

# OWNER'S MANUAL LCD MONITOR

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

LCD MONITOR MODEL IPS231P

# 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 power supply cord is used as the main disconnection device. Ensure that the socket-outlet is easily accessible after installation.

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.

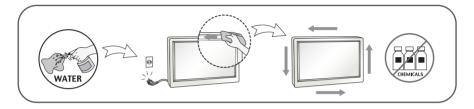
Do not shock or scratch the front and sides of the screen with metallic objects. Otherwise, it may cause damage to the screen.

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

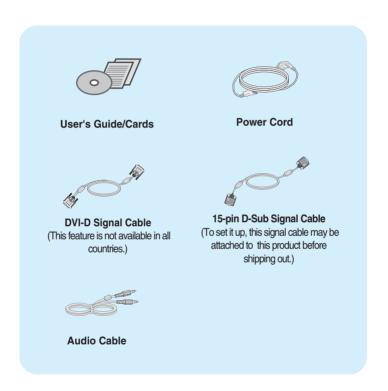
 Do not throw away the carton and packing materials. They make an ideal container in which to transport the unit. When shipping the unit to another location, repack it in its original material.

### On Disposal

- 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.

### !!! Thank for selecting LGE products !!!

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



### NOTE

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

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

# Connecting the stand base or Removing the stand base

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.



**Stand Base** 

#### 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.
- Product Handling with Care: When you lift up or move the product, Do Not hold or touch the front part of LCD panel. It will damage the panel. (Please hold the Stand Body or plastic cover of the product.)

**3.** Use a coin on the back of the stand base and turn the screw clockwise to tighten.



- **4.** Lift and turn the monitor to face towards the front after the connection is made to the female part of the cable you're attaching.
- **5.** When you desire to disintegrate the monitor from the stand base, use a coin to turn the screw counterclockwise.

#### **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.

# Positioning your display

### After installation, adjust the angle as shown below.

- 1. Adjust the position of the panel in various ways for maximum comfort.
  - Tilt Range : -5° to 15°



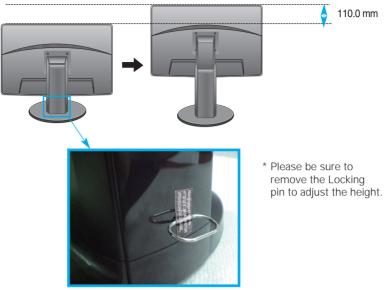


■ Swivel Range: 356°



# Connecting the Display

■ Height Range : maximum 4.33 inches (110.0 mm)







 When adjusting the angle of the screen, do not put your finger(s) in between the head of the monitor and the stand body. You can hurt your finger(s).



 When adjusting the height of the screen, do not put your finger(s) in between the head of the monitor and the stand base. You can hurt your finger(s).

#### WARNING

■ You do not need to replace the Locking pin after it is removed, to adjust its height.

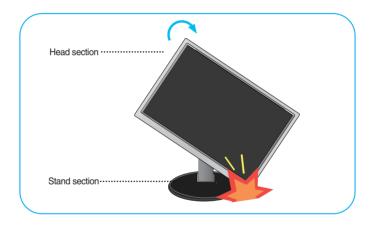
### **ERGONOMIC**

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.

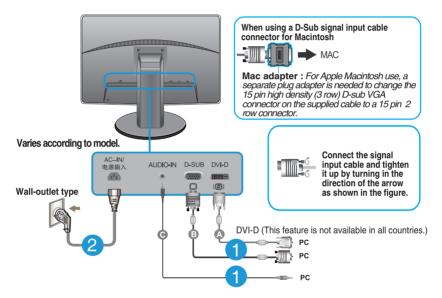


### **Connecting with the PC**

- Before setting up the monitor, ensure that the power to the monitor, the computer system, and other attached devices is turned off.
- **2.** Connect signal input cable 1 and power cord 2 in order, then tighten the screw of the signal cable.
  - A Connect DVI-D(Digital signal) Cable
- Connect Audio Cable
- B Connect D-sub(Analog signal) Cable

#### 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.



**3.** Press the power button on the front panel to turn the power on. When monitor power is turned on, the 'Self Image Setting Function' is executed automatically. (Only Analog Mode)

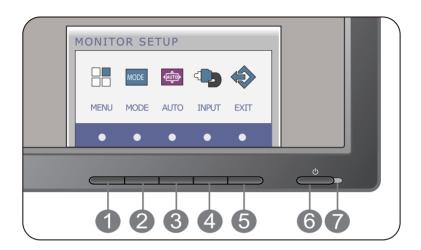


#### NOTE

' **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 individual input signals.

**'AUTO' 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 function button to improve resolution.

### **Front Panel Controls**





### **MENU Button**

### OSD LOCKED/UNLOCKED

OSD LOCKED

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.



