OWNER'S MANUAL

LG Digital Signage

(MONITOR SIGNAGE)

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

43UL3G
50UL3G
55UL3G
65UL3G
75UL3G
86UL3G

www.lg.com

Copyright © 2020 LG Electronics Inc. All Rights Reserved.

TABLE OF CONTENTS

WARNING! SAFETY INSTRUCTIONS 3

ASSEMBLY AND PREPARATION ..6

- Optional Accessories 7
- Parts and Buttons 8
- Portrait Layout 9
- Using Kensington Lock 9
- Installing on a Wall 10

REMOTE CONTROL 12

MAKING CONNECTIONS 14

- Connecting to a PC 14
- External Device Connection 14
- Using the Input List 15
- Connecting Multiple Monitors 16

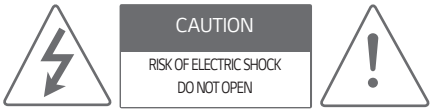
TROUBLESHOOTING 17

PRODUCT SPECIFICATIONS 21

LICENSES 27

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

WARNING! SAFETY INSTRUCTIONS



CAUTION: TO REDUCE THE RISK OF ELECTRIC SHOCK, DO NOT REMOVE COVER (OR BACK). NO USER-SERVICEABLE PARTS INSIDE. REFER TO QUALIFIED SERVICE PERSONNEL.

This symbol is intended to alert the user to the presence of uninsulated “dangerous voltage” within the product’s enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.

This symbol is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

WARNING: TO REDUCE THE RISK OF FIRE AND ELECTRIC SHOCK, DO NOT EXPOSE THIS PRODUCT TO RAIN OR MOISTURE.

- TO PREVENT THE SPREAD OF FIRE, KEEP CANDLES OR OTHER ITEMS WITH OPEN FLAMES AWAY FROM THIS PRODUCT AT ALL TIMES.
- Do not place the monitor and/or remote control in the following environments:
  - Keep the product away from direct sunlight.
  - An area with high humidity such as a bathroom.
  - Near any heat source such as stoves and other devices that produce heat.
  - Near kitchen counters or humidifiers where they can easily be exposed to steam or oil.
  - An area exposed to rain or wind.
  - Do not expose to dripping or splashing and do not place objects filled with liquids, such as vases, cups, etc. on or over the apparatus (e.g., on shelves above the unit).
  - Near flammable objects such as gasoline or candles, or expose the monitor to direct air conditioning.
  - Do not install in excessively dusty places.

  Otherwise, this may result in fire, electric shock, combustion/explosion, malfunction or product deformation.
- **Ventilation**
  - Install your monitor where there is proper ventilation. Do not install in a confined space such as a bookcase.
  - Do not install the product on a carpet or cushion.
  - Do not block or cover the product with cloth or other materials while unit is plugged in.
- Take care not to touch the ventilation openings. When watching the monitor for a long period, the ventilation openings may become hot.

- Protect the power cord from physical or mechanical abuse, such as being twisted, kinked, pinched, closed in a door, or walked upon. Pay particular attention to plugs, wall outlets, and the point where the cord exits the device.
- Do not move the monitor whilst the Power cord is plugged in.
- Do not use a damaged or loosely fitting power cord.
- Be sure to grasp the plug when unplugging the power cord. Do not pull on the power cord to unplug the monitor.
- Do not connect too many devices to the same AC power outlet as this could result in fire or electric shock.
- **Disconnecting the Device from the Main Power**
  - The power plug is the disconnecting device. In case of an emergency, the power plug must remain readily accessible.
- Do not let your children climb or cling onto the monitor. Otherwise, the monitor may fall over, which may cause serious injury.
- Make sure the power cord is connected securely to the monitor and wall socket if not secured damage to the Plug and socket may occur and in extreme cases a fire may break out.
- Do not insert metallic or inflammable objects into the product. If a foreign object is dropped into the product, unplug the power cord and contact the customer service.
- Do not touch the end of the power cord while it is plugged in. You may be electrocuted.
- **If any of the following occur, unplug the product immediately and contact your local customer service.**
  - The product has been damaged.
  - If water or another substance enters the product (like an AC adapter, power cord, or monitor).
  - If you smell smoke or other odors coming from the monitor.
  - When lightning storms or when unused for long periods of time.

