NEC
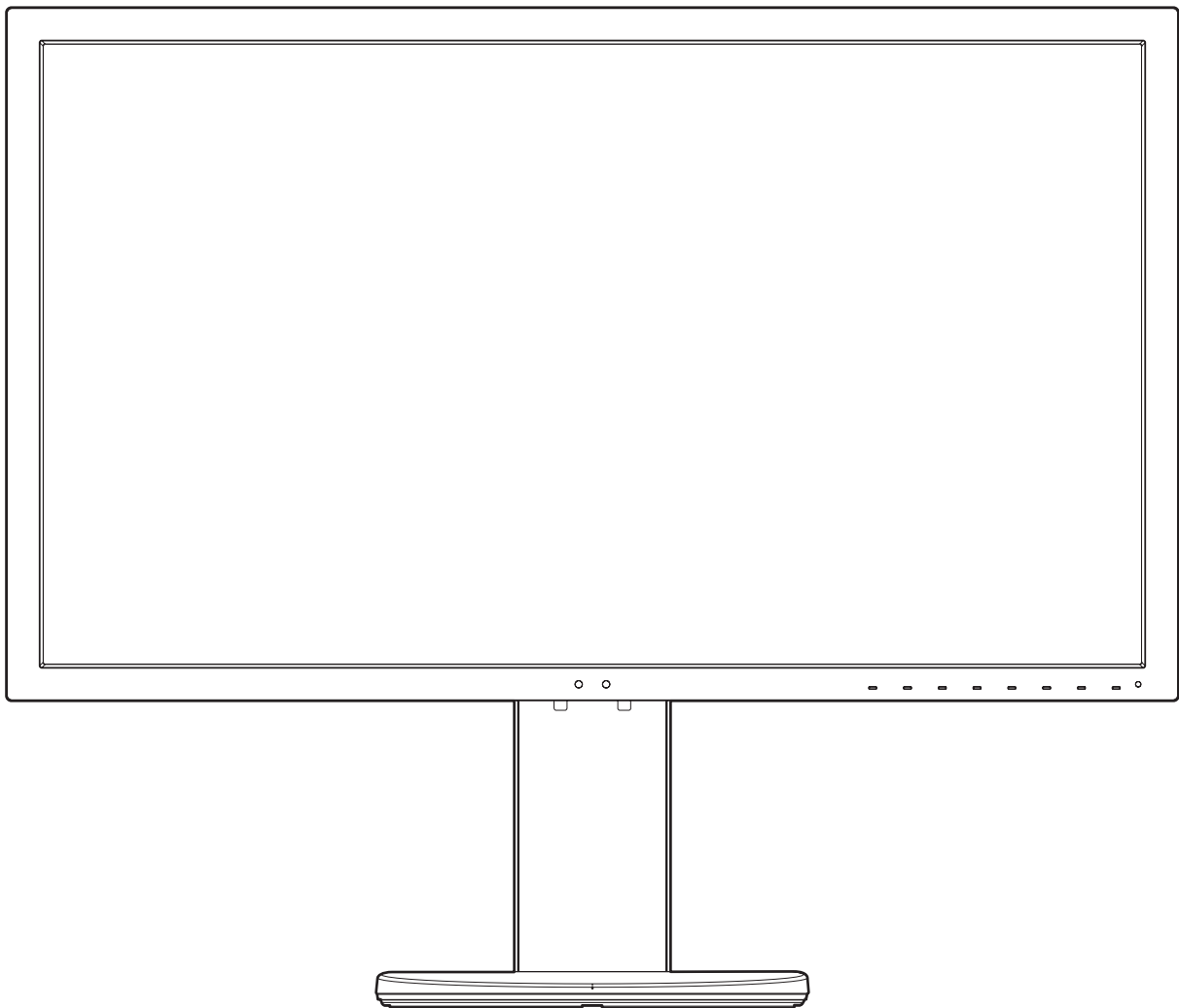
MultiSync PA271Q

User's Manual

MODEL: PA271Q-BK

Please find your model name in the label on the rear side of the monitor.

Index

| | **WARNING** | |

TO PREVENT FIRE OR SHOCK HAZARDS, DO NOT EXPOSE THIS UNIT TO RAIN OR MOISTURE. ALSO, DO NOT USE THIS UNIT'S POLARIZED PLUG WITH AN EXTENSION CORD RECEPTACLE OR OTHER OUTLETS UNLESS THE PRONGS CAN BE FULLY INSERTED.

REFRAIN FROM OPENING THE CABINET AS THERE ARE HIGH VOLTAGE COMPONENTS INSIDE. REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.

| | **CAUTION** | |

CAUTION: TO REDUCE THE RISK OF ELECTRIC SHOCK, MAKE SURE POWER CORD IS UNPLUGGED FROM WALL SOCKET. TO FULLY DISENGAGE THE POWER TO THE UNIT, PLEASE DISCONNECT THE POWER CORD FROM THE AC OUTLET. DO NOT REMOVE COVER (OR BACK). NO USER SERVICEABLE PARTS INSIDE. REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.
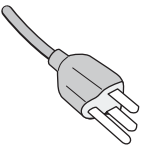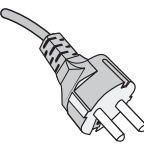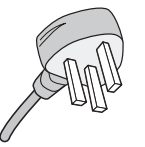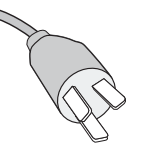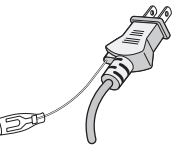
This symbol warns user that uninsulated voltage within the unit may have sufficient magnitude to cause electric shock. Therefore, it is dangerous to make any kind of contact with any part inside this unit.

This symbol alerts the user that important literature concerning the operation and maintenance of this unit has been included. Therefore, it should be read carefully in order to avoid any problems.

⚠ **CAUTION:** Please use the power cord provided with this display in accordance with the table below. If a power cord is not supplied with this equipment, please contact NEC. For all other cases, please use the power cord with the plug style that matches the power socket where the monitor is located. The compatible power cord corresponds to the AC voltage of the power outlet and has been approved by, and complies with, the safety standards in the country of purchase.

This equipment is designed to be used in the condition of the power cord connected to earth. If the power cord is not connected to the earth, it may cause electric shock. Please make sure the power cord is earthed properly.

Plug Type	North America	European Continental	U.K.	Chinese	Japanese
Plug Shape					
Country	U.S.A./Canada	EU	U.K.	China	Japan
Voltage	120*	230	230	220	100

*When operating the monitor with its AC 125-240V power supply, use a power supply cord that matches the power supply voltage of the AC power outlet being used.

NOTE: This product can only be serviced in the country where it was purchased.

Windows is a registered trademark of Microsoft Corporation.
NEC is a registered trademark of NEC Corporation.
ErgoDesign is a registered trademark of NEC Display Solutions, Ltd. in Austria, Benelux, Denmark, France, Germany, Italy, Norway, Spain, Sweden, U.K.
All other brands and product names are trademarks or registered trademarks of their respective owners.
DisplayPort and DisplayPort Compliance Logo are trademarks owned by Video Electronics Standards Association in the United States and other countries.

Adobe and the Adobe logo are either registered trademarks or trademarks of Adobe Systems Incorporated 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 Administrator, Inc. in the United States and other countries.

HDCP (High-bandwidth Digital Content Protection): HDCP is a system for preventing illegal copying of video data sent over a digital signal. If you are unable to view material via the digital signal input, this does not necessarily mean the display is not functioning properly. With the implementation of HDCP, there may be cases in which certain content is protected with HDCP and might not be displayed due to the decision/intention of the HDCP community (Digital Content Protection, LLC).

• The intended primary use of this product is as an Information Technical Equipment in an office or domestic environment.
• The product is intended to be connected to a computer and is not intended for the display of television broadcast signals.
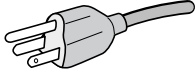
Registration Information

Cable information

⚠ **CAUTION:** Use the attached specified cables with this monitor so as not to interfere with radio and television reception. For DisplayPort, Mini-DisplayPort, HDMI, USB, USB-C and LAN, please use a shielded signal cable. Use of other cables and adapters may cause interference with radio and television reception.

FCC Information

1. The power supply cord you use must have been approved by and comply with the safety standards of U.S.A., and meet the following condition.

Power supply cord Plug shape	Non shield type, 3-conductor U.S.A

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

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

    If necessary, the user should contact the dealer or an experienced radio/television technician for additional suggestions. The user may find the following booklet, prepared by the Federal Communications Commission, helpful: "How to Identify and Resolve Radio-TV Interference Problems." This booklet is available from the U.S. Government Printing Office, Washington, D.C., 20402, Stock No. 004-000-00345-4.

Declaration of Conformity

This device complies with Part 15 of FCC Rules. Operation is subject to the following two conditions. (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

U.S. Responsible Party:	**NEC Display Solutions of America, Inc.**
Address:	**500 Park Boulevard, Suite 1100**
	Itasca, Illinois 60143
Tel. No.:	**(630) 467-3000**

Type of Product:	Display Monitor
Equipment Classification:	Class B Peripheral
Model:	MultiSync PA271Q (PA271Q-BK)

We hereby declare that the equipment specified above conforms to the technical standards as specified in the FCC Rules.

To see a list of our TCO certified monitors and their TCO Certification (in English only), visit our website at

https://www.nec-display.com/global/about/legal_regulation/TCO_mn/index.html

Recommended use

Safety Precautions and Maintenance

⚠️
WARNING

FOR OPTIMUM PERFORMANCE, PLEASE NOTE
THE FOLLOWING WHEN SETTING UP AND
USING THE LCD COLOR MONITOR:

- **DO NOT OPEN THE MONITOR.** There are no user serviceable parts inside and opening or removing covers may expose you to dangerous shock hazards or other risks. Refer all servicing to qualified service personnel.

- Do not spill any liquids into the cabinet or use your monitor near water.

- Do not insert objects of any kind into the cabinet slots as they may touch dangerous voltage points, which can be harmful or fatal, or may cause electric shock, fire or equipment failure.

- Do not place any heavy objects on the power cord. Damage to the cord may cause shock or fire.

- Do not place this product on a sloping or unstable cart, stand or table, as the monitor may fall, causing serious damage to the monitor.

- The power supply cord you use must have been approved by and comply with the safety standards of your country. (e.g. Type H05VV-F 3G 0.75 mm^2 should be used in Europe).

- In the UK use a BS-approved power cord with a molded plug having a black (10 A) fuse installed for use with this monitor.

- Do not use the monitor outdoors.

- Do not bend, crimp or otherwise damage the power cord.

- Do not use the monitor in high temperature, humid, dusty, or oily areas.

- Do not cover the vent on the monitor.

- Vibration can damage the backlight. Do not install in areas where the monitor will be exposed to continual vibration.

- If monitor or glass is broken, do not come in contact with the liquid crystal and handle with care.

- To prevent damage to the monitor caused by tipping over due to earthquakes or other shocks, make sure to install the monitor in a stable location and take measures to prevent falling.

- To ensure the monitor's reliability, please clean the holes at the rear side of the cabinet at least once a year to remove dirt and dust.

- When using a LAN cable, do not connect to a peripheral device with wiring that might have excessive voltage.

- Immediately turn off the power, unplug your monitor from the wall outlet and move to a safe location, then refer servicing to qualified service personnel under the following conditions. If the monitor is used in this condition, the monitor may cause fall, fire and electric shock:

    - If the monitor stand has been cracked or peeled.

    - If you notice any structural damage such as cracks or unnatural wobbling.

    - If the monitor has an unusual odor.

    - If the power supply cord or plug is damaged.

    - If liquid has spilled or objects have fallen into the monitor.

    - If the monitor has been exposed to rain or water.

    - If the monitor has been dropped or the cabinet has been damaged.

    - If the monitor does not operate normally by following operating instructions.

⚠️
CAUTION

- Allow adequate ventilation around the monitor, so that heat can properly dissipate. Do not block ventilated openings or place the monitor near a radiator or other heat sources.

