LG
Life's Good

OWNER'S MANUAL
MEDICAL MONITOR

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

19HK312C

www.lg.com

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LICENCE

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OPEN SOURCE SOFTWARE NOTICE INFORMATION

To obtain the source code under GPL, LGPL, MPL, and other open source licenses, that is contained in this product, please visit *http://opensource.lge.com*.

In addition to the source code, all referred license terms, warranty disclaimers and copyright notices are available for download.

LG Electronics will also provide open source code to you on CD-ROM for a charge covering the cost of performing such distribution (such as the cost of media, shipping, and handling) upon email request to *opensource@lge.com*.

This offer is valid for a period of three years after our last shipment of this product. This offer is valid to anyone in receipt of this information.

INFORMATION OF BIOCIDAL SUBSTANCE

The Plastic housing contains a biocidal product* to antagonize the growth of bacteria on the material surface. (*Silver zinc zeolite)

ANTIMICROBIAL PROPERTIES* BUILT IN THE PLASTIC HOUSING**

The antimicrobial properties are applied to the housing of this medical monitor.

This medical monitor complied with the ISO22196 standard, which is the measurement of Antimicrobial properties are built in to inhibit the growth of bacteria that may affect the housing of this product.

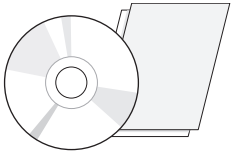
*The antimicrobial properties do not protect users or others against bacteria, viruses, germs, or other disease organisms.

**External plastic housing except the front LCD panel.

ASSEMBLING AND PREPARING

Product Composition

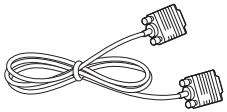
Please check whether all the components are included in the box before using the product.
If there are any missing components, contact the retailer where you purchased the product.
Note that the product and related components may look different from the images in this user manual.



CD (Owner's manual/Software)/
Specifications guide/Cards



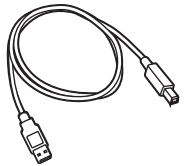
Power Cord



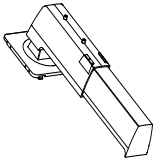
D-SUB Cable



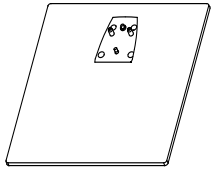
DisplayPort Cable



USB 3.0 Cable



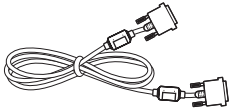
Stand Body



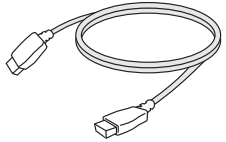
Stand Base



Cable Holder



DVI Cable



HDMI Cable

CAUTION

- Always use genuine components to ensure safety and product performance.
- The product warranty will not cover damage or injury caused by the use of counterfeit components.
- It is recommended you use the components provided with the product.
- Use of general cables purchased on the open market may cause the screen to appear blank or lead to noise on the screen.
- In terms of the following accessories, only use approved products meeting specifications. Use of unapproved products could negatively impact the safety and performance of this device.

Component	Specifications
HDMI Cable	UL, Impedance 100 ohm support
D-SUB Cable	UL, Impedance 75 ohm support
DVI Cable	UL, Impedance 100 ohm support
DisplayPort Cable	UL, Impedance 100 ohm support
USB 3.0 Cable	UL, USB 3.0 support
Power Cord	US – Approved by medical regulation grade system Other countries – Approved by national safety regulations

NOTE

- The components may look different from those illustrated in this user manual.
- Without prior notice, all product information and specifications contained in this manual are subject to change to improve the performance of the product.
- To purchase optional accessories, visit an electronics store or online shopping site or contact the retail store where you purchased the product.
- The power cord provided may differ depending on the region.

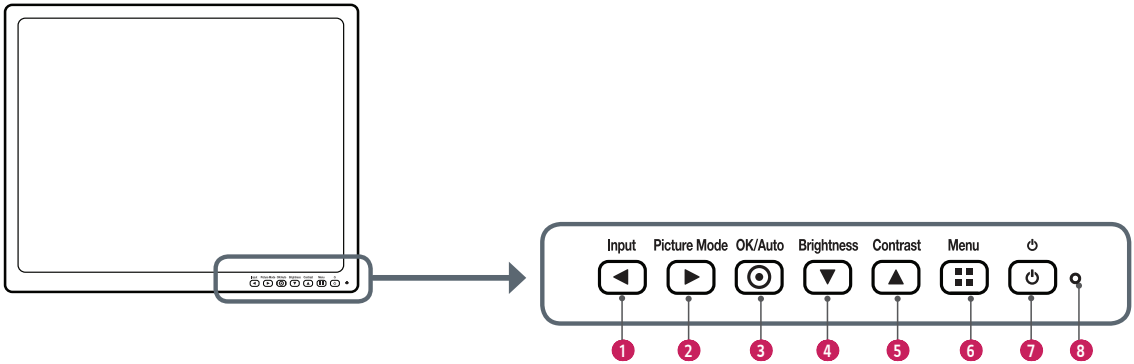
Support Driver and Software

Confirm supported driver and software and refer to the enclosed CD user manual.

Driver and Software	Installation Priority	19HK312C
Monitor Driver	Recommended	O
OnScreen Control	Optional	O
True Color Pro	Optional	O
Dual Controller	Optional	O

- Required and recommended items: You can install the most recent version using the enclosed CD or download it for installation from the LG Electronics website (*www.lg.com*).
- Optional items: You can download the most recent version for installation from the LG Electronics website (*www.lg.com*).