  Even the monitor is turned off by remote control or button, AC power source is connected to the unit if not unplugged in.
- Do not use high voltage electrical equipment near the monitor (e.g., a bug zapper). This may result in product malfunction.
- Do not attempt to modify this product in any way without written authorization from LG Electronics. Accidental fire or electric shock can occur. Contact your local customer service for service or repair. Unauthorized modification could void the user's authority to operate this product.
- Use only an authorized attachments / accessories approved by LG Electronics. Otherwise, this may result in fire, electric shock, malfunction, or product damage.
- Never disassemble the AC adapter or power cord. This may result in fire or electric shock.
- Handle the adapter carefully to avoid dropping or striking it. An impact could damage the adapter.
- To reduce the risk of fire or electrical shock, do not touch the monitor with wet hands. If the power cord prongs are wet or covered with dust, dry the power plug completely or wipe dust off.

- **Batteries**
  - Store the accessories (battery, etc.) in a safe location out of the reach of children.
  - Do not short circuit, disassemble, or allow the batteries to overheat. Do not dispose of batteries in a fire. Batteries should not be exposed to excessive heat.
- **Moving**
  - When moving, make sure the product is turned off, unplugged, and all cables have been removed. It may take 2 or more people to carry larger monitors. Do not press or put stress on the front panel of the monitor. Otherwise, this may result in product damage, fire hazard or injury.
- Keep the packing anti-moisture material or vinyl packing out of the reach of children.
- Do not allow an impact shock, any objects to fall into the product, and do not drop anything onto the screen.
- Do not press strongly upon the panel with a hand or a sharp object such as a nail, pencil, or pen, or make a scratch on it. It may cause damage to screen.
- **Cleaning**
  - When cleaning, unplug the power cord and wipe gently with a soft/dry cloth. Do not spray water or other liquids directly on the monitor. Do not clean your monitor with chemicals including glass cleaner, any type of air freshener, insecticide, lubricants, wax (car, industrial), abrasive, thinner, benzene, alcohol etc., which can damage the product and/or its panel. Otherwise, this may result in electric shock or product damage.

⚠ WARNING

If you ignore the warning message, you may be seriously injured or there is a possibility of accident or death.

⚠ WARNING

- Indoor Use Only.

ASSEMBLY AND PREPARATION

⚠ 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.

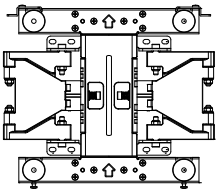
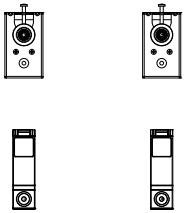
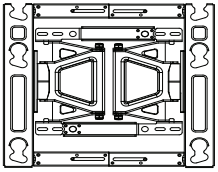
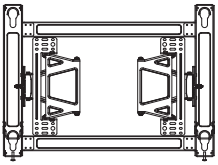
NOTE

- The accessories provided with your product may vary depending on the model or region.
- Product specifications or contents in this manual may be changed without prior notice due to upgrade of product functions.
- SuperSign Software & Manual
  - Downloading from the LG Electronics website.
  - Visit the LG Electronics website (*http://partner.lge.com*) and download the latest software for your model.
- The warranty will not cover any damage caused by using the product in an excessively dusty environment.

Optional Accessories

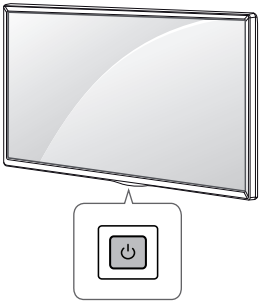
(Depending on model)

Without prior notice, optional accessories are subject to change to improve the performance of the product, and new accessories may be added. The illustrations in this manual may differ from the actual product and accessories.

