

Large Format Display
User's Manual

E651-T

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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:	E651-T



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

FCC Information

- Use the attached specified cables with this color monitor so as not to interfere with radio and television reception.
 - Please use the supplied power cord or equivalent to ensure FCC compliance.
 - Please use the supplied shielded video signal cable.
- 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.

Windows is a registered trademark of Microsoft Corporation.

NEC is a registered trademark of NEC Corporation.

OmniColor is a registered trademark of NEC Display Solutions Europe GmbH in the countries of EU and Switzerland.

All other brands and product names are trademarks or registered trademarks of their respective owners.



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.



Manufactured under license from Dolby Laboratories.

Dolby, Dolby Audio and the double-D symbol are trademarks of Dolby Laboratories.

Important Information



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 monitor in accordance with the table below. If a power cord is not supplied with this equipment, please contact your supplier. For all other cases, please use a power cord that matches the AC voltage of the power outlet and has been approved by and complies with the safety standard of your particular country.

Plug Type	North America		European Continental	U.K.	Chinese	Japanese
Plug Shape						
Region	U.S.A./ Canada	Taiwan	EU (except U.K.)	U.K.	China	Japan
Voltage	120*	110	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.
Use the power cord which has BSMI mark at both ends when you use this monitor in Taiwan.

- 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.



Safety Precautions, Maintenance & Recommended Use

FOR OPTIMUM PERFORMANCE, PLEASE NOTE THE FOLLOWING WHEN SETTING UP AND USING THE MULTI-FUNCTION 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.
- Do not mount this product face up, face down or upside down for an extended period of time as it may cause permanent damage to the screen.
- The power supply cord you use must have been approved by and comply with the safety standards of your country. (Type H05VV-F 3G 1mm² should be used in Europe)
- In UK, use a BS-approved power cord with molded plug having a black (13A) fuse installed for use with this monitor.
- Do not place any objects onto the monitor and do not use the monitor outdoors.
- Do not bend, crimp or otherwise damage the power cord.
- If glass is broken, handle with care.
- Do not cover vent on monitor.
- Do not use monitor in high temperature, humid, dusty, or oily areas.
- If monitor or glass is broken, do not come in contact with the liquid crystal and handle with care.
- 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.
- Please clean the holes of back cabinet to reject dirt and dust at least once a year because of set reliability.
- Do not use monitor under rapid temperature and humidity change condition or avoid cold air from air-conditioning outlet directly, as it may shorten the lifetime of the monitor or cause condensation. If condensation happens, let the monitor stand unplugged until there is no condensation.
- The touch panel glass is not safety glass and is not laminated. As with other glass, the touch panel glass may break into sharp pieces if misused, dropped, or otherwise subjected to a substantial shock. If touch panel glass happens to break, please use care to avoid injury.
- DO NOT tap the monitor with hard or pointed object, such as a pen, or pencil.

Connecting to a TV*

- Cable distribution system should be grounded (earthed) in accordance with ANSI/NFPA 70, the National Electrical Code (NEC), in particular Section 820.93, Grounding of Outer Conductive Shield of a Coaxial Cable.
- The screen of the coaxial cable is intended to be connected to earth in the building installation.

Immediately unplug your monitor from the wall outlet and refer servicing to qualified service personnel under the following conditions:

- When the power supply cord or plug is damaged.
- If liquid has been 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 damaged.
- If you notice any structural damage such as cracks or unnatural wobbling.
- If the monitor does not operate normally by following operating instructions.

Recommended Use

- For optimum performance, allow 20 minutes for warm-up.
- Rest your eyes periodically by focusing on an object at least 5 feet away. Blink often.
- Position the monitor at a 90° angle to windows and other light sources to minimize glare and reflections.
- Clean the LCD monitor surface with a lint-free, non-abrasive cloth. Avoid using any cleaning solution or glass cleaner!
- Adjust the monitor's brightness, contrast and sharpness controls to enhance readability.
- Avoid displaying fixed patterns on the monitor for long periods of time to avoid image persistence (after image effects).
- Get regular eye checkups.

Ergonomics

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

- 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 liquid crystal panel is dusty, please gently wipe with a soft cloth.
- Please do not rub the LCD panel with hard material.
- Please do not apply pressure to the LCD surface.
- Please do not use OA cleaner as it will cause deterioration or discolor on the LCD 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.

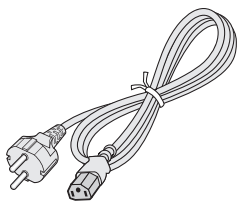
NOTE: DO NOT clean with benzene thinner, alkaline detergent, alcoholic system detergent, glass cleaner, wax, polish cleaner, soap powder, or insecticide. Rubber or vinyl should not be in contact with the cabinet for an extended period of time. These types of fluids and materials can cause the paint to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

* The product you purchased may not have this feature.

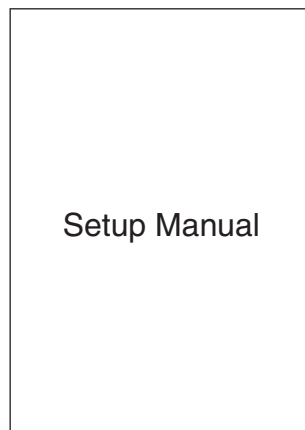
Contents

Your new monitor box* should contain the following:

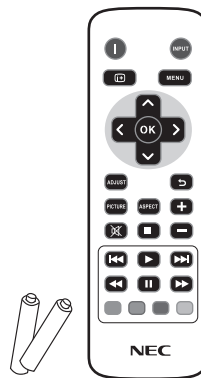
- LCD monitor
- Power cord*¹
- Stylus pen*² x 4
- Wireless Remote Control and AAA Batteries x 2
- Setup Manual



Power Cord*¹



Setup Manual



Wireless Remote Control
and AAA Batteries x 2



Stylus pen*² x 4

- * Remember to save your original box and packing material to transport or ship the monitor.
- *¹ Type and number of power cords included will depend on the where the LCD monitor is to be shipped. When more than one power cord is included, please use a power cord that matches the AC voltage of the power outlet and has been approved by and complies with the safety standard of your particular country.
- *² Do not use the stylus pen other than for operating the touch panel. Do not press strongly on the pen tip of the stylus pen. If any foreign matter has adhered to the pen tip, clear it away.

Installation

This device cannot be used or installed without the Tabletop Stand or other mounting accessory for support. For proper installation it is strongly recommended to use a trained, NEC authorized service person. Failure to follow NEC standard mounting procedures could result in damage to the equipment or injury to the user or installer. Product warranty does not cover damage caused by improper installation. Failure to follow these recommendations could result in voiding the warranty.

Mounting

DO NOT mount the monitor yourself. Please ask dealer. For proper installation it is strongly recommended to use a trained, qualified technician. Please inspect the location where the unit is to be mounted. Mounting on wall or ceiling is the customer's responsibility. Not all walls or ceilings are capable of supporting the weight of the unit. Product warranty does not cover damage caused by improper installation, remodelling, or natural disasters. Failure to comply with these recommendations could result in voiding the warranty.

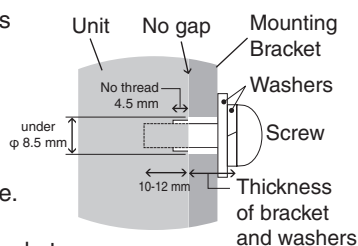
DO NOT block ventilated openings with mounting accessories or other accessories.

For NEC Qualified Personnel:

To ensure safe installation, use two or more brackets to mount the unit. Mount the unit to at least two points on the installation location.

Please note the following when mounting on wall or ceiling

- When using mounting accessories other than those that are NEC approved, they must comply with the VESA-compatible (FDMLv1) mounting method.
- NEC recommends mounting interfaces that comply with UL1678 standard in North America.
- NEC strongly recommends using size M6 screws (10-12 mm + thickness of bracket and washers in length). If using screws longer than 10-12 mm, check the depth of the hole. (Recommended Fasten Force: 470 - 635N•cm). Bracket hole should be under ϕ 8.5 mm.
- Prior to mounting, inspect the installation location to insure that it is strong enough to support the weight of the unit so that the unit will be safe from harm.
- Refer to the instructions included with the mounting equipment for detailed information.
- Make sure there is no gap between the monitor and the bracket.
- When used in a video wall configuration for a longer time, slight expansion of the displays may happen due to temperature changes. Due to this it is recommended that over one millimeter gap is kept between adjacent display edges.