Product and Front Adjust Button Description

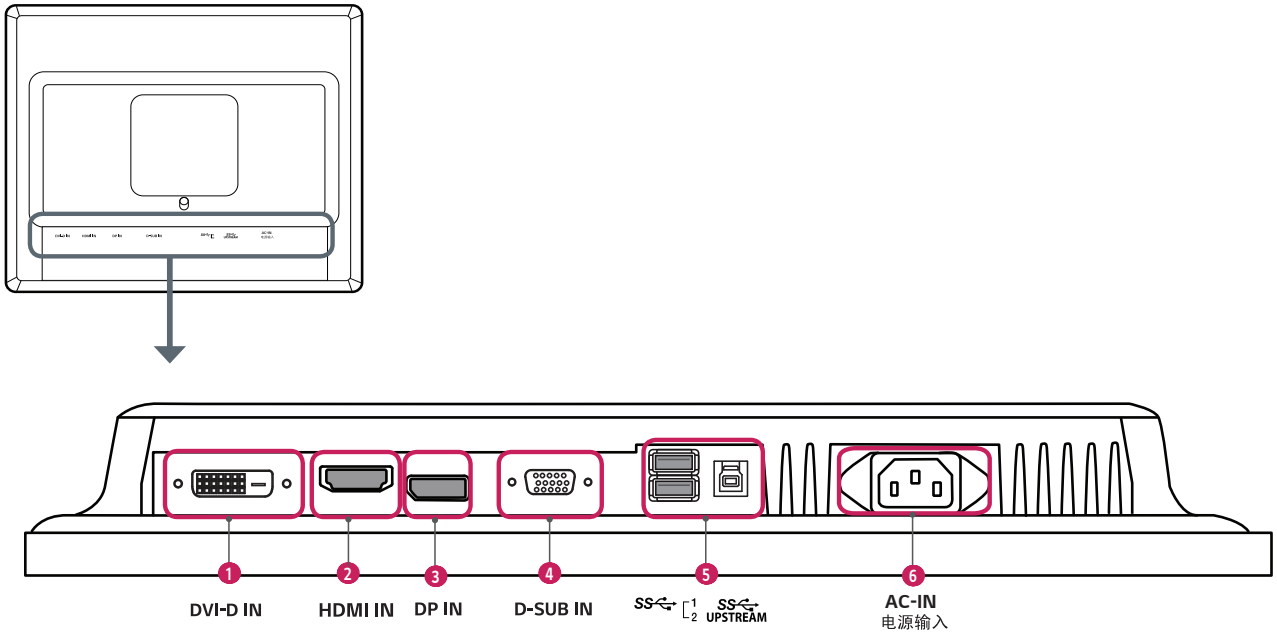


Front Adjust Button Functions Information

1	Input	Selects the applicable input mode.
2	Picture Mode	Brings you directly to the Picture Mode menu.
3	OK/Auto	Selects and confirms menus or options * Automatically sets screen to optimal settings in analog video signal.
4	Brightness	Adjusts screen brightness.
5	Contrast	Adjusts the colour contrast of the screen.
6	Menu	Enters the Quick Menu.
7	⏻	Turns the power on/off.
8	Power Indicator	A green indicator light will be displayed when the power is on.

Input Ports

Back (Bottom)



1	**DVI-D IN** Port - Input digital video signal.
2	**HDMI IN** Port - Input digital video signal. - Using a DVI to HDMI / DP (DisplayPort) to HDMI cable may cause compatibility issues. - Use a certified cable that displays the HDMI logo. The screen may not appear or a connection error could occur if a non-certified cable is used. ▶ Recommended HDMI cable types - High-speed HDMI®/™ cable - High-speed HDMI®/™ Ethernet cable
3	**DP IN** Port - Input digital video signal. - There may be no video output depending on the DP (DisplayPort) version of the PC. - Use of a DisplayPort 1.2 cable is recommended when using a Mini DP to DP (Mini DisplayPort to DisplayPort).
4	**D-SUB IN** Port - Input analog video signal.

5	**SS⇆ 1/2, SS⇆ UPSTREAM** Used for connecting HW Calibrator (Optional Accessory). - A keyboard, mouse, or USB storage device can be connected. **CAUTION** Cautions When Using a USB Storage Device • A USB storage device which has a built-in automatic recognition program or uses its own driver might not be recognizable. • Some USB storage devices may not be supported or may not work properly. • It is recommended to use a USB hub or hard disk drive with power supplied. (If the power supplied is not enough, the USB device may not be detected properly.) **SS⇆ 1/2, SS⇆ UPSTREAM** (USB Connector) - Connect peripheral device to the USB input port. - To use USB 3.0, connect the A-B type USB 3.0 cable to the PC.
6	**AC-IN**电源输入 Port - Connects the power cord.

NOTE

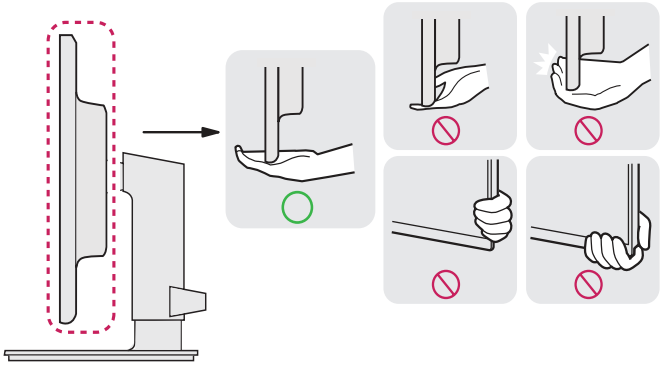
• This monitor supports the *Plug and Play feature.

* Plug and Play: A feature that allows you to add a device to your computer without the need for physical device configuration or user intervention.

Moving and Lifting the Monitor

When moving or lifting the monitor, follow these instructions to prevent the monitor from being scratched or damaged and to ensure safe transportation, regardless of its shape or size.

- It is advisable to place the monitor in the original box or packing material before attempting to move it.
- Before moving or lifting the monitor, disconnect the power cord and all other cables.
- Hold the bottom and side of the monitor frame firmly. Do not hold the panel itself.

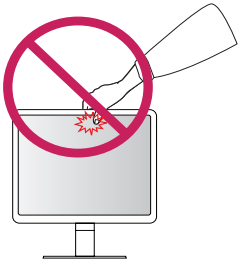




- When holding the monitor, the screen should face away from you to prevent it from being scratched.
- When transporting the monitor, do not expose the monitor to jolts or excessive vibration.
- When moving the monitor, keep it upright and never turn the monitor on its side or tilt it sideways.

CAUTION

- Avoid touching the monitor screen as much as possible.
  - This may result in damage to the screen or some of the pixels used to create images.

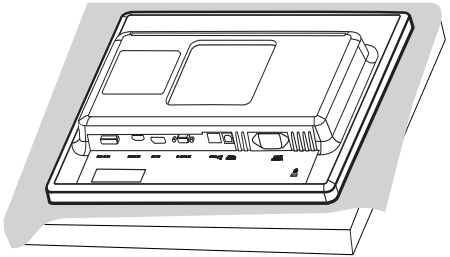


Installing the Monitor

Assemble the Stand

- Note that the product may look different from the illustrations in this user manual.

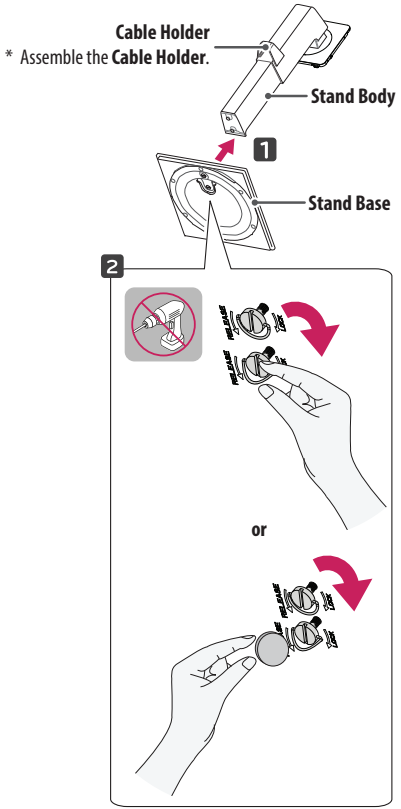
1



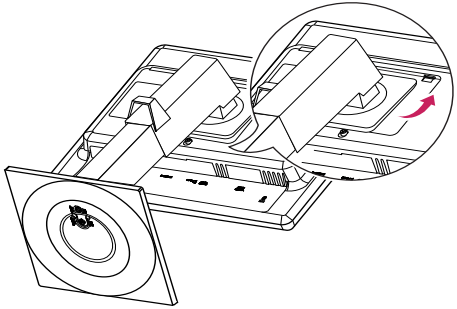
CAUTION

- To protect the screen from scratches, cover the surface with a soft cloth.