- Do not put anything on top of the monitor.

- The power cable connector is the primary means of detaching the system from the power supply. The monitor should be installed close to a power outlet which is easily accessible.

- Handle with care when transporting. Save packaging for transporting.

- Handle with care during installation and adjustment to prevent personal injury and damage to the monitor.

- Do not connect headphones to the monitor while you are wearing them. Depending on the volume level, it may damage your ears and cause loss of hearing.

- Please tighten all screws. A loose screw may cause the monitor to fall off the arm or stand.

- Do not touch LCD panel surface while transporting, mounting and setting. Applying pressure on the LCD panel can cause serious damage.

Image Persistence: Image persistence occurs when a residual or "ghost" image of a previous image remains visible on the screen. Unlike CRT monitors, LCD monitors' image persistence is not permanent, but a still image being displayed for a long period of time should be avoided.

To alleviate image persistence, turn off the monitor for as long as the previous image was displayed. For example, if an image was on the monitor for one hour and a residual image remains, the monitor should be turned off for one hour to erase the image.

NOTE: As with all personal display devices, NEC DISPLAY SOLUTIONS recommends using a moving screen saver at regular intervals whenever the screen is idle, or turn off the monitor when not in use.

CORRECT PLACEMENT AND ADJUSTMENT OF THE MONITOR CAN
REDUCE EYE, SHOULDER, AND NECK FATIGUE. CHECK THE
FOLLOWING WHEN YOU POSITION THE MONITOR:

Ergonomics

To realize the maximum ergonomics benefits, we recommend the following:

- For optimum performance of the monitor, allow 20 minutes for warming up. Avoid reproduction of still patterns on the monitor for long periods of time to avoid image persistence (after image effects).

- Adjust the monitor height so that the top of the screen is at or slightly below eye level. Your eyes should look slightly downward when viewing the middle of the screen.

- Position your monitor no closer than 40 cm (15.75 inches) and no further away than 70 cm (27.56 inches) from your eyes. The optimal distance is 50 cm (19.69 inches).

- Rest your eyes periodically for 5 to 10 minutes for every 1 hour by focusing on an object at least 20 feet away.

- Position the monitor at a 90° angle to windows and other light sources to minimize glare and reflections. Adjust the monitor tilt so that ceiling lights do not reflect on your screen.

- If reflected light makes it hard for you to see your screen, use an anti-glare filter.

- Adjust the monitor's luminance controls to enhance readability.

- Use a document holder placed close to the screen.

- Position whatever you are looking at most of the time (the screen or reference material) directly in front of you to minimize turning your head while you are typing.

- Blink often. Eye exercise helps to reduce eye strain. Please contact your ophthalmologist. Get regular eye checkups.

- To avoid eye fatigue, adjust the brightness to a moderate setting. Place a sheet of white paper next to the LCD screen for luminance reference.

- Do not position the Contrast control to its maximum setting.

- Use the preset Size and Position controls with standard signals.

- Use the preset Color Setting.

- Use non-interlaced signals.

- Do not use primary color blue on a dark background, as it is difficult to see and may produce eye fatigue due to insufficient contrast.

- Suitable for entertainment purposes at controlled luminous environments, to avoid disturbing reflections from the screen.
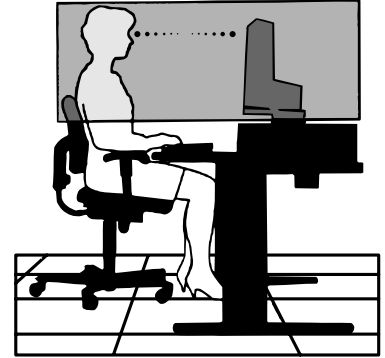
Cleaning the LCD Panel

- When the LCD is dusty, please gently wipe with a soft cloth.

- Clean the LCD monitor surface with a lint-free, non-abrasive cloth. Avoid using any cleaning solution or glass cleaner!

- Please do not rub the LCD panel with hard or coarse material.

- Please do not apply pressure to the LCD surface.

- Please do not use OA cleaner as it will cause deterioration or discoloration on the LCD panel surface.

Cleaning the Cabinet

- Unplug the power supply

- Gently wipe the cabinet with a soft cloth

- To clean the cabinet, dampen the cloth with a neutral detergent and water, wipe the cabinet and follow with a dry cloth.

NOTE: DO NOT clean with benzene thinner, alkaline detergent, alcoholic system detergent, glass cleaner, wax, polish cleaner, soap powder, or insecticide. Rubber or vinyl should not be in contact with the cabinet for an extended period of time. These types of fluids and materials can cause the paint to deteriorate, crack or peel.

For more detailed information on setting up a healthy work environment, write to the American National Standard for Human Factors Engineering of Computer Workstations - ANSI/HFES 100-2007 - The Human Factors Society, Inc. P.O. Box 1369, Santa Monica, California 90406.

Product Features

- **Accurate color reproduction**
  - SpectraView engine.
    The sophisticated NEC exclusive color processing engine integrated into the display. It combines internal luminance, white point, ambient lighting, temperature and time monitoring, together with individual characterization and calibration of each display during production, to provide an unparalleled level of color control, uniformity, accuracy and stability.
    The SpectraView engine provides the utmost in versatility; from faster and more advanced color calibration, to the ability to accurately emulate color spaces such as Adobe®RGB and sRGB, to performing printer output emulations using ICC Profiles and internal 3D Look-Up Tables.

  - Picture mode (see page 17).
    Up to 10 programmable Picture Mode profiles for quick access to Industry standard color spaces or user customized settings.

  - MultiProfiler supported.
    Multiple color modes can be easily configured and selected using the MultiProfiler application, which can be downloaded from our website.

  - Uniformity (see page 18).
    Provides a more consistent luminance and color across the screen by compensating for variations in luminance and color that are inherent to LCD panels.

  - Wide viewing angle technology.
    Professional grade IPS (in-plane switching) panel for viewing the monitor with minimal color shift. Provides a 178° viewing angle of the screen from any direction for all orientations. Minimal light leakage on dark tones when viewing the screen from an angle in a dimly lit room.

  - 10 bit color.
    All signal inputs supports 10bit grayscale, over 1 Billion colors.

  - Stand-alone calibration (see page 25).
    This function updates the display's internal color processor reference data with measurements taken using your color sensor. Those measurements will become the reference for all color settings in the display.

- **Multiple signal input**
  - USB type-C interface (see page 14).
    Supports video and audio input, supplies power, and USB hub function with a single cable.

  - DisplayPort and HDMI interfaces (see page 8).
    Designed to be future-ready scalable solutions for high performance digital display connectivity. Both interfaces enable the highest resolution, fastest refresh rates and deepest color depths.

  - Picture By Picture/Picture In Picture (see page 20).
    Increases productivity by displaying two different input sources simultaneously, either side by side (Picture By Picture) or a small sub screen on a large main screen (Picture In Picture). This function can also be used to display one input source in two different picture modes for a side by side comparison of different settings.

  - USB 3.1 hub with input select (see page 20).
    Change the USB upstream ports (USB1/USB2/USB-C) associated with the current display input. When connecting a computer to each of the upstream ports, the monitor's USB downstream ports can be used by selecting this setting for the current input signal. The SuperSpeed USB hub offers a 10x performance increase over the previous Hi-Speed USB generation and is backwards compatible with USB 2.0 devices.

- **Customizable functions**
  - Hot key setting (see page 22).
    Picture modes or other functions can be assigned to the keys on the front bezel for easy access.

  - LED indicator (see page 22).
    The color of the LED on the front bezel can be associated with different Picture Modes or video inputs for easy reference.

  - Area marker function (see page 22).
    Shows a customizable on-screen marker used to indicate different aspect ratios and safe areas in video production.

- **Display management**
  - LAN function (see page 23).
  Provides control of the monitor settings over the network, via a custom application or a web browser on a connected computer or smartphone.

  - Import/Export (see page 27).
  Backup or copy the picture modes and monitor settings to a USB flash drive connected to the SENS/MEM port.

- **Ergonomics**
  - Human/Ambient Sensors (see page 7 and page 21).
  Automatically detects your presence and work environment to determine and control the display brightness to conserve power.

  - Fully adjustable quick-release stand (see page 11 and page 12).
  Provides flexibility and comfort for individual viewer preferences, including height-adjustment, pivot, tilt and swivel capabilities, plus a quick release lever for fast removal of the stand for simplified installation.

Parts Name and Functions

Control Panel
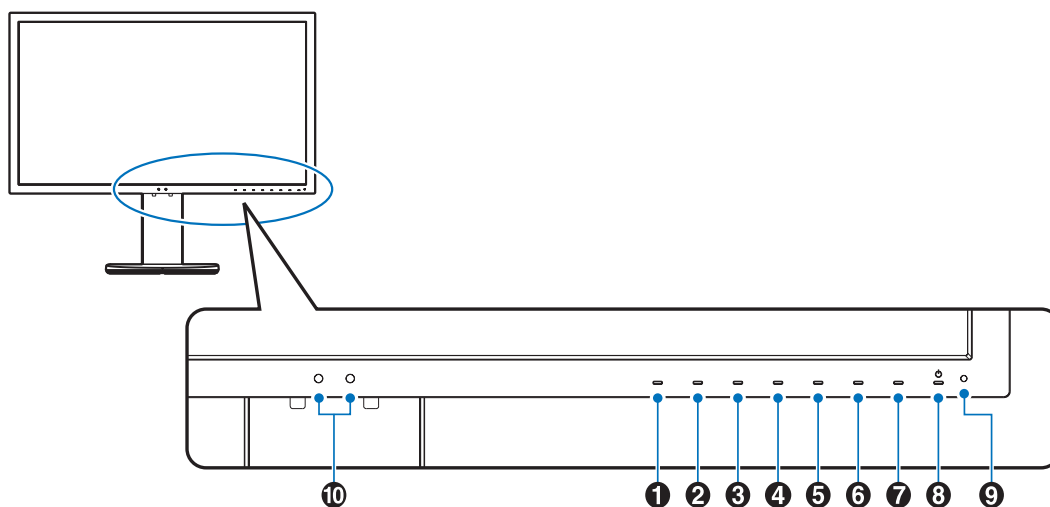
| Key	Default assign	Function
❶ Key1	Menu (Menu)	Access the OSD menu.
❷ Key2	Picture mode List (Pic.L)	Shows "Picture mode" menu when not in the OSD control menu*¹.
❸ Key3	Luminance (Lumi)	Adjusts the luminance when the OSD menu is not open.
❹ Key4	Volume (Volume)	Adjusts the volume when the OSD menu is not open.
❺ Key5	Mute (Mute)	Switches the audio mute on/off.
❻ Key6	Input (Input)	Changes the input source for the "Active picture" when not in the OSD control menu.
❼ Key7	Information (i)	Shows the SpectraView engine status.
❽ Key8	Power (Power)	Turns the monitor on and off.
❾ LED		Indicates that the power is on. The LED color can be changed in the OSD menu.
❿ Sensor		Detects the ambient lighting and the presence of a user, allowing the monitor to make adjustments to various settings resulting in a more comfortable viewing experience. Do not cover this sensor.

* The touch key on the screen can be customized.