Mounting location

- The ceiling and wall must be strong enough to support the monitor and mounting accessories.
- DO NOT install in locations where a door or gate can hit the unit.
- DO NOT install in areas where the unit will be subjected to strong vibrations and dust.
- DO NOT install near where the main power supply enters the building.
- Do not install in where people can easily grab and hang onto the unit or the mounting apparatus.
- Allow adequate ventilation or provide air conditioning around the monitor, so that heat can properly dissipate away from the unit and mounting apparatus.

Mounting on ceiling

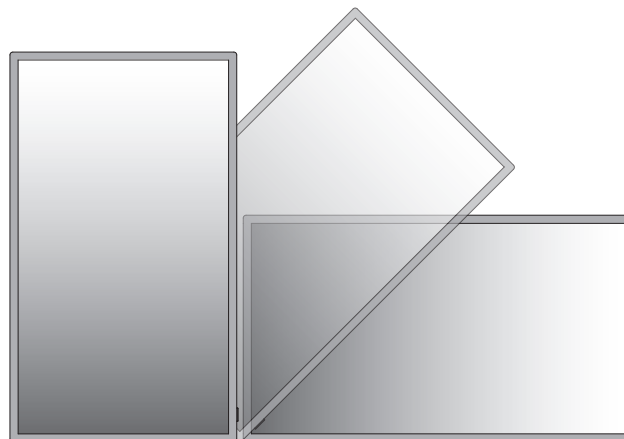
- Ensure that the ceiling is sturdy enough to support the weight of the unit and the mounting apparatus over time, against earthquakes, unexpected vibrations, and other external forces.
- Be sure the unit is mounted to a solid structure within the ceiling, such as a support beam. Secure the monitor using bolts, spring lock washers, washer and nut.
- DO NOT mount to areas that have no supporting internal structure. DO NOT use wood screws or anchor screws for mounting. DO NOT mount the unit to trim or to hanging fixtures.

Maintenance

- Periodically check for loose screws, gaps, distortions, or other problems that may occur with the mounting apparatus. If a problem is detected, please refer to qualified personnel for service.
- Regularly check the mounting location for signs of damage or weakness that may occur over time.

Orientation

- When using the display in the portrait position, the monitor should be rotated counterclockwise so that the right side is moved to the top. This will allow for proper ventilation and will extend the lifetime of the monitor. Improper ventilation may shorten the lifetime of the monitor.

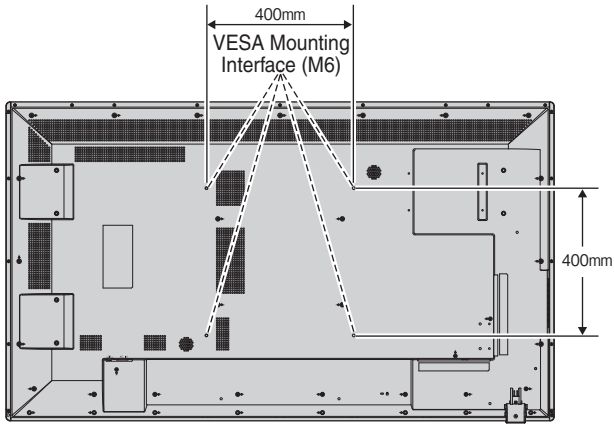


Attaching Mounting Accessories

The monitor is designed for use with the VESA mounting system.

1. Attach Mounting Accessories

Be careful to avoid tipping monitor when attaching accessories.



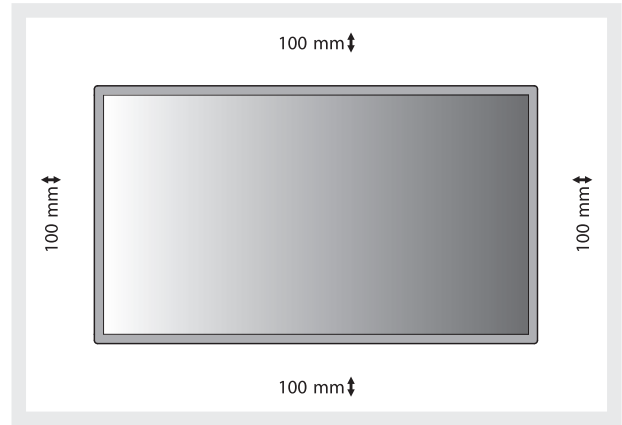
Mounting accessories can be attached with the monitor in the face down position. To avoid damaging the screen face, place the protective sheet on the table underneath the LCD. The protective sheet was wrapped around the LCD in the original packaging. Make sure there is nothing on the table that can damage the monitor.

When using mounting accessories other than NEC compliant and approved, they must comply with the VESA-compatible mounting method.

- NOTE:**
- Do not leave the monitor in the face-up or face-down position for more than one hour as this may result in a negative effect on the screen's performance.
 - Prior to installation, be sure to place the monitor on a flat area with adequate space.

2. Ventilation Requirements

When mounting in an enclosed space or recessed area, leave adequate room between the monitor and the enclosure to allow heat to disperse, as shown below.

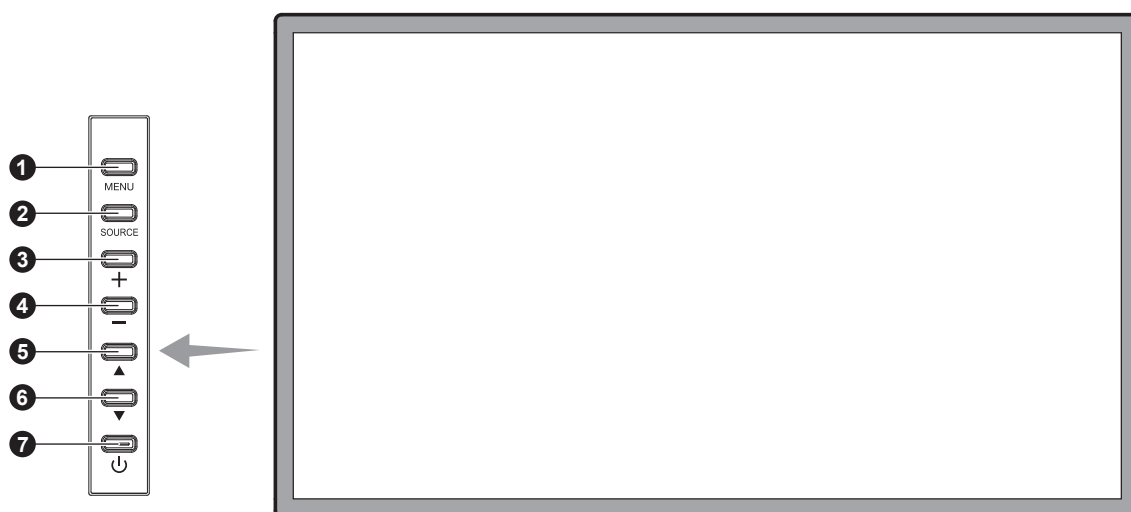


Allow adequate ventilation or provide air conditioning around the monitor, so that heat can properly dissipate away from the unit and mounting apparatus; especially when you use monitors in multiple screen.

- NOTE:** The sound quality of the internal speakers will differ according to the acoustics of the room.

Parts Name and Functions

Control Panel



1 MENU button (MENU)

Turns on/off the OSD menu.

2 SOURCE button (SOURCE)

Acts as INPUT button within OSD menu. (Toggle switches between [HDMI1], [HDMI2], [HDMI3], [VGA], [USB]). These are available input only, shown as their factory preset name.

3 PLUS button (+)

Acts as RIGHT button to increase the adjustment with OSD menu. Increases the audio output level when the OSD menu is turned off.

4 MINUS button (-)

Acts as LEFT button to decrease the adjustment with OSD menu. Decreases the audio output level when the OSD menu is turned off.

5 UP button (▲)

Acts as UP button to move the highlighted area up to select adjustment items within OSD menu.