Wall Mounting Bracket	
	
LSW240B	MSW240
	
OLW480B	LSW640B

Parts and Buttons

The image may be different according to the model.



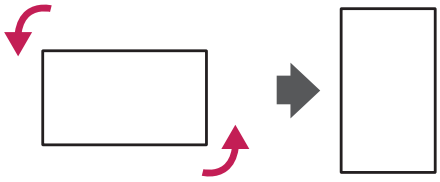


Power On (Press the button When the monitor is turned off.)
Power Off (Press the button When the monitor is turned on.)

Portrait Layout

(43UL3G, 50UL3G, 55UL3G, 65UL3G, 75UL3G)

When installing in a portrait layout, rotate the monitor counterclockwise 90 degrees (when facing the screen).

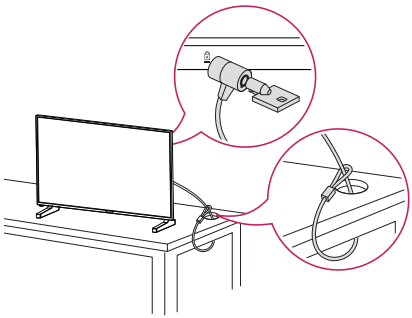


Using Kensington Lock

(This is not available for all models.)

The Kensington security system connector is located at the back of the monitor. For more information on installation and use of this system, refer to the manual provided with the Kensington security system or visit *http://www.kensington.com*.

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

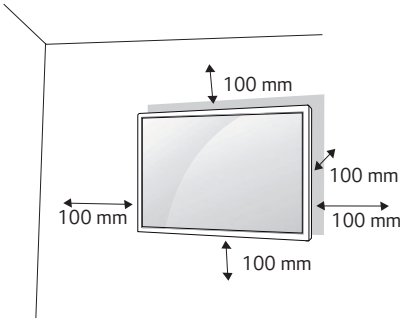


NOTE

- The Kensington security system is optional. You can obtain additional accessories from most electronics retail stores.
- The illustration shows a general example of installation and may look different from the actual product.

Installing on a Wall

For proper ventilation, allow a clearance of 100 mm on each side and from the wall. Detailed installation instructions are available from your dealer, see the optional Tilt Wall Mounting Bracket Installation and Setup Guide.

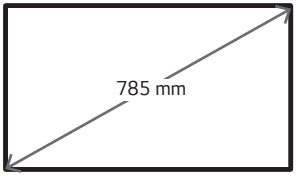


To install your monitor on a wall, attach a wall mounting bracket (optional part) to the back of the monitor.
Make sure that the wall mounting bracket is securely fixed to the monitor and to the wall.

1 Use only screws and wall mounting brackets that conform to VESA standards.
2 Screws which are longer than standard length may damage the inside of the monitor.
3 A non-VESA standard screw may damage the product and cause the monitor to fall. LG Electronics is not liable for any accidents related to the use of non-standard screws.
4 Please use VESA standard as below.

- 785 mm and above

  * Fixing screws: Diameter 6.0 mm x Pitch 1.0 mm x Length 12 mm



⚠ CAUTION

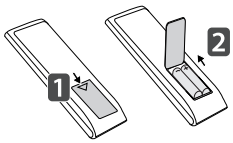
- Disconnect the power cord before moving or installing the monitor to avoid risk of electric shock.
- If you install the monitor on a ceiling or slanted wall, it may fall and result in injury. Use an authorized LG wall mount and contact your local dealer or qualified personnel to assist with the installation.
- Do not over tighten the screws as this may damage the monitor and void your warranty.
- Use only screws and wall mounting brackets that meet the VESA standard. Any damage or injuries caused by misuse or use of improper accessories are not covered by the warranty.