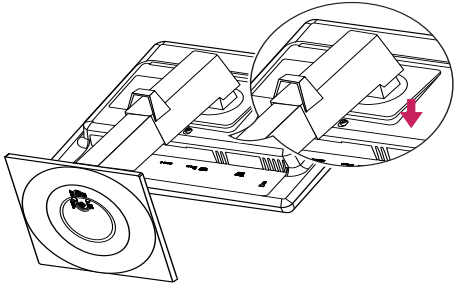
2



3

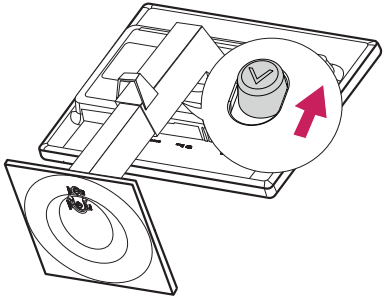


4



NOTE

- Press the stand until the button rises to maximum height.



CAUTION

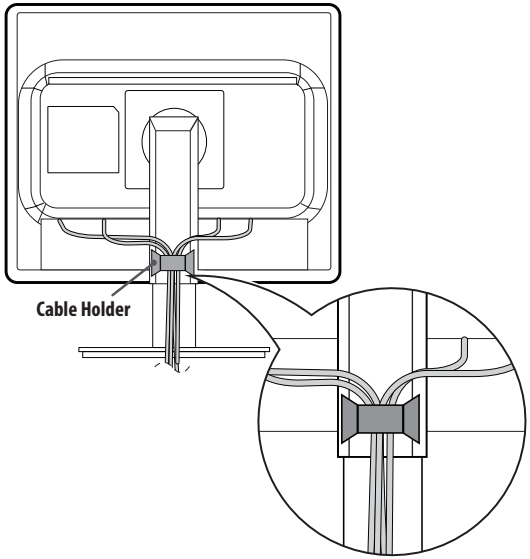
- Illustrations in this document represent typical procedures, so they may look different from the actual product.
- Do not use foreign substances (oil, lubricants) when assembling the product. (This may damage the product.)
- Applying excessive force when tightening screws may cause damage to the monitor. Damage caused in this way will not be covered by the product warranty.
- Do not carry the monitor upside down by just holding the stand base. This may cause the monitor to fall off the stand and could result in personal injury.
- When lifting or moving the monitor, do not touch the monitor screen. The force applied to the monitor screen may cause damage to it.

NOTE

- The stand can be disassembled by following the assembly steps in the opposite order.

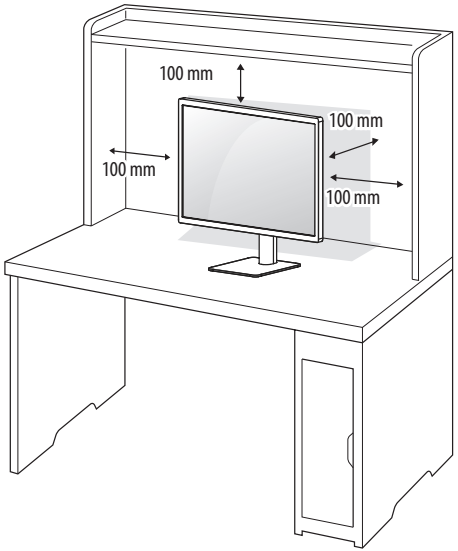
Tidying up Cables

Arrange the cables using cable holders as shown in the illustration.

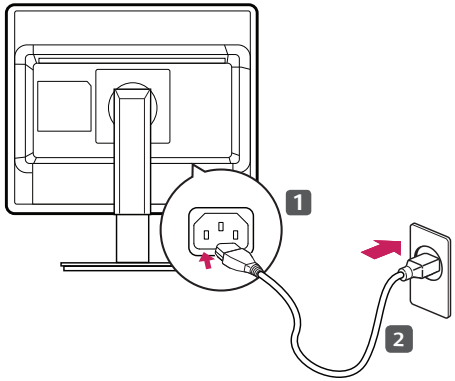


Installing on a Table

1 Lift the monitor and place it on the table in an upright position. Leave a 100 mm (minimum) space from the wall for proper ventilation.



2 Connect the power cord to the monitor and then plug the power cord into the wall outlet.

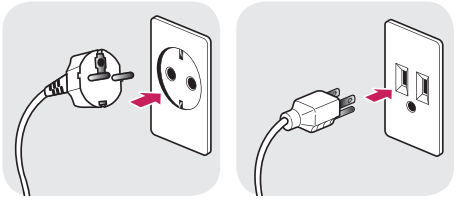


3 Press the ⏻ button on the front of the monitor to turn on the monitor.

CAUTION

- Disconnect the power cord first, and then move or install the monitor. There is risk of electric shock.

Cautions When Connecting Power Cord



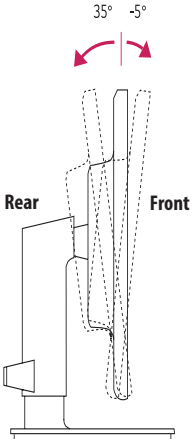
100-240 V ~

- When connecting to a power source, make sure to use the power cord provided with the product and connect with a grounded power outlet.
- If you need a separate power cord, contact the retail store where you purchased the product or a local authorized dealership.

Adjusting the Angle

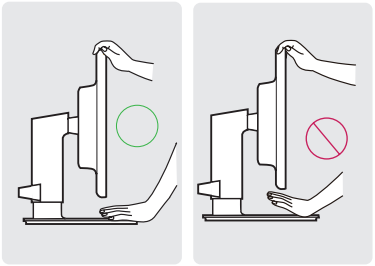
1 Place the monitor mounted on the stand base in an upright position.

2 Adjust the angle of the screen. The angle of the screen can be adjusted forward or backward for a comfortable viewing experience.



WARNING

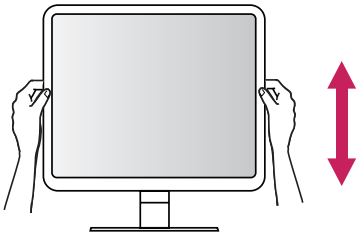
- When you adjust the angle, do not hold the stand as shown on the following illustration. You may injure your fingers.



Adjusting the Stand Length

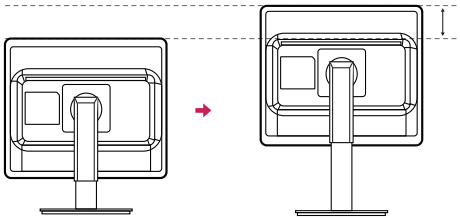
1 Place the monitor mounted on the stand base in an upright position.