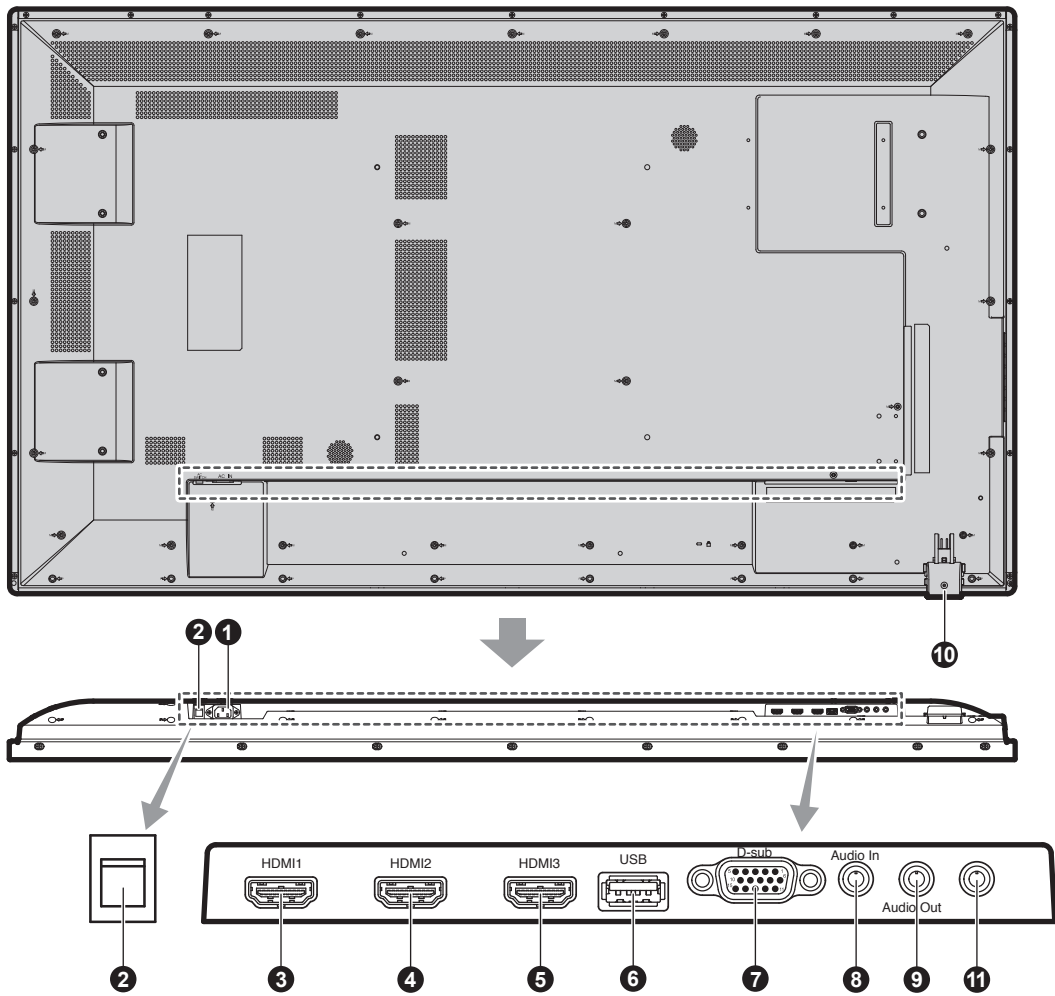
6 DOWN button (▼)

Acts as DOWN button to move the highlighted area down to select adjustment items within OSD menu.

7 POWER button (⏻)

Switches the power on/off. See also page 15.

Terminal Panel



1 AC IN connector

Connects with the supplied power cord.

2 Main Power Switch

On/Off switch to turn main power ON/OFF.

3 4 5 HDMI IN

To input digital HDMI signals.

6 USB port

USB port for a portable medium (including a USB memory).
For supported media, see "Appendix - Supported Media".
(See page 25.)

7 VGA IN (mini D-Sub 15 pin)

To input analog RGB signals from a personal computer or from other RGB equipment.

To input analog RGB signals from a personal computer or from other RGB equipment. This input can be used with an RGB or COMPONENT source.

NOTE: When you use this connector for COMPONENT, please use a suitable signal cable. If you have any questions, please ask your dealer.

8 AUDIO IN

To input audio signal from external equipment such as a computer or DVD player.

9 AUDIO OUT

To output the audio signal from the AUDIO IN, HDMI to an external device (stereo receiver, amplifier, etc.).

10 Remote control sensor and Power Indicator

Receives the signal from the remote control (when using the wireless remote control). See also page 10.

Glows green when the LCD monitor is in active mode.

Glows red when the LCD is in POWER OFF mode.

Glows amber when the monitor is in Power Save Mode.

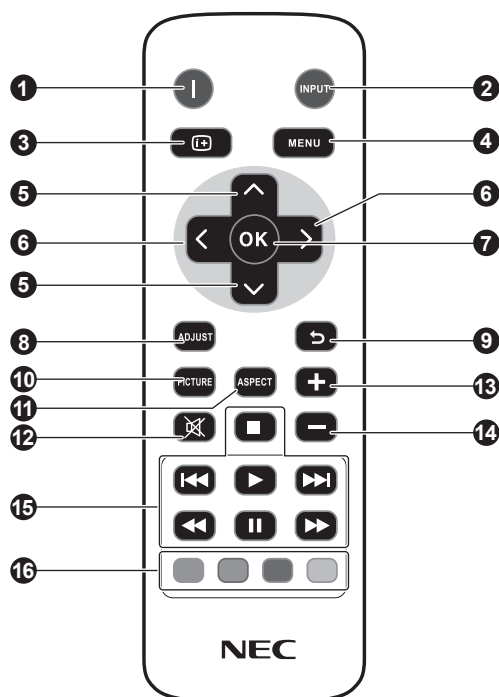
Green and Amber blink alternately while in Power Standby mode with the "Scheduler" function enabled.

When a component failure is detected within the monitor, the indicator will blink red.

11 Service port

This port is for future software upgrades.

Wireless Remote Control



1 POWER button

Switches the power on/standby.

2 INPUT button

Selects input signal.
HDMI: HDMI, HDMI2, HDMI3
VGA: VGA
USB: USB

3 INFO button

Turns on/off the information OSD. See page 16.

4 MENU button

Turns on/off the OSD menu.

5 UP/DOWN button

Acts as ▲ ▼ button to move the highlighted area up or down to select adjustment items within OSD menu.

6 LEFT/RIGHT button

Increases or decreases the adjustment level within OSD menu settings.

7 OK button

Makes selection.

8 ADJUST button

Automatically adjusts VGA input signals.

9 BACK button

Returns to previous menu within OSD menu.

10 PICTURE button

Selects picture mode, [Dynamic], [Standard], [Cinema], [Custom].

Dynamic: for moving images such as DVD.

Standard: for images.

Cinema: for Cinema.

Custom: activate auto dimming function.

11 ASPECT button

Selects picture aspect, [4:3], [16:9], [Zoom], [Cinema], [Dot by Dot]. See page 16.

12 MUTE button

Turns on/off mute function.

13 14 VOLUME UP/DOWN button

Increases or decreases audio output level.

15 AUDIO/VIDEO CONTROL buttons

Provide control functions when a media file is being played. Fast backward (◀◀), play (▶), fast forward (▶▶), previous (◀◀), stop (■), pause (||), next (▶▶).

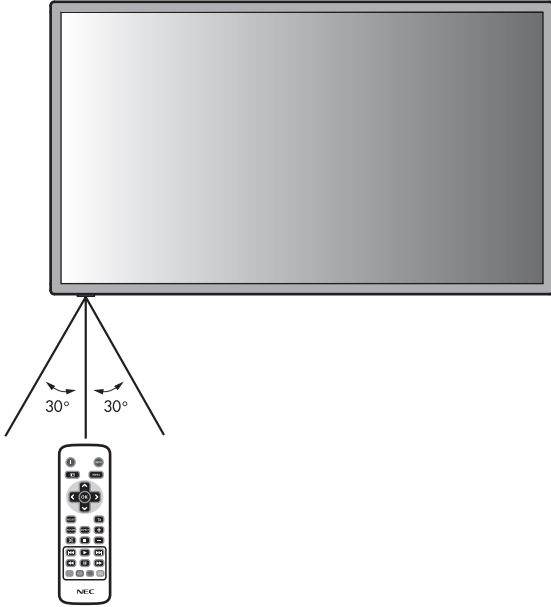
16 MEDIA CONTROL buttons

Display control functions for a specific menu. The function of each button is displayed in the color of the button on the OSD.