### **MODE Button**

For more information, refer to page 20~21.





### **AUTO Button**

#### **AUTO IMAGE ADJUSTMENT**

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

PROCESSING AUTO

This will automatically adjust your display image to the ideal settings for the current screen resolution size (display mode).

The best display mode is IPS231P: 1920 x 1080



When two input signals are connected, you can select the input signal (D-SUB/DVI) you want. When only one signal is connected, it is automatically detected. The default setting is D-Sub.

**5** EXIT Button

Exit the OSD(On Screen Display).

6

**Power Button** 

Use this button to turn the display on or off.



### **Power Indicator**

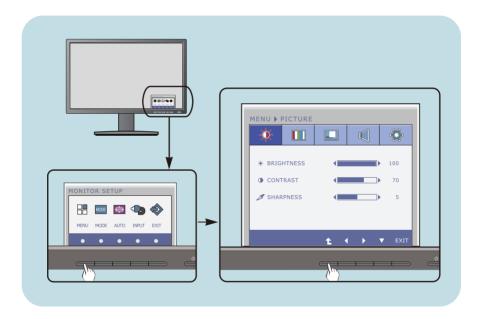
The power indicator stays blue if the display is running properly (On Mode). If the display is in Sleep Mode (Power Saving), the power indicator is blinking blue.

### **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.

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



- 1 Press the discretionary **Button**, then the main menu of the OSD appears.
- To access a control, use the corresponding **Buttons**.
- Use the ◀/▶ Buttons to adjust the image to the desired level.
  Use the ♣ Button to select other sub-menu items.
- 4 Press the **EXIT Button** to exit from the OSD.

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

DSUB : D-SUB(Analog signal) input
DVI-D : DVI-D(Digital signal) input

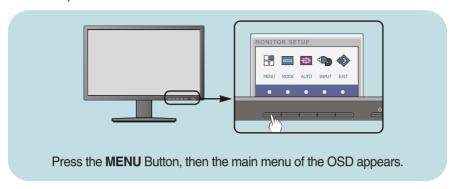
Main menu	Sub-menu Sup	ported signa	als Description
PICTURE	BRIGHTNESS CONTRAST SHARPNESS	DSUB DVI-D	Standard image settings.
COLOR	COLOR TEMP  (PRESET) (USER)  WARM SIX COLOR  (RED/GREEN/ BLUE/CYAN/ MAGENTA/ YELLOW)  HUE SATURATION RED GREEN BLUE  GAMMA COLOR RESET	DSUB DVI-D	Color temperature adjustments.
DISPLAY	HORIZONTAL VERTICAL CLOCK PHASE	DSUB	To adjust the position of the screen  To improve the clarity and stability of the screen
VOLUME		DSUB DVI-D	To adjust the volume
OTHERS	LANGUAGE POWER INDICATOR WHITE BALANCE SUPER ENERGY SAVING ORIGINAL RATIO FACTORY RESET	DSUB DVI-D DSUB DSUB DSUB DVI-D	To customize the screen status for a user's operating environment

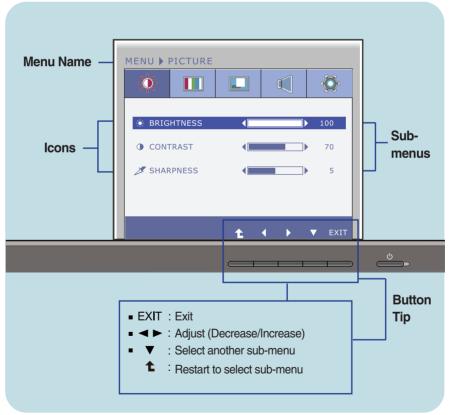
Main menu	Sub-menu	Supported in	out Description
MODE	USER	DSUB DVI-D	It is a mode that the user can adjust each element. It can adjust the color mode of the Main Menu.
	MOVIE		It is a mode that the screen is adjusted to the best to view the videos.
	TEXT		It is a mode that the screen is adjusted to the best for the text works.
	РНОТО		It is a mode that the screen is adjusted to the best to view pictures.
	sRGB		It is a mode that the screen is adjusted to the standard sRGB.

### NOTE

■ The order of icons may differ depending on the model (13~21).

■■ 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.





#### NOTE

■ OSD (On Screen Display) menu languages on the monitor may differ from the manual.

PICTURE

BRIGHTNESS
To adjust the brightness of the screen.

CONTRAST
CONTRAST
SHARPNESS
To adjust the contrast of the screen.

To adjust the clearness of the screen.