2 Be sure to use both hands when adjusting the monitor.

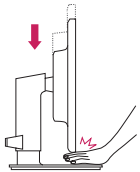


3 The height can be adjusted up to 130.0 mm.

Max 130.0 mm



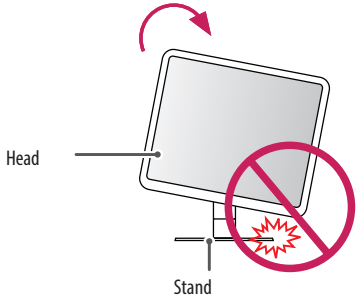
WARNING



- To avoid injury to your fingers, do not put your hands between the screen and the stand base when adjusting the screen's height.

Pivot Feature

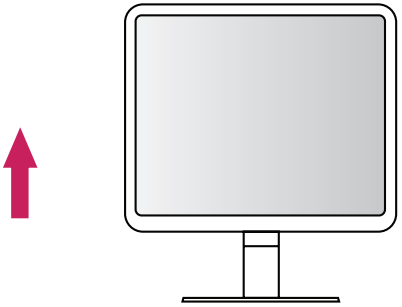
The pivot feature allows the monitor to rotate 90 degrees clockwise or counter-clockwise.



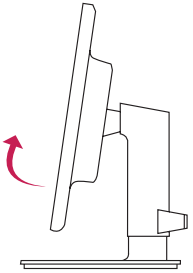
WARNING

- To avoid scratching the stand base, do not use excessive force or speed when rotating the monitor using the pivot feature, and make sure that the stand does not make contact with the monitor.

1 Raise the monitor up to the maximum height.



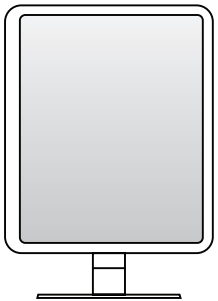
2 Adjust the angle of the monitor in the direction of the arrow as shown in the figure.



3 Rotate the monitor clockwise or counter-clockwise as shown in the figure.



4 Complete the installation by rotating the monitor 90° as shown in the figure.

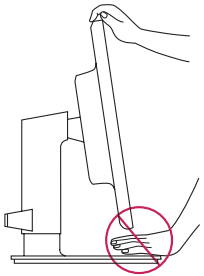


NOTE

- An image displayed on the monitor's screen does not rotate according to the screen orientation.
- You can rotate the screen easily using the screen pivot shortcut key provided in the Windows operating system. However, certain Windows operating systems and graphics cards may not support the screen pivot key or may come with different settings.
- Windows operating system screen pivot shortcut key
  - 0°: Ctrl + Alt + keyboard up key (↑)
  - 90°: Ctrl + Alt + keyboard left key (←)
  - 180°: Ctrl + Alt + keyboard down key (↓)
  - 270°: Ctrl + Alt + keyboard right key (→)

WARNING

- Take care when rotating the monitor if the cable is connected.
- To avoid injury to your fingers, do not put them between the screen and the stand base when turning the monitor's screen.

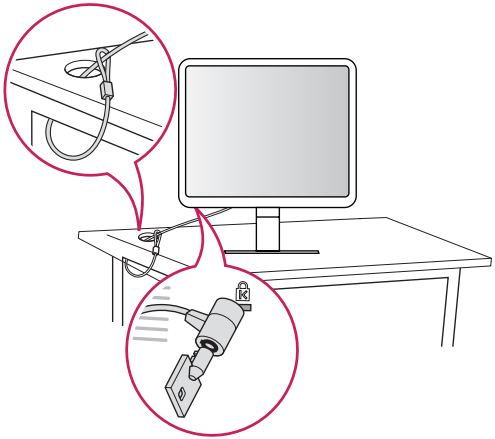


Using the Kensington Lock

The Kensington security system connector is located at the bottom of the monitor.

For more information on installation and using this system, refer to the manual supplied with the Kensington security system or visit *http://www.kensington.com*.

Connect the Kensington security system cable between the monitor and a table.

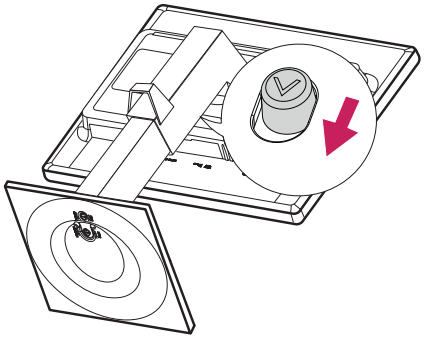


NOTE

- The Kensington security system is optional. You can obtain additional accessories from most electronics stores.

Detaching Stand Body

1. Place the screen face down. To protect the screen from scratches, cover the surface with a soft cloth.
2. Press down the button at the bottom-centre on the back of the monitor to detach the stand.



Installing Wall Mount Plate

This monitor meets the specifications for the wall mount plate or other compatible devices.

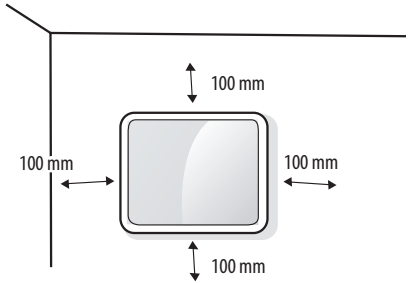
1. Place the screen face down. To protect the screen from scratches, cover the surface with the box's monitor protection pad or a soft cloth.
2. Remove the four screws placed in the back of the monitor.
3. Align the wall mount plate with the screw holes and place it over the monitor.
4. Tighten the four screws to fix the plate to the monitor using a screwdriver.

NOTE

- The wall mount plate is sold separately.
- For more information on installation, refer to the wall mount plate's installation guide.
- Be careful not to apply too much force while mounting the wall mount plate as it may cause damage to the screen

Installing on the Wall

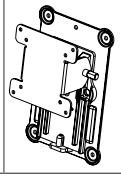
Install the monitor at least 100 mm away from the wall to ensure sufficient ventilation. Detailed installation instructions can be obtained from your local dealership. Please refer to the manual to install and set up a tilting wall mount plate.



To install the monitor to a wall, attach a wall mount plate (optional) to the back of the monitor.

Make sure that the wall mount plate (optional) is securely fixed to the monitor and to the wall.

1. If you use screws longer than the standard length, it may damage the inside of the product.
2. A non-VESA standard screw may damage the product and cause the monitor to fall. LG Electronics is not liable for any accidents relating to the use of non-standard screws.

