



OWNER'S MANUAL

LG Digital Signage

(MONITOR SIGNAGE)

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

22SM3B

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LICENSES

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



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NOTE

- The warranty will not cover any damage caused by using the product in an excessively dusty environment.

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.

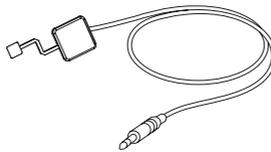


NOTE

- 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.

Optional Accessories

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.



KT-SP0

Pixel sensor kit

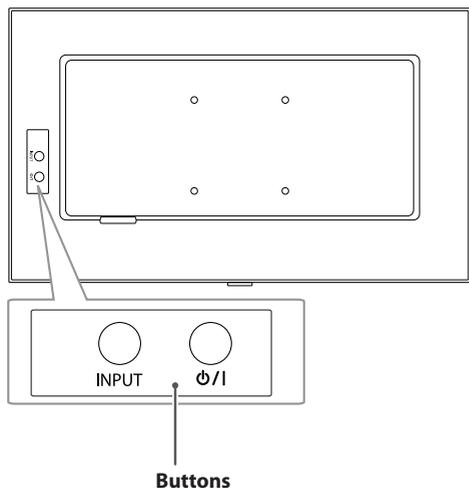


NOTE

- Optional accessories are available for some models. If necessary, please purchase them separately.
- Pixel sensor is sold separately. You can obtain additional accessories from your local retail store.

Parts and Buttons

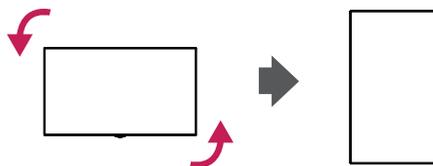
- The image may be different according to the model.



- **INPUT:** Changes the input source.
- **P/I:** Turns the power on or off.

Portrait Layout

To install in portrait mode, rotate the set counterclockwise 90 degrees when looking at from the front.

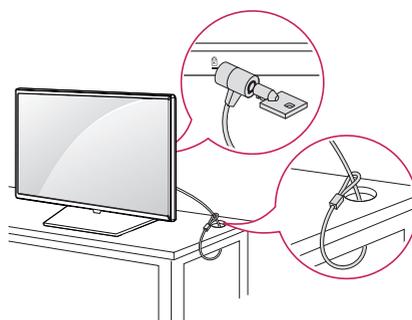


Using Kensington Lock

(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

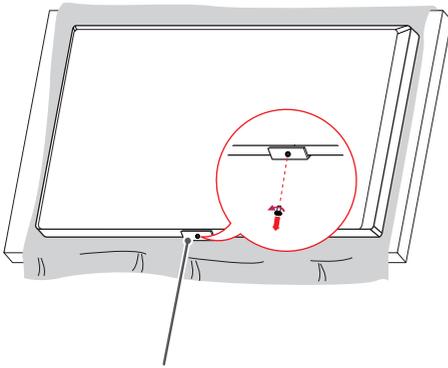
- The Kensington security system is optional. You can obtain additional accessories from most electronics retail stores.

Attaching and removing the LG Logo Bracket

- For certain models only.
- The image may be different according to the model.

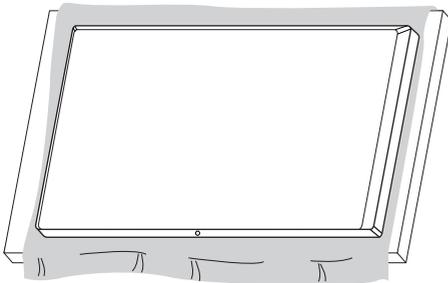
Removing the LG Logo

- 1 Lay a clean cloth on the floor, and then put the monitor on it with the screen face down. Using a screwdriver, remove the screw that secures the LG Logo Bracket to the bottom rear of the monitor.



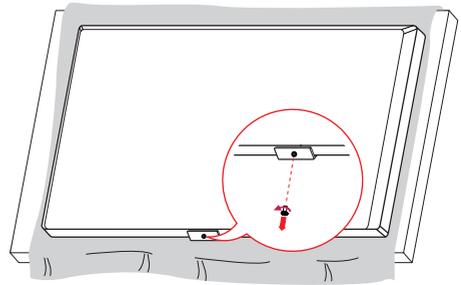
LG Logo Bracket

- 2 After removing the screw, remove the LG Logo. When re-attaching the LG Logo, repeat the process in reverse order.

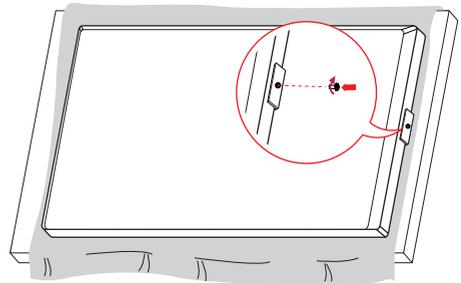


Attaching the LG Logo on the right side

- 1 Lay a clean cloth on the floor, and then put the monitor on it with the screen face down. Using a screwdriver, remove the screw that secures the LG Logo Bracket to the bottom rear of the monitor.



- 2 After removing the screw, remove the LG Logo. Attach the LG Logo Bracket with a screw, aligning it with the hole on the right side.



Installing the Wall Mount Plate

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

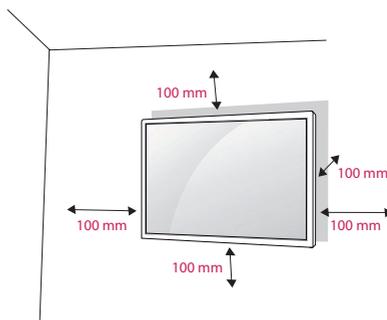
- 1 Place the screen face down. To protect the screen from scratches, cover the surface with a soft cloth.
- 2 Place the wall mount plate onto the monitor and align it with the screw holes.
- 3 Tighten the four screws to fix the plate to the monitor using a screwdriver.