Select another sub-menuRestart to select sub-menu

#### Main menu Sub menu Description COLOR COLOR TEMP Select either PRESET or USER to adjust PRESET Mode the screen color. MENU ▶ COLOR **※ Ⅲ PRESET** Select the preset color temperature. - COLOR TEMP / DDESET N WARM WARM: Set the screen to warm color 4 temperature. • MEDIUM: Set the screen to medium 4 **■** GAMMA 2.2 **■** color temperature. O COLOR RESET 4 NO 1 COOL: Set the screen to cool color temperature. **USER Mode** MENU ▶ COLOR **USER** SIX COLOR -<u>0</u>-Sets and stores the hue and saturation - COLOR TEMP for six colors(RED/GREEN/BLUE/CYA SIX COLOR N/MAGENTA/YELLOW) to satisfy the color requirements of a user. BLUE HUE 7 GAMMA 4 GAMMA 2.2 h O COLOR RESET NO. Adjusts the screen hue. SATURATION Adjusts the color sharpness on the screen. Lower values make the color MENU ▶ COLOR sharpness weaker and colors lighter while higher values make the color - COLOR TEMP USER sharpness stronger and colors darker. BLUE **RED** 7 GAMMA Set your own red color levels. O COLOR RESET NO Set your own green color levels. SIX COLOR Set your own blue color levels. **GAMMA** Set your own gamma value. : 1.8/2.0/2.2/2.4/2.6 On the monitor, high gamma values display whitish images and low gamma values display blackish images. ■ EXIT : Exit COLOR Resets the color settings to the factory : Decrease RESET default settings for the current input : Increase device. : Select another sub-menu : Restart to select sub-menu

Main menu Sub menu Description

**PHASE** 





**HORIZONTAL** To move image left and right.

**VERTICAL** To move image up and down.

CLOCK To minimize any vertical bars or

stripes visible on the screen background.

The horizontal screen size will also

change.

■ EXIT : Exit

: Select another sub-menu: Restart to select sub-menu

To adjust the focus of the display. This item allows you to remove any horizontal noise and clear or sharpen

the image of characters.

**VOLUME** 



To adjust the volume of headphone/Speaker.

■ **1**: Restart to select sub-menu

#### Main menu Sub menu Description LANGUAGE To choose the language in which the **OTHERS 6** control names are displayed. **POWER** Use this function to set the power MENU ▶ OTHERS INDICATOR indicator on the front side of the monitor -0-to ON or OFF. If you set **OFF**, it will go off. ANGUAGE POWER INDICATOR If you set **ON** at any time, the power ON ∠ WHITE BALANCE indicator will automatically be turned on. ■ SUPER ENERGY SAVING 4 ON ■ ORIGINAL RATIO 4 WHITE If the output of the video card is different ➡ FACTORY RESET BALANCE the required specifications, the color level may deteriorate due to video signal distortion. Using this function, the signal ■ FXIT · Fxit level is adjusted to fit into the standard Decrease output level of the video card in order to : Increase provide the optimal image. : Select another sub-menu Activate this function when white and black : Restart to select sub-menu colors are present in the screen. SUPER When SUPER ENERGY SAVING ENERGY function is ON, power can be saved about SAVING 25%. LG calculated these values by using "broadcast video signal". ORIGINAL Sets the screen size. RATIO - WIDE: Fits the screen to the panel size. - ORIGINAL: Adjusts the aspect ratio automatically depending on input image signal. ORIGINAL \* ORIGINAL RATIO is disabled when the input signal has the recommended resolution of 1920 x 1080. FACTORY Restore all factory default settings except "LANGUAGE." RESET

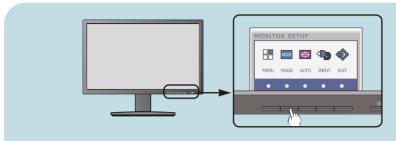
#### NOTE

If this does not improve the screen image, restore the factory default settings. If necessary, execute the WHITE BALANCE function again. This function will be enabled only when the input signal is an analog signal.

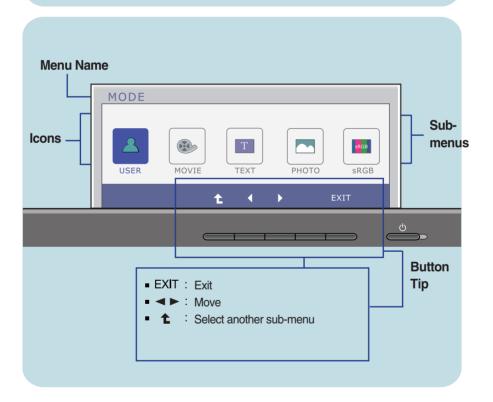
Press the ◀. ▶ buttons to reset

immediately.

■■■ 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 **MODE** Button, then the main menu of the OSD appears.