NOTE

- The wall mount kit includes the installation guide and all necessary parts.
- The wall mounting bracket is optional. You can obtain additional accessories from your local dealer.
- The length of screws required may differ depending on the wall mount. Be sure to use the correct length.
- For more information, please refer to the guide provided with the wall mount.
- Tilt installation of up to 30 degrees facedown is supported. (in conditions within 30 °C temperature, 50 % humidity)

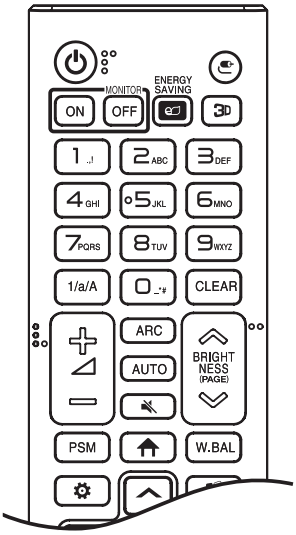
REMOTE CONTROL

The descriptions in this manual are based on the buttons on the remote control. Please read this manual carefully to use the monitor correctly. To install batteries, open the battery cover, place batteries (1.5 V AAA) matching ⊕ and ⊖ terminals to the labels inside the compartment, and close the battery cover. To remove the batteries, perform the installation actions in reverse. The illustrations may differ from the actual accessories.



⚠ CAUTION

- Do not mix old and new batteries, as this may damage the remote control.
- Be sure to point the remote control toward the remote control sensor on the monitor.
- Some features of the remote control may not be supported in certain models.
- The product's internal and external batteries should not be exposed to excessive heat such as direct sunlight, fire, or the like.
- Risk of fire or explosion if the battery is replaced by an incorrect type.



(POWER) Turns the monitor on or off.

MONITOR ON Turns the monitor on.

MONITOR OFF Turns the monitor off.

ENERGY SAVING Adjusts the brightness of the picture to reduce energy consumption.

(INPUT) Selects the input mode.

3D This function is not supported.

Number and Alphabet buttons Enters numerical or alphabetical characters depending upon the setting.

1/a/A Toggles between numerical and alphabetical.

CLEAR Deletes the entered numerical or alphabetical character.

(Volume Up/Down Button) Adjusts the volume.

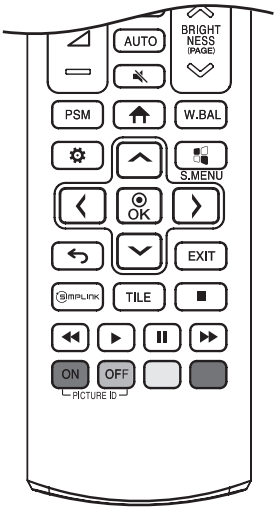
ARC Selects the Aspect Ratio mode.

AUTO Automatically adjusts picture position and minimizes image instability (available for RGB input only).

(MUTE) Mutes all sounds.

BRIGHTNESS Adjusts the brightness of the display.

PAGE function is not supported in this model.



PSM Selects the Picture Mode.

(HOME) Activates the Launcher.

W.BAL Enters the White Balance menu.

(SETTINGS) Accesses the main menus or saves your input and exit menus.

S.MENU This function is not supported.

(Navigation Buttons) Scrolls through menus or options.

OK Selects menus or options and confirms your input.

(BACK) Allows you to move back one step in the user interaction function.

EXIT Quit all OSD tasks and applications.

SIMPLINK Allows you to control various multimedia devices to enjoy multimedia simply by using the remote control through the SimpLink menu.

TILE This function is not supported.

PICTURE ID ON/OFF When the Picture ID number matches the Set ID number, you can control whichever monitor you want in multi-display format.

USB Menu Control Buttons Controls media playback.

MAKING CONNECTIONS

You can connect various external devices to your monitor. Change the input mode and select the external device you want to connect. For more information about external device connections, see the user manual provided with each device.