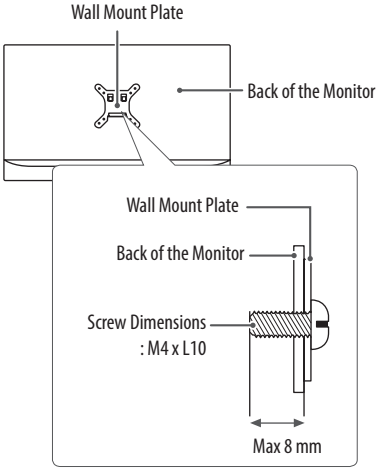
Wall mount (mm)	100 x 100
Standard screw	M4 x L10
Number of screws	4
Wall Mount Plate (optional)	RW120 

NOTE

- Use the screws specified by VESA standards.
- The wall mount kit includes the installation guide and all necessary parts.
- Use of the wall mount plate is optional. You can obtain additional accessories from your local dealership.
- The length of the screw may differ for each wall mount. Be sure to use the proper length.
- For more information, please refer to the user manual for the wall mount.

CAUTION

- Disconnect the power cord first, and then move or install the monitor. There is risk of electric shock.
- Installing the monitor on the ceiling or on a slanted wall may result in the monitor falling off, which could lead to injury. Use an authorized LG wall mount and contact the local dealership or qualified personnel.
- Applying excessive force when tightening screws may cause damage to the monitor. Damage caused in this way will not be covered by the product warranty.
- Use the wall mount and screws that conform to VESA standards. Damage caused by the use or misuse of inappropriate components will not be covered by the product warranty.
- When measured from the back of the monitor, the length of each installed screw must be 8 mm or less.



USING THE MONITOR

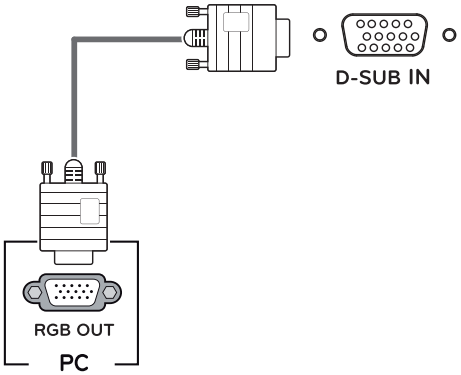
Connecting to PC

- This monitor supports the *Plug and Play feature.

* Plug and Play: A feature that allows you to add a device to your computer without the need for physical device configuration or user intervention.

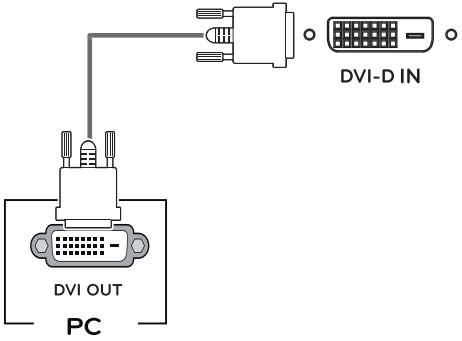
D-SUB Connection

Transmits the analog video signal from your PC to the Monitor set. Connect the monitor to the PC using the provided 15-pin D-SUB signal cable as illustrated below.



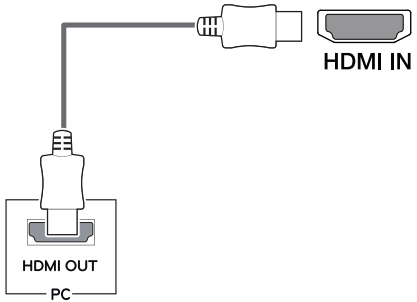
DVI-D Connection

Transmits the digital video signal from your PC to the Monitor set. Connect the PC and the monitor with the DVI cable as shown in the following illustrations.



HDMI Connection

Transmits digital video and audio signals from your PC to the monitor. Connect your PC to the monitor using the HDMI cable as shown in the illustration below.

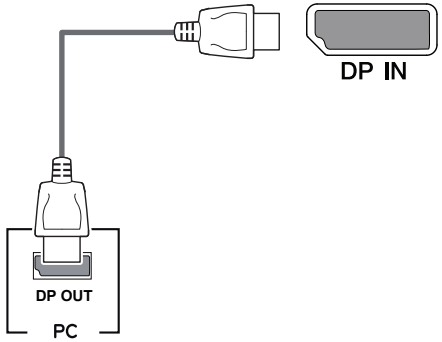


CAUTION

- Use of the HDMI cable included with the product is strongly advised. Failure to use this may cause the device to malfunction.
- HDMI PC may cause device compatibility issues.
- Using a DVI to HDMI / DP (DisplayPort) to HDMI cable may cause compatibility issues.
- Use a certified cable that displays the HDMI logo. The screen may not appear or a connection error could occur if a non-certified cable is used.
- Recommended HDMI cable types
  - High-speed HDMI®/™ cable
  - High-speed HDMI®/™ Ethernet cable

DisplayPort Connection

Transmits the PC's digital video and audio signals to the monitor. Connect your PC to the monitor using the DisplayPort cable as illustrated below.



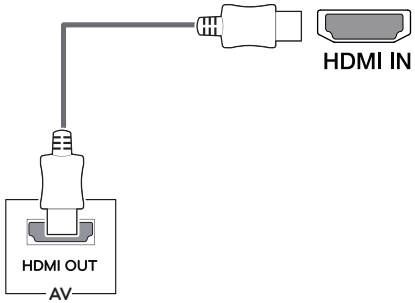
NOTE

- There may be no video or audio output depending on the DP (DisplayPort) version of the PC.
- Use of the DisplayPort cable included with the product is strongly advised. Failure to use this may cause the device to malfunction.
- Use of general cables purchased on the open market may cause the screen to appear blank or lead to noise on the screen.

Connecting AV Devices

HDMI Connection

Transmits digital video and audio signals from your AV device to the monitor. Connect the AV device and the monitor with the HDMI cable as shown in the following illustrations.



NOTE

- Use of the HDMI cable included with the product is strongly advised. Failure to use this may cause the device to malfunction.
- Using a DVI to HDMI / DP (DisplayPort) to HDMI cable may cause compatibility issues.
- Use a certified cable that displays the HDMI logo. The screen may not appear or a connection error could occur if a non-certified cable is used.
- Recommended HDMI cable types
  - High-speed HDMI®/™ cable
  - High-speed HDMI®/™ Ethernet cable

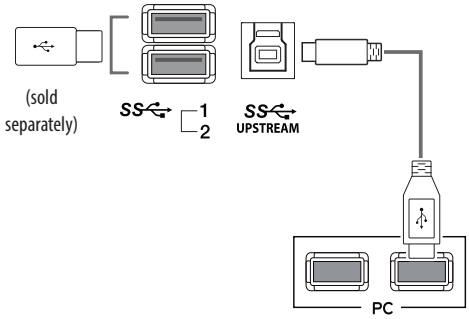
Connecting Peripherals

USB Cable-PC Connection

The USB port has hub functionality.

To use USB 3.0, connect the A-B type USB 3.0 cable to the PC.

Peripheral devices connected to the USB IN port can be controlled from the PC.



NOTE

- Make sure to install the most recent Window OS service pack before using the product.
- Peripheral devices and cables are sold separately.
- A keyboard, mouse, or USB storage device can be connected to the USB port.