*¹ "Picture mode" menu.
Touch the [Up/Down] key to select "Picture mode" in "Active picture". In "PiP" (picture in picture) or "PbP" (picture by picture) mode, touch [</>] key to change "Active picture". "Picture mode" can be selected for "Active picture" independently.
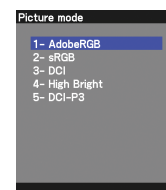
Terminal Panel
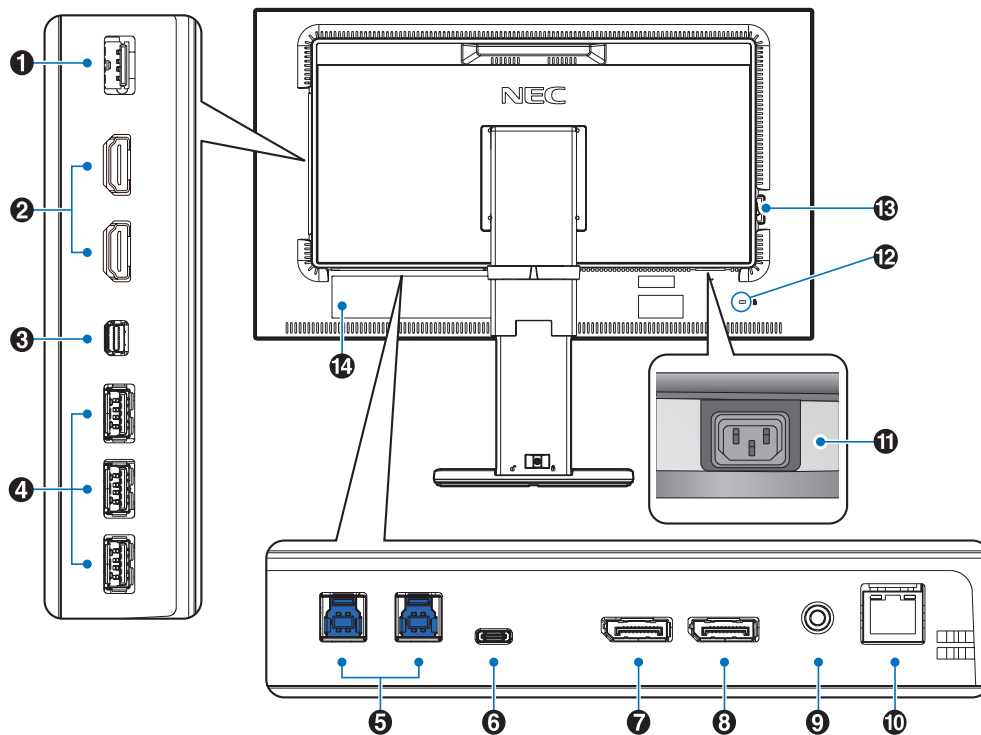
❶ SENS/MEM Port

Connect the external USB color sensor or USB memory.
NOTE: This port is not for USB hub connection.

❷ HDMI IN

Digital HDMI signals input.

❸ Mini-DisplayPort IN

DisplayPort signals input.

❹ USB Downstream Port (Type-A)

Connects with USB devices.
Connects with external equipment such as a computer compliant with USB.

❺ USB Upstream Port (Type-B)

Connects with external equipment such as a computer.
Please use this port to control the monitor from connected external equipment.

❻ USB-C Port

Connects with USB Type-C compliant external equipment such as a computer.

❼ DisplayPort IN

DisplayPort signals input.

❽ DisplayPort OUT

Outputs DisplayPort signals or USB-C signals.
Connects with DisplayPort input of another monitor.

❾ Headphone Jack

Connects with headphones.
NOTE: Adjustment of the volume control as well as the equalizer to other settings than the center position may increase the ear-/headphones output voltage and therefore the sound pressure level.
Use an audio cable without a built-in resistor. Using an audio cable with a built-in resistor lowers the sound.

⚠ CAUTION: Do not connect headphones to the monitor while you are wearing them.
Depending on the volume level, it may damage your ears and cause loss of hearing.

❿ LAN Port IN (RJ-45)

LAN connection.

⓫ AC IN Connector

Connects with the supplied power cord.

⓬ Security Slot

Security and theft protection lock compatible with Kensington security cables/equipment.
For products, visit Kensington's website,
http://www.kensington.com/

⓭ Main Power Switch

On/Off switch to turn main power ON/OFF. |: ON   ◯ : OFF

⓮ Rating Label

Quick Start

For box contents, please refer to the printed contents sheet provided in the box.

To connect the LCD monitor to your system, follow these instructions:

**NOTE:** Make sure to read "Recommended Use" (page 3) before installation.

⚠ **CAUTION:** The accessories included depends on the location where the LCD monitor was shipped.

1. Turn off the power to your computer.
2. **For a MAC with Thunderbolt or Mini DisplayPort output:** Connect a Mini DisplayPort to DisplayPort cable to a video connector in your system (**Figure A.1**).

   For a PC with DisplayPort output: Connect the DisplayPort cable to the connector of the display card in your system (**Figure A.2**).

   For a PC with HDMI output: Connect the HDMI cable to the connector of the display card in your system (**Figure A.3**).

Mini DisplayPort to DisplayPort cable

Figure A.1
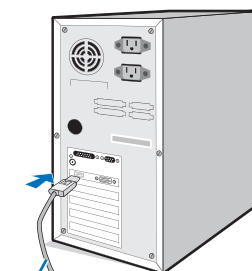
DisplayPort cable

Figure A.2
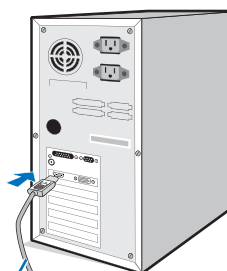
HDMI cable

Figure A.3

   NOTE: • Please use a Certified DisplayPort cable.
   • When removing the DisplayPort cable, hold down the top button to release the lock.
   • Please use a High Speed HDMI cable with the HDMI logo.

3. Height adjustment is locked by a lock switch. Place a hand on top of the stand to push down the screen to the lowest position. Slide the lock switch to unlock the stand and raise the monitor screen (**Figure B.1**).

   Place hands on each side of the monitor to tilt the LCD panel to a maximum tilt angle and lift up to the highest position (**Figure B.2**).

   ⚠ **CAUTION:** Cable holder cannot be removed.

Figure B.1

Maximum Tilt

Cable holder
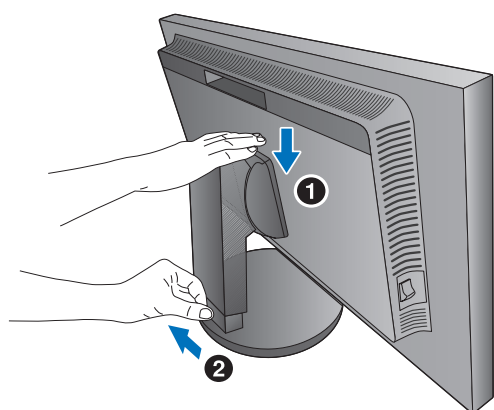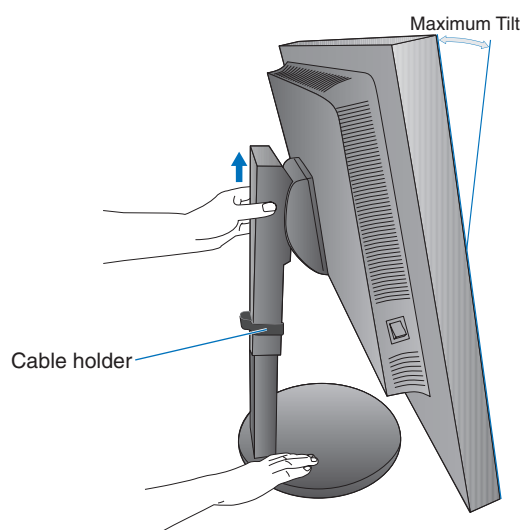
Figure B.2

4. Connect all cables to the appropriate connectors (**Figure C.1**). When using a USB cable, connect the B type connector to the USB upstream port on the rear side of the monitor and the A type connector to the downstream port on the computer (**Figure C.1a**). If using the cord from a USB device, plug into one of the downstream ports of the monitor.

   NOTE: Incorrect cable connections may result in irregular operation, damage display quality/components of LCD module and/or shorten the module's life.

   ⚠ CAUTION: Do not bind the USB cable. It may cause heat or fire.

SENS/MEM*

HDMI 2 IN

HDMI 1 IN

Mini DisplayPort IN

USB Downstream (USB Type-A)

Maximum Tilt

Highest Stand Position

USB Upstream (USB Type-B)

USB-C

DisplayPort IN

DisplayPort OUT*

Headphone

LAN

Power cord

A Type

A Type

B Type

B Type
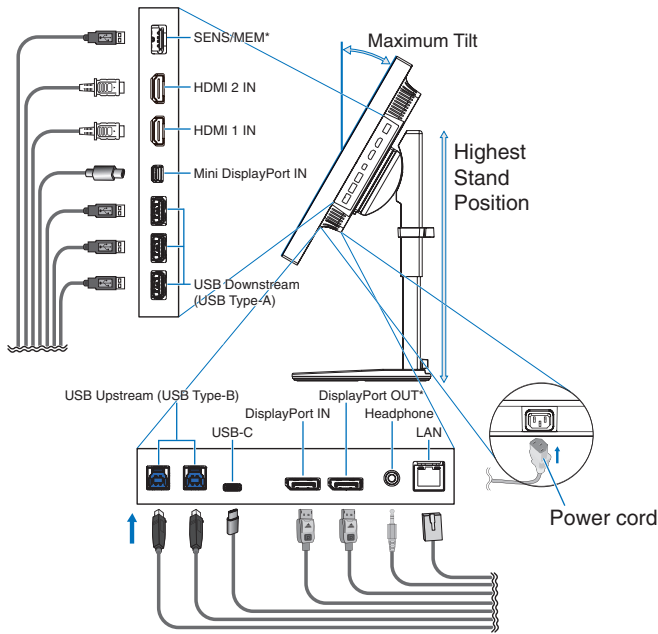
Figure C.1a

Figure C.1

*: Remove the SENS/MEM and DP OUT cap when using the connector.

5. To keep the cables neatly and evenly organized, place them into the cable holder which is installed onto the stand (**Figure C.2** and **Figure C.3**).

6. Please check that you can still rotate, raise and lower the monitor screen when you have installed the cables.

NEC

DisplayPort Cable

Power Cord

Figure C.2

Power Cord

DisplayPort Cable

Figure C.3

English-10
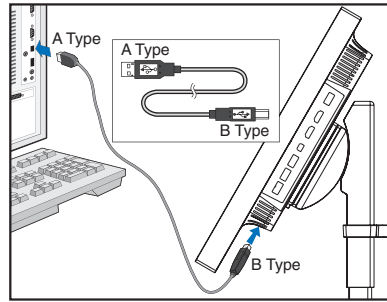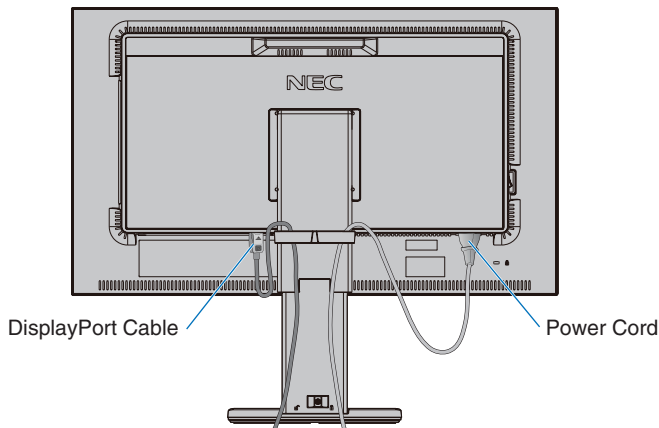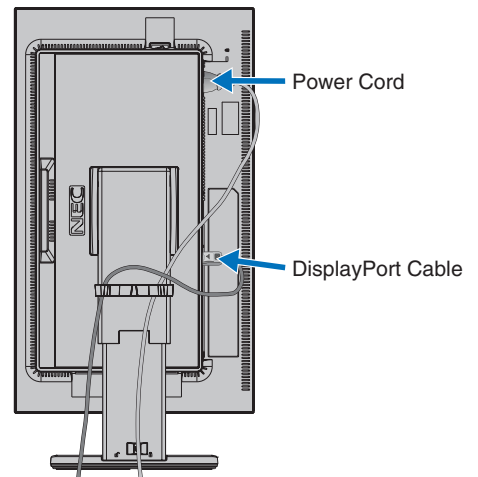
7. Connect the power cord to a power outlet.