Operating Range for the Remote Control

Points the top of the remote control toward the LCD monitor's remote sensor during button operation.

Uses the remote control within a distance of about 7 m (23 ft.) from remote control sensor or at a horizontal and vertical angle of within 30° within a distance of about 3.5 m (10 ft.).



Caution: Important, the remote control system may not function when direct sunlight or strong illumination strikes the remote control sensor or when there is an object in the path.

Handling the remote control

- Do not subject to strong shock.
- Do not allow water or other liquid to splash the remote control. If the remote control gets wet, wipe it dry immediately.
- Avoid exposure to heat and steam.
- Other than to install the batteries, do not open the remote control.

1. Determine the installation location

CAUTION: Installing your LCD monitor must be done by a qualified technician. Contact your dealer for more information.

CAUTION: MOVING OR INSTALLING THE LCD MONITOR MUST BE DONE BY TWO OR MORE PEOPLE. Failure to follow this caution may result in injury if the LCD monitor falls.

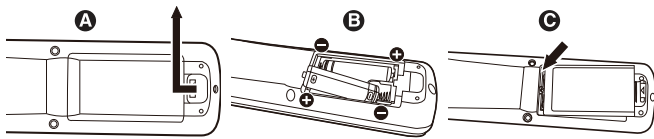
CAUTION: Do not mount or operate the monitor upside down, face up or face down.

CAUTION: If the LCD becomes overheated, a "Caution" warning will appear. If the "Caution" warning appears, discontinue use, and turn off the power to the LCD.

IMPORTANT: Lay the protective sheet, which was wrapped around the LCD monitor when it was packaged, beneath the LCD monitor so as not to scratch the panel.

2. Install the remote control batteries

The remote control is powered by two 1.5V AAA batteries. To install or replace batteries:



- A. Press and slide to open the cover.
- B. Align the batteries according to the (+) and (-) indications inside the case.
- C. Replace the cover.

CAUTION: Incorrect usage of batteries can result in leaks or bursting.

NEC recommends the following battery use:

- Place "AAA" size batteries matching the (+) and (-) signs on each battery to the (+) and (-) signs of the battery compartment.
- Do not mix battery brands.
- Do not combine new and old batteries. This can shorten battery life or cause liquid leakage of batteries.
- Remove dead batteries immediately to prevent battery acid from leaking into the battery compartment.
- Do not touch exposed battery acid, it may injure skin.

NOTE: If you do not intend to use the Remote Control for a long period of time, remove the batteries.

3. Connect external equipment (See pages 13 and 14)

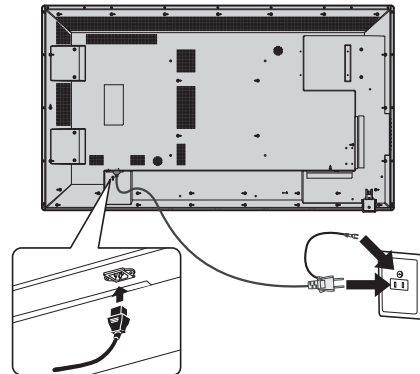
- To protect the external equipment; turn off the main power before making connections.
- Refer to your equipment user manual for further information.

NOTE: Do not connect/disconnect cables when turning on the monitor or other external equipment as this may result in a loss of the monitor image.

4. Connect the supplied power cord

- The equipment should be installed close to an easily accessible power outlet.
- Fully insert the prongs into the power outlet socket. A loose connection may cause image degradation.

NOTE: Please refer to the "Safety Precautions and Maintenance" section of this manual for proper selection of AC power cord.



5. Switch on the power of all the attached external equipment

When connected with a computer, switch on the power of the computer first.

6. Operate the attached external equipment

Display the signal from the desired input source.

7. Adjust the sound

Make volume adjustments when required.

8. Adjust the screen (See page 17)

Make adjustments of the screen display position when necessary.

9. Adjust the image (See page 17)

Make adjustments such as backlight or contrast when required.

10. Recommended Adjustments (See page 17)

To reduce the risk of the "Image Persistence", please adjust the following items based on the application being used: "Anti-Image Retention", "Clock", "Scheduler".

NOTE: You can set OSD Rotation, Menu Language, Time Format, Clock, Remote Operation, Keypad Operation, and Anti-Image Retention in "Initial setting" (OSD Menu). (See page 19.)

Connections

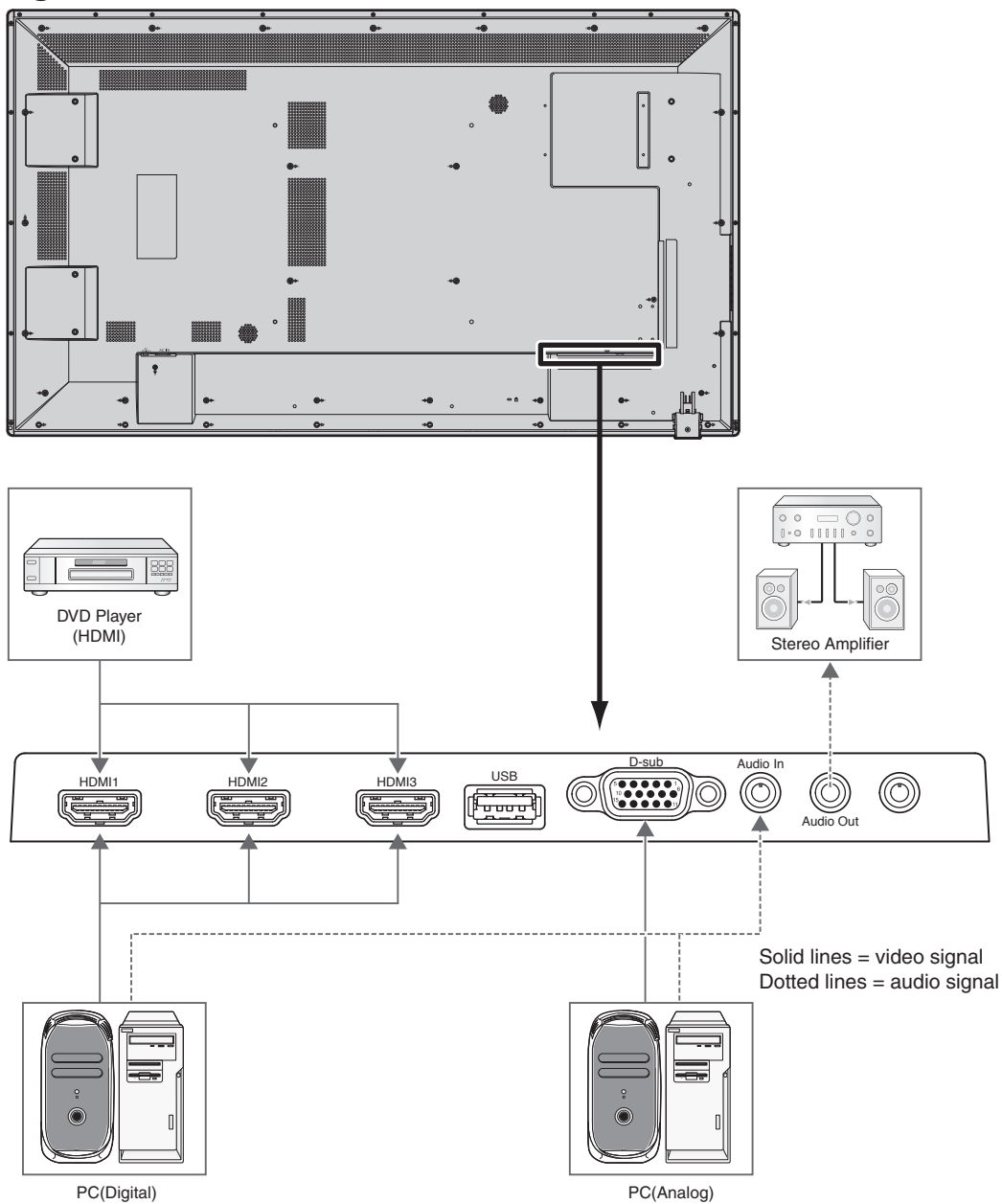
NOTE: Do not connect/disconnect cables when turning on the monitor or other external equipment as this may result in a loss of the monitor image.