CAUTION

Cautions When Using a USB Storage Device

- A USB storage device which has a built-in automatic recognition program or uses its own driver might not be recognizable.
- Some USB storage devices may not be supported or may not work properly.
- It is recommended to use a USB hub or hard disk drive with power supplied. (If the power supplied is not enough, the USB device may not be detected properly.)

USER SETTINGS

Activating the Quick Menu

1 Press the [Menu] to display the OSD Quick Menu.
2 Press ▼ or ▲ button on the front to go through the menu options.
3 Press ◄, ► or [◉ / **OK**] button to set your options.
4 If you wish to exit the OSD Quick Menu, press [◉ /**OK**] or select **Exit**.

The applicable setting options are as shown below.

Quick Menu	Explanation
Exit	Closes the Quick Menu.
Input	Selects the applicable input mode.
Picture Mode	Selects the **Picture Mode**. **NOTE** • If **Picture Mode** is not the **Custom** mode, **Gamma** and **Color Temp** will not be activated.
Gamma	Selects the screen's **Gamma**.
Color Temp	Selects the screen's **Color Temp**.
All Settings	Enters the All Settings menu.

CAUTION

- Your monitor's OSD (On Screen Display) may differ slightly from that shown in this manual.

Quick Settings

1 Press the [Menu] button on the front of the monitor, then select **All Settings** to display the complete OSD menu.
2 Press ◀, ▶, ▼ or ▲ button on the front to select **Quick Settings**.
3 Configure the options following the instructions that appear in the bottom right corner.
4 If you want to configure an upper menu or another option, move using the ◀ button among the front adjust buttons or by pressing [◉ /**OK**].
5 To leave the OSD menu, press the [Menu] or ◀ button.

The applicable setting options are as shown below.

All Settings > Quick Settings	Explanation	
Brightness	Adjusts the brightness of the screen. **NOTE** • Press the ▼ button to toggle between **Turn on 'Brightness Stabilization' / Turn off 'Brightness Stabilization'**. • When **Brightness Stabilization** is **On**, the **Brightness** adjustment function is deactivated. • When **Brightness Stabilization** is **On**, **SMART ENERGY SAVING** and **DFC** functions are deactivated.	
Contrast	Adjusts the colour contrast of the screen.	
User Preset	User name can be configured using the on-screen keyboard.	
	User Name	Assigns a user name to USER 1-10.
	Load User Settings	Loads settings stored in USER 1-10.
	Save User Settings	Saves the current settings to USER 1-10.
	Default User Settings	Loads the default settings.

Input

1 Press the [Menu] button on the front of the monitor, then select **All Settings** to display the complete OSD menu.
2 Press ◀, ▶, ▼ or ▲ button on the front to select **Input**.
3 Configure the options following the instructions that appear in the bottom right corner.
4 If you want to configure an upper menu or another option, move using the ◀ button among the front adjust buttons or by pressing [◉ /**OK**].
5 To leave the OSD menu, press the [Menu] or ◀ button.

The applicable setting options are as shown below.

All Settings > Input	Explanation	
Input List	Selects the input mode.	
Aspect Ratio	Adjusts the aspect ratio of the screen. (**Full Wide**, **Original**, **1:1**) **NOTE** • The display may look the same for **Full Wide**, **Original**, and **1:1** options at the recommended resolution (1280 x 1024).	
	Full Wide	Displays the video to fit the screen, regardless of the video signal input.
	Original	Displays on the screen according to the aspect ratio of the video signal input.
	1:1	The aspect ratio is not adjusted from the original.

Picture

1 Press the [Menu] button on the front of the monitor, then select **All Settings** to display the complete OSD menu.
2 Press ◀, ▶, ▼ or ▲ button on the front to select **Picture**.
3 Configure the options following the instructions that appear in the bottom right corner.
4 If you want to configure an upper menu or another option, move using the ◀ button among the front adjust buttons or by pressing [◉ /**OK**].
5 To leave the OSD menu, press the [Menu] or ◀ button.

The applicable setting options are as shown below.

All Settings > Picture	Explanation	
Picture Mode	**Custom**	Allows the user to adjust each element. The colour mode of the main menu can be adjusted.
	Mono	Mono (black and white) colour mode.
	Reader	Optimizes the screen for browsing documents. You can brighten the screen in the OSD menu.
	DICOM	A mode that optimizes the screen settings so you can view images for medical use. You can brighten the screen in the OSD menu.
	Calibration 1	Configures to the last calibrated (corrected) screen.
	Calibration 2	Configures to a previously calibrated (corrected) screen.
	NOTE • The **Brightness Stabilization** function is configured in the **Custom**. • In DP (DisplayPort) input, if the **Picture Mode** is changed, the screen may flicker or the PC resolution may change. • **Calibration 2**: If you use Calibration after installing the TRUE COLOR PRO program, the applicable menu will be activated.	

All Settings > Picture	Explanation		
Picture Adjust	**Brightness**	Adjusts the brightness of the screen. **NOTE** • Press the ▼ button to toggle between **Turn on 'Brightness Stabilization' / Turn off 'Brightness Stabilization'**. • When **Brightness Stabilization** is **On**, the **Brightness** adjustment function is deactivated. • When **Brightness Stabilization** is **On**, **SMART ENERGY SAVING** and **DFC** functions are deactivated.	
	Contrast	Adjusts the colour contrast of the screen.	
	Sharpness	Adjusts the sharpness of the screen.	
	Brightness Stabilization	Maintains the brightness configured for medical environments.	
		On	Adjusts the brightness automatically.
		Off	Deactivates the function, and allows the user to configure the brightness.
	SUPER RESOLUTION+	**High**	Select this option for crystal clear images.
		Middle	The optimized picture quality is displayed when a user wants images between low and high modes for comfortable viewing.
		Low	The optimized picture quality is displayed when a user wants smooth and natural images.
		Off	Select this option for the normal user experience. Disables **SUPER RESOLUTION+**.
	Black Level	Sets the offset level. (HDMI only) • Offset: A reference for video signals. Offset is the darkest color that the monitor can display.	
		High	Keeps the current contrast ratio of the screen.
		Low	Lowers the black levels and raises the white levels from the current contrast ratio of the screen.

All Settings > Picture	Explanation		
Picture Adjust	**DFC**	**On**	Adjusts the brightness automatically according to the screen.
		Off	Disables the **DFC** feature.
	Response Time	Sets a response time for displayed pictures based on the movement of the picture on the screen. For a normal environment, it is recommended that you use **Fast**. When there is a lot of motion, it is recommended that you use **Faster**. Setting to **Faster** may cause image sticking.	
		Faster	Sets the response time to Faster.
		Fast	Sets the response time to Fast.
		Normal	Sets the response time to Normal.
		Off	Does not use the response time improvement feature.
	Black Stabilizer	Objects can be seen more clearly in dark screen picture by adjusting the black level. Increasing the **Black Stabilizer** value brightens the low gray levels on the screen. (You can easily distinguish objects on a dark game screen.) Reducing the **Black Stabilizer** value darkens the low gray levels and increases the dynamic contrast on the screen.	
	Uniformity	Adjusts the uniformity of screen brightness. **NOTE** • Enabling **Uniformity** may reduce the overall brightness of the image.	
		On	Enables the **Uniformity** feature.
		Off	Disables the **Uniformity** feature.