   NOTE: Please refer to the **Caution** section of this manual for proper selection of the AC power cord (see page 1).

8. Turn on the monitor by touching the power key and then the computer (**Figure E.1**).

   NOTE: If you have any problems please refer to the **Troubleshooting** section of this User's Manual (see page 30).

Power key
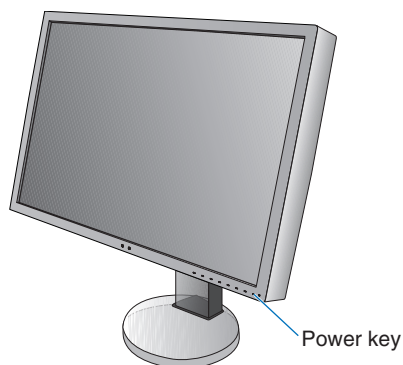
Figure E.1

Adjustable stand with pivot capability

Raise and Lower: Hold the monitor on each side and lift or lower to the desired height.

Tilt and Swivel: Hold the top and bottom sides of the monitor screen with your hands and adjust the tilt and swivel as desired.

Screen Rotation (Pivot): Hold the monitor on each side and turn it from landscape to portrait.

To rotate the OSD menu between landscape and portrait, refer to the **OSD (On-Screen-Display) Controls** section (see page 16).
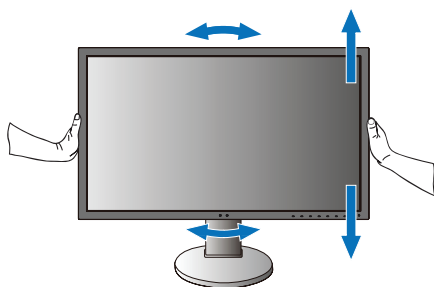
Rotation, Raise and Lower
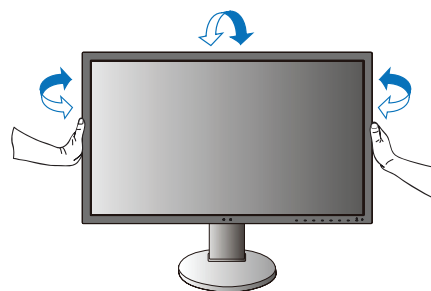
Tilt and Swivel

⚠ **CAUTION:** Handle with care when adjusting the monitor screen. Do not apply pressure to the LCD when adjusting the monitor screen height.
Before rotating, disconnect the power cord and all cables from the display. The screen must be raised to the highest level and tilt to avoid knocking the screen on the desk or pinching your fingers.

Flexible Arm Installation

This LCD monitor is designed for use with a flexible arm. Contact NEC for more information.

To prepare the monitor for alternate mounting purposes:

* Follow the instructions provided by the manufacturer of the display mount.

⚠ **CAUTION:** To meet the safety requirements, the monitor must be mounted to an arm that supports the weight of the monitor. See page 28 for details. Remove the monitor stand before mounting.

Remove the Monitor Stand for Mounting

To prepare the monitor for alternate mounting purposes:

1. Disconnect all cables.
2. Place your hands on each side of the monitor and lift up to the highest position.
3. Place the monitor face down on a non-abrasive surface (**Figure S.1**).
4. Place one hand around the base and one hand on the Quick Release Lever. Push and hold the Quick Release Lever in the direction indicated by the arrows (**Figure S.1**).
5. Lift up the stand to unhook it from the monitor (**Figure S.1**). The monitor can now be mounted using an alternate method. Reverse the process to reattach stand.

NOTE: Handle with care when removing the monitor stand.

Figure S.1

Mount the Flexible arm

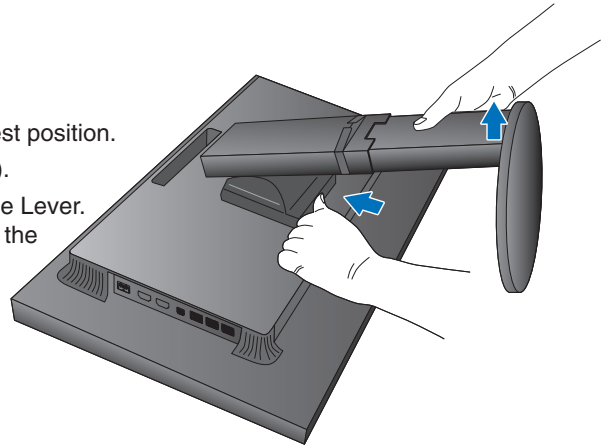This LCD monitor is designed for use with a flexible arm.

1. Follow the instructions on how **Remove the Monitor Stand for Mounting** to remove the stand.
2. Use the attached 4 screws to fasten the arm to the monitor (**Figure F.1**).

100 mm

100 mm
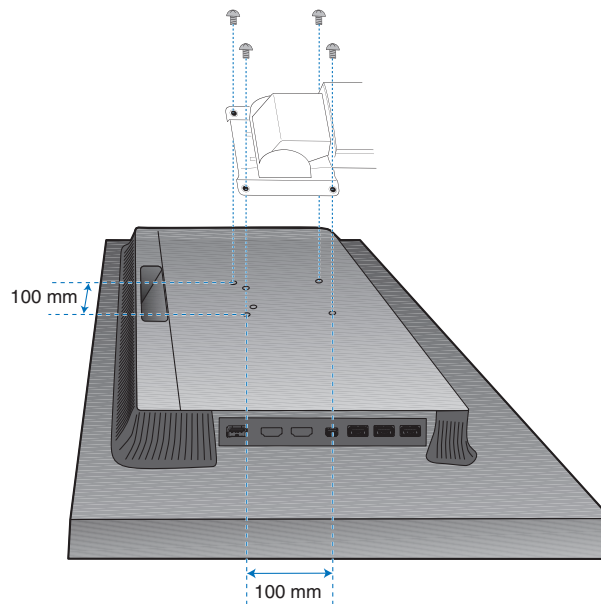
Weight of LCD assembly: 6.9 kg

Figure F.1

⚠ **CAUTION:** • Only use the screws (4 pcs) that are included or M4 sized screws (Length: thickness of bracket and washer + 10-12 mm) when mounting to avoid damage to the monitor and stand.
* To fulfill the safety requirements, the monitor must be mounted to an arm which, guaranties the necessary stability under consideration for the weight of the monitor. The LCD monitor should only be used with an approved arm (e.g. TUEV GS mark).
* Tighten all screws (recommended Fasten Force: 98 - 137N•cm). A loose screw may cause the monitor to fall off the arm.
* Attaching the flexible arm should be done by two or more people if the monitor cannot be placed face down on a flat surface for installation.

Unit
Mounting Bracket
Washer
Screw
10-12 mm
Thickness of bracket and washer
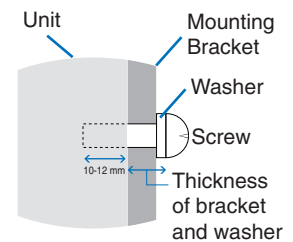
Using the Monitor functions

"Picture mode" function

Choose the "Picture mode" that is most suitable for the type of content.
You can set the "picture mode" separately for each window when the "Multi picture" function is selected.
There are several types of color space configured as "Preset" in each "Picture mode". You can change the detailed settings of the "Preset".

- Each "Picture mode" includes "Luminance", "Black", "Gamma", "White", "Red", "Green", "Blue" settings. You can change these settings in "Picture mode" menu.
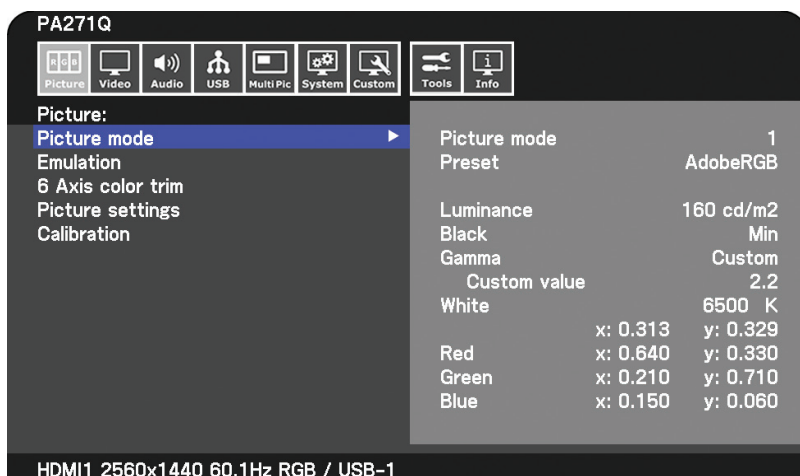
The type of "Preset"

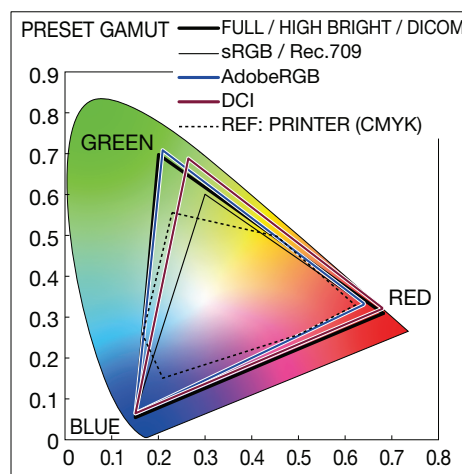| Preset	Purpose
sRGB	The standard color setting of the Internet, Windows® operating systems and digital cameras. Recommended setting for general color management.
AdobeRGB	Wider color gamut setting used in high-end graphics applications such as professional digital still cameras and printing.
eciRGB_v2	Color setting recommended by Europe printing group, ECI (The European Color Initiative).
DCI-P3	Color setting for digital cinema.
Rec.709	Color setting for High-definition television.
Rec.2100 (HLG)	Color setting for HDR (High Dynamic Range) broadcasting.
Rec.2100 (PQ)	Color setting for HDR (High Dynamic Range) digital cinema on disc and internet streaming.
High Bright	Highest brightness setting.
Low Blue[*1]	Reduces blue light emitted from the monitor. Paper-like color setting.
Full	Native LCD panel color gamut. Suitable for use with color managed applications.
DICOM	Color setting for medical imaging that conforms to DICOM GSDF (Grayscale Standard Display Function).
Programmable	Programmable preset for MultiProfiler and other supported software. The preset name can be changed by software.

[*1]: Low Blue Light function substantially reduces blue light and helps to alleviate eye-strain.

NOTE:
- Settings of "Emulation" and "6 Axis color trim" are also stored to each "Picture mode".
- When the selected "Picture mode" does not match the color setting of your computer (ICC profile), the color reproduction of the displayed image is inaccurate.
- For detailed color settings and to set the ICC profile on your computer automatically, MultiProfiler software is recommended. The latest version of the MultiProfiler software is available on the NEC Display Solutions website.
- "*" mark is shown for the edited Picture mode.

USB-C port functions

The equipped USB-C port supports the following functions. These three functions can be used concurrently, however, the actual behavior depends on the function and specification of the connected USB-C device. You can check the status of the actual functions on the "USB-C information" OSD.
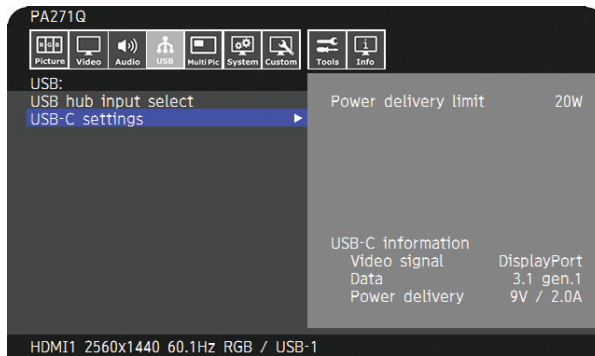
Video and audio input

Supports DisplayPort input (DisplayPort Alt Mode on USB Type-C). Supports RGB 10bit signal and DisplayPort multistream (see page 19).