NOTE: Use an audio cable without a built-in resistor. Using an audio cable with a built-in resistor turns down the sound.

Before making connections:

- * First turn off the power of all the attached equipment and make connections.
- * Refer to the user manual included with each separate piece of equipment.

Wiring Diagram



Connected equipment	Connecting terminal	Input signal name	Connecting audio terminal	Input button in remote control
AV	HDMI	HDMI	HDMI	HDMI
PC	VGA (D-SUB)	VGA	LINE IN	VGA
	HDMI	HDMI	HDMI	HDMI

Connecting a Personal Computer

Connecting your computer to your LCD monitor will enable you to display your computer's screen image. Some display cards with a pixel clock over 162MHz may not display an image correctly. Your LCD monitor displays proper image by adjusting the factory preset timing signal automatically.

<Typical factory preset signal timing>

Resolution	Scanning frequency		Remarks
	Horizontal	Vertical	
640 x 480	31.5 kHz	60 Hz	
800 x 600	37.9 kHz	60 Hz	
1024 x 768	48.4 kHz	60 Hz	
1280 x 768	48 kHz	60 Hz	
1360 x 768	48 kHz	60 Hz	
1280 x 1024	64 kHz	60 Hz	
1600 x 1200	75 kHz	60 Hz	Compressed image
1920 x 1080	67.5 kHz	60 Hz	Recommended resolution

- If you use with a Macintosh device, set "Mirroring" to Off on your device. Refer to your Macintosh's owner's manual for more information about your computer's video output requirements and any special identification or configuration your monitor's image and monitor may require.

Connecting a DVD Player or Computer with HDMI out

- For audio input, select [Line In/HDMI1], [Line In/HDMI2], or [Line In/HDMI3] for Audio Source in the Sound menu (OSD Menu).
- Please use an HDMI cable with HDMI logo.
- It may take a moment for the signal to appear.
- Some display cards or drivers may not display an image correctly.
- The image may not be displayed in full screen with a resolution of 1920 x 1080 and may be reduced. In this case, check the setting of the video card on the PC.

For using Touch Panel

- Turn off the monitor.
- Install the equipment.*1
 - Connect the A type connector to the downstream port on the external computer (Figure 1).
- Turn on the monitor.

*1: Please contact your NEC customer support for more detailed information.

Monitor Setting

Select the input signal.

- Select the input signal which is supplied by the PC connected to USB connector.

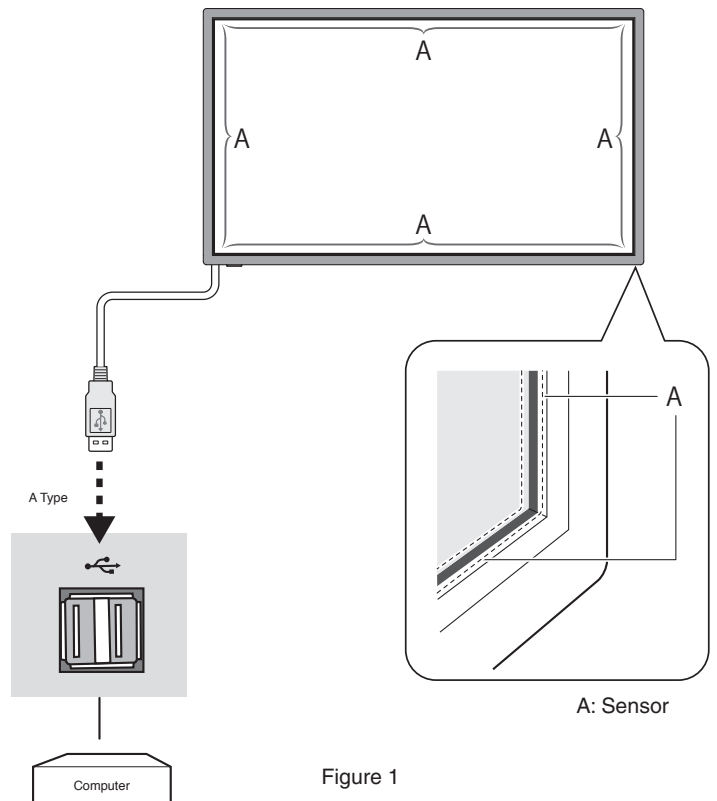


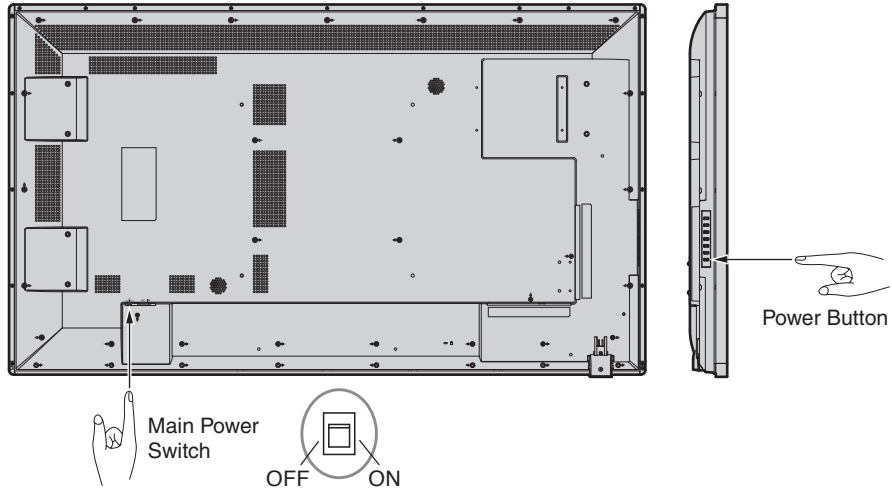
Figure 1

Basic Operation

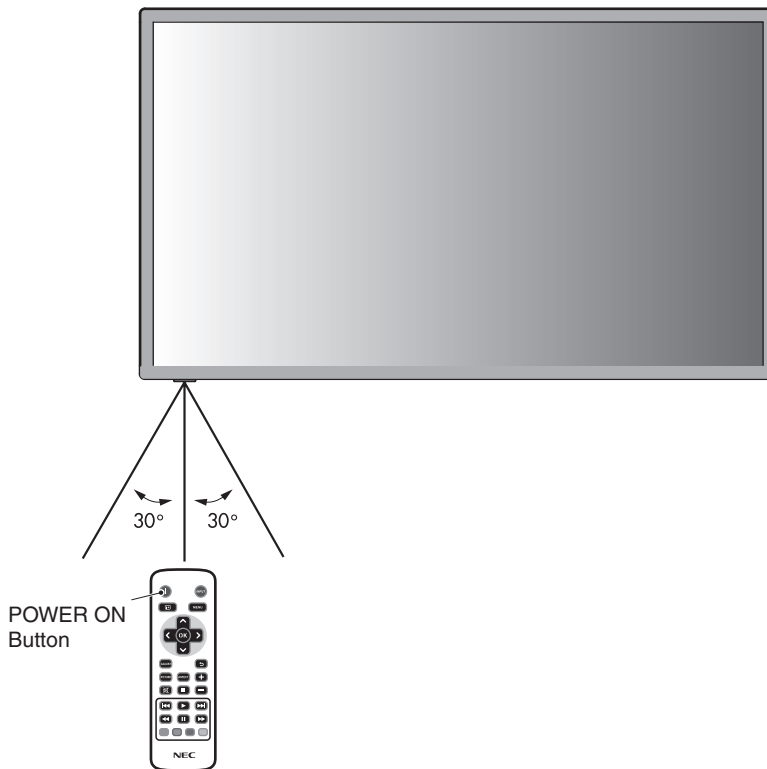
Power ON and OFF Modes

The LCD monitor power indicator will turn green while powered on and will turn red or amber while powered off.

NOTE: The Main Power Switch must be in the ON position in order to power up the monitor using the remote control or the Power Button.



Using the remote control



Power Indicator

Mode	Status Indicator Light
Power ON	Green*1
Power OFF and Power Save "AUTO STANDBY" Power consumption under 0.5 W*1*2	Red
Power Save "Power Save" Power consumption under 0.5 W*1*2	Amber
Power Standby when "Scheduler" enabled	Green and Amber blink alternately
Diagnosis (Detecting failure)	Red Blinking (See Troubleshooting page 22)
*1 Without any option, with factory settings. *2 VGA input only.	

