

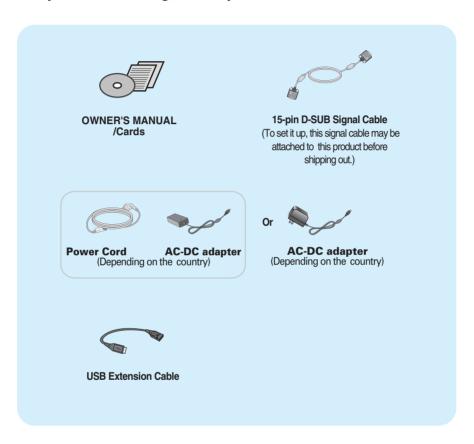
OWNER'S MANUAL NETWORK MONITOR

Please read this manual carefully before operating your set and retain it for future reference.

NETWORK MONITOR MODEL N224WHA

Thank you for purchasing this LGE product

Please make sure the following items are included with your monitor. If any items are missing, contact your dealer.



IMPORTANT

- This accessories may look different from those shown here.
- User must use shielded signal interface cables (D-SUB 15 pin cable) with ferrite cores to maintain standard compliance for the product.

Important Precautions

This unit has been engineered and manufactured to ensure your personal safety, however improper use may result in potential electrical shock or fire hazards. In order to allow the proper operation of all safeguards incorporated in this display, observe the following basic rules for its installation, use, and servicing.

On Safety

Use only the power cord supplied with the unit. In case you use another power cord, make sure that it is certified by the applicable national standards if not being provided by the supplier. If the power cable is faulty in any way, please contact the manufacturer or the nearest authorized repair service provider for a replacement.

The appliance coupler is used as the disconnect device.

Please make sure the device is installed near the wall outlet to which it is connected and that the outlet is easily accessible.

Operate the display only from a power source indicated in the specifications of this manual or listed on the display. If you are not sure what type of power supply you have in your home, consult with your dealer.

Overloaded AC outlets and extension cords are dangerous. So are frayed power cords and broken plugs. They may result in a shock or fire hazard. Call your service technician for replacement.

As long as this unit is connected to the AC wall outlet, it is not disconnected from the AC power source even if the unit is turned off.

Do not Open the Display:

- There are no user serviceable components inside.
- There are Dangerous High Voltages inside, even when the power is OFF.
- Contact your dealer if the display is not operating properly.

To Avoid Personal Injury:

- Do not place the display on a sloping shelf unless properly secured.
- Use only a stand recommended by the manufacturer.
- Do not drop an object on or apply impact to the product. Do not throw any toys or objects on the product screen.
 - It can cause injury to human, problem to product and damage the display.

To Prevent Fire or Hazards:

- Always turn the display OFF if you leave the room for more than a short period of time. Never leave the display ON when leaving the house.
- Keep children from dropping or pushing objects into the display's cabinet openings. Some internal parts carry hazardous voltages.
- Do not add accessories that have not been designed for this display.
- When the display is to be left unattended for an extended period of time, unplug it from the wall outlet.
- In the presence of thunder and lightning, never touch the power cord and signal cable because it can be very dangerous. It can cause electric shock.

On Installation

Do not allow anything to rest upon or roll over the power cord, and do not place the display where the power cord is subject to damage.

Do not use this display near water such as near a bathtub, washbowl, kitchen sink, laundry tub, in a wet basement, or near a swimming pool.

Displays are provided with ventilation openings in the cabinet to allow the release of heat generated during operation. If these openings are blocked, built-up heat can cause failures which may result in a fire hazard. Therefore, NEVER:

- Block the bottom ventilation slots by placing the display on a bed, sofa, rug, etc.
- Place the display in a built-in enclosure unless proper ventilation is provided.
- Cover the openings with cloth or other material.
- Place the display near or over a radiator or heat source.

Do not rub or strike the Active Matrix LCD with anything hard as this may scratch, mar, or damage the Active Matrix LCD permanently.

Do not press the LCD screen with your finger for a long time as this may cause some afterimages.

Some dot defects may appear as Red, Green or Blue spots on the screen. However, this will have no impact or effect on the display performance.

If possible, use the recommended resolution to obtain the best image quality for your LCD display. If used under any mode except the recommended resolution, some scaled or processed images may appear on the screen. However, this is characteristic of the fixed-resolution LCD panel.