NOTE: This function is available when the connected USB-C device complies with DisplayPort Alt Mode on USB Type-C. Please use a USB-C cable that complies with USB3.1 Gen.1 or Gen.2.

Power supply (see page 28)

Charges a connected USB device (USB Power Delivery).

NOTE: - This function is available when the connected USB-C device complies with USB Power Delivery.
- The maximum power supply is 30 W but it changes depending on the connected device and cable. You can check the power voltage and current information in the OSD. If the connected device does not comply with USB Power Delivery or the device is not recognized, the information shows "---". In this case, the power might be supplied as complies with USB Type-C power delivery depending on the type of connected devices and cables.
- Please use a USB-C cable that complies with USB Power Delivery.

USB hub function

Allows using USB devices that are connected to the USB down stream port of the monitor.

NOTE: - If a signal is sent to the USB input that is beyond the recommended signal timings, even if the device complies with USB3.1 Gen.1, it might be connected as USB2.0. In this case, the USB hub is disconnected temporarily when changing between USB3.1 Gen.1 and USB2.0.
- The USB hub is disconnected temporarily when changing the setting of SST (Single-Stream Transport) to MST (Multi-Streaming Transport). Please remove the USB device before changing the setting.

NOTE: Information about the tested USB-C devices and cables are on the NEC Display Solutions website. For safety and reliability purposes, it is highly recommended that only the tested cables be used.

Power management function

The power management function is an energy saving feature that automatically reduces the power consumption of the monitor when the keyboard or the mouse has not been used for a fixed period.

Mode	LED indicator	Power consumption	Condition
Normal operation (Maximum brightness)	Blue	Approx. 60 W	Normal operation (Backlight is on)
Energy saving mode	Amber	Approx. 10 W	When meeting one of the conditions below, the monitor has passed a certain amount of time with no video signal input. • A computer is connected to the USB upstream port. • "Quick recovery" is set to "On". • DP out multistream setting is set to "MST".
	Dark amber	2 W	The monitor has passed a certain amount of time with no video signal input when there is an active network signal input.
	Wavering amber	0.5 W	The monitor has passed a certain amount of time with no video signal input and there is no network signal input.
Off mode	Off	0.5 - Approx. 10 W	Turn off the monitor by the power key. Power consumption depends on the power saving mode status.
		0.3 W	Turn off the monitor by the main power switch.

Power consumption depends on the setting of OSD or which devices are connected to the monitor.

NOTE: This function works with computers that support VESA approved DPM (Display Power Management).
The LED indicator color for normal operation can be customized (see page 22).

OSD (On-Screen-Display) Controls

Many of the OSD controls are also available in the included MultiProfiler software, developed by NEC Display Solutions. The latest MultiProfiler software is available on the NEC Display Solutions website.

OSD (On-Screen Display) control key on the front of the monitor function as follows:

To access the OSD menu, touch the [Menu] key.
To change the signal input, touch the [Input] key.

NOTE: The OSD must be closed in order to change signal input.
Some functions may not be available depending on the model or optional equipment.

Menu	Pic.L	Lumi	Volume	Mute	Input	i	Power

Input source
Main Menu Icons
Main Menu Item
Sub Menu

PA271Q

Picture   Video   Audio   USB   Multi Pic   System   Custom   Tools   Info

Picture:		
Picture mode	Picture mode	1
Emulation	Preset	AdobeRGB
6 Axis color trim		
Picture settings	Luminance	160 cd/m2
Calibration	Black	Min
	Gamma	Custom
	Custom value	2.2
	White	6500 K
	x: 0.313	y: 0.329
	Red x: 0.640	y: 0.330
	Green x: 0.210	y: 0.710
	Blue x: 0.150	y: 0.060

Adjustment Settings

HDMI1 2560x1440 60.1Hz RGB / USB-1

Information

The keys' guide and their functions change when the OSD menu is open.

Exit	Reset	Up	Down	<	>	Set

Control Panel

Touch [Down] or [Up] key to select sub-menu. → Touch [Set] key. → Touch [Down], [Up], [<] or [>] key to select the function or setting to be adjusted. → Touch [Exit].
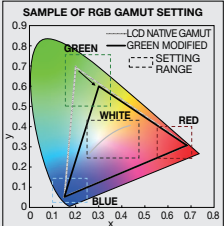
NOTE: Touch [Reset] key to return the selected items to factory shipment state.

OSD Settings

Picture

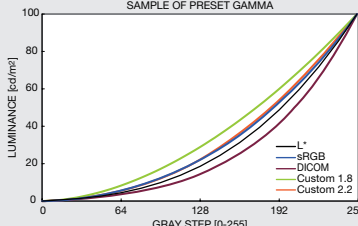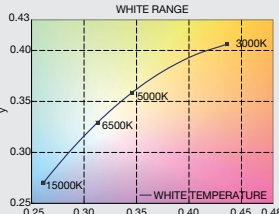| Picture mode	
Picture mode	Select "Picture mode" from 1 to 10.
Preset	Sets the Picture mode preset from the type of preset (see page 13).
3D LUT Emu.	Shows the name that you set in supported software when "3D LUT Emulation" is available.
Luminance	Adjusts the overall image and screen background luminance. When the setting is too high to display, the OSD characters are changed to yellow.
Black	Adjusts the black luminance. When the setting is too low to display, the OSD characters are changed to yellow.
Gamma	Allows you to manually select the brightness level of grayscale. sRGB: Gamma setting for sRGB. L Star: Gamma setting for the CIELAB color space Lab. Rec.1886: Gamma setting for HDTV broadcasting. Hybrid Log: Gamma setting for HDR, typically for UHD broadcasting. System gamma can be adjusted. System gamma: System gamma is adjustable in 0.5-2.0 range. When "Auto" is selected, the system gamma is automatically selected according to the "Luminance" setting. ST2084(PQ): Gamma setting for HDR, typically for UHD disk media and streaming videos. Peak luminance value is adjustable. Peak lumi.: Sets the peak luminance value to display ST2084(PQ) luminance range. A larger value will improve white saturation but the picture become darker. When "Auto" is selected, "Luminance" is used as the peak luminance setting. DICOM: DICOM GSDF (Grayscale Standard Display Function) is typically used for medical imaging. Programmable: A programmable gamma curve can be loaded using optional NEC software. Custom: Set a custom value for Peak luminance. Custom value: The gamma value is selected from a range from 0.5 to 4.0 in 0.1 steps. SAMPLE OF PRESET GAMMA
White (K) White (x,y)	Adjusts the white color by temperature or x, y setting. A lower color temperature will result in a reddish screen and a higher color temperature in a bluish screen. A larger x value will result in a reddish screen, a larger y value changes the screen to greenish, and smaller x,y values will change the screen to bluish white. WHITE RANGE
Red (x,y) Green (x,y) Blue (x,y)	Adjusts the color gamut. When the setting is outside of the color gamut of the LCD panel, the OSD characters are changed to yellow. SAMPLE OF RGB GAMUT SETTING
Emulation	
3D LUT Emulation	Activates the 3D LUT data, which is applied by application software. On: 3D LUT data is applied on the selected Picture mode. Off: 3D LUT data is not applied. Compare: Indicates the difference of "On" and "Off" in gray. This function can be used to indicate the range, which is outside of the color gamut.
Color vision emulation	Previews various typical human vision deficiencies and is useful for evaluating how people who have such deficiencies will perceive colors. This preview is available in four modes: Types P (Protanopia), D (Deuteranopia) and T (Tritanopia) emulate color vision dichromacy, and Grayscale can be used for evaluating contrast legibility. NOTE: Depending on the vision of the user, including those with color vision deficiency, there will be a variation in how the screen's color is seen and experienced. A simulation is used to illustrate the view of those with a color vision deficiency. It is not their actual view. The simulation is a reproduction of those with a strong color vision mode of type P, type D or type T. People with a slight color vision deficiency will experience little to no difference compared to those with normal color vision.

6 Axis color trim		
	Red (Hue/Sat/Offset)	Hue: Adjusts the hue of each color*[1]. The change in color will appear on screen and the menu color bars will show the amount of adjustment. Sat. (Saturation): Adjusts the color depth of each color*[1]. Touch the [>] key and the color vividness increases. Offset: Adjusts the color brightness of each color*[1]. Touch the [>] key and the color brightness increases. *[1]: Red, Yellow, Green, Cyan, Blue and Magenta.
	Yellow (Hue/Sat/Offset)	
	Green (Hue/Sat/Offset)	
	Cyan (Hue/Sat/Offset)	
	Blue (Hue/Sat/Offset)	
	Magenta (Hue/Sat/Offset)	
Picture settings		
	Auto brightness	Adjusts the luminance automatically by detecting the brightness level of your environment. NOTE: Do not cover the ambient light sensor. "Off" is recommended for best color reproduction. When the "Auto brightness" function is enabled, the luminance level of the screen changes automatically according to the lighting conditions of the room. Lb: Border between bright and dim lighting conditions; set at factory L1: Luminance level set for the monitor to use when ambient light level is high (L1>Lb) L2 : Luminance level set for the monitor to use when ambient light level is low (L2<Lb) L1 and L2 are the brightness levels set by the user to compensate for changes in ambient light.
	Uniformity	This function electronically compensates for the slight variations in the white uniformity level as well as deviations in color that may occur throughout the screen area. These variations are characteristic of LCD panel technology. This function improves the color reproduction and evens out the non-uniformity in luminance of the monitor. NOTE: A higher number produces a better effect, but may also reduce the contrast ratio.
	ECO mode	Decreases the amount of power consumed by reducing the brightness level. Off: ECO mode does not function. On: Reduces the maximum possible brightness to about 100 cd/m^2.
Calibration		
	Calibration	Start "Stand Alone Calibration" by using USB color sensor (See page 25).
	Color stabilizer	Uses the internal color sensor to compensate for a natural color shift that occurs with age.
	Metamerism	Improves the white point color matching when the display used side-by-side with a standard gamut display monitor. This feature compensates for the way the human eye perceives colors slightly differently compared to the scientific instrument used to adjust the display during calibration. This function should be disabled in color-critical applications.

Video

Video		
Input		
	Input	Selects the input signal.
DisplayPort settings		
	DisplayPort version	Selects the DisplayPort mode "1.1a" or "1.2" for DP1. "1.2" is the recommended setting. If there are compatibility problems please try using 1.1a.
	DP out multistream	To display the same screen image, select "SST" (Single-Stream Transport). To display the independent screen image, select "MST" (Multi-Stream Transport). Multi-Stream Transport requires a corresponding display card. NOTE: When "DisplayPort version 1.1a" is selected, "SST" is set automatically. The USB hub might be disconnected temporarily when set "DP out multistream". If the removal message does appear, remove any USB devices such as USB memory from the monitor.
	Input selection	Selects "USB-C" (USB-C port) or "DisplayPort" (DisplayPort IN) for DP1 input. When using only one connector, the input is selected automatically.
Video settings		
	Expansion	Select the aspect ratio of the screen image. Aspect: The image is expanded without changing the aspect ratio. Full: Fills the entire screen. 1:1: Shows the image in a 1 by 1 pixel format. Zoom: The image can be expanded beyond the active screen area. The image, which is outside of the active screen area, is not shown.
	Zoom	Sets the Zoom ratio.
	Overscan	Some video formats may require different scanning modes in order to best display the image. On: Image size is larger than what can be displayed. The image edge will appear cropped. Approximately 95% of the image will be shown on the screen. Off: Image size stays within the display area. The whole image is displayed on the screen. NOTE: When you use a computer with HDMI out please set Overscan to "Off". Auto: Image size is set automatically.
	Sharpness	Adjusts the crispness of the image.
	Video range	Adjusts the white and black level corresponding to the input signal level.
	White	
	Black	
	Signal format	Selects the color space setting for the HDMI/DisplayPort signal.
Input settings		
	Input detect	Selects the method of input detection the monitor uses when more than one signal source is connected. None: The monitor will not search for signals at the other video input ports. First: When the current video input signal is not present, the monitor searches for a video signal from another video input port. If a video signal is present in the other input, the monitor switches from the current video source to this active video source. The monitor will not look for any other video signals while the current video source is present. Last: When the monitor is reproducing a signal from the current video source and a new second video source is supplied to the monitor, the monitor will automatically switch to the new video source. When the current video input signal is not present anymore, the monitor searches for a video signal from any other video input. If a video signal is present in the other input, the monitor switches from the current video source to this active video source automatically. NOTE: "Last" function does not work between DisplayPort IN and USB-C port.
	Blank signal skip	Skip no signal inputs when you change the input signal using the [Input] key.
	DDC/CI	Turns on or off the two way communication and control of the monitor via the video cable.
Advanced signal settings		
	Bit rate DP1 DisplayPort	Sets the bit rate of the DisplayPort signal. These settings are automatically selected according to the DisplayPort version and the "DP out multistream" settings. If the image is unstable or picture noise occurs, please try the other settings. NOTE: When "RBR" or "HBR" is selected, MST function cannot be activated.
	Bit rate DP1 USB-C	
	Bit rate DP2 mDP	
	Equalizer DP1 USB-C	Compensates for image degradation for stability reproduction. If the image is unstable or picture noise occurs, please change the settings.