Using Power Management

The LCD monitor follows the VESA approved DPM Display Power Management function.

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

The power management feature on your new display has been set to the "Power Save" mode. This allows your display to enter a Power Saving Mode when no signal is applied. This could potentially increase the life and decrease the power consumption of the display.

NOTE: Depending on the computer and display card used, this function may not operate.

NOTE: The monitor automatically goes into OFF at the preset time period after signal is lost.

Picture Aspect


You can set the aspect ratio of the screen by selecting an item for Aspect Ratio (OSD Menu) or by using the ASPECT button on the remote control. Select [4:3], [16:9], [Zoom], [Cinema], or [Dot by Dot]. When Over Scan is set to Off, you can select [4:3], [16:9], or [Dot by Dot].

Aspect Ratio Menu		
Input Source	Over Scan	Aspect Ratio
HDMI1/HDMI2/HDMI3 PC	Off	4:3, 16:9, Dot by Dot
	Auto	4:3, 16:9, Zoom, Cinema, Dot by Dot
Media video	Off	4:3, 16:9, Dot by Dot
	Auto	4:3, 16:9, Zoom, Dot by Dot

Information OSD

The Information OSD provides information such as: Input Source, Picture Size, etc. Press the INFO button on the remote to bring up the Information OSD.

Picture Mode

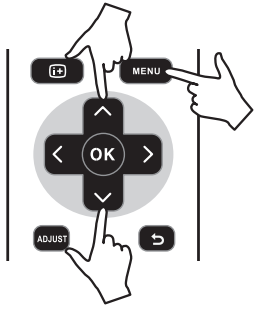
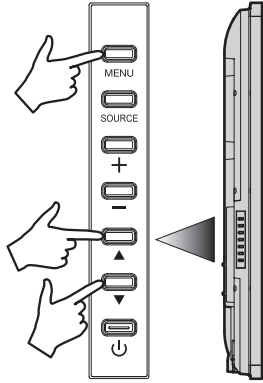
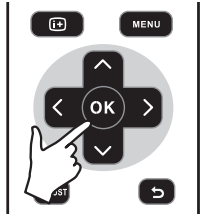
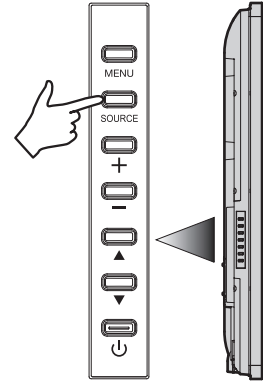
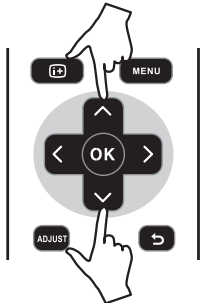
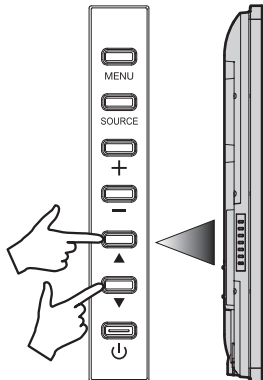
Standard → Dynamic → Cinema → Custom


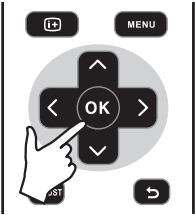
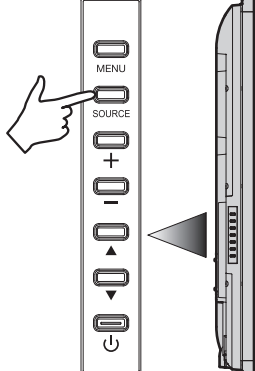
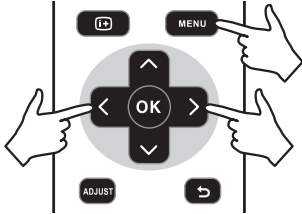
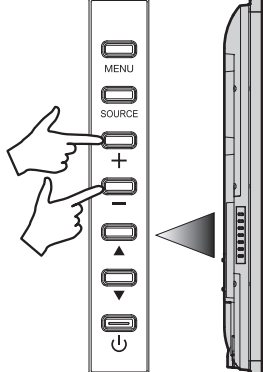
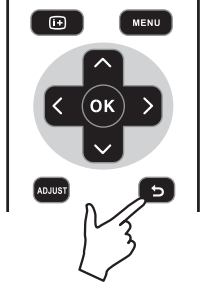
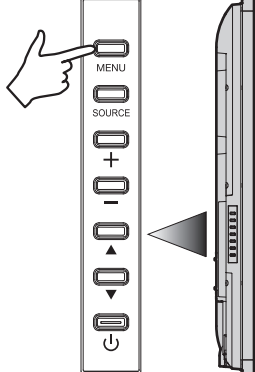
OSD (On-Screen-Display) Controls

For this monitor, an OSD (on-screen display) function is used to allow you to easily adjust settings. You can use the OSD function to control the menu displayed on the screen and adjust the brightness and other settings.

Basic Operations on the OSD Screen

Make sure that the power indicator lights in green and the power to the monitor is on.

Step	Wireless Remote Control	Keypad Operation
1	 <p data-bbox="231 857 794 931">Press the [MENU] button to display the OSD screen. Press the up (▲)/down (▼) button to select an item in the main menu.</p>	
2	 <p data-bbox="231 1341 769 1415">Press the [OK] button to determine the selected item in the main menu. The top item in the relevant sub menu is selected.</p>	 <p data-bbox="869 1341 1433 1415">Press the [SOURCE] button to determine the selected item in the main menu. The top item in the relevant sub menu is selected.</p>
3	 <p data-bbox="231 1825 785 1877">Press the up (▲)/down (▼) button to select an item in the sub menu.</p>	

Step	Wireless Remote Control	Keypad Operation
4	 <p data-bbox="236 560 794 607">Press the [OK] button to determine the selected item in the sub menu.</p>	 <p data-bbox="874 560 1433 607">Press the [SOURCE] button to determine the selected item in the sub menu.</p>
5	 <p data-bbox="236 1019 770 1066">Press the left (◀)/right (▶) button to select a setting and press the [OK] button to determine the setting.</p>	 <p data-bbox="874 1019 1409 1066">Press the plus (+)/minus (-) button to select a setting and press the [MENU] button to determine the setting.</p>
6	 <p data-bbox="236 1473 786 1520">Press the [BACK] button to exit from the current menu and return to the previous menu.</p>	 <p data-bbox="874 1473 1393 1520">Press the [MENU] button to exit from the current menu.</p>

PICTURE	
Picture Mode	Select [Dynamic], [Cinema], [Custom], or [Standard].
	Adjust Contrast, Brightness, Sharpness, Tint, and Color.
Backlight	Adjust the Backlight setting.
Color Temperature	Adjust Color Temperature and Gain.
Gamma	Select a Gamma setting.
Noise Reduction	Adjust Noise Reduction.
Adaptive Contrast	Select On or Off for Adaptive Contrast.
Over Scan	Adjust Over Scan.
Aspect Ratio	Adjust Aspect Ratio. • Select [4:3], [16:9], [Zoom], [Cinema], or [Dot by Dot]. When Over Scan is set to Off, you can select [4:3], [16:9], or [Dot by Dot].
Color Range	Adjust Color Range or set Automatic.
VGA setting	Adjust H Position, V Position, Clock, and Phase.
Reset Picture Setting	Resets the settings in the Picture menu back to their factory settings.
Sound	
Sound Mode	Select [Standard], [Dynamic], or [Custom].
	Adjust Treble, Bass, and Balance.
Surround Sound	Select On or Off for Surround Sound.
Speaker	Select [Internal] or [External].
Audio Source	Select [Line In/HDMI1], [Line In/HDMI2], [Line In/HDMI3], or [Line].
Reset Sound Setting	Resets the settings in the Sound menu back to their factory settings.
Setup	
Scheduler	<ul style="list-style-type: none"> Change the schedule setting. The schedule function allows the display to be set to power on and off at different times. Up to seven different schedules can be programmed. If schedules are overlapping then the schedule with the highest number will have priority over the schedule with the lowest number. For example schedule #7 will have priority over schedule #1.
Signal Check Priority	<ul style="list-style-type: none"> Set [Priority1] to [Priority5] ([Priority1]: highest priority) as the priority of each signal. When the current source signal is lost, the display attempts to find a new signal source according to the Signal Check Priority setting. When [Signal Check Priority] is enabled, the display attempts to find a valid signal source according to the Signal Check Priority setting at power on. When the signal source for which [Priority 1] is set is not found, the display checks other sources in order of priority and switches to the available source with the highest priority. When the signal source with the highest priority recovers, the display automatically switches to the source again. When [Signal Check Priority] is disabled, the display uses the last used source at power on. When [Signal Check Priority] is enabled and the signal source is USB, the USB data is automatically played at power on.
CEC Control	Select On or Off for CEC Control.
Sleep Timer	Change the Sleep Timer setting or set Sleep Timer to Off.
Power Save	Change the Power Save setting or set Power Save Mode to Off.
Software Update (USB)	Updates software via the USB port.
Reset Default	Resets the settings in the Setup menu back to their factory settings.
Initial Setting	
OSD Rotation	Select [Landscape] or [Portrait] as the orientation of the OSD.
Menu Language	Change the language used for OSD Menu.
Time Format	Select [12 Hour] or [24 Hour].
Clock	Set the time and date.
Remote Operation	Enable or disable Remote Operation.
Keypad Operation	Enable or disable Keypad Operation.
Anti-Image Retention	Select [Picture shift] or [White pixel], or set Anti-Image Retention to Off.

