitor INFORMATION screen.

TIPS
• If the remote control numbers on the monitor and remote control are different, they will both be displayed on INFORMATION1. On this screen, you can press the ENTER button to match the number on the monitor with the number on the remote control.
• Even if the remote control numbers are different, you can use the remote control to display the INFORMATION screen.

Adjustments for computer screen display

Automatic adjustment
When you use the D-SUB[RGB] to display a computer screen for the first time, or when you change the setting of the computer, use the automatic screen adjustment.
1. Switch the input to D-SUB[RGB] and display the adjustment pattern. (See the description below.)
2. Press the MENU button and use the ▲ or ▼ button to display the SCREEN menu.
3. Press the ENTER button and select “AUTO”.
4. Press the ENTER button.
The automatic adjustment is complete in several seconds.
5. Press the MENU button to close the menu screen.

TIPS
• If the screen cannot be adjusted properly with one automatic adjustment, repeat the automatic adjustment two or three times. Try manual adjustment if necessary.

Screen display for adjustment
Before making adjustments in the SCREEN menu or PICTURE menu, display an image to brighten the entire screen. If you are using a Windows computer, use the adjustment pattern on the supplied CD-ROM.

Opening the adjustment pattern
The following example is performed in Windows 7.
1. Load the supplied CD-ROM into the computer’s CD-ROM drive.
2. Open [CD Drive] in [Computer].
3. Double-click [Adj_uty.exe].
The adjustment pattern will appear.
Adjust the screen automatically or manually.
4. When adjustment is finished, press the [Esc] on the computer’s keyboard to quit the adjustment program.
5. Eject the CD-ROM from the CD-ROM drive.

TIPS
• If the display mode on the computer you are using is 65000 colors, the color levels in the color pattern may appear differently or grayscale may appear to be colored. (This is due to the specifications of the input signal and is not a malfunction.)
You can return the settings to their factory-preset values and restrict operations.

1. If using the remote control unit:
   Press the FUNCTION button, and then press the MENU button within 10 seconds.
   If using the monitor buttons:
   Press the MENU button and INPUT button at the same time until “F” is displayed in the upper left area of the screen, then while “F” is being displayed, press the MENU button.

2. Select and set the items.

   **ALL RESET**
   Resets the settings to the factory default settings.
   Press the ENTER button, select the resetting method, and then press the ENTER button.
   After initialization, turn the main power switch off and then back on.
   ALL RESET1 ....Resets all the settings to the factory default settings.
   ALL RESET2 ....Returns all settings to the factory default settings except for the following items: LAN SETUP, RS-232C/LAN SELECT, ID No. SET, REMOTE No., BAUD RATE, NETWORK, MAIL, SERVICE & SUPPORT, and SNMP (See page 29, and pages 55 to 58.)

   **ADJUSTMENT LOCK**
   You can disable operations on the monitor and the remote control unit that use buttons.
   OFF ... Enables operation.
   ON 1 ... Disables all operations other than turning power on/off and FUNCTION.
   ON 2 ... Only the FUNCTION operation is enabled.
   Disables all operations other than FUNCTION (not even power on/off).

   **ADJUSTMENT LOCK TARGET**
   Sets the target to prohibit operation of with ADJUSTMENT LOCK.
   REMOTE CONTROL...... Prohibits remote control operation.
   MONITOR BUTTONS ... Prohibits monitor button operation.
   BOTH....................... Prohibits remote control and monitor button operation.

   **RS-232C/LAN**
   Specifies whether to allow control via RS-232C or LAN (see pages 38 and 51).

3. Press the RETURN button to return to the normal screen.

   **OSD DISPLAY**
   Shows/hides the menu, modes and messages.
   The FUNCTION and REMOTE CONTROL MODE screens cannot be hidden.
   ON 1............ Shows all menus, modes and messages.
   ON 2............. Hides messages automatically displayed by the display. Shows messages during operation.
   OFF .............. Hides all menus, modes and messages.

   **LED**
   Specifies whether to light the power LED.

   **TEMPERATURE ALERT**
   Selects the notification method for an abnormal temperature.
   OFF .............. Do not notify about an abnormal temperature.
   OSD & LED .. When an abnormal temperature is detected, the power LED flashes in red and green alternately and the screen displays a message: TEMPERATURE.
   LED.............. When an abnormal temperature is detected, the power LED flashes in red and green alternately.

   **STATUS ALERT**
   Selects the notification method for a hardware error.
   OFF .............. Do not notify about the error.
   OSD & LED .. When a hardware error is detected, the power LED flashes in red and the screen displays a message: STATUS [xxxx].
   LED.............. When a hardware error is detected, the power LED flashes in red.

   **POWER BUTTON**
   Normally, leave this setting as MONITOR.
   When using an optional part, if instruction appears, change the setting accordingly.

   **EXTERNAL CONTROLLER INPUT**
   Normally, you do not need to change this setting.
   When using an optional part, if instruction appears, change the setting accordingly.

   **SIGNAL RESPONSE LEVEL**
   Normally, you do not need to change this setting. Use this option to set the level of response to signal changes.

   **TIPS**
   - When both abnormal temperature and hardware error are detected, the hardware error notification overrides.
   - If TEMPERATURE ALERT or STATUS ALERT is set to OSD & LED, alert messages will appear even if the OSD DISPLAY is set to ON 2 or OFF.
   - If TEMPERATURE ALERT or STATUS ALERT is set to LED or OSD & LED, the LED lights even if the LED function is set to OFF.
You can control this monitor from a computer via RS-232C (COM port) on the computer. You can also connect multiple monitors via a daisy chain by using a computer. By assigning ID numbers to each monitor (see page 39), you can make input mode selection/adjustment or can check the status of a specific monitor.

**TIPS**
- To control the monitor via RS-232C, set RS-232C/LAN SELECT to RS-232C.
- You cannot use RS-232C and LAN control simultaneously.

### Computer connection

**One-to-one connection with a computer**
Connect with RS-232 straight cable between the computer’s COM port (RS-232C connector) and the RS-232C input terminal on the monitor.

![Diagram of one-to-one connection](image)

**Daisy chain connection…Advanced operation**
Connect with RS-232 straight cable between the computer’s COM port (RS-232C connector) and the RS-232C input terminal on the first monitor. Next, connect RS-232 straight cable to the first monitor’s RS-232C output terminal and to the second monitor’s RS-232C input terminal. Connect in the same way to the third and subsequent monitors. Up to 25 monitors can be connected. (Depending on the length of the cable used and the surrounding environment.)

![Diagram of daisy chain connection](image)

### Communication conditions

Set the RS-232C communication settings on the computer to match the monitor’s communication settings as follows:

<table>
<thead>
<tr>
<th>Setting</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Baud rate</td>
<td>*</td>
</tr>
<tr>
<td>Stop bit</td>
<td>1 bit</td>
</tr>
<tr>
<td>Data length</td>
<td>8 bits</td>
</tr>
<tr>
<td>Flow control</td>
<td>None</td>
</tr>
<tr>
<td>Parity bit</td>
<td>None</td>
</tr>
</tbody>
</table>

* Set to the same baud rate as the BAUD RATE setting of SETUP menu. (Initial setting: 38400 bps)
* When connecting multiple monitors in a daisy chain, set all monitors to the same BAUD RATE.

### Communication procedure

**Command format**
When a command is sent from the computer to the monitor, the monitor operates according to the received command and sends a response message to the computer.

- **Command field**
  - (4 prescribed alphanumerical characters)
- **Parameter field**
  - (4 character string comprised of: 0-9, +, -, space, ?)

Example: VOLM0030

<table>
<thead>
<tr>
<th>C1</th>
<th>C2</th>
<th>C3</th>
<th>C4</th>
<th>P1</th>
<th>P2</th>
<th>P3</th>
<th>P4</th>
</tr>
</thead>
<tbody>
<tr>
<td>VOLM</td>
<td>00</td>
<td>30</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* Be sure to input 4 characters for the parameter. Pad with spaces (" ") if necessary.
  (* " " is a return code (0DH, 0AH or 0Dh))
  Wrong : VOLM30
  Right : VOLM _ _ _ 30

When inputting a negative value, specify a numerical value in three digits.

Example: OFSR-005

Do not use spaces for MPOS, DATE, and SC01 through SC08. Specify parameters using a specified number of characters.

Example: MPOS010097

If a command has “R” listed for “DIRECTION” in the “RS-232C command table” on page 42, the current value can be returned by using “?” as the parameter.

Example:

| VOLM ? ? ? ? | From computer to monitor (How much is current volume setting?). |
| 30 | From monitor to computer (Current volume setting: 30). |

* If an ID number (see page 39) has been assigned (For example, ID number = 1).

VOLM _ _ _ _ ? | From computer to monitor. |
30 _ 001 | From monitor to computer.
**Response code format**

When a command has been executed correctly

- **OK** Return code (0DH, 0AH)
  - A response is returned after a command is executed.
  - If an ID number has been assigned
    - Space (20H)
      - **OK** SPC 0 0 1

When a command has not been executed

- **ERR** Return code (0DH, 0AH)
  - If an ID number has been assigned
    - Space (20H)
      - **ERR** SPC 0 0 1

**TIPS**

- "ERR" is returned when there is no relevant command or when the command cannot be used in the current state of the monitor.
- If communication has not been established for reasons such as a bad connection between the computer and monitor, nothing is returned (not even ERR).
- "ERR" may be returned when a command cannot be received correctly due to interference from the surrounding environment.

Please ensure that the system or software retries the command if this occurs.

- If no monitor has been assigned the designated ID number (e.g. if the command IDSLO002 is used, but no monitor with ID number 2 is found), no response is returned.

**If execution of the command is taking some time**

- **WAIT** Return code (0DH, 0AH)
  - When the following commands are used, "WAIT" is returned. In this case, a value will be returned if you wait a while. Do not send any command during this period.
  - No ID number is attached to WAIT response.
  - Commands which return WAIT:
    1. When repeater control is used
    2. When an IDSL or IDLK command is used
    3. When one of the following commands is used: RSET, INPS, ASNC, WIDE, EMAG, PXSL, POWR, AGIN, MWIN, MWIP, MWPP, ESTG, EMHV, EPHV, ESPH, ENLG, DPST, LCUF

**When control via RS-232C is locked (see page 37)**

- **LOCKED** Return code (0DH, 0AH)

**When RS-232C/LAN SELECT is set to LAN**

- **UNSOLICITED** Return code (0DH, 0AH)

**Communication interval**

- After OK or ERR is returned, you must send the following commands.
  - To set a timeout for the command response, specify 10 seconds or longer.
  - When connecting multiple monitors in a daisy chain, set the timeout to at least the product of the monitor’s position from the computer multiplied by 10 seconds.
    - Example) third monitor from computer: 30 seconds or longer.
  - Provide an interval of 100 ms or more between the command response and the transmission of the next command.

**Example**

- VOLM0020
  - OK
  - Interval of 100 ms or more

- INPS0001
  - WAIT
  - OK

**TIPS**

- When executing ALL RESET, set the timeout period to 30 seconds or longer.
- When turning the power on while the POWER ON DELAY function is in use, set the timeout period to the POWER ON DELAY period + 10 seconds or longer.

**Advanced operation**

This section explains commands for daisy chain connection. The basic communication procedure is the same as in the “One-to-one connection with a computer” section.

**ID numbers**

You can assign a unique ID number to each monitor (see page 29). This allows you to control a particular monitor in a daisy chain of monitors.

You can assign ID numbers either from the menu screen or from the computer using RS-232 cable.

**Example**

![Diagram of a daisy chain connection]

If monitors are connected as shown above, you can execute commands like "Set the volume of the monitor with ID 4 to 20".

When designating ID numbers for a set of monitors linked in a daisy chain, you should basically avoid any duplication of ID numbers.

ID numbers do not have to be assigned in ascending order starting from the computer. They can also be connected as shown below.

**Example**

![Diagram of a reverse order connection]
Commands for ID control

The command examples shown on this page assume the following connection and ID number set up.

```
ID number: 1 ID number: 2 ID number: 3 ID number: 4
```

**IDST** ........A monitor receiving this command sets its own ID number in the parameter field.

Example:

```
IDST0001
OK ___ 001 ← The ID number of this monitor is set to 1.
```

**TIPS**

You can automatically assign ID numbers by using the IDST command with the Repeater control (see “Repeater control” on page 41).

For example, using the command “IDST001+” automatically sets the ID numbers, as shown below.

[Example]

```
ID number: 1 ID number: 2 ID number: 3 ID number: 4
```

```
IDST001 + ← ID setting command with repeater control
WAIT
OK ___ 001 ← “OK” response from ID number: 1
OK ___ 002 ← “OK” response from ID number: 2
OK ___ 003 ← “OK” response from ID number: 3
OK ___ 004 ← “OK” response from ID number: 4 (End)
```

**IDSL** ........The parameter of this command sets the ID number of the monitor. The monitor is subject to the next command.

Example:

```
IDSL0002 ← The next command is for the monitor with ID number: 2.
WAIT ← Searching for monitor with ID number: 2
OK ___ 002 ← Found monitor with ID number: 2
VOLM0030 ← Sets volume of monitor with ID number: 2 to 30.*
WAIT ← Processing
OK ___ 002
VOLM0020 ← Sets volume of monitor with ID number: 2 to 20.*
WAIT
OK ___ 002
VOLM0010
OK ___ 001 ← The volume of the monitor with ID number: 1 (the one directly connected to the computer) is set to 10. (IDLK is canceled.)
```

* The IDSL command is effective only once, for the immediately succeeding command.

**IDLK** .......The parameter of this command sets the ID number of the monitor. The monitor is subject to all subsequent commands.