Audio

Audio settings	
Source	Selects the audio source: "Active picture", "Picture1", "Picture2".
Volume	Increase or decrease output volume level.
Mute on	Mutes the sound output.
Audio delay	For synchronizing sounds and pictures, delay the audio timing.

USB

USB hub input select	
DP1	USB upstream port selection for "DP1", "DP2 (mDP)", "HDMI1", and "HDMI2". Change the USB upstream port (USB1/USB2/USB-C) associated with the current display input. When connecting a computer to each of the upstream ports, the monitor's USB downstream ports can be used by selecting this setting for the current input signal. When using only one upstream port, the connected upstream port is active.
DP2 (mDP)	
HDMI1	NOTE: To avoid data loss, before changing USB upstream ports, ensure that no USB storage devices are in use by the operating system of the computer attached to the USB upstream port.
HDMI2	

USB-C settings	
Power delivery limit	Selects the maximum supplied power for USB-C devices. Normally, use the "20W" setting, but if power charging does not start or is unstable, try one of the other settings. NOTE: - The selection of "15W", "20W", or "30W" sets the maximum power wattage that can be supplied to a connected device. Depending on the type of connected USB-C device, the actual wattage is lower than the selected option. - When "15W" is selected, output voltage is fixed to 5V. - When "30W" is selected, maximum luminance is decreased.
USB-C information	Shows USB-C signal information.

Multi picture

Multi picture settings	
Multi picture	When "On" is selected, two pictures are displayed.
Multi picture mode	Selects "PiP" (Picture in picture) or "PbP" (Picture by picture).
Active picture	Selects a target picture for OSD operations.
Side border color	Adjusts the side black bars color.

Position / Size	
Position	Sets the active picture location.
Size	Sets the active picture size.

Tile matrix	
Tile matrix	Allows one image to be displayed over multiple screens (up to 9). H Monitors: Select the number of horizontal displays. V Monitors: Select the number of vertical displays. Position: Select a position to expand the screen. Tile comp: Compensates for the width of the tile bezels in order to accurately display the image. Enable: Enables "Tile matrix" settings that you set.

System		
Language		
	[Languages]	Select the language used by the OSD.
OSD		
	OSD time	Turns off the OSD after a period of inactivity.
	OSD position	Determines the location where the OSD appears on the screen.
	OSD transparency	Selects the transparency of the OSD.
	OSD rotation	Determines the OSD orientation between landscape and portrait. Landscape: Shows the OSD in landscape orientation. Portrait: Shows the OSD in portrait orientation. Auto: OSD is orientated automatically along with the display orientation.
	OSD last memory	The OSD menu opens to the last menu view before it closed.
	Information OSD	Selects whether the signal information OSD is displayed or not. The signal information OSD will appear when the input signal or input source changes.
	Boot logo	The NEC logo is briefly displayed after the monitor is powered on.
	Finger detection	When the sensor detects the vicinity of a finger, the key guide appears automatically. NOTE: This function is not available when the monitor is off.
Power management		
	Quick recovery	Select the behavior of power saving mode. Off: Enables the most effective power saving mode. On: The monitor returns to On mode faster from power saving mode. The power consumption is higher than "Off" setting.
Human sensing		
	Human sensing	The sensor detects the movement of a person by using the "Human sensing" function. The "Human sensing" function has three settings: Off: No human sensing. On: After no person has been detected for a period of time, the monitor shifts to power saving mode automatically to reduce the power consumption. When a person comes near the monitor again, the monitor will automatically return to normal mode. Custom: You can set "Backlight" and "Volume" conditions.
		Sensor setting	Adjusts the threshold level of human sensing. The current threshold is shown to the right of the adjustment slider. To adjust the sensor's distance threshold, use the [</>] key to move the slider left or right. NOTE: Detects a person within about 1.5 m from the monitor.
		Start time	Adjusts the wait time before entering low brightness mode or power saving mode when the human sensor detects no person.
		Backlight	Select the backlight setting when "Human sensing" is activated.
		Volume	Select the volume setting when "Human sensing" is activated.
Network settings		
	IP setting	Enabling this option automatically assigns an IP address to the monitor from your DHCP server. Disabling this option allows you to enter a fixed IP address and subnet mask data obtained from your network administrator. NOTE: Consult your network administrator for the IP address when "Auto" is selected for "IP setting".
		IP address	Set your IP address for the monitor connected to the network when "Manual" is selected for "IP setting".
		Subnet mask	Set your subnet mask data for the monitor connected to the network when "Manual" is selected for "IP setting".
		Default gateway	Set your default gateway for the monitor connected to the network when "Manual" is selected for "IP setting". NOTE: Enter [0.0.0.0] to delete the setting.
Factory reset		
	Factory reset	All items are returned to factory shipment state.

Customize

Hot key		
	Key 1-8	Customizes seven keys on the front bezel by assigning Picture modes or other functions to the keys for easy access. The following functions can be assigned: - Picture modes. - Video input connectors. - Some OSD menu shortcuts. - Other function1: USB hub upstream, Luminance, Volume setting OSD. - Other function2: Toggle functions like Emulation, Sound mute. NOTE: Key 1 is the Menu Key and cannot be changed.
Input name		
	Input name	You can create a name for the input currently being used. Max: 14 characters, including space, A-Z, 0-9, and some symbols.
Number of Picture modes		
	Number of Picture modes	Sets the maximum number of selectable "Picture mode".
LED indicator		
	LED brightness	Controls the brightness of the LED on the front bezel of the monitor.
	LED color	Selects the color of LED on the front bezel from Blue, Green or Custom. Custom1: Change LED color along with the selected "Picture mode". Custom2: Change LED color along with the status of "Picture mode". (Default or Emulation on or Edited.) Custom3: Change LED color by the selected video input.
OSD lock out		
	OSD lock out	Prevents the monitor from being controlled by the OSD menu or the hot key. Touch the [Key1] and [Key3] simultaneously for a few seconds to unlock. Disable: All OSD menu and hot key actions are available for normal operation. Enable: Locks all OSD menu and hot key actions. Custom: Locks all OSD menu actions. Hot key actions are available for normal operation.

Tools

Area marker			
	Area marker		Shows a marker by a frame or line. NOTE: When a line marker is displayed for a long time, LCD panel may have image sticking phenomena. To avoid it a frame marker is recommended.
		Size	Adjusts the size of the marker.
		Aspect	Adjusts the aspect ratio of the marker.
		Color	Selects the color of a line marker or the brightness of a frame marker.
Import / Export			
	Import / Export		Imports or exports the settings of your display to a USB memory (See page 27). NOTE: - The Import function will overwrite the current monitor settings. If needed, backup the current settings using the export function before importing new settings. - Some monitor specific settings, such as calibration records, are not exported. - If the IP address is set manually, make sure it is a unique address and there is no duplicate on the network.

Information

Monitor information	Shows the model name, serial number, input signal and audio information for your monitor.
SpectraView engine status	Shows the status of internal sensors and the calibration information for your monitor.
USB information	Shows the USB hub and USB-C information.
System information	Shows the firmware version, SpectraView engine status, hours running, carbon savings, carbon usage and MAC address of your monitor. Hours running: Show total running time. Carbon savings: Shows the estimated carbon saving information in kg-CO2. The carbon footprint factor in the carbon saving calculation is based on the OECD (2008 Edition). Carbon usage: Shows the estimated carbon usage information in kg-CO2. This is an arithmetic estimation, not an actual measurement value. This estimation is based on the monitor settings only and does not account for any connected devices.

Controlling the LCD monitor via LAN

LAN Control Function

Provides control of the monitor settings over the network, via a custom application or a web browser on a connected computer or smartphone.

Example of LAN connection:

Server

Hub

LAN cable
(not supplied)

NOTE: Use a category 5 or higher LAN cable.
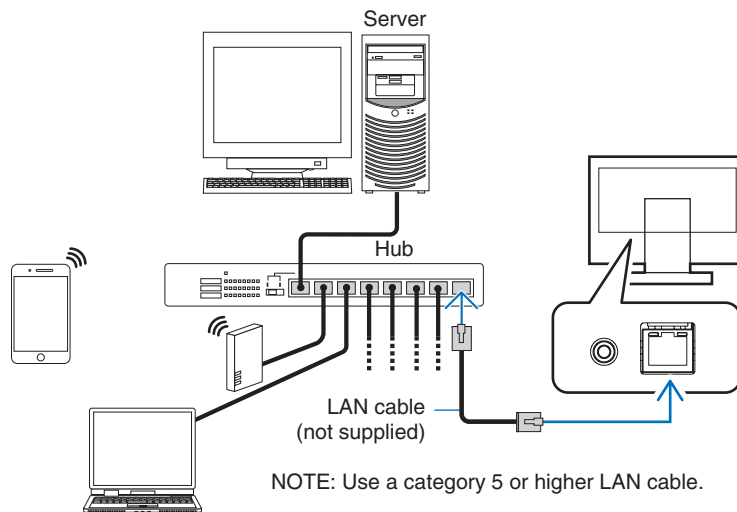
Preparation Before Use

Connect the monitor to the network by using a commercially available LAN cable.
Set the IP address (see).

Using Control Software

Control software allows you to control the monitor settings and get the monitor status, including calibration information.
Please download the software from our web page and install it on your computer.

OSD control via web browser (HTTP server function)

You can switch the picture modes and video inputs via a web browser.
To access this function, enter the monitor's URL in the web browser on a connected smartphone or computer.
http://<the monitor's IP address>/index.html

You can control the OSD menu using the web browser instead of the touch keys on the monitor. By using the "Hot key" setting in the OSD, you can customize the functions.

192.168.0.4	192.168.0.4/osdkeyscross.html
NEC PA271Q 00100002TA	**OSD keys**
Remote control	
Picture mode:	Up
1 - AdobeRGB ▼	< Set >
Picture mode 1 - AdobeRGB	Down
Preset AdobeRGB	
Luminance 160 cd/m2	Reset Exit
Black Min	
Gamma Custom 2.2	—
White 6500K	
x:0.313 y:0.329	<< Home Change layout >>
Red x:0.640 y:0.330	
Green x:0.210 y:0.710	
Blue x:0.150 y:0.060	
LUT emulation	
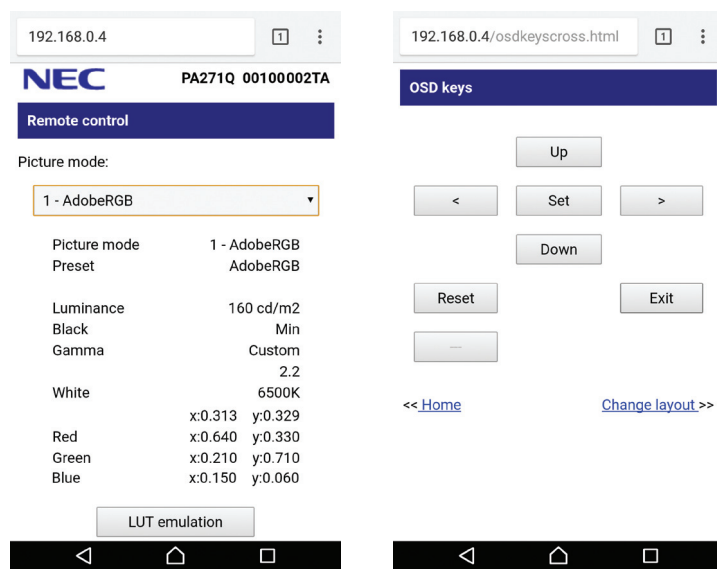
For security, you can set a password to access the HTTP server function. Please select "Enable" for HTTP Server Password function. A-Z, 0-9, and some symbols can be used for the password. The default setting is [0000]. The user name is "PA271Q".