All Settings > Picture	Explanation		
Color Adjust	**Gamma**	Set your own gamma value. **Gamma 1.8**, **Gamma 2.0**, **Gamma 2.2**, **Gamma 2.4**, **Gamma 2.6**, **DICOM Gamma Curve**. The higher the gamma value, the darker the image becomes. Likewise, the lower the gamma value, the lighter the image becomes.	
	Color Temp	Set your own colour temperature. (**Custom**, **6500K**, **7500K**, **9300K**, **Manual**)	
		Custom	The user can customize the red, green and blue color.
		6500K	Sets the picture color to the color temperature of a reddish 6500K.
		7500K	Sets the picture color to the color temperatures of 7500K, setting to a color between red and blue.
		9300K	Sets the picture color to the color temperature of a bluish 9300K.
		Manual	Adjusts the color temperature in 500K increments. (Note that 9300K is supported rather than 9500K.)
	Red	You can customize the picture color using red, green and blue.	
	Green		
	Blue		
	Six Color	Fulfills your color requirements by adjusting the hue and saturation of the six colors (Red, Green, Blue, Cyan, Magenta and Yellow). The settings are then saved.	
		Hue	Adjusts the tone of the screen colors.
		Saturation	Adjusts the saturation of the screen colors. The lower the value, the less saturated and brighter the colors become. The higher the value, the more saturated and darker the colors become.
Configuration Adjust	**Horizontal / Vertical**	Adjusts the position of the screen.	
	Clock / Phase	Improves the sharpness and stability of the screen.	
Picture Reset	Returns the colors to the default settings.		

General

1 Press the [Menu ⁘] button on the front of the monitor, then select **All Settings** to display the complete OSD menu.
2 Press ◀, ▶, ▼ or ▲ button on the front to select **General**.
3 Configure the options following the instructions that appear in the bottom right corner.
4 If you want to configure an upper menu or another option, move using the ◀ button among the front adjust buttons or by pressing [◉ /**OK**].
5 To leave the OSD menu, press the [Menu ⁘] or ◀ button.

The applicable setting options are as shown below.

All Settings > General	Explanation	
Language	Sets the menu screen to the desired language.	
SMART ENERGY SAVING	Conserve energy by using luminance compensation algorithm.	
	High	Saves energy using the high-efficiency **SMART ENERGY SAVING** feature.
	Low	Saves energy using the low-efficiency **SMART ENERGY SAVING** feature.
	Off	Disables the **SMART ENERGY SAVING** feature.
Power LED	Turns the power indicator on the front of the monitor on or off.	
	On	The power indicator turns on automatically.
	Off	The power indicator turns off.
Automatic Standby	Feature that automatically turns off the monitor when there is no movement on the screen for a period of time. You can set a timer for the auto-off function. (**Off**, **4H**, **6H**, and **8H**)	
User Preset	User name can be configured using the on-screen keyboard.	
	User Name	Assigns a user name to USER 1-10.
	Load User Settings	Loads settings stored in USER 1-10.
	Save User Settings	Saves the current settings to USER 1-10.
	Default User Settings	Loads the default settings.
Auto Screen Off	Automatically turns off the screen when there is no monitor signal for a set time period.	
	On	Activates Auto Screen Off function.
	Off	Deactivates Auto Screen Off function.

<table>
<tr><th>All Settings > General</th><th colspan="2">Explanation</th></tr>
<tr><td>DisplayPort 1.2</td><td colspan="2">Enables or disables DisplayPort 1.2.

NOTE
• Be sure to configure this option according to the DisplayPort version supported by your graphics card. Set this option to Disable if your graphics card does not support DisplayPort 1.2.
• When DisplayPort 1.2 is disabled, you cannot use the 10-bit output of your video card.</td></tr>
<tr><td rowspan="4">OSD Lock</td><td colspan="2">This feature disables the configuration and adjustment of menus.</td></tr>
<tr><td>On</td><td>Enables OSD Lock.</td></tr>
<tr><td>Off</td><td>Disables OSD Lock.</td></tr>
<tr><td colspan="2">NOTE
• Deactivates all functions except the Quick Settings menu and Input menu's Input List and Aspect Ratio functions, and the General menu's OSD Lock and Information functions.</td></tr>
<tr><td>Information</td><td colspan="2">Displays the product model, total power on time, serial number and resolution information.</td></tr>
<tr><td rowspan="3">Reset</td><td colspan="2">Do you want to reset your settings?</td></tr>
<tr><td>No</td><td>Cancel the reset.</td></tr>
<tr><td>Yes</td><td>Restores the screen settings to the default settings when your monitor was first purchased.</td></tr>
</table>

Auto Configuration

1 Press the [Menu] button on the front of the monitor, then select **All Settings** to display the complete OSD menu.
2 Press ◀, ▶, ▼ or ▲ button on the front to select **Auto Configuration**.
3 Configure the options following the instructions that appear in the bottom right corner.
4 If you want to configure an upper menu or another option, move using the ◀ button among the front adjust buttons or by pressing [◉ /**OK**].
5 To leave the OSD menu, press the [Menu] or ◀ button.

The applicable setting options are as shown below.

All Settings > Auto Configuration	Explanation	
Do you want to Auto Configuration?	**No**	Cancel the auto configuration.
	Yes	Automatically sets screen to optimal settings.

TROUBLESHOOTING

Nothing is displayed on the screen.	
Is the monitor's power cord plugged in?	• Check if the power cord is correctly plugged into the power outlet.
Is the power indicator on?	• Check the power cable connection and turn on the power switch.
Is the power indicator displaying as green?	• Check if the input setting is correct. ([Menu ⁘] > **All Settings** > **Input**)
Is the **Out of Range** message being displayed?	• This occurs when signals transferred from the PC (graphics card) are out of the horizontal or vertical frequency range of the monitor. Please see the <Product Specification> section of this manual to set the appropriate frequency.
Is the **No Signal** message displayed?	• This is displayed when the signal cable between the PC and the monitor is missing or disconnected. Check the cable and reconnect it.
For Mac products, if the device is configured for DisplayPort 1.2, the screen will not display properly.	• Some Mac products may not support DisplayPort 1.2. Please inquire with the manufacturer.

The screen retains an image.	
Does image sticking occur even when the monitor is turned off?	• Displaying a still image for a prolonged time may cause damage to the screen, resulting in the retention of the image. • To extend the lifetime of the monitor, use a screensaver.

The screen is unstable and shakes. / There are shadowy traces left on the screen.	
Did you select the appropriate resolution?	• If the selected resolution is HDMI 1080i 60/50 Hz (interlaced), the screen may be flickering. Change the resolution to 1080p or the recommended resolution.