Example:

```
IDLK0002 ← Following commands are for the monitor with ID number: 2.
WAIT ← Searching for monitor with ID number: 2
OK ___ 002 ← Found monitor with ID number: 2
VOLM0030 ← Sets volume of monitor with ID number: 2 to 30.*
WAIT ← Processing
OK ___ 002
VOLM0020 ← Sets volume of monitor with ID number: 2 to 20.*
WAIT
OK ___ 002
IDLK0000 ← Canceling fixed ID number setting
WAIT ← Canceling IDLK
OK ___ 002 ← Cancelation complete
VOLM0010
OK ___ 001 ← The volume of the monitor with ID number: 1 (the one directly connected to the computer) is set to 10. (IDLK is canceled.)
```

* The IDLK command remains effective until it is canceled, or power is shut off.

**IDCK** .......Provides screen display of the ID number currently assigned to a monitor, and the ID number currently set for IDLK (if any).

Example:

(After executing IDLK0002)

```
IDCK0000 ← (Parameter has no meaning.)
ID : 001 IDLK : 002 ← Returned response. The ID number is also displayed on the monitor screen.
IDCK0000 ← Repeater control. (If a command is used with repeater control, ID designation using IDSL or IDLK is canceled.)
ID : 001 IDLK : 000
ID : 002 IDLK : 000
ID : 003 IDLK : 000
ID : 004 IDLK : 000
```

* The IDSL command is effective only once, for the immediately succeeding command.
Controlling the Monitor with a computer (RS-232C)

**Repeater control**
This system has a function to allow setting of multiple monitors connected in a daisy chain using a single command. This function is called repeater control. You can use Repeater control function without assigning ID numbers.

[Example]

Set 1 Set 2 Set 3 Set 4

* If monitors are connected as shown above, you can execute a command like "Set all monitors' input settings to D-SUB[RGB]."

**Repeater control command**
Repeater control is achieved by setting the FOURTH CHARACTER of the parameter to "+".

Example:  
VOLM030 + ← Sets volume of all monitors to 30.

In repeater control, responses are returned by all the connected monitors.
If you want to determine that a value has been returned by a specific set, assign ID numbers to each monitor in advance. When some monitors do not return their responses, the probable cause is that the monitors could not receive the command or command processing is not complete. Do not send a new command.

Example: (When 4 monitors are connected, and assigned ID numbers: 1 through 4)  
VOLM030 +  
WAIT  
OK __ 001  
OK __ 002  
OK __ 003  
OK __ 004 ← If 4 monitors are connected in a chain, reliable operation can be ensured by sending a new command only after a reply has been returned by 4th (last) monitor.

Repeater control can also be used for reading settings.

Example:  
VOLM ? ? ? +  
WAIT  
10 __ 001  
20 __ 002  
30 __ 003  
30 __ 004 ← Volume settings for all monitors are returned.

**Setting of the GAMMA user data**

**To transfer the GAMMA user data**
Use the user data transfer commands (UGRW, UGGW and UGBW). For each of the R, G and B colors, divide the total 512 pieces of user data into 16 blocks, and transfer 32 pieces of data with each command.

<table>
<thead>
<tr>
<th>C1</th>
<th>C2</th>
<th>C3</th>
<th>C4</th>
<th>P1</th>
<th>P2</th>
<th>P3</th>
<th>P4</th>
<th>...</th>
<th>S1</th>
<th>S2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Command field</td>
<td>Block number (01 to 16)</td>
<td>Data field</td>
<td>Checksum field</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Example: To transfer the data of block 1 (0 to 31 levels) of red (R) data

UGRW01000000010002 ... 0031C0

One piece of data consists of 4 digits.

* If data is less than 4 digits, add a “0” (zero) to make it 4 digits.
* The checksum field is the character string (ASCII) data of lower-order one byte which indicates the sum of the block number and 32 pieces of data in hexadecimal (0 to F).

**Saving the GAMMA user data**
Use the user data save command (UGSV) to save the transferred user data in the monitor.
If the data is not saved, it will be cleared when:
* The main power switch is off  
* POWER SAVE MODE is ON and the monitor enters standby mode

**Activating the GAMMA user data**
To activate the transferred user data, select USER for GAMMA of the PICTURE menu, or send the corresponding RS-232C command.

**Checking the GAMMA user data**
Use the user data read commands (UGRR, UGGR and UGBR) to return 512 pieces of user data for each of the R, G and B colors. Divide the data into 16 blocks and return 32 pieces of data with each command. The value to be returned is not the value stored in the monitor, but the value in the temporary memory for display. (These values are the same when the user data save command (UGSV) above has been sent.)

**TIPS**
* The user data is not initialized by RESET of the PICTURE menu. To initialize the user data, use ALL RESET of the FUNCTION menu.

The GAMMA user data initialize command (UGRS) allows the initialization of the user data only.

**TIPS**
* If repeater control is used during ID designation (IDSL, IDLK), the ID designation is canceled.
RS-232C command table

How to read the command table

**Command**: Command field (See page 38.)

**Direction**: W When the “Parameter” is set in the parameter field (see page 38), the command functions as described under “Control/Response Contents”.

R The returned value indicated under “Reply” can be obtained by setting “????”, “-” or “???*” (repeater control) in the parameter field. (See page 38.)

**Parameter**: Parameter field (See page 38.)

**Reply**: Response (Returned value)

*: When POWER SAVE MODE is set to OFF:

- **●/○**: Indicates a command which can be used in standby mode or when the power is on.
- **–**: Indicates a command which can be used when the power is on. Cannot be used in standby mode.

When POWER SAVE MODE is set to ON:

- **●**: Indicates a command which can be used in standby mode or when the power is on.
- **○/–**: Indicates a command which can be used when the power is on. Cannot be used in standby mode.

---

### Power control/Input mode selection

<table>
<thead>
<tr>
<th>Function</th>
<th>Command</th>
<th>Direction</th>
<th>Parameter</th>
<th>Reply</th>
<th>Control/Response contents *</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>POWER CONTROL</strong></td>
<td>POWR</td>
<td>W</td>
<td>0</td>
<td></td>
<td>Switches to standby mode.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>1</td>
<td></td>
<td>Returns from standby mode.</td>
</tr>
<tr>
<td></td>
<td>R</td>
<td></td>
<td>0</td>
<td></td>
<td>Standby mode</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>1</td>
<td></td>
<td>Normal mode</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>2</td>
<td></td>
<td>Input signal waiting mode.</td>
</tr>
<tr>
<td><strong>INPUT MODE SELECTION</strong></td>
<td>INPS</td>
<td>W</td>
<td>0</td>
<td></td>
<td>Toggle change for input mode. Terminals not selected in INPUT SELECT cannot be selected.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>1</td>
<td></td>
<td>DVI-D</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>2</td>
<td></td>
<td>D-SUB[RGB]</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>3</td>
<td></td>
<td>D-SUB[COMPONENT]</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>10</td>
<td></td>
<td>HDMI1</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>13</td>
<td></td>
<td>HDMI2</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>14</td>
<td></td>
<td>DisplayPort</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>21</td>
<td></td>
<td>OPTION</td>
</tr>
<tr>
<td></td>
<td>R</td>
<td></td>
<td>1</td>
<td></td>
<td>DVI-D</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>2</td>
<td></td>
<td>D-SUB[RGB]</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>3</td>
<td></td>
<td>D-SUB[COMPONENT]</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>10</td>
<td></td>
<td>HDMI1</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>13</td>
<td></td>
<td>HDMI2</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>14</td>
<td></td>
<td>DisplayPort</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>21</td>
<td></td>
<td>OPTION</td>
</tr>
</tbody>
</table>
## SCREEN menu

<table>
<thead>
<tr>
<th>Function</th>
<th>Command</th>
<th>Direction</th>
<th>Parameter</th>
<th>Reply</th>
<th>Control/Response contents</th>
</tr>
</thead>
<tbody>
<tr>
<td>AUTO</td>
<td>ASNC</td>
<td>W</td>
<td>1</td>
<td></td>
<td>When the input mode is D-SUB[RGB]</td>
</tr>
<tr>
<td>CLOCK</td>
<td>CLK</td>
<td>WR</td>
<td>0-1200</td>
<td>0-1200</td>
<td>When the input mode is D-SUB[RGB]</td>
</tr>
<tr>
<td>PHASE</td>
<td>PHSE</td>
<td>WR</td>
<td>0-63</td>
<td>0-63</td>
<td>When the input mode is D-SUB[RGB]</td>
</tr>
<tr>
<td>POSITIONING</td>
<td>POS</td>
<td>WR</td>
<td>0-100</td>
<td>0-100</td>
<td>Varies depending on the signal.</td>
</tr>
<tr>
<td>SIZE</td>
<td>SIZE</td>
<td>WR</td>
<td>0-100</td>
<td>0-100</td>
<td>Varies depending on the signal.</td>
</tr>
<tr>
<td>SCREEN SIZE</td>
<td>WIDE</td>
<td>WR</td>
<td>1-5</td>
<td>1-5</td>
<td>1: WIDE, 2: NORMAL, 3: Dot by Dot, 4: ZOOM1, 5: ZOOM2</td>
</tr>
<tr>
<td>RESOLUTION SETTING</td>
<td>LRES</td>
<td>WR</td>
<td>300-1920</td>
<td>300-1920</td>
<td>When the input mode is D-SUB[RGB]</td>
</tr>
<tr>
<td></td>
<td>VRES</td>
<td>WR</td>
<td>200-1200</td>
<td>200-1200</td>
<td>Only even numbers are valid for parameters.</td>
</tr>
<tr>
<td>INPUT SIGNAL (D-SUB[RGB])</td>
<td>PXS</td>
<td>WR</td>
<td>1-10</td>
<td>1-10</td>
<td>Returns current resolution in the form of hhh, vvv.</td>
</tr>
</tbody>
</table>

Check the resolution (other than D-SUB[COMPONENT])

Check the resolution (HDM1, HDM2, D-SUB[COMPONENT], OPTION (When you have used the expansion slot to expand the functions.))

ZOOM2 SPECIAL SETTINGS (D-SUB[RGB])

RESET
# PICTURE menu

<table>
<thead>
<tr>
<th>Function</th>
<th>Command</th>
<th>Direction</th>
<th>Parameter</th>
<th>Reply</th>
<th>Control/Response contents</th>
</tr>
</thead>
<tbody>
<tr>
<td>BRIGHT</td>
<td>VLMP</td>
<td>WR</td>
<td>0-31</td>
<td>0-31</td>
<td></td>
</tr>
<tr>
<td>CONTRAST</td>
<td>CONT</td>
<td>WR</td>
<td>0-60</td>
<td>0-60</td>
<td></td>
</tr>
<tr>
<td>BLACK LEVEL</td>
<td>BVL</td>
<td>WR</td>
<td>0-60</td>
<td>0-60</td>
<td></td>
</tr>
<tr>
<td>TINT</td>
<td>TINT</td>
<td>WR</td>
<td>0-60</td>
<td>0-60</td>
<td></td>
</tr>
<tr>
<td>COLORS</td>
<td>COLR</td>
<td>WR</td>
<td>0-60</td>
<td>0-60</td>
<td></td>
</tr>
<tr>
<td>SHARPNESS</td>
<td>SHRP</td>
<td>WR</td>
<td>0-24</td>
<td>0-24</td>
<td></td>
</tr>
</tbody>
</table>

**COLOR ADJUSTMENT**

<table>
<thead>
<tr>
<th>Function</th>
<th>Command</th>
<th>Direction</th>
<th>Parameter</th>
<th>Reply</th>
<th>Control/Response contents</th>
</tr>
</thead>
<tbody>
<tr>
<td>COLOR MODE</td>
<td>BMOD</td>
<td>WR</td>
<td>0</td>
<td>0</td>
<td>STD</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>2</td>
<td>2</td>
<td>VIVID</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>3</td>
<td>3</td>
<td>sRGB (sRGB cannot be used when input mode is D-SUB[COMPONENT])</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>4</td>
<td>4</td>
<td>HIGH ILLUMINANCE</td>
</tr>
</tbody>
</table>

**WHITE BALANCE**

<table>
<thead>
<tr>
<th>Function</th>
<th>Command</th>
<th>Direction</th>
<th>Parameter</th>
<th>Reply</th>
<th>Control/Response contents</th>
</tr>
</thead>
<tbody>
<tr>
<td>PRESET</td>
<td>CTMP</td>
<td>WR</td>
<td>1-28</td>
<td>1-28</td>
<td></td>
</tr>
<tr>
<td>USER</td>
<td>CRTR</td>
<td>WR</td>
<td>0-256</td>
<td>0-256</td>
<td></td>
</tr>
<tr>
<td>USER</td>
<td>CRTG</td>
<td>WR</td>
<td>0-256</td>
<td>0-256</td>
<td></td>
</tr>
<tr>
<td>USER</td>
<td>CRTB</td>
<td>WR</td>
<td>0-256</td>
<td>0-256</td>
<td></td>
</tr>
<tr>
<td>USER</td>
<td>OFSR</td>
<td>WR</td>
<td>-127-127</td>
<td>-127-127</td>
<td></td>
</tr>
<tr>
<td>USER</td>
<td>OFSG</td>
<td>WR</td>
<td>-127-127</td>
<td>-127-127</td>
<td></td>
</tr>
<tr>
<td>USER</td>
<td>OFSB</td>
<td>WR</td>
<td>-127-127</td>
<td>-127-127</td>
<td></td>
</tr>
</tbody>
</table>

**ADJUST UNIFORMITY**

<table>
<thead>
<tr>
<th>Function</th>
<th>Command</th>
<th>Direction</th>
<th>Parameter</th>
<th>Reply</th>
<th>Control/Response contents</th>
</tr>
</thead>
<tbody>
<tr>
<td>BRIGHTNESS VALUE</td>
<td>BCLB</td>
<td>WR</td>
<td>0-255</td>
<td>0-255</td>
<td></td>
</tr>
</tbody>
</table>