NOTE: The default setting for the IP address is "Auto". When a LAN cable is connected, or after a monitor "Reset", the IP address will be assigned automatically.

If the monitor appears to be slow in response to commands or clicks on buttons in the browser, or the general speed of operation is unacceptable, this may be due to network traffic or the settings on your network. Should this happen, consult your network administrator.

The monitor may not respond if the buttons shown on the browser are repeatedly pressed in rapid intervals. Should this happen, wait a moment and repeat. If you still can't get a response, turn the monitor off and then back on.

The HTTP server function is confirmed on some major web browsers, however, it is not guaranteed to work with all web browsers.

If the HTTP server screen does not appear in the web browser, refresh your web browser (or clear the cache). Operation with a browser that uses a proxy server may not be possible depending on the type of proxy server and the setting method. Although the type of proxy server will be a factor, it is possible that items that have been set will not be shown depending on the effectiveness of the cache, and the contents set from the browser may not be reflected in operation. It is recommended that a proxy server is not used unless the network environment requires it.

Stand Alone Calibration

Stand Alone Calibration Function

This function allows calibration of the monitor without using computers. To open Stand Alone Calibration OSD menu, select Calibration (see page 18) on the OSD or connect a supported USB color sensor on SENS/MEM port.

Select a function on the menu and follow the instructions on the OSD message.
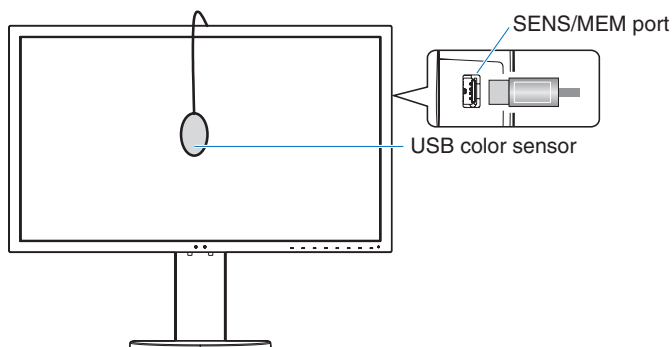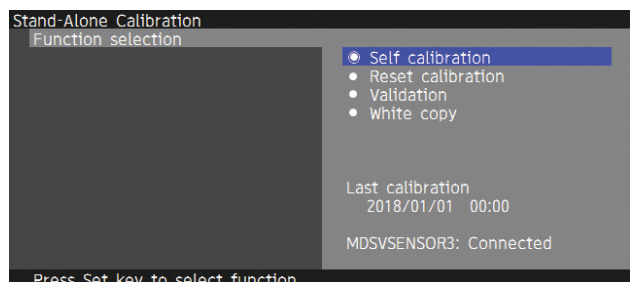
Self calibration

This function updates the display's internal color processor reference data to use measurements taken using your color sensor instead of the original factory measurement data. Your color sensor's measurements will become the reference for all color settings in the display and all presets will be updated accordingly. When a supported USB color sensor is connected to the SENS/MEM port, the monitor measures and calibrates automatically. Please place the USB color sensor on the center of the monitor screen and follow the instructions in the OSD messages. If using a non-supported color sensor, such as near range color analyzers, you can manually input the measured Y/x/y data in the OSD. All picture modes are calibrated when this calibration data is updated; there is no need to re-calibrate when you use other picture modes or edit the picture modes.

Reset calibration

Deletes the result of the "Self calibration" function and initializes the internal optical data to the factory calibrated data. Effective for all picture modes by single operation.

Validation

Measures the color patches with the USB color sensor and verifies the calibration result. The result of the validation is indicated as the average of color difference (dE). Larger values mean that the difference of the measurement values between the built-in color sensor and the USB color sensor is high. In general, you can use the monitor without trouble when the value is 3.0 or smaller, however, if the value is higher than you expected, please retry the "Self calibration" function.

White copy

This function measures the luminance and white point of the target monitor (A), and sets the values to the current picture mode of this monitor (B). Using this feature reduces the variation between different displays allowing them to match each other more closely.

Display A – SOURCE display of white point to copy.
Display B – PA271Q which performs a copy.
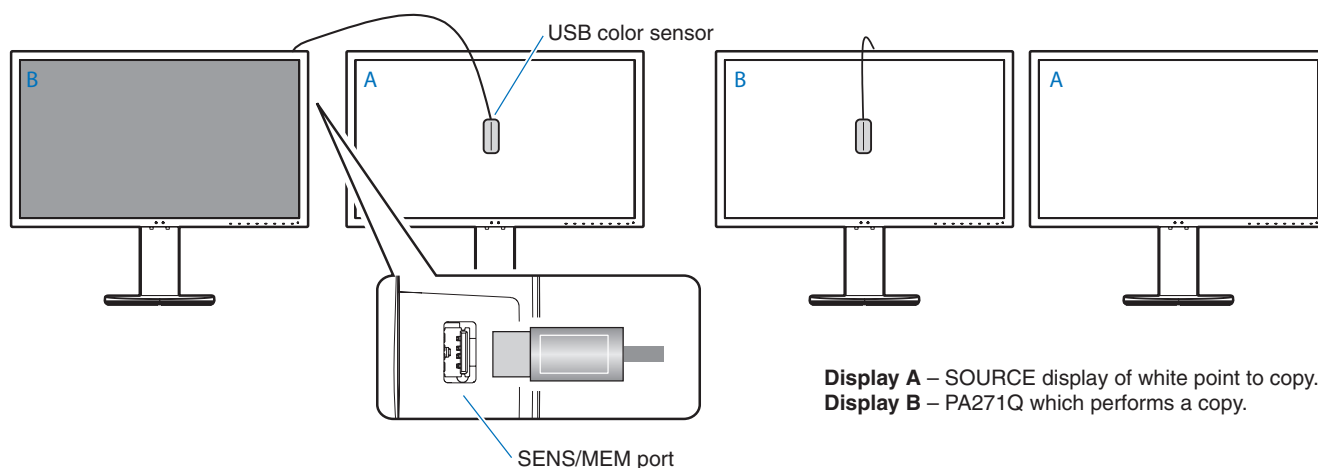
NOTE: The supported USB color sensor for SENS/MEM port is MDSVSENSOR3.

After the monitor is powered on, the "Color stabilizer" function is busy internally and must be warmed up. Calibrating during this period will affect the calibration quality. For the best calibration results, wait 30 minutes for the monitor to warm up before starting the calibration.

The results of the "Self calibration" and "Validation" functions are stored in the monitor and can be read by software on your computer. Setting the monitor's time clock is required for this function. Follow the instructions on the OSD menu and set the time. After the time is set, the monitor counts automatically while the AC power is active.

"White copy" will adjust only luminance and white point. For more accurate color matching please use the MultiProfiler software, which can be download from the NEC Display Solutions website.

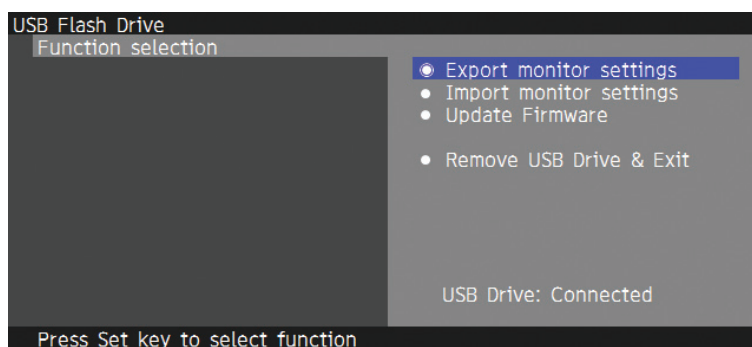# Import / export and firmware update with USB flash drive

Import / Export and firmware update with USB flash drive

Backup or copy the picture modes and monitor settings to a USB flash drive connected to the SENS/MEM port.
You can also update the firmware of the monitor.
The USB Flash Drive OSD will be shown when you select "Import/Export" (see page 22) on the OSD menu or connect a USB flash drive into the SENS/MEM port.

NOTE: This function is not available when using the USB ports from the USB hub. This function will only work in the SENS/MEM port.

```
USB Flash Drive
  Function selection
                              ◉ Export monitor settings
                              ● Import monitor settings
                              ● Update Firmware

                              ● Remove USB Drive & Exit




                              USB Drive: Connected

  Press Set key to select function
```

Select a function on the menu and follow the instructions on the OSD message.

Export monitor settings

Exports the monitor settings to the USB memory for back-up and copy. Select a type of export items.
 Current Picture mode: Export the picture mode settings of the current active window.
 All Picture modes: Export all picture modes settings.
 All monitor settings: Export all OSD settings.
The export file name is automatically set to avoid duplication.

Import monitor settings

Imports the exported setting file and overwrites the current OSD settings.
Only the OSD settings, which are contained in the exported file are overwritten.
Please put the exported files on the root folder of the flash drive.
If you set the IP address of the monitor manually, please make sure not to duplicate the IP address.

NOTE: The monitor detects up to 15 files, so do not put more than 15 files on the drive.

Update Firmware

Updates the firmware of the monitor. Please put the firmware updating file on the root folder of the USB drive in advance.

The LED blinks green during firmware updating. When the update is complete, the monitor restarts automatically. After restart, turn off and on the main power switch.

Remove USB Drive and Exit

Prepares the USB flash drive for disconnect and closes the OSD menu.
Please use this function before removing the USB flash drive from the monitor.

NOTE: The supported file system format of the USB flash drives is FAT32.

 The "Import/Export" function does not export the dependent settings of each monitor, i.e. calibration status.
 The export file can be imported to other PA271Q monitors. The latest compatible models for "Import/Export" functions will be on the NEC Display Solutions website.

 Setting the time clock is required to create an export file. Follow the instructions on the OSD menu and set the time. Once the time is set, the monitor counts automatically while the AC power is active.

 Visit the NEC Display Solutions website for information on firmware releases.