System Information

Model Name	Displays the model name of the display.
SW Version	Displays the version of the current software of the display.

NOTE: IMAGE PERSISTENCE

Please be aware that LCD Technology may experience a phenomenon known as 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 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.

As with all personal display devices, NEC DISPLAY SOLUTIONS recommends displaying moving images and using a moving “Anti-Image Retention” at regular intervals whenever the screen is idle or turning off the monitor when not in use.

Please set “Anti-Image Retention”, “Clock” and “Scheduler” functions to further reduce the risk of Image persistence.

For long life use as Public Display

Image Sticking of LCD Panel

When an LCD panel is operated continuously for long hours, a trace of electric charge remains near the electrode inside LCD, and residual or “ghost” image of previous image may be observed. (Image Persistence)

Image Persistence is not permanent, but when fixed image is displayed for long period, ionic impurities inside LCD are accumulated along the displayed image, and may be permanent. (Image Sticking)

Recommendations

To prevent Image Sticking, and for longer life usage of LCD, the following are recommended.

1. Fixed image should not be displayed for long period. Change fixed images after short intervals.
2. When not in use, please turn off the monitor by remote control, or use Power Management or use Schedule Functions.
3. Lower environmental temperatures prolong the lifespan of the monitor.
When Protective surface (glass, acrylic) is installed over the LCD surface, the LCD surface is located in an enclosed space, the monitor are stacked, utilize the temperature sensors inside monitor.
To reduce the environmental temperature, use the “Anti-Image Retention” and Low Brightness.
4. Please use “Anti-Image Retention Mode” of monitor.

Features

Reduced Footprint: Provides the ideal solution for environments with superior image quality.

Color Control Systems: Allow you to adjust the colors on your screen and customize the color accuracy of your monitor to a variety of standards.

OmniColor: Combines Six-axis color control and the sRGB standard. Six-axis color control permits color adjustments via six axes (R, G, B, C, M and Y) rather than through the three axes (R, G and B) previously available. The sRGB standard provides the monitor with a uniform color profile. This assures that the colors displayed on the monitor are exactly the same as on the color printout (with sRGB supporting operating system and sRGB printer). This allows you to adjust the colors on your screen and customize the color accuracy of your monitor to a variety of standards.

sRGB Color Control: A new optimized color management standard which allows for color matching on computer displays and other peripherals. The sRGB standard, which is based on a calibrated color space, allows for optimal color representation and backward compatibility with other common color standards.

OSD (On-Screen-Display) Controls: Allow you to quickly and easily adjust all elements of your screen image via simple to use on-screen menus.

Plug and Play: The Microsoft® solution with the Windows® operating system facilitates setup and installation by allowing the monitor to send its capabilities (such as screen size and resolutions supported) directly to your computer, automatically optimizing display performance.

IPM (Intelligent Power Manager) System: Provides innovative power-saving methods that allow the monitor to shift to a lower power consumption level when on but not in use, saving two-thirds of your monitor energy costs, reducing emissions and lowering the air conditioning costs of the workplace.

FullScan Capability: Allows you to use the entire screen area in most resolutions, significantly expanding image size.

VESA Standard (FDMLv1) Mounting Interface: Allows you to connect your LCD monitor to any VESA standard (FDMLv1) third party mounting arm or bracket. NEC recommends using mounting interface that comply with TÜV-GS and/or UL1678 standard in North America.

ZOOM: Expands/reduces image size for horizontal and vertical direction.

Self-diagnosis: If an internal error should occur, a failure state will be indicated.

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 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).

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 Switch and computer power switch should be in the ON position.
- Check to make sure that a supported mode has been selected on the display card or system being used. (Please consult display card or system manual to change graphics mode.)
- Check the monitor and your display card with respect to compatibility and recommended settings.
- Check the signal cable connector for bent or pushed-in pins.
- The monitor automatically goes into OFF at the preset time period after signal is lost. Press the power button.

Power Button 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 on the back side of the monitor.

Image persistence

- Please be aware that LCD Technology may experience a phenomenon known as 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 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 displaying moving images and using a moving “Anti-Image Retention” at regular intervals whenever the screen is idle or turning off the monitor when not in use.

Image is unstable, unfocused or swimming is apparent

- Signal cable should be completely attached to the computer.
- Use the OSD Image Adjust controls to focus and adjust display by increasing or decreasing the fine adjustment. When the display mode is changed, the OSD Image Adjust settings may need to be re-adjusted.
- Check the monitor and your display card with respect to compatibility and recommended signal timings.
- If your text is garbled, change the video mode to non-interlace and use 60Hz refresh rate.
- The image may be distorted when turning the power on or changing the settings.

LED on monitor is not lit (no green or red color can be seen)

- 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.
- Make certain the computer is not in a power-saving mode (touch the keyboard or mouse).
- Check to see that the power indicator option in the OSD is set to ON.

RED LED on monitor is blinking

- A certain failure might have occurred, please contact your nearest authorized NEC DISPLAY SOLUTIONS service facility.
- Monitor is powered off by the inside temperature being higher than the normal operating temperature. Power on the display again after confirming the inside temperature has been reduced to normal operation temperature.

Display image is not sized properly

- Use the OSD Image Adjust controls to increase or decrease the coarse adjustment.
- Check to make sure that a supported mode has been selected on the display card or system being used. (Please consult display card or system manual to change graphics mode.)

Selected resolution is not displayed properly

- Use OSD Display Mode to enter Information menu and confirm that the appropriate resolution has been selected. If not, select corresponding option.

No Sound

- Check to see if audio cable is properly connected.
- Check to see if mute is activated.
- Check to see if volume is set at minimum.
- Check to see if computer supports an audio signal. If unsure, contact the computer manufacturer.
- Check to see if SURROUND is ON.
- Check Internal/External speaker switch.

Remote Control is not available

- Check the Remote Control’s batteries status.
- Check if batteries are inserted correctly.
- Check if the Remote Control is pointing at the monitor’s remote sensor.
- Check the Remote Operation SETTING status.
- The remote control system may not function when direct sunlight or strong illumination strikes the remote control sensor of the LCD monitor, or when there is an object in the path.

“Scheduler”/“Sleep Timer” function is not working properly

- The “Scheduler” function will be disabled when the “Sleep Timer” is set.
- If the “Sleep Timer” function is enabled and the power to the LCD monitor is turned off when the power supply is interrupted unexpectedly, then the “Sleep Timer” will be reset.

Snowy Picture, Poor Sound in TV

- Check antenna/cable connection. Use new cable if necessary.

Interference in TV

- Check components for shielding, move away from monitor if necessary.

The touch panel does not respond

- Check the input signal setting.
- Make sure the USB cable is connected properly. Disconnect the USB cable, then connect it.
- When using touch function at the display edge, there may be a slight gap between touch position on the screen and where you touched. It is the specification and not a failure of product.

Either light vertical or horizontal stripes may appear, depending on the specific display pattern. This is no product fault or degradation.