**COPY TO USER**

<table>
<thead>
<tr>
<th>Function</th>
<th>Command</th>
<th>Direction</th>
<th>Parameter</th>
<th>Reply</th>
<th>Control/Response contents</th>
</tr>
</thead>
<tbody>
<tr>
<td>COPY TO USER</td>
<td>CPTU</td>
<td>W</td>
<td>0</td>
<td>Copies a preset value to the user setting.</td>
<td></td>
</tr>
</tbody>
</table>

**COPY TO USER**

<table>
<thead>
<tr>
<th>Function</th>
<th>Command</th>
<th>Direction</th>
<th>Parameter</th>
<th>Reply</th>
<th>Control/Response contents</th>
</tr>
</thead>
<tbody>
<tr>
<td>GAMMA</td>
<td>GAMM</td>
<td>WR</td>
<td>0-2, 4-9</td>
<td>0-2, 4-9</td>
<td>0: OFF, 1: LOW, 2: HIGH</td>
</tr>
</tbody>
</table>

**FLESH TONE**

<table>
<thead>
<tr>
<th>Function</th>
<th>Command</th>
<th>Direction</th>
<th>Parameter</th>
<th>Reply</th>
<th>Control/Response contents</th>
</tr>
</thead>
<tbody>
<tr>
<td>C.M.S.-HUE</td>
<td>CMHR</td>
<td>WR</td>
<td>-10-10</td>
<td>-10-10</td>
<td>R</td>
</tr>
<tr>
<td></td>
<td>CMHY</td>
<td></td>
<td></td>
<td></td>
<td>Y</td>
</tr>
<tr>
<td></td>
<td>CMHG</td>
<td></td>
<td></td>
<td></td>
<td>G</td>
</tr>
<tr>
<td></td>
<td>CMHC</td>
<td></td>
<td></td>
<td></td>
<td>C</td>
</tr>
<tr>
<td></td>
<td>CMHB</td>
<td></td>
<td></td>
<td></td>
<td>B</td>
</tr>
<tr>
<td></td>
<td>CMHM</td>
<td></td>
<td></td>
<td></td>
<td>M</td>
</tr>
<tr>
<td></td>
<td>CRST</td>
<td>W</td>
<td>1</td>
<td>Resets the hue.</td>
<td></td>
</tr>
</tbody>
</table>

**C.M.S.-SATURATION**

<table>
<thead>
<tr>
<th>Function</th>
<th>Command</th>
<th>Direction</th>
<th>Parameter</th>
<th>Reply</th>
<th>Control/Response contents</th>
</tr>
</thead>
<tbody>
<tr>
<td>C.M.S.-SATURATION</td>
<td>CMSR</td>
<td>WR</td>
<td>-10-10</td>
<td>-10-10</td>
<td>R</td>
</tr>
<tr>
<td></td>
<td>CMSY</td>
<td></td>
<td></td>
<td></td>
<td>Y</td>
</tr>
<tr>
<td></td>
<td>CMSG</td>
<td></td>
<td></td>
<td></td>
<td>G</td>
</tr>
<tr>
<td></td>
<td>CMSC</td>
<td></td>
<td></td>
<td></td>
<td>C</td>
</tr>
<tr>
<td></td>
<td>CMSB</td>
<td></td>
<td></td>
<td></td>
<td>B</td>
</tr>
<tr>
<td></td>
<td>CMSM</td>
<td></td>
<td></td>
<td></td>
<td>M</td>
</tr>
<tr>
<td></td>
<td>CRST</td>
<td>W</td>
<td>2</td>
<td>Resets the saturation.</td>
<td></td>
</tr>
</tbody>
</table>
### SETTING menu

<table>
<thead>
<tr>
<th>Function</th>
<th>Command</th>
<th>Direction</th>
<th>Parameter</th>
<th>Reply</th>
<th>Control/Response contents</th>
</tr>
</thead>
<tbody>
<tr>
<td>DATE/TIME SETTING</td>
<td>DATE</td>
<td>WR</td>
<td>AABBCCDDEE</td>
<td>0-127</td>
<td>A: Year, BB: Month, CC: Day, DD: Hour, EE: Minute</td>
</tr>
<tr>
<td>DATE FORMAT</td>
<td>DFTF</td>
<td>WR</td>
<td>0-2</td>
<td>0-2</td>
<td>YYYY: Year, MM: Month, DD: Day</td>
</tr>
<tr>
<td>TIME FORMAT</td>
<td>TMFT</td>
<td>WR</td>
<td>0-1</td>
<td>0-2</td>
<td>24-HOUR TIME, 12-HOUR TIME</td>
</tr>
<tr>
<td>SCHEDULE</td>
<td>SC01-SC08</td>
<td>WR</td>
<td>ABCDEFFGH</td>
<td>Schedule of a specified number</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>ABCDEFFGH</td>
<td></td>
<td>A: Schedule 0= Not effective, 1 = Effective</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>B: Power 0 = OFF, 1 = ON</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>C: Day of the week 1 = Every day</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>D: Day of the week 2 = Every day</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>E: Day of the week 3 = Every day</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>F: Hour 00-23</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>G: Minute 00-59</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>H: Input 0 = Not specified, 1=HDMI1, 2=HDMI2, 3=D-SUB, 4=DisplayPort, 5=DVI-D, 6=OPTION(valid when an option is attached)</td>
</tr>
<tr>
<td>SCHEDULE BRIGHTNESS</td>
<td>SB01-SB08</td>
<td>WR</td>
<td>0-31</td>
<td>0-31</td>
<td>Screen brightness to change</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>99</td>
<td>99</td>
<td>Disable brightness setting</td>
</tr>
<tr>
<td>LANGUAGE</td>
<td>LANG</td>
<td>WR</td>
<td>14</td>
<td>14</td>
<td>ENGLISH</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>1</td>
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<td>DEUTSCH</td>
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<td>2</td>
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<td>FRANÇAIS</td>
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<td>ITALIANO</td>
</tr>
<tr>
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<td>4</td>
<td>4</td>
<td>ESPANOL</td>
</tr>
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<td>5</td>
<td>5</td>
<td>ПУЧКИЯ</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>6</td>
<td>6</td>
<td>日語</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>7</td>
<td>7</td>
<td>中文</td>
</tr>
<tr>
<td>INPUT SELECT</td>
<td>SLDS</td>
<td>WR</td>
<td>0-1</td>
<td>0-1</td>
<td>0: RGB, 1: COMPONENT</td>
</tr>
<tr>
<td>HDMI CEC LINK</td>
<td>CELK</td>
<td>WR</td>
<td>0-1</td>
<td>0-1</td>
<td>0: OFF, 1: AUTO</td>
</tr>
<tr>
<td>AUTO POWER ON</td>
<td>ATPO</td>
<td>WR</td>
<td>0-1</td>
<td>0-1</td>
<td>0: OFF, 1: ON</td>
</tr>
<tr>
<td>HDMI AUTO VIEW (HDMI1)</td>
<td>HDAW</td>
<td>WR</td>
<td>0-1</td>
<td>0-1</td>
<td>0: OFF, 1: ON</td>
</tr>
<tr>
<td>HDMI AUTO VIEW (HDMI2)</td>
<td>H2AW</td>
<td>WR</td>
<td>0-1</td>
<td>0-1</td>
<td>0: OFF, 1: ON</td>
</tr>
<tr>
<td>HDMI AUTO VIEW (OPTION)</td>
<td>OPW</td>
<td>WR</td>
<td>0-1</td>
<td>0-1</td>
<td>0: OFF, 1: ON</td>
</tr>
<tr>
<td>HOT PLUG CONTROL (DVI-D)</td>
<td>HPCT</td>
<td>WR</td>
<td>0-1</td>
<td>0-1</td>
<td>0: OFF, 1: ON</td>
</tr>
<tr>
<td>HOT PLUG CONTROL (HDMI1)</td>
<td>HPCH</td>
<td>WR</td>
<td>0-1</td>
<td>0-1</td>
<td>0: OFF, 1: ON</td>
</tr>
<tr>
<td>HOT PLUG CONTROL (HDMI2)</td>
<td>HPH2</td>
<td>WR</td>
<td>0-1</td>
<td>0-1</td>
<td>0: OFF, 1: ON</td>
</tr>
<tr>
<td>HOT PLUG CONTROL (OPTION)</td>
<td>HPOP</td>
<td>WR</td>
<td>0-1</td>
<td>0-1</td>
<td>0: OFF, 1: ON</td>
</tr>
<tr>
<td>DisplayPort STREAM</td>
<td>DPST</td>
<td>WR</td>
<td>0-1</td>
<td>0-1</td>
<td>0: SST, 1: MST</td>
</tr>
</tbody>
</table>

* "ERR" when PIP MODES is a value other than OFF.
<table>
<thead>
<tr>
<th>Function</th>
<th>Command</th>
<th>Direction</th>
<th>Parameter</th>
<th>Reply</th>
<th>Control/Response contents</th>
</tr>
</thead>
<tbody>
<tr>
<td>DisplayPort SETTING</td>
<td>DPHG</td>
<td>WR</td>
<td>0-31</td>
<td>0-31</td>
<td>*</td>
</tr>
<tr>
<td>LOW-FREQUENCY</td>
<td>DPLG</td>
<td>WR</td>
<td>0-31</td>
<td>0-31</td>
<td>*</td>
</tr>
<tr>
<td>GAIN</td>
<td>DPLG</td>
<td>WR</td>
<td>0-31</td>
<td>0-31</td>
<td>*</td>
</tr>
<tr>
<td>FILTER SETTING</td>
<td>DPFL</td>
<td>WR</td>
<td>0-15</td>
<td>0-15</td>
<td>*</td>
</tr>
<tr>
<td>OFFSET</td>
<td>DPOF</td>
<td>WR</td>
<td>0-15</td>
<td>0-15</td>
<td>*</td>
</tr>
<tr>
<td>RESET</td>
<td>DPRS</td>
<td>W</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>AUDIO SELECT</td>
<td>ASHP</td>
<td>WR</td>
<td>0-1</td>
<td>0-1</td>
<td>0: HDMI, 1: AUDIO</td>
</tr>
<tr>
<td>HDMI2</td>
<td>AHSP</td>
<td>WR</td>
<td>0-1</td>
<td>0-1</td>
<td>0: HDMI, 1: AUDIO</td>
</tr>
<tr>
<td>DisplayPort ASID</td>
<td>DRFL</td>
<td>WR</td>
<td>1, 3</td>
<td>1, 3</td>
<td>1: AUDIO, 3: DisplayPort</td>
</tr>
<tr>
<td>OPTION</td>
<td>ASOP</td>
<td>WR</td>
<td>0-1</td>
<td>0-1</td>
<td>0: OPTION, 1: AUDIO</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>(valid when you have used the expansion slot to expand the functions)</td>
</tr>
<tr>
<td>AUDIO OUTPUT</td>
<td>AOUT</td>
<td>WR</td>
<td>0-1</td>
<td>0-1</td>
<td>0: VARIABLE, 1: FIXED</td>
</tr>
<tr>
<td>START INPUT MODE</td>
<td>SUIM</td>
<td>WR</td>
<td>1-4, 6-7, 10</td>
<td>1-4, 6-7, 10</td>
<td>1: LAST INPUT MODE, 2: DisplayPort, 3: HDMI1, 4: HDMI2, 6: DVI-D, 7: D-SUB, 10: OPTION</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>(valid when you have used the expansion slot to expand the functions)</td>
</tr>
<tr>
<td>COMMUNICATION</td>
<td>CTLS</td>
<td>WR</td>
<td>0-1</td>
<td>0-1</td>
<td>0: RS-232C, 1: LAN</td>
</tr>
<tr>
<td>SETTING</td>
<td>BAUD</td>
<td>WR</td>
<td>0-2</td>
<td>0-2</td>
<td>0: 9600bps, 1: 19200bps, 2: 38400bps</td>
</tr>
<tr>
<td>ID SETTING</td>
<td>IDST</td>
<td>W</td>
<td>0-255</td>
<td></td>
<td>Sets the monitor’s ID number. (’0’ means ‘no ID number’.)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>R</td>
<td>0-255</td>
<td></td>
<td>0-255 Returns the monitor’s ID number.</td>
</tr>
<tr>
<td></td>
<td>IDSX</td>
<td>W</td>
<td>1-255</td>
<td></td>
<td>Set a monitor’s ID number to send a command. This ID number is only effective for the command immediately after this command.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>0</td>
<td></td>
<td>Clears the ID number if one has been designated.</td>
</tr>
<tr>
<td></td>
<td>IDLK</td>
<td>W</td>
<td>1-255</td>
<td></td>
<td>Set a monitor’s ID number to send a command. This ID number is effective for the next and all subsequent commands after this command.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>0</td>
<td></td>
<td>Clears the ID number if one has been designated.</td>
</tr>
<tr>
<td></td>
<td>IDCK</td>
<td>W</td>
<td>0</td>
<td></td>
<td>Displays monitor’s own ID number and the selected ID number on the screen.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>ID</td>
<td>xxx</td>
<td></td>
<td>(The IP address and MAC address are both displayed.)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>*</td>
</tr>
<tr>
<td>ID DISPLAY</td>
<td>IDDP</td>
<td>W</td>
<td>0-2</td>
<td></td>
<td>0: OFF, 1: ON, 2: ON (turns OFF after 4 sec.)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>(The IP address and MAC address are both displayed.)</td>
</tr>
<tr>
<td>REMOTE No.</td>
<td>RCNO</td>
<td>WR</td>
<td>0-9</td>
<td>0-9</td>
<td>Sets the number of the remote control.</td>
</tr>
<tr>
<td>COPY SETTING</td>
<td>CPMD</td>
<td>WR</td>
<td>0</td>
<td>0</td>
<td>Copy to all monitors.</td>
</tr>
<tr>
<td>VALUE</td>
<td></td>
<td></td>
<td>1-255</td>
<td>1-255</td>
<td>Copy to the monitor with the set ID number.</td>
</tr>
<tr>
<td>COPY SETTING</td>
<td>CPTG</td>
<td>WR</td>
<td>0</td>
<td>0</td>
<td>Copies the PICTURE menu settings.</td>
</tr>
<tr>
<td>VALUE TARGET</td>
<td></td>
<td></td>
<td>1</td>
<td>1</td>
<td>Copies all the settings.</td>
</tr>
</tbody>
</table>
## Controlling the Monitor with a computer (RS-232C)