Connecting to a PC

Some of the cables are not provided. This monitor supports the Plug and Play* feature.

* Plug and Play: a feature that enables a PC to recognize devices attached by the user without device configuration or user intervention when powering up.

External Device Connection

Some of the cables are not provided. Connect a HD receiver, DVD, or VCR player to the monitor and select an appropriate input mode.

For the best picture and sound quality, connecting external devices to your monitor using HDMI cables is recommended.

NOTE

- For the best image quality, using the monitor with HDMI connection is recommended.
- To comply with the specifications of the product, use a shielded interface cable with ferrite core, such as a DVI-D/HDMI cable.
- If you turn the monitor on when the set is cold, the screen may flicker. This is normal.
- Sometimes red, green, or blue spots may appear on the screen. This is normal.
- Use a High Speed HDMI®/™ cable (shorter than 3 meters).
- Use a certified cable with the HDMI logo attached. If you do not use a certified HDMI cable, the screen may not display or a connection error may occur.
- Recommended HDMI Cable Types
  - High Speed HDMI®/™ Cable
  - High Speed HDMI®/™ Cable with Ethernet
- If you cannot hear any sound in HDMI mode please check your PC settings. Some PCs require you to manually change the default audio output to HDMI.
- If you want to use HDMI-PC mode, you must set your PC/DTV to PC mode.
- You may experience compatibility issues if you use HDMI-PC mode.
- Make sure the power cable is disconnected.
- If you connect a gaming device to the monitor, use the cable provided with the gaming device.

CAUTION

- Connect the signal input cable and tighten it by turning the screws clockwise.
- Do not press the screen with your finger for a prolonged period as this may result in temporary distortion on the screen.
- Avoid displaying static images on the screen for a long period of time to prevent retention. Use a screensaver if possible.
- A wireless communication device near your monitor can affect the image.

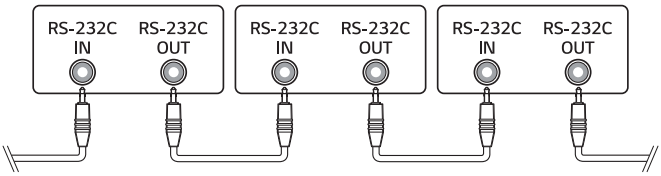
Using the Input List

(HOME) → 

- HDMI 1 → HDMI 2 → HDMI 3

Connecting Multiple Monitors

To use multiple monitors connected to each other, connect the end of the signal input cable to the OUT connection in one monitor and connect the other end to the IN connection of the other monitor.



TROUBLESHOOTING

» Each model may have different points to check.
» For information on your PC settings, refer to the Windows Help.

Issues Related to Use

- The power won't turn on.
  - Check if the power cord is correctly plugged into the power outlet.
  - Try turning the power on after disconnecting the AC adapter and cleaning the contacting port.
- The 'Unknown Product' message appears when the product is connected.
  - Check if the driver of PC(graphics card) has been installed.
  - Check if the plug and play function is supported by the PC(graphics card) user manual.

Issues Related to Screen (Video)

- A message saying 'No signal' or 'Invalid Format' appears.
  - The signal cable is not connected between the PC and the product, or the cable connection status is unstable. Check the signal cable.
  - Access the input menu to check the input signal.
  - The signal from the PC (Graphics card) is out of the vertical or horizontal frequency range of the product. Adjust the frequency range by referring to the specifications in this manual.
- The position of the screen is incorrect.
  - Check if the graphics card resolution and frequency are supported by the product. If the frequency exceeds the supported range, use PC settings to set the resolution to the recommended value.
  - D-Sub analog signal - Press the **AUTO** button in the remote control to automatically select the optimal screen status that fits into the current mode. If the adjustment is not satisfactory, adjust the display settings manually in the OSD menu.
- The screen is displayed abnormally.
  - Connect the signal cable that matches with the source input signal.