The response of the touch screen is not correct

- Avoid direct sunlight or strong light on the screen.
- If there are some obstacles near the TOUCH screen, it may malfunction.
- Sensor bar module may be dusty or dirty (see page 14, Figure 1), wipe gently with a soft cloth.

The computer's power management does not work

- It is recommended to choose "S3" at the "Power Management" item in the BIOS (abbreviation of Basic Input / Output System) computer's setup screen.

Specifications - E651-T

Product Specifications

LCD Module		Pixel Pitch: 0.744 mm Resolution: 1920 x 1080 Color: Over 1073 million colors Brightness: 400 cd/m ² (with cover glass) Contrast Ratio: 4000:1 Viewing Angle: Left/Right: 170° (typ) @ CR>10, Up/Down: 170° (typ) @ CR>10	65" / 1639.0 mm diagonal
Frequency		Horizontal: 15.625 kHz - 67.5 kHz (Analog Input) 31.5 kHz - 67.5 kHz (Digital Input) Vertical: 50.0 - 60.0 Hz	
Pixel Clock		13.5 - 148.5MHz (Analog) 25.0 - 148.5MHz (Digital)	
Viewable Size		1428.5 x 803.5 mm	
Input Signal			
VGA	15pin Mini D-sub	Analog RGB	0.7 Vp-p/75 ohm VGA60, SVGA60, XGA60, WXGA60, SXGA60, UXGA60, 1920X1080 (60Hz)
		Sync	Separate: TTL level (Pos./Neg.) Composite sync on Green Video: 0.3 Vp-p Neg.
HDMI	HDMI Connector	Digital YUV Digital RGB	HDMI VGA60, SVGA60, XGA60, WXGA60, SXGA60, UXGA60, 1920X1080(60Hz), 1125p(1080p), 1125i(1080i), 750p(720p)@50Hz/60Hz, 525p(480p)@60Hz, 625p(576p)@50Hz, 525i(480i)@60Hz, 625i(576i)@50Hz
AUDIO			
AUDIO Input	STEREO Mini Jack	Analog Audio	Stereo L/R 0.5 Vrms
	HDMI Connector	Digital Audio	PCM 32, 44.1, 48 KHz (16/20/24bit)
AUDIO Output	STEREO Mini Jack	Analog Audio	Stereo L/R 0.5 Vrms
Speaker Output		Internal Speaker 10W + 10W	
Power Supply		2.5 A @ 100-240V AC, 50/60Hz	
Operational Environment		Temperature*1: 0 - 40°C / 32 - 104°F Humidity: 20 - 80% (without condensation) Altitude: 0 - 2000 m (Brightness may decrease with altitude)	
Storage Environment		Temperature: -20 - 60°C / -4 - 140°F Humidity: 10 - 90% (without condensation) / 90% - 3.5% x (Temp - 40°C) regarding over 40°C	
Dimension		1489.5 (W) x 864.5 (H) x 86.7 (D) mm / 58.6 (W) x 34.0 (H) x 3.4 (D) inches	
Weight		42.2 kg (93.0 lbs)	
Detection method		IR scanning method	
Operating system		Windows8, Windows7	
Multi-touch		More than 10 touches (limited accuracy)	
PC connector		USB V2.0 Full Speed	
Protective glass		Material: Tempered glass Thickness: 4.0 mm Surface treatment: Anti-Glare coating Transparency: More than 89% Reflection rate: ≤ 2% Surface hardness: 6H Impact resistance*2: 100 cm	
VESA compatible mounting interface		400 mm x 400 mm (M6, 4 Holes)	
Power Management		VESA DPM	
Plug & Play		VESA DDC2B	
Accessories		Setup manual, Power Cord, Remote Control, AAA Battery x 2, Stylus pen x 4	

NOTE: Technical specifications are subject to change without notice.

*1: When you use option board accessories, please contact your supplier for detailed information.
*2: The distance of a steel ball (weight: 500 g) in one free fall without breaking.

Appendix - Supported Media

Video specification

File extension	Container	Video codec	Maximum resolution	Maximum frame rate	Maximum bit rate	MPEG-1 Audio Layer2 and 3	AC3	AAC	WMA	L-PCM
.mpg .mpeg	–	MPEG-2 Video	1080P	30fps	20Mbps	○	○	○		○
.ts .trp .to .m2ts	MPEG2-TS	MPEG-2 Video	1080P	30fps	20Mbps	○	○	○		
		H.264	1080P	30fps	20Mbps					
.vob	MPEG2-PS	MPEG-2 Video	1080P	30fps	20Mbps	○	○			○
.mp4	MP4	MPEG-4 AVC	1080P	30fps	20Mbps	○		○		
		H.264	1080P	30fps	20Mbps	○		○		
.mkv	MKV	H.264	1080P	30fps	20Mbps	○	○	○		○
		MPEG-1	1080P	30fps	20Mbps					
		MPEG-2 Video	1080P	30fps	20Mbps					
		MPEG-4 AVC	1080P	30fps	20Mbps					
.avi	AVI	MPEG-2 Video	1080P	30fps	20Mbps	○	○	○		○
		MPEG-4 AVC	1080P	30fps	20Mbps					
		H.264	1080P	30fps	20Mbps					
.asf .wmv	ASF	H.264	1080P	30fps	20Mbps	○	○		○	○
		MPEG-2 Video	1080P	30fps	20Mbps					
		MPEG-4 AVC	1080P	30fps	20Mbps					
		WMV3	1080P	30fps	20Mbps					

* Some videos may not be able to be played. In particular, MP4 videos may not be able to be played by the encoder.

Audio specification

File extension	Audio codec	Bit rate	Sampling rate
.mp3	MPEG1 Audio Layer 3	32Kbps - 320Kbps	32kHz - 48kHz
N/A (Movie file only)	AC3	32Kbps - 640Kbps	32kHz, 44.1kHz, 48kHz
.m4a .AAC	AAC, HEAAC	24Kbps - 384Kbps	8kHz - 48kHz
.wma .asf	WMA	128Kbps - 320Kbps	8kHz - 48kHz
N/A (Movie file only)	LPCM	64Kbps - 1.5 Mbps	8kHz - 48kHz

Image specification

File extension	Codec (Format)	Photo	Resolution
.jpg	JPEG	baseline	15360x8640
		progressive	1024x768
.png	PNG	non-interlace	9600x6400
		interlace	1200x800
.bmp	BMP	–	9600x6400

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),

<http://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*1, *2	Approx. 140 W	Green
Energy Saving Mode*1, *3 (Power Save)	Less than 0.5 W	Amber
Energy Saving Mode*1, *3 (AUTO STANDBY)	Less than 0.5 W	Red
Power Off	Less than 0.5 W	Red

*1: without any option, with factory settings.

*2: depends on destination.

*3: VGA input only.

For additional information visit:

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

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

<http://www.nec-display.com/global/index.html> (Global)

For Energy Saving information: [Default setting: Signal Check Priority/NONE]

For ErP requirement/For ErP (Network standby) requirement:

Setting: Setup Signal Check Priority NONE

Power consumption: 0.5 W or less.

Time for power management function: Approx. 5 min.



WEEE Mark (European Directive 2012/19/EU)

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.



For EU: The crossed-out wheeled bin implies that used batteries should not be put to the general household waste! There is a separate collection system for used batteries, to allow proper treatment and recycling in accordance with legislation.

According the EU directive 2006/66/EC, the battery can't be disposed improperly. The battery shall be separated to collect by local service.

[IMPORTANT] Regarding the MPEG AVC Licenses Used with This Product

1. MPEG AVC

THIS PRODUCT IS LICENSED UNDER THE AVC PATENT PORTFOLIO LICENSE.
SUCH LICENSE EXTENDS TO THIS PRODUCT ONLY AND ONLY TO THE EXTENT OF OTHER NOTICES WHICH MAY
BE INCLUDED HEREIN. THE LICENSE DOES NOT EXTEND TO ANY OTHER PRODUCT REGARDLESS OF WHETHER
SUCH PRODUCT IS INCLUDED WITH THIS LICENSED PRODUCT IN A SINGLE ARTICLE.
ADDITIONAL INFORMATION MAY BE OBTAINED FROM MPEG LA, L.L.C.
SEE [HTTP://WWW.MPEGLA.COM](http://www.mpegla.com)