### MONITOR menu

<table>
<thead>
<tr>
<th>Function</th>
<th>Command</th>
<th>Direction</th>
<th>Parameter</th>
<th>Reply</th>
<th>Control/Response contents</th>
</tr>
</thead>
<tbody>
<tr>
<td>PORTRAIT/LANDSCAPE INSTALL</td>
<td>STOR</td>
<td>WR</td>
<td>0-1</td>
<td>0-1</td>
<td>0: LANDSCAPE, 1: PORTRAIT</td>
</tr>
</tbody>
</table>
| ROTATE 180°/PICTURE FLIP        | PFIL    | WR        | 0, 2, 3   | 0, 2, 3 | 0: ROTATE 180° is set to OFF, PICTURE FLIP is set to OFF.  
2: ROTATE 180° is set to OFF, PICTURE FLIP is set to ON.  
3: ROTATE 180° is set to ON, PICTURE FLIP is set to OFF.  
“ERR” when PIP MODES is a value other than OFF.  
When INVERSE SCAN is set to ON, can not set to 3 “ERR”.  
When INVERSE SCAN is set to OFF, can not set to 2 “ERR”. |
| INVERSE SCAN                    | INVV    | WR        | 0-1       | 0-1   | 0: OFF, 1: ON              |
| OSD H-POSITION                  | OSDH    | WR        | 0-100     | 0-100 | “ERR” when PORTRAIT/LANDSCAPE INSTALL is set to PORTRAIT. |
| OSD V-POSITION                  | OSDV    | WR        | 0-100     | 0-100 |
| POWER SAVE MODE                 | STBM    | WR        | 0-1       | 0-1   | 0: OFF, 1: ON              |
| OFF IF NO OPERATION             | ATUF    | WR        | 0-1       | 0-1   | 0: OFF, 1: ON              |
| TIME                            | AODT    | WR        | 1-12      | 1-12  | 1-12: 1-12 hours           |
| POWER ON DELAY                  | PODS    | WR        | 0-1       | 0-1   | 0: OFF, 1: ON              |
| INTERVAL                        | PWOD    | WR        | 1-60      | 1-60  | 1-60: 1-60 seconds        |
| SELF ADJUST                     | AADJ    | WR        | 0-1       | 0-1   | 0: OFF, 1: ON              |
| START TIMING                    | AADD    | WR        | 10-200    | 10-200| 10: 1 second through 200: 20 seconds |
## MULTI/PIP menu

<table>
<thead>
<tr>
<th>Function</th>
<th>Command</th>
<th>Direction</th>
<th>Parameter</th>
<th>Reply</th>
<th>Control/Response contents</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENLARGE</td>
<td>ENLJ</td>
<td>WR</td>
<td>0-1</td>
<td>0-1</td>
<td>0: OFF, 1: ON</td>
</tr>
<tr>
<td>ENLARGE MODE</td>
<td>EMAG</td>
<td>WR</td>
<td>1-4</td>
<td>1-4</td>
<td>1: 2 x 2, 2: 3 x 3, 3: 4 x 4, 4: 5 x 5</td>
</tr>
<tr>
<td>EMHV</td>
<td>WR</td>
<td>12(21)-55</td>
<td>12(21)-55</td>
<td></td>
<td>1 x 2 (2 x 1) to 5 x 5 (m x n is expressed as &quot;mn&quot;, where m and n are the numbers of monitors specified for the longest direction and the shortest direction respectively.)</td>
</tr>
<tr>
<td>IMAGE POSITION (M x N)</td>
<td>EPHV</td>
<td>WR</td>
<td>11-55</td>
<td>11-55</td>
<td>Specifies values in the order of IMAGE POSITION IN LONGEST/SHORTEST DIRECTION.</td>
</tr>
<tr>
<td>IMAGE POSITION (2 x 2)</td>
<td>EPOS</td>
<td>WR</td>
<td>0-3</td>
<td>0-3</td>
<td>See the description below.</td>
</tr>
<tr>
<td>IMAGE POSITION (3 x 3)</td>
<td>EPOS</td>
<td>WR</td>
<td>0-8</td>
<td>0-8</td>
<td>See the description below.</td>
</tr>
<tr>
<td>IMAGE POSITION (4 x 4)</td>
<td>EPOS</td>
<td>WR</td>
<td>0-15</td>
<td>0-15</td>
<td>See the description below.</td>
</tr>
<tr>
<td>IMAGE POSITION (5 x 5)</td>
<td>EPOS</td>
<td>WR</td>
<td>0-24</td>
<td>0-24</td>
<td>See the description below.</td>
</tr>
<tr>
<td>ENLARGED SCREEN POSITIONING</td>
<td>EPSH</td>
<td>WR</td>
<td>-999-999</td>
<td>-999-999</td>
<td>The setting range depends on the ENLARGE MODE setting and the IMAGE POSITION.</td>
</tr>
<tr>
<td>BEZEL ADJUST</td>
<td>BZCO</td>
<td>WR</td>
<td>0-1</td>
<td>0-1</td>
<td>0: OFF, 1: ON</td>
</tr>
<tr>
<td>BEZEL ADJUST</td>
<td>BZCT</td>
<td>WR</td>
<td>0-1</td>
<td>0-1</td>
<td>0: OFF, 1: ON</td>
</tr>
<tr>
<td>BEZEL ADJUST</td>
<td>BZCB</td>
<td>WR</td>
<td>0-1</td>
<td>0-1</td>
<td>0: OFF, 1: ON</td>
</tr>
<tr>
<td>BEZEL ADJUST</td>
<td>BZCR</td>
<td>WR</td>
<td>0-1</td>
<td>0-1</td>
<td>0: OFF, 1: ON</td>
</tr>
<tr>
<td>BEZEL ADJUST</td>
<td>BZCL</td>
<td>WR</td>
<td>0-1</td>
<td>0-1</td>
<td>0: OFF, 1: ON</td>
</tr>
<tr>
<td>BEZEL WIDTH</td>
<td>BZWT</td>
<td>WR</td>
<td>0-100</td>
<td>0-100</td>
<td>See the description below.</td>
</tr>
<tr>
<td>BEZEL WIDTH</td>
<td>BZWB</td>
<td>WR</td>
<td>0-100</td>
<td>0-100</td>
<td>See the description below.</td>
</tr>
<tr>
<td>BEZEL WIDTH</td>
<td>BZWR</td>
<td>WR</td>
<td>0-100</td>
<td>0-100</td>
<td>See the description below.</td>
</tr>
<tr>
<td>BEZEL WIDTH</td>
<td>BZWL</td>
<td>WR</td>
<td>0-100</td>
<td>0-100</td>
<td>See the description below.</td>
</tr>
<tr>
<td>ENLARGE/IMAGE POSITION SETTING ESTG</td>
<td>WR</td>
<td>XXYY</td>
<td>XXYY</td>
<td>X: ENLARGE MODE (Same as EMAG), Y: IMAGE POSITION (Same as EPOS)</td>
<td></td>
</tr>
<tr>
<td>ENLARGE/IMAGE POSITION SETTING ESHV</td>
<td>WR</td>
<td>XXYY</td>
<td>XXYY</td>
<td>X: ENLARGE MODE (Same as EMHV), Y: IMAGE POSITION (Same as EPHV)</td>
<td></td>
</tr>
</tbody>
</table>

### • IMAGE POSITION (EPOS) setting

#### In landscape orientation

- **2 x 2**

```
1 2
3 4
```

- **3 x 3**

```
1 2 3
4 5 6
7 8 9
```

- **4 x 4**

```
1 2 3 4
5 6 7 8
9 10 11 12
13 14 15 16
```

- **5 x 5**

```
1 2 3 4 5
6 7 8 9 10
11 12 13 14 15
16 17 18 19 20
21 22 23 24 25
```

#### In portrait orientation

- **2 x 2**

```
1 2
3 4
```

- **3 x 3**

```
1 2 3
4 5 6
```

- **4 x 4**

```
1 2 3 4
5 6
7 8
```

- **5 x 5**

```
1 2 3 4 5
6 7 8 9 10
11 12 13 14 15
16 17 18 19 20
21 22 23 24 25
26 27 28 29 30
```

---

Controlling the Monitor with a computer (RS-232C)
### Function: Controlling the Monitor with a computer (RS-232C)

<table>
<thead>
<tr>
<th>Function</th>
<th>Command</th>
<th>Direction</th>
<th>Parameter</th>
<th>Reply</th>
<th>Control/Response contents</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>PIP MODES</strong></td>
<td>MWIN</td>
<td>WR</td>
<td>0-3</td>
<td>0-3</td>
<td>0: OFF, 1: PIP, 2: PbyP, 3: PbyP2</td>
</tr>
<tr>
<td><strong>PIP SIZE</strong></td>
<td>MPSZ</td>
<td>WR</td>
<td>1-64</td>
<td>1-64</td>
<td></td>
</tr>
<tr>
<td><strong>PIP POS</strong></td>
<td>MYPs</td>
<td>W</td>
<td>0-100</td>
<td>R</td>
<td></td>
</tr>
<tr>
<td></td>
<td>MVS</td>
<td>W</td>
<td>0-100</td>
<td>R</td>
<td></td>
</tr>
<tr>
<td><strong>PIP POS LD+SD BATCH</strong></td>
<td>MPOS</td>
<td>W</td>
<td>0-100,0-100</td>
<td>R</td>
<td></td>
</tr>
<tr>
<td><strong>PIP BLEND</strong></td>
<td>MWBL</td>
<td>WR</td>
<td>0-7</td>
<td>0-7</td>
<td></td>
</tr>
<tr>
<td><strong>PIP SOURCE</strong></td>
<td>MWIP</td>
<td>WR</td>
<td>1</td>
<td>1</td>
<td>DVI-D</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>2</td>
<td>2</td>
<td>D-SUB(1)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>3</td>
<td>3</td>
<td>D-SUB(2)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>10</td>
<td>10</td>
<td>HDMI1</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>13</td>
<td>13</td>
<td>HDMI2</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>14</td>
<td>14</td>
<td>DisplayPort</td>
</tr>
<tr>
<td><strong>SOUND CHANGE</strong></td>
<td>MWAD</td>
<td>WR</td>
<td>0-1</td>
<td>0-1</td>
<td></td>
</tr>
<tr>
<td><strong>MAIN POS (Main screen)</strong></td>
<td>MWPP</td>
<td>WR</td>
<td>0-1</td>
<td>0-1</td>
<td>0: POS1, 1: POS2</td>
</tr>
<tr>
<td><strong>PlayP2 POS (Sub screen)</strong></td>
<td>MWPP</td>
<td>WR</td>
<td>0-2</td>
<td>0-2</td>
<td>0: POS1, 1: POS2, 2: POS3</td>
</tr>
</tbody>
</table>

### OTHERS menu

<table>
<thead>
<tr>
<th>Function</th>
<th>Command</th>
<th>Direction</th>
<th>Parameter</th>
<th>Reply</th>
<th>Control/Response contents</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>SCREEN MOTION</strong></td>
<td>SG2V</td>
<td>WR</td>
<td>0-4</td>
<td>0-4</td>
<td>0: OFF, 1-4: PATTERN 1-4</td>
</tr>
<tr>
<td><strong>MOTION TIME1</strong></td>
<td>MTM</td>
<td>WR</td>
<td>0-20</td>
<td>0-20</td>
<td></td>
</tr>
<tr>
<td><strong>MOTION TIME2</strong></td>
<td>MINT</td>
<td>WR</td>
<td>10-990</td>
<td>10-990</td>
<td>Per 10 seconds</td>
</tr>
<tr>
<td><strong>MOTION TIME2 (PATTERN1)</strong></td>
<td>MINT</td>
<td>WR</td>
<td>5-20</td>
<td>5-20</td>
<td>Per second</td>
</tr>
<tr>
<td><strong>POWER MANAGEMENT</strong></td>
<td>PMNG</td>
<td>WR</td>
<td>0-1</td>
<td>0-1</td>
<td>0: OFF, 1: ON</td>
</tr>
<tr>
<td><strong>CONNECT AUTO INPUT SELECT</strong></td>
<td>AICO</td>
<td>WR</td>
<td>0-1</td>
<td>0-1</td>
<td>0: OFF, 1: ON</td>
</tr>
<tr>
<td><strong>NO SIGNAL AUTO INPUT SEL.</strong></td>
<td>AINO</td>
<td>WR</td>
<td>0-1</td>
<td>0-1</td>
<td>0: OFF, 1: ON</td>
</tr>
<tr>
<td><strong>AUTO INPUT SELECT PRIORITY</strong></td>
<td>DisplayPort</td>
<td>WR</td>
<td>0-10</td>
<td>0-10</td>
<td>0: Not selected by auto input selection, 1-10: Priority setting</td>
</tr>
<tr>
<td></td>
<td>HDMI1</td>
<td>APD1</td>
<td>0-10</td>
<td>0-10</td>
<td></td>
</tr>
<tr>
<td></td>
<td>HDMI2</td>
<td>APH2</td>
<td>0-10</td>
<td>0-10</td>
<td></td>
</tr>
<tr>
<td></td>
<td>DVI-D</td>
<td>APDV</td>
<td>5-15</td>
<td>5-15</td>
<td></td>
</tr>
<tr>
<td><strong>LOGO SCREEN</strong></td>
<td>BTSC</td>
<td>WR</td>
<td>0-1</td>
<td>0-1</td>
<td>0: OFF, 1: ON</td>
</tr>
<tr>
<td><strong>SCAN MODE</strong></td>
<td>SCAN</td>
<td>WR</td>
<td>0-2</td>
<td>0-2</td>
<td>0: MODE1, 1: MODE2, 2: MODE3</td>
</tr>
<tr>
<td><strong>VOLUME</strong></td>
<td>VOLM</td>
<td>WR</td>
<td>0-31</td>
<td>0-31</td>
<td></td>
</tr>
<tr>
<td><strong>MUTE AUDIO</strong></td>
<td>MUTE</td>
<td>WR</td>
<td>0-1</td>
<td>0-1</td>
<td>0: OFF, 1: ON</td>
</tr>
<tr>
<td><strong>INFORMATION</strong></td>
<td>MODEL</td>
<td>R</td>
<td>Value</td>
<td>Value</td>
<td></td>
</tr>
<tr>
<td><strong>SERIAL NO</strong></td>
<td>SRNO</td>
<td>R</td>
<td>Value</td>
<td>Value</td>
<td></td>
</tr>
</tbody>
</table>
### Initializing/Functional Restriction Setting (FUNCTION) menu