- Images are flickering or fluttering on the screen.
  - If you turn the monitor on when it is cold, the screen may flicker. This is normal.
  - Make sure that the current resolution and frequency settings of the graphics card are supported by the monitor.
- Stripes appear in the background.
  - D-Sub analog signal - Press the **AUTO** button in the remote control to automatically select the optimal screen status that fits into the current mode. If the adjustment is not satisfactory, adjust the display settings manually in the OSD menu.
- Horizontal noise appears or the characters look blurred.
  - D-Sub analog signal - Press the **AUTO** button in the remote control to automatically select the optimal screen status that fits into the current mode. If the adjustment is not satisfactory, adjust the display settings manually in the OSD menu.

Issues Related to Screen (Color)

- Screen has poor color resolution (16 colors).
  - Use PC settings to set the color to 24 bits (True Color) or above.
- Screen color is unstable or mono-colored.
  - Check the connection status of the signal cable. Or, re-insert the PC graphics card.
- Black spots or bright spots appear on the screen.
  - Some pixels (red, green, blue, black) are visible on the screen due to the unique characteristics of the display panel. This is not a malfunction of the product.
- The screen's brightness seems dark.
  - Adjust brightness and contrast again.
  - Backlight may need repair.

Issues Related to Sound

- There is no sound output.
  - See if the audio cable is connected properly.
  - Adjust the volume of the product or external device.
  - See if the sound is set properly.
- Sound is too dull.
  - Select the appropriate equalizer sound.
- Sound is too low.
  - Adjust the volume of the product or external device.
- For some models, you will need to purchase external speakers separately since they do not have speakers built-in.

Other Issues

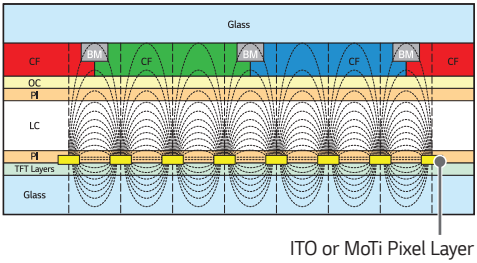
- The power suddenly turned off.
  - Check if the auto-off function is activated on the settings related time.
  - Power source has not being supplied properly. See if the product power cord is connected properly.
  - Check the power control settings.

Image sticking

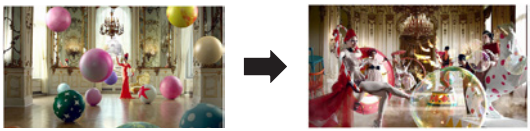
- After-image appears when the product is turned off.
  - If you use a fixed image for a long time, the pixels may be damaged. Use the screen-saver function.
  - When a dark image is displayed on the screen after an image with high contrast (black and white or gray), this may cause image sticking. This is normal for display products.
- When the LCD panel displays a static image for an extended period of time, it can cause a voltage difference between the electrodes that operate the liquid crystals. When the voltage difference between the electrodes builds up over time, liquid crystals have a tendency to remain aligned in one direction. During this process, a previously displayed image remains visible. This phenomenon is referred to as image sticking.
- Image sticking does not occur when using constantly changing images but may occur when using a fixed image for an extended period of time. Therefore, it is recommended that you use the instructions below to decrease the likelihood of image sticking occurring when using a fixed image. It is recommended that you change the screen at least once every 12 hours at the very minimum; if done more frequently, the prevention of image sticking is more effective.
- Recommended operating conditions

1 Change the background and the character colors using the same time interval.
  - When changing colors, using complementary colors helps to prevent image sticking.





2 Change the image using the same time interval.
  - Make sure that the characters or images before changing the image remain in the same location after changing the image.



PRODUCT SPECIFICATIONS

The product specifications below may be changed without prior notice due to upgrade of product functions.
" ~ " refers to alternating current (AC), and " ⎓ " refers to direct current (DC).