Leaving a fixed image on the screen for a long time may cause damage to the screen and cause image burn-in. Make sure to use a screen saver on the product. Burn-in and related problems are not covered by the warranty on this product.

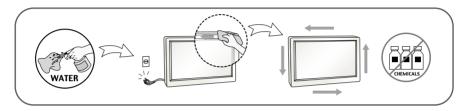
Do not shock or scratch the front and sides of the screen with metallic objects. Otherwise, it may cause damage to the screen.

Make sure the panel faces forward and hold it with both hands to move. If you drop the product, the damaged product can cause electric shock or fire. Contact an authorized the service center for repair.

Avoid high temperatures and humidity.

On Cleaning

- Unplug the display before cleaning the face of the display screen.
- Use a slightly damp (not wet) cloth. Do not use an aerosol directly on the display screen because over-spraying may cause electrical shock.
- When cleaning the product, unplug the power cord and scrub gently with a soft cloth to prevent scratching. Do not clean with a wet cloth or spray water or other liquids directly onto the product. An electric shock may occur. (Do not use chemicals such as benzene, paint thinners or alcohol)
- Spray water onto a soft cloth 2 to 4 times, and use it to clean the front frame; wipe in one direction only. Too much moisture may cause staining.



On Repacking

Do not throw away the carton and packing materials. They make an ideal container in which to transport the unit. When shipping the unit to another location, repack it in its original material.

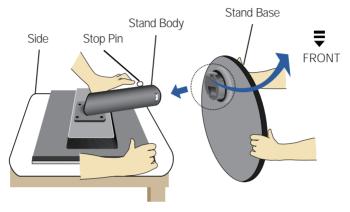
On Disposal (Only, Hg lamp used LCD Monitor)

- ${\color{blue}\blacksquare}$ The fluorescent lamp used in this product contains a small amount of mercury.
- Do not dispose of this product with general household waste.
- Disposal of this product must be carried out in accordance to the regulations of your local authority.

Before setting up the monitor, ensure that the power to the monitor, the computer system, and other attached devices is turned off.

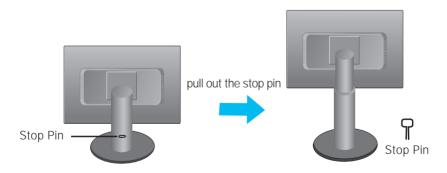
Connecting the stand

- 1. Place the monitor with its front facing downward on a cushion or soft cloth.
- Assemble the Stand Base into the Stand Body.Be sure don't pull out the Stop Pin and make the Stand Base direction as shown.



3. Make the monitor stand , then pull out the Stop Pin.

Warning: The tape and locking pin may only be removed from those monitors equipped with a standing base when the base is pulled up. Otherwise, you may be injured by the protruding sections of the stand.



Important

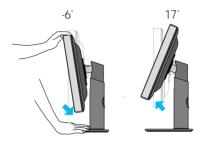
- This illustration depicts the general model of connection. Your monitor may differ from the items shown in the picture.
- Do not carry the product upside down holding only the stand base. The product may fall and get damaged or injure your foot.

Connecting the Display

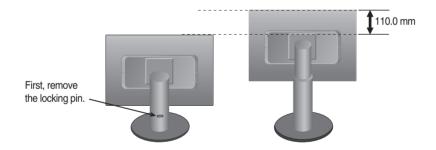
■ Before setting up the monitor, ensure that the power to the monitor, the computer system, and other attached devices is turned off.

Positioning your display

- 1. Adjust the position of the panel in various ways for maximum comfort.
 - Tilt Range: -6° to 17°



■ Height Range: maximum 4.33 inch (110.0 mm)



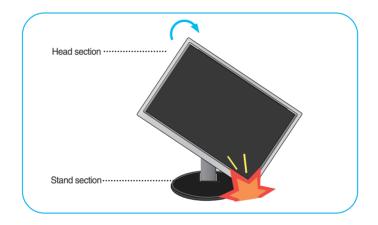
Ergonomic

It is recommended that in order to maintain an ergonomic and comfortable viewing position, the forward tilt angle of the monitor should not exceed 5 degrees.