<table>
<thead>
<tr>
<th>Function</th>
<th>Command</th>
<th>Direction</th>
<th>Parameter</th>
<th>Reply</th>
<th>Control/Response contents</th>
</tr>
</thead>
<tbody>
<tr>
<td>ALL RESET</td>
<td>RSET</td>
<td>W</td>
<td>0-1</td>
<td>0-2</td>
<td>0: ALL RESET 1, 1: ALL RESET 2</td>
</tr>
<tr>
<td>ADJUSTMENT LOCK</td>
<td>ALCK</td>
<td>WR</td>
<td>0-2</td>
<td>0-2</td>
<td>0: OFF, 1:ON1, 2:ON2</td>
</tr>
<tr>
<td>ADJUSTMENT LOCK TARGET</td>
<td>ALTG</td>
<td>WR</td>
<td>0-2</td>
<td>0-2</td>
<td>0: REMOTE CONTROL, 1: MONITOR BUTTONS, 2: BOTH</td>
</tr>
<tr>
<td>OSD DISPLAY</td>
<td>LOSD</td>
<td>WR</td>
<td>0-2</td>
<td>0-2</td>
<td>0: ON1, 1: OFF, 2: ON2</td>
</tr>
<tr>
<td>LED</td>
<td>DFLD</td>
<td>WR</td>
<td>0-1</td>
<td>0-1</td>
<td>0: ON, 1: OFF</td>
</tr>
<tr>
<td>TEMPERATURE ALERT</td>
<td>TALT</td>
<td>WR</td>
<td>0-2</td>
<td>0-2</td>
<td>0: OFF, 1: OSD &amp; LED, 2: LED</td>
</tr>
<tr>
<td>STATUS ALERT</td>
<td>SALT</td>
<td>WR</td>
<td>0-2</td>
<td>0-2</td>
<td>0: OFF, 1: OSD &amp; LED, 2: LED</td>
</tr>
<tr>
<td>POWER BUTTON</td>
<td>PBTN</td>
<td>WR</td>
<td>0-1</td>
<td>0-1</td>
<td>0: MONITOR, 1: EXT. CONTROLLER</td>
</tr>
<tr>
<td>EXTERNAL CONTROLLER INPUT</td>
<td>PCIP</td>
<td>WR</td>
<td>0-4</td>
<td>0-4</td>
<td>0: D-SUB, 1: DisplayPort, 2: HDMI1, 3: HDMI2, 4: DVI-D</td>
</tr>
<tr>
<td>SIGNAL RESPONSE LEVEL</td>
<td>HDUC</td>
<td>WR</td>
<td>1-200</td>
<td>1-200</td>
<td></td>
</tr>
</tbody>
</table>

### Others

<table>
<thead>
<tr>
<th>Function</th>
<th>Command</th>
<th>Direction</th>
<th>Parameter</th>
<th>Reply</th>
<th>Control/Response contents</th>
</tr>
</thead>
<tbody>
<tr>
<td>TEMPERATURE SENSOR</td>
<td>DSTA</td>
<td>R</td>
<td></td>
<td>0</td>
<td>Internal temperature normal</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>1</td>
<td>Internal temperature abnormal has occurred and the monitor is in standby mode</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>2</td>
<td>Internal temperature abnormal occurred. (To delete the information of temperature abnormal, turn off the main power.)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>3</td>
<td>Internal temperature abnormal has occurred and backlight brightness is dimmed</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>4</td>
<td>Temperature sensor abnormal</td>
</tr>
<tr>
<td>TEMPERATURE ACQUISITION</td>
<td>ERRT</td>
<td>R</td>
<td></td>
<td></td>
<td>Returns the temperature at the temperature sensors. Indicates a temperature sensor abnormality when &quot;126&quot; is returned.</td>
</tr>
<tr>
<td>CAUSE OF LAST STANDBY MODE</td>
<td>STCA</td>
<td>W</td>
<td>0</td>
<td></td>
<td>Initialization</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>0</td>
<td>No detectable error has occurred</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>1</td>
<td>Standby mode by POWER button</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>2</td>
<td>Main power off by the main power switch</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>3</td>
<td>Standby mode by RS-232C or LAN</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>4</td>
<td>Input signal waiting mode by No Signal</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>5</td>
<td>Standby mode by abnormal temperature</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>6</td>
<td>Standby mode by SCHEDULE setting</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>7</td>
<td>Standby mode by DDC/CI</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>8</td>
<td>Standby mode by HDMI CEC</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>9</td>
<td>Standby mode by OFF IF NO OPERATION setting</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>10</td>
<td>Standby mode by OFF IF NO OPERATION setting</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>11</td>
<td>Standby mode by OFF IF NO OPERATION setting</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>12</td>
<td>Standby mode by OFF IF NO OPERATION setting</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>13</td>
<td>Standby mode by OFF IF NO OPERATION setting</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>14</td>
<td>Standby mode by OFF IF NO OPERATION setting</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>15</td>
<td>Standby mode by OFF IF NO OPERATION setting</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>16</td>
<td>Standby mode by OFF IF NO OPERATION setting</td>
</tr>
</tbody>
</table>

### Commands for setting of the GAMMA user data

<table>
<thead>
<tr>
<th>Function</th>
<th>Command</th>
<th>Direction</th>
<th>Parameter</th>
<th>Reply</th>
<th>Control/Response contents</th>
</tr>
</thead>
<tbody>
<tr>
<td>RED GAMMA DATA TRANSFER</td>
<td>UGRW</td>
<td>W</td>
<td>aa: 01-16</td>
<td>xxx: 0000-1023 cc: 00-FF</td>
<td>aa: Block number xxx: 32 pieces of user data cc: Checksum (ASCII data) of the block number and user data</td>
</tr>
<tr>
<td>GREEN GAMMA DATA TRANSFER</td>
<td>UGGW</td>
<td>W</td>
<td></td>
<td>xxx: 32 pieces</td>
<td>xxx: User data of 32 pieces</td>
</tr>
<tr>
<td>BLUE GAMMA DATA TRANSFER</td>
<td>UGBW</td>
<td>W</td>
<td></td>
<td>xxx: 32 pieces</td>
<td>xxx: User data of 32 pieces</td>
</tr>
<tr>
<td>RED GAMMA DATA READ</td>
<td>UGRR</td>
<td>W</td>
<td>1-16</td>
<td>xxx: 32 pieces</td>
<td>xxx: User data of 32 pieces</td>
</tr>
<tr>
<td>GREEN GAMMA DATA READ</td>
<td>UGGR</td>
<td>W</td>
<td>1-16</td>
<td>xxx: 32 pieces</td>
<td>xxx: User data of 32 pieces</td>
</tr>
<tr>
<td>BLUE GAMMA DATA READ</td>
<td>UGBR</td>
<td>W</td>
<td>1-16</td>
<td></td>
<td></td>
</tr>
<tr>
<td>USER DATA INITIALIZE</td>
<td>UGRS</td>
<td>W</td>
<td>0</td>
<td></td>
<td>Initialize the user data.</td>
</tr>
<tr>
<td>USER DATA SAVE</td>
<td>UGSV</td>
<td>W</td>
<td>0</td>
<td></td>
<td>Save the user data in the monitor.</td>
</tr>
</tbody>
</table>
Controlling the Monitor with a computer (LAN)

Your monitor can be connected to a LAN allowing you to control it from a computer on the LAN. You can also configure the monitor to send e-mail notification when it has a problem. The connection requires a commercially available LAN cable (UTP cable, Category 5, straight through).

**Settings to connect to a LAN**

Set the monitor’s IP address and subnet mask to match the settings of your LAN. These settings can be made on either the monitor or a computer connected to the monitor. The settings depend on the configuration of your LAN. Ask your LAN administrator for details.

**To set on the monitor**

Set RS-232C/LAN SELECT of COMMUNICATION SETTING on the SETUP menu to LAN, and then set the LAN SETUP options. (See page 29.)

After setting each item, select SET and press the ENTER button.

- **DHCP CLIENT**
  - If your LAN has a DHCP server and you wish to obtain an address automatically, change this setting to ON. To set the address manually, set this to OFF.

- **IP ADDRESS**
  - If the DHCP CLIENT is set to OFF, specify an IP address. Press the " or " button to select items, and press the " or " button to change the values.

- **SUBNET MASK**
  - If the DHCP CLIENT is set to OFF, specify the subnet mask. Press the " or " button to select items, and press the " or " button to change the values.

- **DEFAULT GATEWAY**
  - If the DHCP CLIENT is set to OFF, specify the default gateway. If you are not using a default gateway, specify "0.0.0.0". Press the " or " button to select items, and press the " or " button to change the values.

- **RESET**
  - Resets the values of the LAN settings to the factory preset values. Select ON and then press the ENTER button.

**TIPS**

- You must assign an IP address to the monitor by following the procedures in “Settings to connect to a LAN”. (See the description on the right.)
- Your computer must be installed with the web browser.
- When POWER SAVE MODE is set to ON, control is not possible in standby mode.
- To control the monitor via LAN, set RS-232C/LAN SELECT to LAN. (See page 29.)
- You cannot use RS-232C and LAN control simultaneously.

**Initializing personal information**

- Personal information such as e-mail addresses can be registered in the monitor. Before transferring or disposing of the monitor, initialize all settings by selecting ALL RESET 1. (See page 37.) Note that ALL RESET 2 will not initialize e-mail addresses and other settings.

**TIPS**

- When the IP address is set manually, the IP addresses of the monitor connected to the RS-232C output terminal and the daisy chain of connected monitors that follows can be assigned automatically. (See page 29.)
To set from a computer
When the monitor is connected to a computer, LAN settings can be configured via computer.

Set up process
(1) Connect your monitor to a computer
(2) Specify the computer’s IP address
(3) Configure the monitor’s LAN settings

(1) Connecting your monitor to a computer
Connect a commercially available crossover LAN cable (UPT cable, Category 5) to the LAN port on the computer and this monitor.

LAN terminal
Computer
LAN cable
(commercially available, crossover)

(2) Specifying the computer’s IP address
To configure the monitor’s LAN settings, you must temporarily change the settings on the computer.
This explanation is based on Windows 7.
1. Log on to the computer with an administrator account.
2. Click [Start], and then click “Control Panel”.
3. Click “View network status and tasks” in “Network and Internet”.
In “Classic View”, click “Network and Sharing Center”.
4. Click “Local Area Connection” and then “Properties”.
5. Click “Internet Protocol Version 4 (TCP/IPv4)” and then “Properties”.
6. Make a note of the current IP address, subnet mask, and default gateway settings.
   Make sure you write this information now as you will be changing the IP address, subnet mask, and default gateway settings back to these settings afterwards.

7. Temporarily change the IP address and subnet mask. To access the monitor as it is shipped from the factory, set as follows.
   • IP Address: 192.168.150.1
   • Subnet Mask: 255.255.255.0
   • Default Gateway: (leave blank)

8. Click [OK] and then reboot the computer.

TIPS
• This monitor is factory preset as shown below. (When DHCP CLIENT is set to OFF)
  IP Address: 192.168.150.2
  Subnet Mask: 255.255.255.0
  Default Gateway: 0.0.0.0

(3) Configuring the monitor’s LAN settings
Access the monitor using the web browser.

Controlling the monitor
1. Turn the power ON to the monitor.
2. Set RS-232C/LAN SELECT of COMMUNICATION SETTING on the SETUP menu to LAN.
3. Set DHCP CLIENT of LAN SETUP of COMMUNICATION SETTING on the SETUP menu to OFF.

Computer operation

5. Enter the USER NAME and PASSWORD.
The following values are set in the initial settings.
User name: admin, password: admin
* To enable security on the monitor, change the user name and password. (See page 55.)
6. Click on "LAN SETUP" under NETWORK.

7. Specify the "DHCP CLIENT", "IP ADDRESS", etc.

DHCP CLIENT
If your LAN has a DHCP server and you wish to obtain an address automatically, change this setting to ON. To set the address manually, set this to OFF.

IP ADDRESS
If the DHCP CLIENT is set to OFF, specify an IP address.

SUBNET MASK
If the DHCP CLIENT is set to OFF, specify the subnet mask.

DEFAULT GATEWAY
If the DHCP CLIENT is set to OFF, specify the default gateway. If you are not using a default gateway, specify “0.0.0.0”.

8. When the setting is changed, click [Apply].
9. Check the message and click [OK].
10. Exit the web browser.
11. Restore the computer’s IP address jotted in Step 6, "(2) Specifying the computer’s IP address”.
12. Connect the monitor and the computer to the LAN.

[Caution]
- Wait 10 seconds after clicking [OK] before proceeding.
- When operating using the remote control unit or similar, click [Refresh].

[TIPS]
- When the IP address is set manually, the IP addresses of the monitor connected to the RS-232C output terminal and the daisy chain of connected monitors that follows can be assigned automatically. (See page 29.)