Specifications

Monitor Specifications		MultiSync PA271Q	Notes
LCD Module	Diagonal:	68.5 cm/27.0 inches	Active matrix; thin film transistor (TFT) liquid crystal display (LCD); 0.233 mm dot pitch; 350 cd/m² white luminance; 1500:1 contrast ratio (typical).
	Viewable Image Size:	68.5 cm/27.0 inches	
	Native Resolution (Pixel Count):	2560 x 1440	
Input Signal			
DisplayPort:	DisplayPort Connector:	Digital RGB	DisplayPort V1.1a, 1.2 (HDCP1.3)
	USB-C Port:	Digital RGB	DisplayPort V1.1a, 1.2 (HDCP1.3)
	Mini-DisplayPort Connector:	Digital RGB	DisplayPort V1.1a (HDCP1.3)
HDMI:	HDMI Connector:	Digital RGB	HDMI (HDCP1.4)
Display Colours		1,073,741,824 (DisplayPort/HDMI 10 bit)	Depends on display card used.
Synchronization Range	Horizontal:	15 kHz to 135 kHz	Automatically
	Vertical:	24 Hz to 85 Hz	Automatically
Viewing Angle	Left/Right:	±89° (CR > 10)	
	Up/Down:	±89° (CR > 10)	
Response Time		8 ms (Gray to gray Typ)	
Active Display Area	Landscape: Horiz.:	596.7 mm/23.5 inches	
	Vert.:	335.7 mm/13.2 inches	
	Portrait: Horiz.:	335.7 mm/13.2 inches	
	Vert.:	596.7 mm/23.5 inches	
USB Hub	I/F:	USB Specification Revision 3.1 Gen 1	
	Port:	Upstream 3 (incl. 1 x USB-C Port) Downstream 3	
	Load Current:	Downstream Port: 5V/0.9A (Max.) USB-C Port: 30 W (Max.)	
AUDIO			
AUDIO Input:	DisplayPort Connector:	Digital Audio	PCM 2ch 32, 44.1, 48 kHz (16/20/24bit)
	HDMI Connector:	Digital Audio	PCM 2ch 32, 44.1, 48 kHz (16/20/24bit)
Headphone Output:	STEREO Mini Jack:		Headphone Impedance 32 Ohm
Speaker Output		Internal Speaker 1W + 1W (Stereo)	
Control	LAN:	RJ-45 10 BASE-T/100 BASE-TX	
	SENS/MEM Port:	USB Color Sensor Port, Memory Port	
Power Supply		AC 100-240 V ~ 50/60 Hz	
Current Rating		1.5 - 0.73 A (with option)	
Dimensions	Landscape:	640.2 mm (W) x 395.7 - 545.7 mm (H) x 233.0 mm (D) 25.2 inches (W) x 15.6 - 21.5 inches (H) x 9.2 inches (D)	
	Portrait:	378.6 mm (W) x 657.3 - 671.8 mm (H) x 233.0 mm (D) 14.9 inches (W) x 25.9 - 26.4 inches (H) x 9.2 inches (D)	
Stand adjustable range	Height Adjustment:	150 mm/5.9 inches (Landscape orientation) 14.5 mm/0.6 inches (Portrait orientation)	
	Tilt / Pivot / Swivel:	UP 30° Down 5° / 90° / 340°	
Weight		9.7 kg (21.4 lbs)	
Environmental Considerations	Operating Temperature:	5°C to 35°C/41°F to 95°F	
	Humidity:	20% to 80%	
	Altitude:	0 to 16,404 Feet/0 to 5,000 m	
	Storage Temperature:	-20°C to 60°C/-4°F to 140°F	
	Humidity:	10% to 85%	
	Altitude:	0 to 40,000 Feet/0 to 12,192 m	

NOTE: Technical specifications are subject to change without notice.

Major supported timings

Resolution		Vertical Frequency	Scan Type	Notes
H	V			
640 x 480		60/67/72/75 Hz	p	
720 x 400		70 Hz	p	
720 x 480		60 Hz	p	
720 x 480		60 Hz	i	HDMI only
720 x 576		50 Hz	p	
720 x 576		50 Hz	i	HDMI only
800 x 600		56/60/72/75 Hz	p	SVGA
1024 x 768		60/70/75 Hz	p	XGA
1280 x 720		24/25/30/50/60 Hz	p	720p
1280 x 1024		60/75 Hz	p	SXGA
1280 x 1440		60 Hz	p	For Multi picture
1440 x 900		60 Hz	p	
1600 x 1200		60 Hz	p	UXGA
1920 x 1080		24/25/30/50/60 Hz	p	1080p
1920 x 1080		50/60 Hz	i	1080i, HDMI only
2560 x 1440		60 Hz	p	Recommend

p: Progressive.
i: Interlace.

NOTE: When the selected monitor resolution is not a native panel resolution, the text contents appearance in the monitor screen is expanded in a horizontal or vertical direction to show the non-native resolution to full screen. This expansion is done by interpolated resolution technologies, which are normal and widely used in flat panel devices.

Troubleshooting

No picture
- The signal cable should be completely connected to the display card/computer.
- The display card should be completely seated in its slot.
- Check the main power switch, it should be in the ON position.
- Power switches for the monitor and computer should be in the ON position.
- Make sure that a supported resolution has been selected on the display card or system being used.
  If in doubt, please refer to the user's manual of the display controller or system to change the resolution.
- Check the monitor and your display card with respect to compatibility and recommended signal timings.
- Check the signal cable connector for bent or pushed-in pins.
- The monitor automatically goes into standby at the preset time period after the video signal was lost. Press the button on the monitor.

Power Key does not respond
- Unplug the power cord of the monitor from the AC outlet to turn off and reset the monitor.
- Check the main Power Switch of the monitor.

Image Persistence
- Image persistence is when a residual or "ghost" image of a previous image remains visible on the screen. Unlike CRT monitors, LCD monitors' image persistence is not permanent, but constant images being displayed for a long period of time should be avoided. To alleviate image persistence, turn off the monitor for as long as the previous image was displayed. For example, if an image was on the monitor for one hour and a residual image remains, the monitor should be turned off for one hour to erase the image.

NOTE: As with all personal display devices, NEC DISPLAY SOLUTIONS recommends using a moving screen saver at regular intervals whenever the screen is idle, or turning off the monitor when not in use.

Picture is discolored
- Make sure "3D LUT Emulation" and "Color vision emulation" are "Off".
- Make sure the "Picture mode" setting is the same as the ICC profile on the PC.

Color irregularities on screen
- Reduce "Luminance".
- Set "Uniformity" to "5".

Message "Out of range" is displayed (screen is either blank or shows rough images only)
- Image is displayed roughly (pixels are missing) and an OSD warning "Out of range" is displayed: Either signal clock or resolution is too high. Choose one of the supported modes.
- An OSD warning "Out of range" is displayed on a blank screen: Signal frequency is out of range. Choose one of the supported modes.

The image is unstable, unfocused or swimming is apparent
- The signal cable should be completely attached to the computer.
- Check the monitor and your display card with respect to compatibility and recommended signal timings.
- If text looks garbled, change the video mode to non-interlaced and use 60 Hz refresh rate.

LED on monitor is not lit
- The power switch should be in the ON position and power cord should be connected.
- Check the main power switch, it should be in the ON position.
- Increase "LED Brightness" adjustment.

Picture is not as bright
- Make sure "ECO mode" is "Off" and "Power delivery limit" is "15W" or "20W".
- LCD brightness degradation occurs due to long-term usage or extreme cold conditions.
- When the display cannot achieve the desired brightness, the numerical brightness value on the OSD will be yellow.
- When using an HDMI input, please change the "Video range".

LED colors, except for blue, are blinking or glowing
- A certain failure might have occurred, please contact your supplier.
- If the monitor is powered off by the internal temperature being higher than the normal operating temperature, the LED will blink red for five or six times. Power on the monitor again after confirming the internal temperature has been reduced to normal operation temperature.
- The monitor could be in standby. Press the power switches on the monitor.
- If the LED blinks red during firmware updating, turn off and on the main power switch and update again.

The image is not properly reproduced
- Make sure that a supported resolution has been selected on the display card or system being used.
  If in doubt, please refer to the user's manual of the display card or system to change the resolution.

Selected resolution is not displayed properly
- Use the OSD to enter the "Monitor information" menu and confirm that the appropriate resolution has been selected.

No Video
- If no video is present on the screen, turn the Power key off and on again.
- Make sure the computer is not in a power-saving mode by touching the connected keyboard or the connected mouse.
- Some video cards do not output video signal when the monitor is turned off/on or disconnect/connect from the AC power cord under low resolution with DisplayPort.

No Sound
- Check to see if mute is activated.
- Check to see if "Volume" is set to a minimum.
- Check to see if the computer supports an audio signal through DisplayPort or HDMI.

Brightness variations over time
- Change "Auto brightness" to "Off".

NOTE: When "Auto brightness" is set to "On", the monitor automatically adjusts brightness based on the environment.
When the brightness of surrounding environment changes, the monitor will also change.

The USB hub does not operate
- Check to make sure that the USB cable is properly connected. Refer to your USB device user's manual.
- Check if the USB upstream port on the monitor is connected to the USB downstream port on the computer.
  Please make sure the computer is ON.
- Disconnect one upstream USB cable when using 2 upstream connections.
- Turn the switches off and on again.

USB or LAN control is not available
- Check the LAN cable.
  A category 5 or higher LAN cable is required for connection.
- Check to see if the USB upstream port on the monitor is connected to the USB downstream port on the computer.

USB Type-C device does not work
   "Warning: Remove USB-C cable" OSD was shown.
- The monitor detected abnormal voltage or current on USB-C port. Please remove USB-C cable immediately.
- Refer to the NEC Display Solutions website for the information of tested USB Type-C devices and cables.
   No picture
- Check if the connected USB-C device complies with DisplayPort Alt Mode on USB Type-C.
- Check if the USB Type-C cable complies with USB 3.1 Gen.1 or Gen.2.
- Refer to the NEC Display Solutions website for the information of tested USB Type-C devices and cables.
   Charging is not started or unstable.
- Check if the connected USB-C device complies with USB Power Delivery.
- Check if the USB Type-C cable complies with USB Power Delivery.
- Refer to the NEC Display Solutions website for the information of tested USB Type-C devices and cables.

Manufacturer's Recycling and Energy Information

NEC DISPLAY SOLUTIONS is strongly committed to environmental protection and sees recycling as one of the company's top priorities in trying to minimize the burden placed on the environment. We are engaged in developing environmentally-friendly products, and always strive to help define and comply with the latest independent standards from agencies such as ISO (International Organisation for Standardization) and TCO (Swedish Trades Union).

Disposing of your old NEC product

The aim of recycling is to gain an environmental benefit by means of re-use, upgrading, reconditioning or reclamation of material. Dedicated recycling sites ensure that environmentally harmful components are properly handled and securely disposed. To ensure the best recycling of our products, **NEC DISPLAY SOLUTIONS offers a variety of recycling procedures** and gives advice on how to handle the product in an environmentally sensitive way, once it has reached the end of its life.

All required information concerning the disposal of the product and country-specific information on recycling facilities can be found on our following websites:

http://www.nec-display-solutions.com/greencompany/ (in Europe),

https://www.nec-display.com (in Japan) or

http://www.necdisplay.com (in USA).

Energy Saving

This monitor features an advanced energy saving capability. When a Display Power Management signal is sent to the monitor, the Energy Saving mode is activated. The monitor enters a single Energy Saving mode.

Mode	Power consumption	LED colour
Normal Operation (Maximum brightness)	Approx. 60 W	Blue
Energy Saving Mode	2 W	Glowing amber
	0.5 W	Dusky amber
Off Mode	0.5 W	Unlit

For additional information visit:

http://www.necdisplay.com/ (in USA)

http://www.nec-display-solutions.com/ (in Europe)

https://www.nec-display.com/global/index.html (Global)

For Energy Saving information: [Default setting: Quick recovery → Off]

For ErP requirement/For ErP (Network standby) requirement:
      Setting: Quick recovery → Off
      Power consumption: 2 W or less (Dusky amber).
      Time for power management function: Approx. 1 min.
      (Except for a condition that the monitor has plural signal inputs.)

      Power consumption: 0.5 W or less (Blinking amber).
      Time for power management function: Approx. 5 min.
      (Except for a condition that the monitor has plural signal inputs.)

WEEE Mark (European Directive 2012/19/EU and amendments)

Disposing of your used product: In the European Union

EU-wide legislation as implemented in each Member State requires that used electrical and electronic products carrying the mark (left) must be disposed of separately from normal household waste. This includes monitors and electrical accessories, such as signal cables or power cords. When you dispose of such products, please follow the guidance of your local authority or ask the shop where you purchased the product, or if applicable, follow applicable legislation or agreement you may have. The mark on electrical and electronic products may only apply to the current European Union Member States.

Outside the European Union

If you wish to dispose of used electrical and electronic products outside the European Union, please contact your local authority and ask for the correct method of disposal.