Using the Pivot function

- -The pivot function allows you to rotate the screen 90 degrees clockwise.
- **1.** Lift the monitor to its highest height to utilize the Pivot function.
- 2. Landscape & Portrait: You can rotate the panel 90° clockwise.

 Please be cautious and avoid contact between the monitor head and the Stand Base when rotating the screen to access the Pivot function. If the monitor head touches the Stand Base, then the Stand Base could crack.

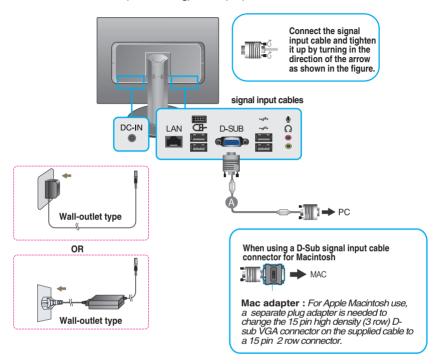


3. Be careful with the cables when rotating the screen.



Connecting to the Computer

- **1.** Before setting up the monitor, ensure that the power to the monitor, the computer system, and other attached devices is turned off.
 - A Connect D-SUB(RGB Analog) Cable (PC)



NOTE

- This is a simplified representation of the rear view.
- This rear view represents a general model; your display may differ from the view as shown.
- When connecting the D-SUB cable with the LAN cable, connect the D-SUB cable first. Then, connect the LAN cable and other signal input cables.
- 2. Press button on the front switch panel to turn the power on. When monitor power is turned on, the 'Self Image Setting Function' is executed automatically on D-SUB input.

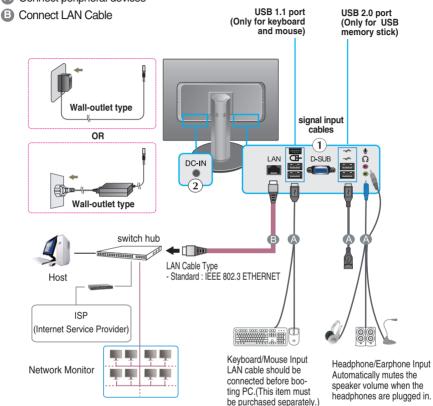
PROCESSING SELF

NOTE

- 'Self Image Setting Function'? This function provides the user with optimal display settings. When the user
 connects the monitor for the first time, this function automatically adjusts the display to optimal settings for D-SUB
 input signals.
- 'AUTO/SET' Function? When you encounter problems such as blurry screen, blurred letters, screen flicker or tilted screen while using the device or after changing screen resolution, press the AUTO/SET function button to improve resolution.

Connecting to the Computer Using LAN

- Make sure to turn off the computer and product. Connect the cable as below sketch map form ① to ②.
- A Connect peripheral devices



NOTE

- For an angle plug earphone/microphone, it is difficult connect it with a peripheral device, so use a straight type.
- Connect the USB extension cable to the USB 2.0 port for more convenient use.
- When connecting the D-SUB cable with the LAN cable, connect the D-SUB cable first. Then, connect the LAN cable and other signal input cables.

2. Press (1) button on the front switch panel to turn the power on.

NOTE

- When you use the monitor speaker via the LAN, turn the PC volume up to the highest level and adjust the monitor volume.
- 'AUTO/SET' Function? When you encounter problems such as blurry screen, blurred letters, screen flicker or titled

screen while using the device or after changing screen resolution, press the AUTO/SET function button to improve resolution.



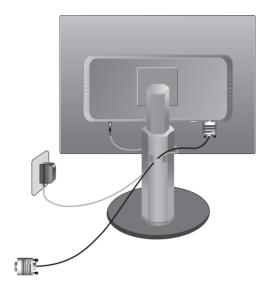
Angle type Straight type

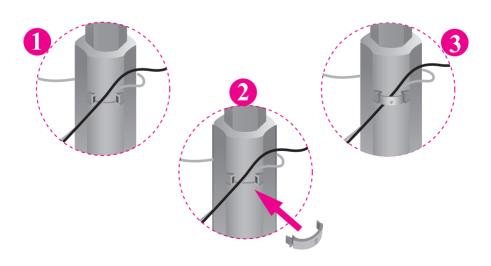
Connecting the Display

■ Before setting up the monitor, ensure that the power to the monitor, the computer system, and other attached devices is turned off.