LCD screen	Screen type	Thin Film Transistor (TFT) Liquid Crystal Display (LCD) Screen
Video signal	Maximum resolution	HDMI1,2,3: 3840 x 2160 @ 60 Hz - This may not be supported on some OS or graphics card types.
	Recommended resolution	HDMI1,2,3: 3840 x 2160 @ 60 Hz - This may not be supported on some OS or graphics card types.
	Horizontal frequency	HDMI1,2,3: 30 kHz to 136 kHz
	Vertical frequency	HDMI1,2,3: 58 Hz to 62 Hz
	Synchronization	Separate Sync, Digital
Input/ Output ports		HDMI IN 1, HDMI IN 2, HDMI IN 3, RS-232C IN/OUT, LAN, USB 2.0 IN x 2, AUDIO OUT
Embedded battery		Applied
Environmental Conditions	Operating Temperature	0 °C to 40 °C
	Operating Humidity	10 % to 80 %
	Storage Temperature	-20 °C to 60 °C
	Storage Humidity	5 % to 85 %

43UL3G

LCD screen	Pixel pitch	0.2451 mm (H) x 0.2451 mm (V)
Power	Power consumption	On Mode: 80 W (Typ.) Sleep Mode: ≤ 0.5 W Standby Mode: ≤ 0.5 W
Dimensions (Width x Height x Depth) / Weight	Head	973 mm x 572 mm x 85.0 mm / 8.0 kg
	Head + Stand	973 mm x 623 mm x 216 mm / 8.1 kg

50UL3G

LCD screen	Pixel pitch	0.2854 mm (H) x 0.2854 mm (V)
Power	Power consumption	On Mode: 105 W (Typ.) Sleep Mode: ≤ 0.5 W Standby Mode: ≤ 0.5 W
Dimensions (Width x Height x Depth) / Weight	Head	1130 mm x 663 mm x 86.3 mm / 11.3 kg
	Head + Stand	1130 mm x 722 mm x 231 mm / 11.5 kg

55UL3G

LCD screen	Pixel pitch	0.315 mm (H) x 0.315 mm (V)
Power	Power consumption	On Mode: 105 W (Typ.) Sleep Mode: ≤ 0.5 W Standby Mode: ≤ 0.5 W
Dimensions (Width x Height x Depth) / Weight	Head	1244 mm x 726 mm x 87.1 mm / 14.3 kg
	Head + Stand	1244 mm x 786 mm x 231 mm / 14.5 kg

65UL3G

LCD screen	Pixel pitch	0.372 mm (H) x 0.372 mm (V)
Power	Power consumption	On Mode: 130 W (Typ.) Sleep Mode: ≤ 0.5 W Standby Mode: ≤ 0.5 W
Dimensions (Width x Height x Depth) / Weight	Head	1463 mm x 850 mm x 87.8 mm / 21.3 kg
	Head + Stand	1463 mm x 914 mm x 269 mm / 21.6 kg

75UL3G

LCD screen	Pixel pitch	0.4296 mm (H) x 0.4296 mm (V)
Power	Power consumption	On Mode: 155 W (Typ.) Sleep Mode: ≤ 0.5 W Standby Mode: ≤ 0.5 W
Dimensions (Width x Height x Depth) / Weight	Head	1693 mm x 978 mm x 88.8 mm / 34.6 kg
	Head + Stand	1693 mm x 1048 mm x 345 mm / 35.4 kg

86UL3G

LCD screen	Pixel pitch	0.4935 mm (H) x 0.4935 mm (V)
Power	Power consumption	On Mode: 240 W (Typ.) Sleep Mode: ≤ 0.5 W Standby Mode: ≤ 0.5 W
Dimensions (Width x Height x Depth) / Weight	Head	1943 mm x 1118 mm x 93.3 mm / 44.2 kg
	Head + Stand	1943 mm x 1188 mm x 345 mm / 45.0 kg

- For the power supply and power consumption, refer to the label attached to the product.