Controlling with a computer

Basic operation
You use the web browser on a computer on the LAN to control the monitor.
1. Launch the web browser on the computer.
2. In the “Address” box, type “http://” followed by your monitor’s IP address followed by “/”, then press the Enter key. You can confirm the IP address with the INFORMATION function.

[Image: http://192.168.150.2/]

When prompted to enter a user name and password, type the user name and password that you specified in the security settings (see page 55), and click [OK]. The following values are set in the initial settings.
User name: admin, password: admin
* To enable security on the monitor, change the user name and password. (See page 55.)
3. You can check, control, and change the monitor’s status and settings by clicking the menu items on the left side of the screen.

[Image: INFORMATION function]

- If you see an [Apply] button next to a setting, click it after you change that setting.

[TIPS]
- See pages 54 to 58 for details on each setting.
- If you click [Refresh] before the screen finishes updating the current display, the “Server Busy Error” will appear. Wait for a moment before operating your monitor again.
- You cannot operate the monitor while it is warming up.
- If DHCP CLIENT is set to ON, check the monitor’s IP address in INFORMATION2. (See page 21.)
Controlling the Monitor with a computer (LAN)

Information about this monitor appears.

You can control the operations corresponding to the POWER button, INPUT button, etc. on the remote control unit. (See page 20.)

You can adjust these settings which are also available on the monitor’s menu.

- SCREEN (See page 25.)
- PICTURE (See pages 26 to 27.)
- PICTURE (ADVANCED) (See page 27.)
- SETUP (See pages 28 to 29.)
- MONITOR (See page 30.)
- OTHERS (See page 32.)
- SCHEDULE (See page 35.)
- MULTI (See page 31.)
- PIP/PbyP (See page 31.)
- FUNCTION (See page 37.)

- In standby mode, only Power ON operation is available.

- After changing DISPLAY COLOR PATTERN to OFF, click [Refresh] to correctly retrieve the status of the monitor.
**NETWORK (LAN SETUP)**

This screen allows you to set the settings necessary when the monitor is connected to a LAN.

- **DHCP CLIENT**
  - If your LAN has a DHCP server and you wish to obtain an address automatically, change this setting to ON. To set the address manually, set this to OFF.

- **IP ADDRESS**
  - If the DHCP CLIENT is set to OFF, specify an IP address.

- **SUBNET MASK**
  - If the DHCP CLIENT is set to OFF, specify the subnet mask.

- **DEFAULT GATEWAY**
  - If the DHCP CLIENT is set to OFF, specify the default gateway. If you are not using a default gateway, specify “0.0.0.0”.

- **DNS SERVER ADDRESS AUTO ACQUISITION**
  - If the DHCP CLIENT is set to ON, specify whether or not to automatically obtain the DNS server address.

- **DNS SERVER**
  - Specify the DNS server address if the DHCP CLIENT is set to OFF or the DNS SERVER ADDRESS AUTO ACQUISITION is set to OFF. If you are not using a DNS server, specify “0.0.0.0”.

- **RESET**
  - Clicking [Execute] returns all of the LAN SETUP settings to the factory-preset values except for the DNS SERVER ADDRESS AUTO ACQUISITION and DNS SERVER settings.

- **TIPS**
  - When the IP address is set manually, the IP addresses of the monitor connected to the RS-232C output terminal and the daisy chain of connected monitors that follows can be assigned automatically. (See page 29.)

---

**NETWORK (SECURITY)**

This screen allows you to specify the security-related settings.

- **USER NAME / PASSWORD**
  - Sets up a user name and password to restrict access to this monitor. The following values are set in the initial settings. User name: admin, password: admin
  - To enable security on the monitor, change the user name and password.
  - After entering a user name and password, click [Apply].

- **USE FOR Telnet CONNECTION**
  - Sets whether to use a user name and password when connecting over TELNET.

- **ACCEPT IP ADDRESS**
  - You can limit access to this monitor by registering IP addresses of computer’s that should have access. To limit access, specify the option “From only specific IP addresses”. Otherwise, to allow access from any computer, specify “All IP Addresses”.

- **IP ADDRESS 1 to 3**
  - If “ACCEPT IP ADDRESS” is set to “From only specific IP addresses”, enter the IP addresses that you want to allow.

- **TIPS**
  - The USER NAME and PASSWORD can be up to 8 alphanumeric characters (hyphens and underscores allowed).
  - To cancel the user name and/or password after it has been set, make the box empty and click [Apply].
Controlling the Monitor with a computer (LAN)

**NETWORK (GENERAL)**
This screen allows you to specify the general LAN settings.

**MONITOR NAME**
Specify a name for this monitor as it should appear on the web browser screen.

**AUTO LOGOUT TIME**
Specify the time (in minutes) to elapse before automatically disconnecting this monitor from the network.
Specify in minutes from 1 to 65535. A value of ‘0’ will disable this function.

**DATA PORT**
Specify the TCP port number to use for exchanging data with the monitor.
Specify a value from 1025 to 65535.

**SEARCH PORT**
Specify the port number to use when searching for this monitor.
Specify a value from 1025 to 65535.

**INSTALLATION INFORMATION (NAME/LOCATION)**
Specify the information to display for this monitor in the web browser window.

**LINK MODE**
Selects the link speed and duplex.
Use AUTO normally.

**MAIL (ORIGINATOR)**
This screen allows you to configure the e-mail sent periodically or when the monitor has an error.
The settings depend on the configuration of your LAN. Ask your LAN administrator for details.

**SMTP SERVER**
Specify the SMTP server address for sending e-mail.
* When using a domain name, make sure to specify the DNS SERVER as well. (See page 55.)

**SMTP PORT**
If the “AUTHENTICATION” is “SMTP-AUTH”, specify the port number.

**ORIGINATOR E-MAIL ADDRESS**
Specify the e-mail address for this monitor.
This address becomes the e-mail address of the originator.

**ORIGINATOR NAME**
Specify the name for the originator.
This name appears in the “Originator Name” field of the e-mail.

**AUTHENTICATION**
Specify the authentication method to use when sending e-mail.

**POP SERVER**
If the “AUTHENTICATION” is “POP before SMTP”, specify the POP server address.

**ACCOUNT NAME / PASSWORD**
If the “AUTHENTICATION” is “POP before SMTP” or “SMTP-AUTH”, specify the account name and password to connect to the SMTP server.

**TIPS**
- The MONITOR NAME can be up to 16 alphanumeric characters or symbols.
- Enter up to 50 characters in the NAME field in the INSTALLATION INFORMATION.
- Enter up to 100 characters in the LOCATION field in the INSTALLATION INFORMATION.

- You can enter up to 64 alphanumeric characters or symbols for the ORIGINATOR E-MAIL ADDRESS, ORIGINATOR NAME, ACCOUNT NAME, and PASSWORD.
- The SMTP SERVER and POP SERVER can be up to 64 characters.
  The following characters can be used: a-z, A-Z, 0-9, - , .
MAIL (RECIPIENT)

This screen allows you to specify the recipients of the e-mail sent periodically or when the monitor has an error.

RECIPIENT E-MAIL ADDRESSES

Specify the e-mail addresses to send error notification e-mail to.

CONDITION

Specify the conditions to send mails.
When you check PERIODICAL, specify the date and time to send the mails in the PERIODICAL setting.

CONFIRMATION

Sends test e-mail.
This allows you to confirm that the e-mail settings are configured properly.

Attach the log file to a TEMPERATURE/HARDWARE error e-mail.

When this option is checked, a log is added to the mail which notifies a temperature or status error.

E-MAIL TRANSMISSION ERROR REPORT

A report of the latest e-mail transmission errors will be displayed.
The error report will be displayed when an e-mail transmission error occurs.
Also, the e-mail transmission errors will be cleared when ALL RESET 1 is executed. (See page 37.)

TIPS

- The RECIPIENT E-MAIL ADDRESSES can be up to 64 alphanumeric characters or symbols.

MAIL (PERIODICAL)

When PERIODICAL for CONDITION of MAIL (RECIPIENT) is checked, set the date and time to send the mail.

DAY OF THE WEEK

Specify the day of the week to send the periodical mails.

TIME

Specify the time of the day to send the periodical mails.

Caution

- Do not turn off the main power when you set to send the periodical mails.
- Specify the correct date and time. (See page 28.) If the date and time settings are incorrect, the periodical mail is not sent properly.
- Regularly confirm that the specified date and time is correct.
Controlling the Monitor with a computer (LAN)

**SNMP**
You can configure settings related to SNMP.

<table>
<thead>
<tr>
<th>INFORMATION</th>
<th>CONTROL</th>
</tr>
</thead>
<tbody>
<tr>
<td>SNMP GENERAL</td>
<td>SNMP SETTING</td>
</tr>
<tr>
<td></td>
<td>SNMP TRAP</td>
</tr>
</tbody>
</table>

**SNMP SETTING**
Set whether to enable or disable SNMP.

**VERSION**
Set the version of the SNMP to be supported.

**COMMUNITY NAME 1 to 3**
Set the name of the community required for the access.

**USER 1 to 3**
Set the user name, password, authentication method and other options required for access.

**TRAP SETTING**
Set whether to enable or disable the trap function. When this function is enabled, a trap will be sent when the monitor is turned on.

**TRAP SETTING OF AUTHENTICATION ERROR**
Set whether the trap function sends a notification when authentication fails.

**TRAP ADDRESS & PORT**
Set the destination address and port number of the notification sent by the trap function.

**Caution**
- After you set SNMP, click [Switch the main power of monitor off and on now.] or turn off the monitor and then turn it on again with the main power switch. When the monitor restarts, wait about 30 seconds and then start the next operation.
- If the IP address is changed while the SNMP function is operational, turn off the monitor and then turn it on again with the main power switch.

**TIPS**
- Depending on the SNMP settings, a short delay may occur before the SNMP is usable. (About 5 minutes)
- Up to 16 alphanumeric letters and symbols can be used for the community name, user name and password.

**SERVICE & SUPPORT (URL INFORMATION)**
You can display a specific URL in the URL INFORMATION field on the INFORMATION screen when an error occurs in the monitor. (See page 54.)

**URL INFORMATION**
Enter the URL to display on the INFORMATION screen when an error occurs on the monitor.
Up to 64 alphanumeric characters or symbols can be used.

**CONDITION**
Specify the condition to display the URL.

**CONFIRMATION**
The home page of the specified URL is displayed. You can check whether the URL you entered is correct.

**TIPS**
- It is also possible to specify the message text, such as the name of a contact or a telephone number, to be displayed instead of the linked URL.
**Crestron Connected**

Display the Crestron Connected control menu.

**Control Menu**

1. Operate below functions.
   - **Power**....Turn the power ON/OFF.
   - **Mute**....Turns off the volume temporarily.
   - **Vol-/Vol+** Adjust the volume of the sound.
2. Change the input mode.
3. Operate below functions.
   - **Contrast** Adjusts the contrast.
   - **Black Level** Adjusts the brightness.
   - **Colors** Adjusts the color intensity.
   - **Sharpness** Adjusts the sharpness.
4. Operates the menu screen for the monitor.
5. Switches the pages to tools, information, help tab.

**Tools**

1. Setting for Crestron Control.
2. Setting for monitor network.
   - **DHCP**
   - **IP Address**
   - **Subnet Mask**
   - **Default Gateway**
   Sets the password for the user and administrators rights on Control Menu.

**Info**

1. Display below information.
   - **Display Name**
   - **Mac Address**
   - **Resolution**
2. Display below status.
   - **Power Status**
   - **Input**

**Help**

Sends or receives messages to the administrators who uses "Crestron Connected".
Controlling the Monitor with a computer (LAN)

[Advanced operation]

Command-based control

You can control the monitor using RS-232C commands (see page 42) via terminal software and other appropriate applications.

In order to use this function, enable a connection to the monitor through the web browser.

Read the manual for the terminal software for detailed instructions.

(1) Connect the computer to the monitor.

1. Specify the IP address and data port number and connect the computer to the monitor.
   When connection has been established successfully, [Login:] is returned as response.
2. Send the user name set in the SECURITY settings (see page 55).
   • Send [User name] + [ ].
   • If the user name is not set or if USE FOR Telnet CONNECTION is set to OFF, send [ ].
   • When the transmission is successful, [Password:] is returned as response.
3. Send the password set in the SECURITY settings (see page 55).
   • Send [Password] + [ ].
   • If the password is not set or if USE FOR Telnet CONNECTION is set to OFF, send [ ].
   • When the transmission is successful, [OK ] is returned as response.

(2) Send commands to control the monitor.

• The commands used are the same as those for RS-232C. Refer to the communication procedure (see page 38) for operation.
• Usable commands are provided in the RS-232C command table (see page 42).

(3) Disconnect the connection with the monitor and quit the function.

1. Send [BYE ].
   When the transmission is successful, [goodbye] is returned and the connection is disconnected.

TIPS

• Connection is automatically disconnected when the time specified in AUTO LOGOUT TIME elapses over a no-communication period.
Troubleshooting

If you are experiencing any problem with your display, before calling for service, please review the following troubleshooting tips.

There is no picture or sound.
• Is the power cord disconnected? (See page 15.)
• Is the main power switch off? (See page 18.)
• Is the monitor in standby mode (the power LED illuminating in orange)? (See page 18.)
• Make sure correct input mode is selected. (See page 21.)
• If any external equipment is connected, make sure the equipment is operating (playing back).

Remote control does not work.
• Are the batteries inserted with polarity (+,-) aligned? (See page 17.)
• Are the batteries exhausted?
• Point the remote control unit toward the remote control sensor. (See page 17.)
• Is the menu display hidden or is operation disabled? (See page 37.)
• Is the PN-ZR02 (optional) remote control sensor box connected properly? (See page 14.)
• If you are using multiple monitors, is the RS-232 cable connected properly? Has the ID No. been set?
• Do the remote control numbers on the remote control unit and on the monitor match?
  Check the numbers on INFORMATION. (See page 36.)