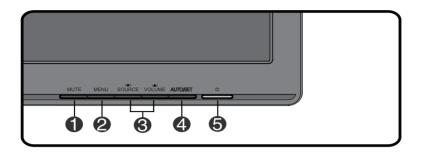
Positioning your display

Using the cable holder





Front Panel Controls





MUTE Button

• LAN: This menu is available, use this button to switch the sound on or off.



• D-SUB: This menu is not available.





Use this button to enter or exit the On Screen Display.



OSD LOCKED/UNLOCKED

This function allows you to lock the current control settings, so that they cannot be inadvertently changed. Press and hold the **MENU button** for several seconds. The message "**OSD LOCKED**" should appear.

You can unlock the OSD controls at any time by pushing the **MENU button** for several seconds. The message **"OSD UNLOCKED"** should appear.



(▼) SOURCE

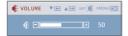
Use these buttons to select or adjust functions in the On Screen Display.

Use this button to make either D-SUB or LAN connector active. This feature is used when two input sources are connected to the display.

(▲) VOLUME

Use these buttons to select or adjust functions in the On Screen Display.

Use ▼ ▲ buttons to decrease or increase the speaker volume on LAN input.





AUTO/SET Button

Use this button to enter a selection in the On Screen Display.

AUTO IMAGE ADJUSTMENT

When adjusting your display settings, always press the **AUTO/SET** button before entering the On Screen Display(OSD).



Power Button

- D-SUB: Use this button to turn the display on or off.
- LAN

Monitor OFF: Press the power button and press it again to turn off the power, or wait 10 second.

LAN(Clint) OFF: Press the power button and the AUTO/SET button to turn off the power of LAN input.

ON: Press the power button to turn on the power.

Power Indicator

This Indicator lights up blue when the display operates normally(On Mode). If the display is in Sleep Mode (Energy Saving), this indicator color changes to flicker.

On Screen Display (OSD) Control Adjustment

Screen Adjustment

Making adjustments to the image size, position and operating parameters of the display is quick and easy with the On Screen Display Control system.

A short example is given below to familiarize you with the use of the controls. The following section is an outline of the available adjustments and selections you can make using the OSD.

NOTE

■ Allow the display to stabilize for at least 30 minutes before making image adjustments.

To make adjustments in the On Screen Display, follow these steps:



- Press the **MENU Button**, then the main menu of the OSD appears.
- 2 To access a control, use the ▼or ▲Buttons. When the icon you want becomes highlighted, press the AUTO/SET Button.
- Use the ▼/ ▲ Buttons to adjust the image to the desired level. Use the AUTO/SET Button to select other sub-menu items.
- Push the **MENU Button** once to return to the main menu to select another function. Push the **MENU Button** twice to exit from the OSD.

The following table indicates all the On Screen Display control, adjustment, and setting menus.

D-SUB: D-SUB input

LAN: LAN input

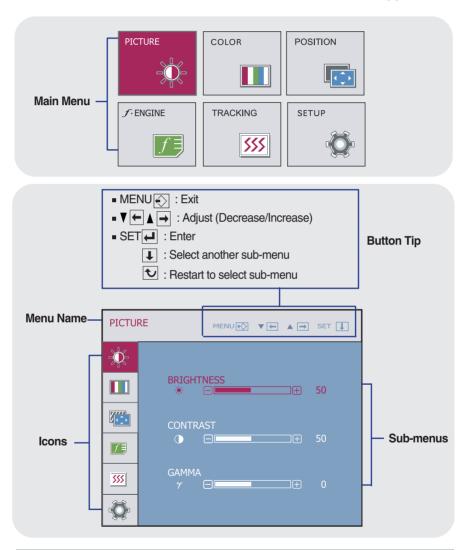
M-1	0.1	0	EAN LEAN IIIput
Main menu	Sub-menu	Supported signal	s Description
PICTURE	BRIGHTNESS CONTRAST GAMMA	D-SUB LAN	To adjust the brightness, contrast and gamma of the screen
COLOR	PRESET SRGB 6500K 9300K RED GREEN BLUE	D-SUB	To customize the color of the screen
POSITION	HORIZONTAL VERTICAL	D-SUB LAN	To adjust the position of the screen
TRACKING	CLOCK PHASE SHARPNESS	D-SUB LAN	To improve the clarity and stability of the screen
SETUP	LANGUAGE OSD POSITION HORIZONT VERTICAL WHITE BALANCE POWER INDICATOR 4:3 IN WIDE ENABLE LAN FACTORY RESET	D-SUB D-SUB D-SUB LAN	To customize the screen status for a user's operating environment
F-ENGINE	MOVIE INTERNET USER RCM NORMAL	D-SUB LAN D-SUB LAN D-SUB	To select or customize desired image settings

NOTE

■ The order of icons may differ depending on the model (13 to 18).