Wireless module(LGSBWAC72) Specifications	
Wireless LAN (IEEE 802.11a/b/g/n/ac)	
Frequency range (MHz)	**Output power (Max.) (dBm)**
2400 to 2483.5	14
5150 to 5725	16.5
5725 to 5850 (Not for EU)	11.5
Bluetooth	
Frequency range (MHz)	**Output power (Max.) (dBm)**
2400 to 2483.5	8.5

- As band channels can vary per country, the user cannot change or adjust the operating frequency. This product is configured for the regional frequency table.
- For consideration of the user, this device should be installed and operated with a minimum distance of 20 cm between the device and the body.
- "IEEE 802.11ac" is not available in all countries.

(Only Nigeria)

Connection and use of this communications equipment is permitted by the Nigerian Communications Commission

(Only HongKong)

Wireless module(LGSBWAC72) Specifications	
Wireless LAN (IEEE 802.11a/b/g/n/ac)	
Frequency range (MHz)	**Output power (Max.) (dBm)**
2400 to 2483.5	14
5150 to 5350	16.5
5725 to 5850	11.5
Bluetooth	
Frequency range (MHz)	**Output power (Max.) (dBm)**
2400 to 2483.5	8.5

- As band channels can vary per country, the user cannot change or adjust the operating frequency. This product is configured for the regional frequency table.
- For consideration of the user, this device should be installed and operated with a minimum distance of 20 cm between the device and the body.

HDMI (PC) Support mode

Resolution	Horizontal frequency (kHz)	Vertical frequency (Hz)	Remark
800 x 600	37.879	60.317	
1024 x 768	48.363	60	
1280 x 720	44.772	59.855	
1280 x 1024	63.981	60.02	
1680 x 1050	65.29	59.954	
1920 x 1080	67.5	60	
3840 x 2160	67.5	30	HDMI1/2/3
3840 x 2160	135	60	HDMI1/2/3

HDMI (DTV) Support Mode

Resolution	Horizontal frequency (kHz)	Vertical frequency (Hz)	Remark
480/60p	31.5	60	
576/50p	31.25	50	
720/50p	37.5	50	
720/60p	45	60	
1080/50i	28.1	50	
1080/60i	33.75	60	
1080/50p	56.25	50	
1080/60p	67.432	59.94	
1080/60p	67.5	60	
2160/30p	67.5	30	HDMI1/2/3
2160/50p	112.5	50	HDMI1/2/3
2160/60p	135	60	HDMI1/2/3

NOTE

- Horizontal frequency: The horizontal interval is the time taken to display one horizontal line. When 1 is divided by the horizontal interval, the number of horizontal lines displayed every second can be tabulated as the horizontal frequency. The unit is kHz.
- Vertical frequency: The product display functions by the screen image changing dozens of times every second like a fluorescent lamp. The vertical frequency or refresh rate is the number of image displays per second. The unit is Hz.

LICENSES

Supported licenses may differ by model. For more information of the licenses, visit *www.lg.com*.



The terms HDMI, HDMI High-Definition Multimedia Interface, and the HDMI Logo are trademarks or registered trademarks of HDMI Licensing Administrator, Inc.

Manufactured under license from Dolby Laboratories. Dolby, Dolby Vision, Dolby Audio, Dolby Atmos, and the double-D symbol are trademarks of Dolby Laboratories.

For DTS patents, see *http://patents.dts.com*. Manufactured under license from DTS Licensing Limited. DTS, the Symbol, & DTS and the Symbol together, DTS 2.0 Channel, DTS 2.0+Digital Out, DTS-HD, and DTS Virtual:X are registered trademarks or trademarks of DTS, Inc. in the United States and/or other countries. © DTS, Inc. All Rights Reserved.





The model and serial number of the product are located on the back and on one side of the product. Record them below in case you ever need service.

MODEL

SERIAL NO.

Temporary noise is normal when powering ON or OFF this device.