The remote control unit’s buttons for operating the HDMI-connected device do not work.
• Is HDMI CEC LINK set to AUTO under INPUT SELECT on the SETUP menu?
• Switch to a different input mode, and then try switching the input mode back to HDMI.

Sound from left and right speakers is reversed.
Sound is heard from only one side.
• Are audio cables connected properly?

There is a picture but no sound.
• Is the sound muted?
• Make sure the volume is not set to minimum.
• Are audio cables connected properly?

Unstable video.
• The signal may be incompatible.
• Try the automatic screen adjustment when the D-SUB[RGB] is used.

The video from the HDMI input terminal does not appear properly.
• Is the HDMI cable HDMI standard compliant? The monitor will not work with cables that are not standard compliant.
• Is the input signal compatible with this monitor? (See pages 65 and 66.)

The video from the DVI-D input terminal does not appear properly.
• Is the input signal compatible with this monitor? (See page 65.)
• Turn off the power to the connected equipment and then turn the power on again.

The video from D-Sub input terminal does not appear correctly.
• Is the setting for D-SUB of INPUT SELECT on the SETUP menu correct? (See page 28.)
• Is the input signal compatible with this monitor? (See pages 65 and 66.)

The video from the DisplayPort does not appear properly.
• Does the DisplayPort cable support 4K, and is it DisplayPort standard compliant? The monitor will not work with cables that are not standard compliant.
• Is the input signal compatible with this monitor? (See page 65.)
• If the monitors are connected in a daisy chain, turn off the power to all the monitors connected in a daisy chain and then turn the power on again.

Control buttons do not work.
There is no picture.
• Load noises from outside may be interfering with normal operation. Turn off the power and turn it on after waiting at least 5 seconds, and then check the operation.

The input mode changes automatically.
• When NO SIGNAL AUTO INPUT SEL. is ON and the current video signal input stops, the input mode automatically changes to the mode of an active video signal.
  The input mode may change in the following cases: - When a computer is in standby mode.
  - When video play is stopped with a playback device.

The video does not appear properly even after the DisplayPort STREAM setting is changed.
• Try restarting the monitor and computer.
• Is the video card MST (Multi Stream Transport) compatible? If not, set to SST (Single Stream Transport).

Power LED flashes red.
“STATUS [xxxx]” appears in the corner of the screen.
• Hardware has a problem. Turn off the monitor and request repair from your SHARP dealer.
  (When STATUS ALERT is set to OSD & LED. This varies depending on the setting.)

When “AUTO DIMMING” is displayed.
• When the internal temperature of the monitor rises excessively, the brightness of the backlight automatically decreases in order to prevent a further temperature rise. If you attempt to adjust the brightness while the monitor is in this state, “AUTO DIMMING” is displayed and you cannot change the brightness.
• Remove the cause of the excessive temperature rise.

The monitor makes a cracking sound.
• You may occasionally hear a cracking sound from the monitor. This happens when the cabinet slightly expands and contracts according to change in temperature. This does not affect the monitor’s performance.
The Power LED is flashing in red and green alternately. When “TEMPERATURE” is displayed in the corner of the screen.

- When the internal temperature of the monitor rises excessively, the brightness of the backlight decreases automatically in order to prevent high-temperature-related problems. When this occurs, “TEMPERATURE” is displayed on the screen and the Power LED flashes red and green alternately. (When TEMPERATURE ALERT is set to OSD & LED. This varies depending on the setting.)
- If the internal temperature rises further, the monitor automatically enters standby mode. (The Power LED continues flashing red and green alternately.)
- Remove the cause of the excessive temperature rise.
  - If the monitor enters standby mode due to a rise in temperature, to return to normal display, turn the power switch off and then back on again. The monitor, however, will enter standby mode again if the cause of the temperature rise is not eliminated. (See page 7.)
  - Check whether the monitor is placed at a location where a quick rise in temperature is likely. Internal temperature rises quickly if the vents on the monitor are blocked.
  - Internal temperature rises quickly if dust accumulates inside the monitor or around the vents. Remove dust if possible. Ask SHARP dealer about removing internal dust.

Troubleshooting
## Product Specifications

<table>
<thead>
<tr>
<th>Model</th>
<th>PN-V701</th>
</tr>
</thead>
<tbody>
<tr>
<td>LCD component</td>
<td>70” Class [69-1/2 inch (176.6cm) diagonal] TFT LCD</td>
</tr>
<tr>
<td>Max. resolution (pixels)</td>
<td>1920 x 1080</td>
</tr>
<tr>
<td>Max. colors</td>
<td>Approx. 1.06 billion colors</td>
</tr>
<tr>
<td>Pixel pitch</td>
<td>0.802 mm (H) × 0.802 mm (V)</td>
</tr>
<tr>
<td>Brightness (typical) *1</td>
<td>700 cd/m²</td>
</tr>
<tr>
<td>Contrast ratio (typical) *1</td>
<td>4000 : 1</td>
</tr>
<tr>
<td>Viewing angle</td>
<td>178° right/left/up/down (contrast ratio ≥ 10)</td>
</tr>
<tr>
<td>Screen active area inch (mm)</td>
<td>60-9/16 (W) x 34-1/16 (H) (1538.9 x 865.6)</td>
</tr>
<tr>
<td>Computer input signal</td>
<td>Digital (DVI 1.0 standard-compliant), Analog RGB (0.7 Vp-p) [75 Ω], DisplayPort 1.2, HDMI</td>
</tr>
<tr>
<td>Sync signal</td>
<td>Horizontal/vertical separate (TTL: positive/negative), Sync-on-green *2, Composite sync (TTL: positive/negative) *2</td>
</tr>
<tr>
<td>Plug and play</td>
<td>VESA DDC2B</td>
</tr>
<tr>
<td>Power management</td>
<td>VESA DPMS, DVI DMPM</td>
</tr>
<tr>
<td>Input terminals</td>
<td>Video</td>
</tr>
<tr>
<td></td>
<td>Mini D-sub 15 pin, 3 rows x 1</td>
</tr>
<tr>
<td></td>
<td>DVI-D 24 pin (HDCP compatible) x 1</td>
</tr>
<tr>
<td></td>
<td>HDMI x 2</td>
</tr>
<tr>
<td></td>
<td>DisplayPort x 1</td>
</tr>
<tr>
<td></td>
<td>Serial (RS-232C)</td>
</tr>
<tr>
<td></td>
<td>D-sub 9 pin x 1</td>
</tr>
<tr>
<td></td>
<td>Audio</td>
</tr>
<tr>
<td></td>
<td>3.5 mm mini stereo jack x 1</td>
</tr>
<tr>
<td></td>
<td>Control kit</td>
</tr>
<tr>
<td></td>
<td>x 1</td>
</tr>
<tr>
<td>Output terminals</td>
<td>Video</td>
</tr>
<tr>
<td></td>
<td>DisplayPort x 1</td>
</tr>
<tr>
<td></td>
<td>Serial (RS-232C)</td>
</tr>
<tr>
<td></td>
<td>D-sub 9 pin x 1</td>
</tr>
<tr>
<td></td>
<td>Audio</td>
</tr>
<tr>
<td></td>
<td>3.5 mm mini stereo jack x 1</td>
</tr>
<tr>
<td>LAN terminal</td>
<td>10 BASE-T/100 BASE-TX</td>
</tr>
<tr>
<td>Expansion slot</td>
<td>13V, 2.0 A (power supplied when expanding the functions with an optional part)</td>
</tr>
<tr>
<td>Power requirement</td>
<td>AC 100 V - 240 V, 4.2 A, 50/60 Hz</td>
</tr>
<tr>
<td>Operating temperature *3</td>
<td>32°F to 104°F (0°C to 40°C)</td>
</tr>
<tr>
<td>Operating humidity</td>
<td>20% to 80% (no condensation)</td>
</tr>
<tr>
<td>Power consumption (Maximum / input signal waiting mode *4 *5 / standby mode *4 *6)</td>
<td>380 W / 2.5 W / 1.0 W</td>
</tr>
<tr>
<td>Dimensions (excluding protrusions) inch (mm)</td>
<td>Approx. 60-3/4 (W) x 4-13/16 (D) x 34-1/4 (H) (1543.7 x 122 x 870.4)</td>
</tr>
<tr>
<td>Weight lbs. (kg)</td>
<td>Approx. 81.6 (37)</td>
</tr>
</tbody>
</table>

---

*1 When UNIFORMITY is set to MODE1. Brightness and contrast ratio will depend on input mode and other picture settings. Brightness level will decrease over time. Due to the nature of the equipment, it is not possible to precisely maintain a constant level of brightness.

*2 D-Sub input terminal only.

*3 Temperature condition may change when using the monitor together with the optional equipments recommended by SHARP. In such cases, please check the temperature condition specified by the optional equipments.

*4 When the optional part is not installed.

*5 When NO SIGNAL AUTO INPUT SEL. is set to OFF.

*6 When POWER SAVE MODE is set to OFF. When POWER SAVE MODE is set to ON: 0.5 W

As a part of our policy of continuous improvement, SHARP reserves the right to make design and specification changes for product improvement without prior notice. The performance specification figures indicated are nominal values of production units. There may be some deviations from these values in individual units.

## PN-ZR02 (optional) Product Specifications

<table>
<thead>
<tr>
<th>Model</th>
<th>PN-ZR02</th>
</tr>
</thead>
<tbody>
<tr>
<td>Remote control sensor box dimensions inch (mm)</td>
<td>Approx. 1-3/8 (W) x 7/8 (D) x 5-1/8 (H) (34.2 x 23 x 130)</td>
</tr>
<tr>
<td>Remote control sensor box weight lbs. (kg)</td>
<td>Approx. 0.220 (0.1)</td>
</tr>
</tbody>
</table>
Specifications

■ Dimensional Drawings

Note that the values shown are approximate values.

![Dimensional Drawings Diagram]

When mounting the monitor, be sure to use a wall-mount bracket that complies with the VESA-compatible mounting method. SHARP recommends using M6 screws and tighten the screws. Note that screw hole depth of the monitor is 3/8 inch (10 mm). Loose mounting may cause the product to fall, resulting in serious personal injuries as well as damage to the product. The screw and hole should come together with over 5/16 inch (8 mm) length of thread. Use a bracket which has been approved for UL1678 standard, and which can endure at least 4 times or more the weight of the monitor.

■ Power management

This monitor conforms to VESA DPMS and DVI DMPM. Both your video card and computer must support the same standard in order for the monitor’s power management function to work.

<table>
<thead>
<tr>
<th>DPMS</th>
<th>Screen</th>
<th>Power Consumption</th>
<th>Hsync</th>
<th>Vsync</th>
</tr>
</thead>
<tbody>
<tr>
<td>ON STATE</td>
<td>Display</td>
<td>380 W</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>STANDBY</td>
<td>No display</td>
<td>2.5 W *</td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td>SUSPEND</td>
<td>No display</td>
<td>2.5 W *</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>OFF STATE</td>
<td>No display</td>
<td>2.5 W *</td>
<td>No</td>
<td>No</td>
</tr>
</tbody>
</table>

* When NO SIGNAL AUTO INPUT SEL. is set to OFF.

■ DDC (plug and play)

The monitor supports the VESA DDC (Display Data Channel) standard. DDC is a signal standard for plug and play between monitors and computers. Information about resolution and other parameters is exchanged between the two. This function can be used if the computer supports DDC and it has been configured to detect plug-and-play monitors. There are several types of DDC, depending on the communication method used. This monitor supports DDC2B.
### Compatible signal timing (PC)