You were introduced to the procedure of selecting and adjusting an item using the OSD system. Listed below are the icons, icon names, and icon descriptions of the all items shown on the Menu.

Press the MENU Button, then the main menu of the OSD appears.



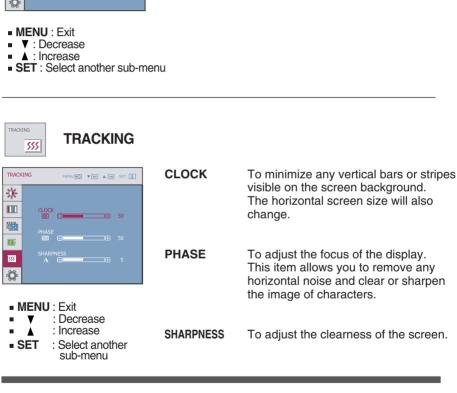
NOTE

 $\,\blacksquare\,$ OSD (On Screen Display) menu languages on the monitor may differ from the manual.

Main menu Sub menu Description PICTURE **PICTURE** PICTURE MENU♠ ▼ ← ▲ → SET ↓ **BRIGHTNESS** To adjust the brightness of the screen. To adjust the contrast of the screen. CONTRAST 75 555 **GAMMA** Set your own gamma value. : -50/0/50 Ö On the monitor, high gamma values display whitish images and low gamma values display blackish images. ■ MENU : Exit : Decrease : Increase SET : Select another sub-menu COLOR **COLOR** Select the screen color. **PRESET** COLOR MENU∰ ▼ ← ▲ → SET ↓ sRGB: Set the screen color to fit the * SRGB standard color



Main menu	Sub menu	Description
POSITION		
POSITION MENUEO VE A SET 1	HORIZONTAL	To move image left and right.
HORIZONTAL VERTICAL SSS VERT SSS VERTICAL SSS VERT VERTICAL SSS VERTICAL SSS VERT VERT VERT VERT VERT VERT VERT VERT VERT	VERTICAL	To move image up and down.
■ MENU : Exit ■ ▼ : Decrease ■ Δ : Increase ■ SET : Select another sub-m	enu	



Main menu	Sub menu	Description
SETUP SETUP	LANGUAGE	To choose the language in which the control names are displayed.
SETUP MENUES VM A M SET 1	OSD POSITION	To adjust position of the OSD window on the screen.
LANGUAGE FINGLISH OSD POSITION HORIZONTAL OSD VERTICAL LAN LAN 1440 x 900 GOHZ	WHITE BALANCE	If the output of the video card is different from the required specifications, the color level may deteriorate due to video signal distortion. Using this function, the signal level is adjusted to fit into the standard output level of the video card in order to provide the optimal image. Activate this function when white and black colors are present in the screen.
WHITE BALANCE NO POWER INDICATOR NO 483 IN WIDE ENABLE LAN ON	POWER INDICATOR	Use this function to set the power indicator on the front side of the monitor to ON or OFF . If you set OFF , it will go off. If you set ON at any time, the power indicator will automatically be turned on.
FACTORY RESET ► NO	4:3 IN WIDE	Use this function to select the image size of the screen.
■ MENU : Exit ■ ▼ : Adjust ■ ▲ : Adjust ■ SET : Select another sub-menu		• WIDE : Switch to full screen mode according to input image signal.
		• 4:3: Change the image signal ratio into 4:3.
	ENABLE LAN	ON: If you turn on the monitor power, the LAN input mode is enabled.
		OFF: If you turn on the monitor power, the RGB input mode is enabled. Even when it is set to OFF, if you press the SOURCE button, the LAN input mode is enabled.
	FACTORY RESET	Restore all factory default settings except "LANGUAGE". Press the , buttons to reset immediately.