#### **NOTE**

■ OSD (On Screen Display) menu languages on the monitor may differ from the manual.

Main menu Sub menu **Description** MODE It is a mode that the user can adjust each element. It can adjust the color mode of the Main Menu. **USER** MOVIE It is a mode that the screen is adjusted to the best to view the videos. **TEXT** It is a mode that the screen is adjusted to the best for the text works. **PHOTO** It is a mode that the screen is adjusted to the best to view pictures. sRGB It is a mode that the screen is adjusted to the standard sRGB. 2 ■ EXIT : Exit ■ : Move : Select another sub-menu

Check the following before calling for service.

### No image appears

- Is the power cord of the display connected?
- 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 "CHECK SIGNAL CABLE" message on the screen?
- This message appears when the signal cable between your PC and your display is not connected. Check the signal cable and try 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 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 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 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).

### **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.
- 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.
- 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.

### 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**.
- The screen blinks.
- Check if the screen is set to interlace mode and if yes, change it to the recommend resolution.

# Do you see an "Unrecognized monitor, Plug&Play (VESA DDC) monitor found" message?

- Have you installed the display driver?
- Be sure to install the display driver from the display driver CD (or diskette) that comes with your display. Or, you can also download the driver from our web site: http://www.lg.com.
- Make sure to check if the video card supports Plug&Play function.

# Specifications

Display	58.4 cm (23 inch) Flat Panel Active matrix-TFT LCD Anti-Glare coating Visible diagonal size : 58.4 cm 0.265 x 0.265 mm (Pixel pitch)		
Sync Input	Horizontal Freq. Vertical Freq. Input Form		kHz (Automatic) Hz (Automatic) nc.
Video Input	Signal Input Input Form	15 pin D-Sub DVI-D Conne RGB Analog	
Resolution	Max Recommend	VESA 1920 x 1080 @60 Hz VESA 1920x 1080 @60 Hz	
Plug&Play	DDC 2B(Digital),DDC2AB(Anlaog)		
Power Consumption	On Mode Sleep Mode Off Mode	: 35 W(Typ.) ≤ 0.3 W ≤ 0.3 W	)
Dimensions & Weight	With Stand Width 54.82 cm (21.5 Height 36.67 cm (14.4 47.67 cm (18.7 Depth 22.44 cm ( 8.5 Weight(excl. packir	13 inch)(Min.) 76 inch)(Max.) 33 inch)	Without Stand Width 54.82 cm (21.58 inch) Height 33.49 cm (13.18 inch)  Depth 5.63 cm (2.21 inch) (10.64 lb)
Range	Tilt -5° to 15° Swivel 356° Height 110 mm / 4.33 inch		
Power Input	AC 100 - 240 V~ 50 / 60 Hz 1.0 A		
Environment al Conditions	Operating 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			

Information in this document is subject to change without notice.

# **Preset Modes (Resolution)**

Displ	ay Modes (Resolution)	Horizontal Freq. (kHz)	Vertical Freq. (Hz)
1 2 3 4 5 6 7 8 9 10 11	720 x 400 640 x 480 640 x 480 800 x 600 800 x 600 1024 x 768 1024 x 768 1152 x 864 1280 x 1024 1280 x 1024 1680 x 1050	31.468 31.469 37.500 37.879 46.875 48.363 60.123 67.500 63.981 79.976 65.290	70 60 75 60 75 60 75 75 60 75
6 7 8 9 10	1024 x 768 1024 x 768 1152 x 864 1280 x 1024 1280 x 1024	48.363 60.123 67.500 63.981 79.976	60 75 75 60 75

<sup>\*</sup>Recommend Mode

# **Indicator**

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

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



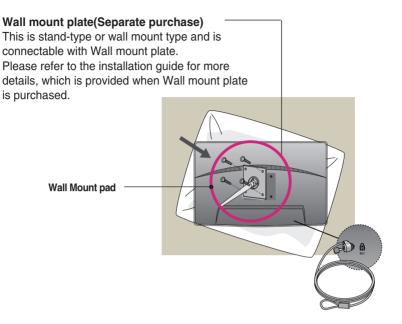
1. After moving the product to face downward, make sure to place it on a soft cloth or a cushion to avoid surface damage.



**2.** Separate the head and the stand with the use of a screwdriver.

# Installing the Wall mount plate

### 3. Install the Wall mount plate.



<Screw Mounting Interface Dimension> Hole spacing: 75 mm x 75 mm.

### 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:  $\phi$  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 \_\_\_\_\_

ENERGY STAR is a set of power-saving guidelines issued by the U.S.Environmental Protection Agency(EPA).



As an ENERGY STAR Partner LGE U. S. A.,Inc. has determined that this product meets the ENERGY STAR guidelines for energy efficiency.