<table>
<thead>
<tr>
<th>Screen resolution</th>
<th>Hsync</th>
<th>Vsync</th>
<th>Dot frequency</th>
<th>Digital</th>
<th>Analog (D-sub)</th>
</tr>
</thead>
<tbody>
<tr>
<td>VESA</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>640 × 480</td>
<td>31.5kHz</td>
<td>60Hz</td>
<td>25.15MHz</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td></td>
<td>37.9kHz</td>
<td>72Hz</td>
<td>31.5MHz</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td></td>
<td>37.5kHz</td>
<td>75Hz</td>
<td>31.5MHz</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>800 × 600</td>
<td>35.1kHz</td>
<td>56Hz</td>
<td>36.0MHz</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>37.9kHz</td>
<td>60Hz</td>
<td>40.0MHz</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td></td>
<td>48.1kHz</td>
<td>72Hz</td>
<td>50.0MHz</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td></td>
<td>46.9kHz</td>
<td>75Hz</td>
<td>49.5MHz</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>848 × 480</td>
<td>31.0kHz</td>
<td>60Hz</td>
<td>33.75MHz</td>
<td>Yes</td>
<td>-</td>
</tr>
<tr>
<td>1024 × 768</td>
<td>48.4kHz</td>
<td>60Hz</td>
<td>65.0MHz</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td></td>
<td>56.5kHz</td>
<td>70Hz</td>
<td>75.0MHz</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td></td>
<td>60.0kHz</td>
<td>75Hz</td>
<td>78.75MHz</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>1152 × 864</td>
<td>67.5kHz</td>
<td>75Hz</td>
<td>108.0MHz</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>1280 × 768</td>
<td>47.8kHz</td>
<td>60Hz</td>
<td>79.5MHz</td>
<td>Yes</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>60.3kHz</td>
<td>75Hz</td>
<td>102.25MHz</td>
<td>Yes</td>
<td>-</td>
</tr>
<tr>
<td>1280 × 800</td>
<td>49.7kHz</td>
<td>60Hz</td>
<td>83.5MHz</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>1280 × 960</td>
<td>60.0kHz</td>
<td>60Hz</td>
<td>108.0MHz</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>1280 × 1024</td>
<td>64.0kHz</td>
<td>60Hz</td>
<td>108.0MHz</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>1360 × 768</td>
<td>47.7kHz</td>
<td>60Hz</td>
<td>85.5MHz</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>1400 × 1050</td>
<td>65.3kHz</td>
<td>60Hz</td>
<td>121.75MHz</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>1440 × 900</td>
<td>55.9kHz</td>
<td>60Hz</td>
<td>106.5MHz</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>1600 × 12001</td>
<td>75.0kHz</td>
<td>60Hz</td>
<td>162.0MHz</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>1680 × 1050</td>
<td>65.3kHz</td>
<td>60Hz</td>
<td>146.25MHz</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>1920 × 12001</td>
<td>74.0kHz</td>
<td>60Hz</td>
<td>154.0MHz</td>
<td>Yes</td>
<td>-</td>
</tr>
<tr>
<td>Wide</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1280 × 720</td>
<td>44.7kHz</td>
<td>60Hz</td>
<td>74.4MHz</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>1920 × 1080</td>
<td>67.5kHz</td>
<td>60Hz</td>
<td>148.5MHz</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>3840 × 216012</td>
<td>54.0kHz</td>
<td>24Hz</td>
<td>297.0MHz</td>
<td>-</td>
<td>Yes</td>
</tr>
<tr>
<td></td>
<td>56.3kHz</td>
<td>25Hz</td>
<td>297.0MHz</td>
<td>-</td>
<td>Yes</td>
</tr>
<tr>
<td></td>
<td>67.5kHz</td>
<td>30Hz</td>
<td>297.0MHz</td>
<td>-</td>
<td>Yes</td>
</tr>
<tr>
<td>4096 × 216012</td>
<td>54.0kHz</td>
<td>24Hz</td>
<td>297.0MHz</td>
<td>-</td>
<td>Yes</td>
</tr>
<tr>
<td>US TEXT</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>720 × 400</td>
<td>31.5kHz</td>
<td>70Hz</td>
<td>28.3MHz</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Sun</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1024 × 768</td>
<td>48.3kHz</td>
<td>60Hz</td>
<td>64.13MHz</td>
<td>-</td>
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<tr>
<td></td>
<td>53.6kHz</td>
<td>66Hz</td>
<td>70.4MHz</td>
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<td></td>
<td>56.6kHz</td>
<td>70Hz</td>
<td>74.25MHz</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>1152 × 900</td>
<td>61.8kHz</td>
<td>66Hz</td>
<td>94.88MHz</td>
<td>-</td>
<td>-</td>
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<tr>
<td></td>
<td>71.8kHz</td>
<td>76.2Hz</td>
<td>108.23MHz</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>1280 × 1024</td>
<td>71.7kHz</td>
<td>67.2Hz</td>
<td>117.01MHz</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>81.1kHz</td>
<td>76Hz</td>
<td>134.99MHz</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>1600 × 1000</td>
<td>68.6kHz</td>
<td>66Hz</td>
<td>135.76MHz</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

*1 Displays a reduced image, except in Dot by Dot. In Dot by Dot, the image will be cut down to panel size then displayed.

*2 Used when ENLARGE is ON. Using a single monitor for this setting causes image quality degradation. The image cannot be displayed on the sub screen.

- Depending on the connected computer, images may not be displayed properly even if the compatible signal described above is input.
- The frequency values for the Sun are reference values.
### Compatible signal timing (AV)

<table>
<thead>
<tr>
<th>Screen resolution</th>
<th>Frequency</th>
<th>HDMI</th>
<th>Component</th>
</tr>
</thead>
<tbody>
<tr>
<td>1920 × 1080p</td>
<td>24Hz</td>
<td>Yes</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>50Hz</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td></td>
<td>59.94Hz</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td></td>
<td>60Hz</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>1920 × 1080i</td>
<td>50Hz</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td></td>
<td>59.94Hz</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td></td>
<td>60Hz</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>1280 × 720p</td>
<td>50Hz</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td></td>
<td>59.94Hz</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td></td>
<td>60Hz</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>720 × 576p</td>
<td>50Hz</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>720 × 480p</td>
<td>59.94Hz</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td></td>
<td>60Hz</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>640 × 480p(VGA)</td>
<td>59.94Hz</td>
<td>Yes</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>60Hz</td>
<td>Yes</td>
<td>-</td>
</tr>
<tr>
<td>720(1440) × 576i</td>
<td>50Hz</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>720(1440) × 480i</td>
<td>59.94Hz</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td></td>
<td>60Hz</td>
<td>Yes</td>
<td>Yes</td>
</tr>
</tbody>
</table>
### Specifications

#### HDMI input terminal pins

**HDMI Connector**

<table>
<thead>
<tr>
<th>No.</th>
<th>Function</th>
<th>No.</th>
<th>Function</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>TMDS data 2+</td>
<td>11</td>
<td>TMDS clock shield</td>
</tr>
<tr>
<td>2</td>
<td>TMDS data 2 shield</td>
<td>12</td>
<td>TMDS clock-</td>
</tr>
<tr>
<td>3</td>
<td>TMDS data 2-</td>
<td>13</td>
<td>CEC</td>
</tr>
<tr>
<td>4</td>
<td>TMDS data 1+</td>
<td>14</td>
<td>N.C.</td>
</tr>
<tr>
<td>5</td>
<td>TMDS data 1 shield</td>
<td>15</td>
<td>SCL</td>
</tr>
<tr>
<td>6</td>
<td>TMDS data 1-</td>
<td>16</td>
<td>SDA</td>
</tr>
<tr>
<td>7</td>
<td>TMDS data 0+</td>
<td>17</td>
<td>DDC/CEC GND</td>
</tr>
<tr>
<td>8</td>
<td>TMDS data 0 shield</td>
<td>18</td>
<td>+5V</td>
</tr>
<tr>
<td>9</td>
<td>TMDS data 0-</td>
<td>19</td>
<td>Hot-plug detection</td>
</tr>
<tr>
<td>10</td>
<td>TMDS clock+</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

#### D-sub input terminal pins

**Mini D-sub 15 pin**

<table>
<thead>
<tr>
<th>No.</th>
<th>Function</th>
<th>No.</th>
<th>Function</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Red video signal input</td>
<td>9</td>
<td>+5V</td>
</tr>
<tr>
<td>2</td>
<td>Green video signal input</td>
<td>10</td>
<td>GND</td>
</tr>
<tr>
<td>3</td>
<td>Blue video signal input</td>
<td>11</td>
<td>N.C.</td>
</tr>
<tr>
<td>4</td>
<td>N.C.</td>
<td>12</td>
<td>DDC data</td>
</tr>
<tr>
<td>5</td>
<td>GND</td>
<td>13</td>
<td>Hsync signal input</td>
</tr>
<tr>
<td>6</td>
<td>GND for red video signal</td>
<td>14</td>
<td>Vsync signal input</td>
</tr>
<tr>
<td>7</td>
<td>GND for green video signal</td>
<td>15</td>
<td>DDC clock</td>
</tr>
<tr>
<td>8</td>
<td>GND for blue video signal</td>
<td></td>
<td></td>
</tr>
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</table>

#### DisplayPort input terminal pins

**DisplayPort 20 pin**

<table>
<thead>
<tr>
<th>No.</th>
<th>Function</th>
<th>No.</th>
<th>Function</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>MainLane 3-</td>
<td>11</td>
<td>Gnd</td>
</tr>
<tr>
<td>2</td>
<td>Gnd</td>
<td>12</td>
<td>MainLane 0+</td>
</tr>
<tr>
<td>3</td>
<td>MainLane 3+</td>
<td>13</td>
<td>Gnd</td>
</tr>
<tr>
<td>4</td>
<td>MainLane 2-</td>
<td>14</td>
<td>Gnd</td>
</tr>
<tr>
<td>5</td>
<td>Gnd</td>
<td>15</td>
<td>Aux+</td>
</tr>
<tr>
<td>6</td>
<td>MainLane 2+</td>
<td>16</td>
<td>Gnd</td>
</tr>
<tr>
<td>7</td>
<td>MainLane 1-</td>
<td>17</td>
<td>Aux-</td>
</tr>
<tr>
<td>8</td>
<td>Gnd</td>
<td>18</td>
<td>Hot-plug detection</td>
</tr>
<tr>
<td>9</td>
<td>MainLane 1+</td>
<td>19</td>
<td>Gnd</td>
</tr>
<tr>
<td>10</td>
<td>MainLane 0-</td>
<td>20</td>
<td>3.3V</td>
</tr>
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</table>

#### RS-232C input terminal pins

**D-sub 9 pin**

<table>
<thead>
<tr>
<th>No.</th>
<th>Function</th>
<th>No.</th>
<th>Function</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>N.C.</td>
<td>6</td>
<td>N.C.</td>
</tr>
<tr>
<td>2</td>
<td>Transmitted data</td>
<td>7</td>
<td>N.C.</td>
</tr>
<tr>
<td>3</td>
<td>Received data</td>
<td>8</td>
<td>N.C.</td>
</tr>
<tr>
<td>4</td>
<td>N.C.</td>
<td>9</td>
<td>N.C.</td>
</tr>
<tr>
<td>5</td>
<td>GND</td>
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#### DVI-D input terminal pins

**DVI-D 24 pin**

<table>
<thead>
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<th>Function</th>
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</thead>
<tbody>
<tr>
<td>1</td>
<td>TMDS data 2-</td>
<td>13</td>
<td>N.C.</td>
</tr>
<tr>
<td>2</td>
<td>TMDS data 2+</td>
<td>14</td>
<td>+5V</td>
</tr>
<tr>
<td>3</td>
<td>TMDS data 2/4 shield</td>
<td>15</td>
<td>GND</td>
</tr>
<tr>
<td>4</td>
<td>N.C.</td>
<td>16</td>
<td>Hot-plug detection</td>
</tr>
<tr>
<td>5</td>
<td>N.C.</td>
<td>17</td>
<td>TMDS data 0-</td>
</tr>
<tr>
<td>6</td>
<td>DDC clock</td>
<td>18</td>
<td>TMDS data 0+</td>
</tr>
<tr>
<td>7</td>
<td>DDC data</td>
<td>19</td>
<td>TMDS data 0/5 shield</td>
</tr>
<tr>
<td>8</td>
<td>N.C.</td>
<td>20</td>
<td>N.C.</td>
</tr>
<tr>
<td>9</td>
<td>TMDS data 1-</td>
<td>21</td>
<td>N.C.</td>
</tr>
<tr>
<td>10</td>
<td>TMDS data 1+</td>
<td>22</td>
<td>TMDS clock shield</td>
</tr>
<tr>
<td>11</td>
<td>TMDS data 1/3 shield</td>
<td>23</td>
<td>TMDS clock+</td>
</tr>
<tr>
<td>12</td>
<td>N.C.</td>
<td>24</td>
<td>TMDS clock-</td>
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### DisplayPort output terminal pins
(DisplayPort 20 pin)

<table>
<thead>
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<th>No.</th>
<th>Function</th>
<th>No.</th>
<th>Function</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>MainLane 0+</td>
<td>11</td>
<td>Gnd</td>
</tr>
<tr>
<td>2</td>
<td>Gnd</td>
<td>12</td>
<td>MainLane 3-</td>
</tr>
<tr>
<td>3</td>
<td>MainLane 0-</td>
<td>13</td>
<td>Gnd</td>
</tr>
<tr>
<td>4</td>
<td>MainLane 1+</td>
<td>14</td>
<td>Gnd</td>
</tr>
<tr>
<td>5</td>
<td>Gnd</td>
<td>15</td>
<td>Aux+</td>
</tr>
<tr>
<td>6</td>
<td>MainLane 1-</td>
<td>16</td>
<td>Gnd</td>
</tr>
<tr>
<td>7</td>
<td>MainLane 2+</td>
<td>17</td>
<td>Aux-</td>
</tr>
<tr>
<td>8</td>
<td>Gnd</td>
<td>18</td>
<td>Hot-plug detection</td>
</tr>
<tr>
<td>9</td>
<td>MainLane 2-</td>
<td>19</td>
<td>Gnd</td>
</tr>
<tr>
<td>10</td>
<td>MainLane 3+</td>
<td>20</td>
<td>3.3V</td>
</tr>
</tbody>
</table>

### RS-232C output terminal pins
(D-sub 9 pin)

<table>
<thead>
<tr>
<th>No.</th>
<th>Function</th>
<th>No.</th>
<th>Function</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>N.C.</td>
<td>6</td>
<td>N.C.</td>
</tr>
<tr>
<td>2</td>
<td>Received data</td>
<td>7</td>
<td>N.C.</td>
</tr>
<tr>
<td>3</td>
<td>Transmitted data</td>
<td>8</td>
<td>N.C.</td>
</tr>
<tr>
<td>4</td>
<td>N.C.</td>
<td>9</td>
<td>N.C.</td>
</tr>
<tr>
<td>5</td>
<td>GND</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Mounting Precautions
(For SHARP dealers and service engineers)

- When installing, removing or moving the monitor, ensure that this is carried out by at least 2 people.
- Be sure to use a wall-mount bracket designed or designated for mounting the monitor.
- This monitor is designed to be installed on a concrete wall or pillar. Reinforced work might be necessary for some materials such as plaster / thin plastic board / wood before starting installation.
- This monitor and bracket must be installed on a wall which can endure at least 4 times or more the weight of the monitor. Install by the most suitable method for the material and the structure.
- To attach a VESA-compliant mounting bracket, use M6 screws that are 5/16 inch (8 mm) to 3/8 inch (10 mm) longer than the thickness of the mounting bracket.

![Diagram showing screws (M6), mounting bracket, and monitor mounting](image)

- Do not use an impact driver.
- When moving the monitor, be sure to hold it with the handles. Do not hold the top, bottom, or sides of the monitor. Do not hold the LCD panel. Also, do not orient the monitor so that the LCD panel faces the ground. This may cause product damage, failure, or injury.
- When performing an installation where the monitor is stacked, please install it such that load is not placed on the monitor.
- After mounting, please carefully ensure the monitor is secure, and not able to come loose from the wall or mount.
- Do not use any screw holes other than VESA holes for installation.