NOTE

- If this does not improve the screen image, restore the factory default settings.
- If necessary, perform the white balance function again. This function will be enabled only when the input signal is a D-SUB or LAN input signal.

Main menu Sub menu Description





■ MENU : Exit
■ ▼ : Decrease
■ ▲ : Increase

■ SET : Select another sub-menu

MOVIE This feature lets you easily select the best desired **INTERNET** image condition optimized to the environment (ambient illumination, image types etc).

MOVIE: For animation images in videos or movies **INTERNET**: For text images (Word processing etc.)

USER User

You can manually adjust ACE or RCM. You can save or restore the adjusted value even when using a different environment.

···ACE(Adaptive Clarity Enhancer): Selects the clarity mode.



NORMAL This is under normal operating conditions.

NOTE

■ It can be only supported the INTERNET and NORMAL features on LAN input.

Check the following before calling for service.

No image appears

- Is the power cord of the display onnected?
- Check and see if the power cord is connected properly to the power outlet.
- Is the power indicator light on?
- Press the Power button.
- Is the power indicator flickering?
- If the display is in power saving mode, try moving the mouse or pressing any key on the keyboard to bring up the screen.
- Try to turn on the PC.
- Do you see an "OUT OF RANGE" message on the screen?
- This message appears when the signal from the PC (video card) is out of horizontal or vertical frequency range of the display. See the 'Specifications' section of this manual and configure your display again.

Do you see a "OSD LOCKED" message on the screen?

- Do you see "OSD LOCKED" when you push MENU button?
- You can secure the current control settings, so that they cannot be inadvertently changed.
 You can unlock the OSD controls at any time by pushing the MENU button for several seconds: the message
- "OSD UNLOCKED" will appear.

Display image is incorrect

- Display Position is incorrect.
- Press the AUTO/SET button to automatically adjust your display image to the ideal setting.
 If the results are unsatisfactory, adjust the image position using the H position and V position icon in the on screen display.
- On the screen background, vertical bars or stripes are visible.
- Press the AUTO/SET button to automatically adjust your display image to the ideal setting.
 If the results are unsatisfactory, decrease the vertical bars or stripes using the CLOCK icon in the on screen display.
- Any horizontal noise appearing in any image or characters are not clearly portrayed.
- Press the AUTO/SET button to automatically adjust your display image to the ideal setting.
 If the results are unsatisfactory, decrease the horizontal bars using the PHASE icon in the on screen display.
- Check Control Panel --> Display --> Settings and adjust the display to the recommended resolution or adjust the display image to the ideal setting. Set the color setting higher than 24 bits (true color).(Only for D-SUB input)

Important

- Check Control Panel --> Display --> Settings and see if the frequency or the resolution were changed. If yes, readjust the video card to the recommend resolution.
- The setting method can differ by computer and O/S (Operation System), and resolution mentioned above may not be supported by the video card performance. In this case, please ask to the computer or the video card manufacturer.
- If the recommended resolution (optimal resolution) is not selected, letters may be blurred and the screen may be dimmed, truncated or biased. Make sure to select the recommend resolution.

Troubleshooting

Display image is incorrect

- The screen color is mono or abnormal.
- Check if the signal cable is properly connected and use a screwdriver to fasten if necessary.
- Make sure the video card is properly inserted in the slot.
- Set the color setting higher than 24 bits (true color) at **Control Panel Settings**.
 - "White Balance" is performed on black/white pattern.
 - Check if the screen is set to normal mode.
- The screen blinks.
- Check if the screen is set to interlace mode and if yes, change it to the recommend resolution.
 - Check if the screen is set to normal mode.