NOTE

- Vertical Frequency: In order to display an image, the screen must be refreshed dozens of times per second, like a fluorescent lamp. The number of times the screen is refreshed per second is called vertical frequency, or refresh rate, and is represented by Hz.
- Horizontal Frequency: The time it takes to display one horizontal line is called the horizontal cycle. If 1 is divided by the horizontal interval, the result is the number of horizontal lines displayed per second. This is called horizontal frequency and is represented by kHz.
- Check if the graphics card's resolution or frequency is within the range allowed by the monitor and in Windows set it to the recommended (optimal) resolution in **Control Panel** > **Display** > **Settings**. (May differ depending on your operating system (OS).)
- Not setting the video card to the recommended (optimal) resolution may result in blurred text, a dimmed screen, a truncated display area or misalignment of the display.
- The setting methods may be different depending on the computer or operating system, and some resolutions may not be available depending on the performance of the graphics card. If this is the case, contact the manufacturer of the computer or graphics card for assistance.
- Normal graphics cards do not support 1280 x1024 resolution. If the resolution cannot be displayed, contact the manufacturer of your graphics card.

The display colour is abnormal.	
Does the display appear discoloured (16 colours)?	• Set the number of colours to 24 bits (true colours) or higher: In Windows **Control Panel** > **Display** > **Settings** > **Colour Quality** (May differ depending on your operating system.)
Does the display colour appear unstable or monochrome?	• Check if the signal cable is connected properly. Reconnect the cable or reinsert the PC's graphics card.
Are there spots on the screen?	• When using the monitor, pixilated spots (red, green, blue, white or black) may appear on the screen. This is normal for an LCD screen. It is not an error, nor is it related to the monitor's performance.

The 'Unknown Monitor' message appears when the monitor is connected.	
Did you install the monitor driver?	• Install the enclosed monitor driver which is provided with the monitor or go to LG Electronics homepage (*www.lg.com*) to download and install the monitor driver. • Check whether the plug & play function is supported by referring to the graphics card user manual.

The image is displayed abnormally.	
Does the screen area appear abnormal?	• If you want to automatically configure display images to optimal settings, enter the **Auto Configuration** function and select **Yes**.
Do you see vertical lines on the screen?	
Does the screen display horizontal noise, or does the text appear blurred?	

PRODUCT SPECIFICATIONS

In order to improve the product, specifications may change without notice.

The ~ symbol means alternating current, and the symbol ⎓ means direct current.

LCD Screen	Type	TFT (Thin Film Transistor) LCD (Liquid Crystal Display) Screen	
	Pixel Pitch	0.294 mm x 0.294 mm	
Resolution	Max Resolution	1280 x 1024 @ 75 Hz	
	Recommended Resolution	1280 x 1024 @ 60 Hz	
Video Signal	Horizontal Frequency	30 kHz–83 kHz	
	Vertical Frequency	56 Hz–75 Hz	
Input Connector	DVI-D IN, HDMI IN, DP IN, D-SUB IN, USB UPSTREAM (SS⇜), USB (SS⇜) 1/2		
Power Sources	Power Rating	AC 100-240 V ~ 50/60 Hz 1.4-0.7 A	
	Power Consumption	Maximum: 50 W Sleep Mode: ≤ 0.5 W Off Mode: ≤ 0.5 W	
Environmental Conditions	Operating Conditions	Temperature	0°C to 40°C
		Humidity	0% to 80%
		Pressure	700 hPa to 1060 hPa
	Storing Conditions	Temperature	-20°C to 60°C
		Humidity	0% to 85%
		Pressure	500 hPa to 1060 hPa

Dimensions (mm)	Monitor Size (Width x Height x Depth)	
	With Stand	410 x 389.3 x 249.5
	Without Stand	410 x 343.8 x 57.6
Weight (Without Packaging) (kg)	With Stand	5.1
	Without Stand	2.9

Preset Mode

D-SUB

Preset Mode	Horizontal Frequency (kHz)	Vertical Frequency (Hz)	Polarity (H/V)	Remarks
640 x 480	31.469	59.94	-/-	
640 x 480	37.861	72.809	-/-	
640 x 480	37.500	75.000	-/-	
720 x 400	31.469	70.087	-/+	
800 x 600	35.156	56.250	+/+	
800 x 600	37.879	60.317	+/+	
800 x 600	48.077	72.188	+/+	
800 x 600	46.875	75.000	+/+	
1024 x 768	48.363	60.004	-/-	
1024 x 768	56.476	70.069	-/-	
1024 x 768	60.023	75.029	+/+	
1152 x 864	67.500	75.000	+/+	
1280 x 960	60.000	60.000	+/+	
1280 x 1024	63.981	60.02	+/+	Recommended
1280 x 1024	79.976	75.025	+/+	

DVI

Preset Mode	Horizontal Frequency (kHz)	Vertical Frequency (Hz)	Polarity (H/V)	Remarks
640 x 480	31.469	59.94	-/-	
720 x 400	31.469	70.087	-/+	
800 x 600	37.879	60.317	+/+	
1024 x 768	48.363	60.004	-/-	
1152 x 864	67.500	75.000	+/+	
1280 x 720	45.000	60.000	+/+	
1280 x 800	49.306	59.910	+/-	
1280 x 960	60.000	60.000	+/+	
1280 x 1024	63.981	60.02	+/+	Recommended

HDMI

Preset Mode	Horizontal Frequency (kHz)	Vertical Frequency (Hz)	Polarity (H/V)	Remarks
640 x 480	31.469	59.94	-/-	
720 x 400	31.469	70.087	-/+	
800 x 600	37.879	60.317	+/+	
1024 x 768	48.363	60.004	-/-	
1152 x 864	67.500	75.000	+/+	
1280 x 720	45.000	60.000	+/+	
1280 x 800	49.306	59.910	+/-	
1280 x 960	60.000	60.000	+/+	
1280 x 1024	63.981	60.02	+/+	Recommended

DP

Preset Mode	Horizontal Frequency (kHz)	Vertical Frequency (Hz)	Polarity (H/V)	Remarks
640 x 480	31.469	59.94	-/-	
720 x 400	31.469	70.087	-/+	
800 x 600	37.879	60.317	+/+	
1024 x 768	48.363	60.004	-/-	
1152 x 864	67.500	75.000	+/+	
1280 x 720	45.000	60.000	+/+	
1280 x 960	60.000	60.000	+/+	
1280 x 1024	63.981	60.02	+/+	Recommended

Input Timing (Video)

Vertical size	Frequency	Ratio	HDMI	DP
480p	59.94/60	4:3	0	0
480p	59.94/60	16:9	0	0
576p	50	16:9	0	0
720p	50	16:9	0	0
720p	59.94/60	16:9	0	0
1080p	59.94/60	16:9	0	0

Power Indicator

Mode	LED Colour
On Mode	Green
Power Saving Mode	Off
Off Mode	Off



WARNING: This equipment is compliant with Class A of CISPR 32. In a residential environment this equipment may cause radio interference.

Read the user manual (CD) carefully and keep it at hand. The product label contains necessary information for after-service.

Model _____

Serial No. _____