Display 55.9 cm (21.9 inch) Flat Panel Active matrix-TFT LC			
	Glare coating Visible diagonal size: 55.9 cm		
	0.282 mm x 0.282 mm	pixel pitch	
Sync Input	Horizontal Freq	. 30 kHz to 66 kHz (Automatic)	
	Vertical Freq	. 57 Hz to 63 Hz (Automatic)	
Video Input	D-SUB Signal Input	15 pin D-SUB Connector	
	Input Form	RGB Analog (0.7 Vp-p/75 ohm)	
	LAN Signal Input	LAN Connector	
	Input Form	LAN Signal	
Resolution		SA 1680 x 1050 @ 60 Hz	
riocoldilori	Recommend VE	SA 1680 x 1050 @ 60 Hz	
Plug&Play	DDC 2B (Only for D-SUB Input)		
Power	On Mode : 29 W (Typ.)		
Consumption	Sleep Mode ≤	5 W (LAN) / 1 W (D-SUB)	
	Off Mode ≤	1 W	
Dimensions	With Stand	Without Stand	
& Weight	Width 51.57 cm (20	.30 inch) 51.57 cm (20.30 inch)	
, and the second	Height 42.32 cm (16	.66 inch)(Min.) 34.46 cm (13.57 inch)	
	53.32 cm(20.	99 inch)(Max.)	
	Depth 24.16 cm (9		
	Net 5.3	kg (11.78 lb)	
Tilt Range	Tilt -6°	to 17°	
Power Input	19 V === 3.0 A		
AC-DC Adapter	Type PA-1650-68,manufactured by LITEON TECHNOLOGY CORP.		
Environmental	Operating Conditions		
Conditions	Temperature 10 °C to 35 °C		
	Humidity 10 % to 80 % non-Condensing		
	Storage Conditions		
	Temperature -20 °C to 60 °C		
	Humidity 5 %	to 90 % non-Condensing	
Stand Base	Attached (), Detached (O)		
Power cord	Wall-outlet type		

NOTE

■ Information in this document is subject to change without notice.

Preset Modes (Resolution) - D-SUB (Analog)

Display /	Modes (Resolution)	Horizontal Freq. (kHz)	Vertical Freq. (Hz)
1 2 3 4 5 6 *7	640 x 480 720 x 400 800 x 600 1024 x 768 1440 x 900 1680 x 1050 1680 x 1050	31.469 31.468 37.879 48.363 55.935 64.674 65.290	60 70 60 60 60 60

*Recommend Mode

LAN Preset Modes (Resolution)

Displ	ay Modes (Resolution)
1	800 x 600 (60 Hz)
2	1024 x 768 (60 Hz)
3	1440 x 900 (60 Hz)
4	1680 x 1050 (60 Hz)

NOTE

If you access the host PC in LAN input mode, you can adjust the resolution by rightclicking on your desktop, selecting Properties and selecting the Settings tab in the Display Properties window. However, any resolution other than "LAN Preset Modes (Resolution)" is not supported.

Indicator

MODE	LED Color
On Mode	Blue
Sleep Mode	Flicker
Off Mode	Off

Installing the Wall mount plate

This monitor satisfies the specifications of the Wall mount plate or the interchange device.

1. Place the monitor with its front facing downward on a soft cloth.



2. Separate the stand after firstly separating 4 screws by using a driver as figure.

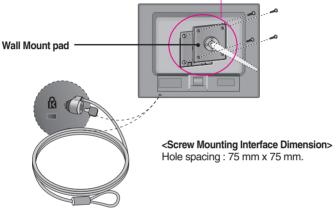


3. Install the Wall mount plate.

Wall mount plate(Separate purchase)

This is stand-type or wall mount type and is connectable with Wall mount plate.

Please refer to the installation guide for more details, which is provided when Wall mount plate is purchased.LG recommends that wall mounting be performed by a qualified professional installer.



Kensington Security Slot

Connected to a locking cable that can be purchased separately at most computer stores.

NOTE

- VESA compatible only with respect to screw mounting interface dimensions and mounting screw specifications
- Please use VESA standard as below.
 - * 784.8 mm and under (30.9 inch)
 - Wall Mount Pad Thickness: 2.6 mm
 - Screw: 4.0 mm x Pitch 0.7 mm x Length 10 mm
 - * 787.4 mm and above (31.0 inch)
 - Please use VESA standard wall mount pad and screws.



Make sure to read the Safety Precautions before using the product.

Keep the OWNER'S MANUAL(CD) in an accessible place for furture reference.

The model and serial number of the SET is located on the back or one side of the SET. Record it below should you ever need service.

MODEL	
SERIAL	

With LGE Network Monitor, some PC programs may not be compatible or need to be modified due to different kind of operation.

Please check the compatibility in advance, before purchasing or installing the software. LGE do not have any kind of legal liability on this matter.