! 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

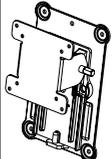
Install the monitor at least 100 mm away from the wall and leave about 100 mm of space at each side of the monitor to ensure sufficient ventilation. Detailed installation instructions can be obtained from your local retail store. Alternatively, please refer to the manual for how to install and set up a tilting wall mounting bracket.



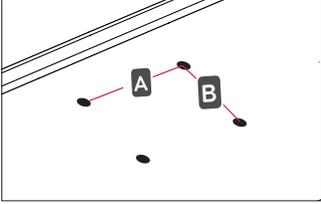
To install the monitor to a wall, attach a wall mounting bracket (optional) to the back of the monitor.

Make sure that the wall mounting bracket 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 (A x B)	100 x 100
Screw specifications	M4 x L10
Number of screws required	4
Wall Mount Plate (Optional)	RW120 

- Wall Mount (A x B)



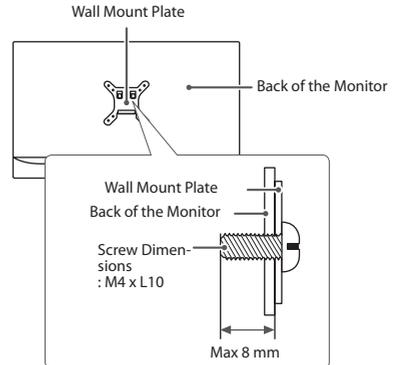
NOTE

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



CAUTION

- Unplug the power cord before moving or installing the monitor to avoid 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 dealer 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 mounting bracket 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.



REMOTE CONTROL

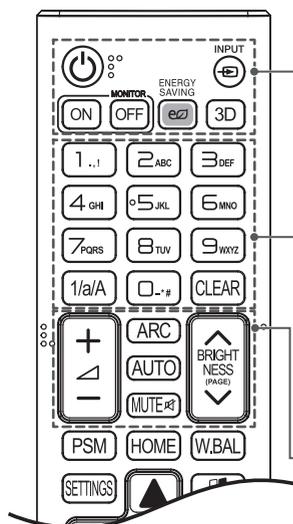
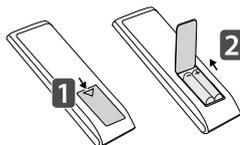
The descriptions in this manual are based on the buttons on the remote control. Please read this manual carefully to use the monitor correctly.

To install batteries, open the battery cover, place batteries (1.5 V AAA) matching \oplus and \ominus 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.
- Use the remote control within 3 m from the front.



 **(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 Used for viewing 3D videos. (This model does not support this.)

1/a/A Toggles between numerical and alphabetical.

(Depending upon the model, this feature may not be supported.)

Number and Alphabet buttons

Enters numerical or alphabetical characters depending upon the setting. (Depending upon the model, this feature may not be supported.)

CLEAR Deletes the entered numerical or alphabetical character.

(Depending upon the model, this feature may not be supported.)

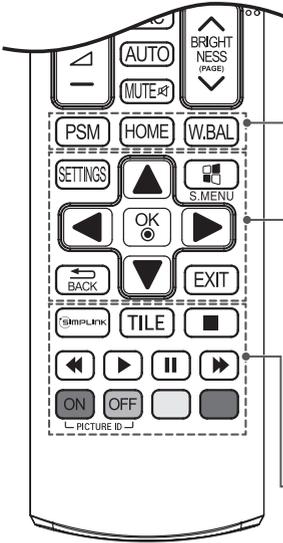
Volume Up/Down Button Adjusts the volume.

ARC Selects the Aspect Ratio mode.

AUTO Automatically adjusts picture position and minimizes image instability (available for RGB input only). (Depending upon the model, this feature may not be supported.)

MUTE  Mutes all sounds.

BRIGHTNESS Adjusts the brightness of the display. **PAGE** function is not supported in this model. (Depending upon the model, this feature may not be supported.)



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 SuperSign menu key (Depending upon the model, this feature may not be 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. (Depending upon the model, this feature may not be supported.)

TILE Selects the TILE Mode.

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

Connect a HD receiver, DVD, or VCR player to the monitor and select an appropriate input mode.

Some of the cables are not provided. 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 D-sub 15-pin cable and 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^{®/TM} cable.
- 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^{®/TM} Cable
 - High-Speed HDMI^{®/TM} 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.
- It is recommended to use the speakers that are provided as optional accessories.
- High Speed HDMI^{®/TM} cables transmit a HD signal up to 1080p and higher.



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 image burn. Use a screensaver if possible.
- A wireless communication device near your monitor can affect the image.

Using the Input List

HOME → 

- RGB → HDMI

TROUBLESHOOTING

No image is displayed

Problem	Action
Is the product power cord connected?	<ul style="list-style-type: none"> Check if the power cord is correctly plugged into the power outlet.
Does the Out of range message appear?	<ul style="list-style-type: none"> The signal from the PC (video 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. * Maximum resolution: 1920 x 1080 (60 Hz)
Does the Check signal cable message appear?	<ul style="list-style-type: none"> The signal cable between PC and product is not connected. Check the signal cable. Access the input menu to check the input signal.

The Unknown Product message appears when the product is connected.

Problem	Action
Did you install the driver?	<ul style="list-style-type: none"> Check if the Plug and Play function is supported by referring to the video card user manual.

The screen image looks abnormal.

Problem	Action
Is the screen position wrong?	<ul style="list-style-type: none"> Check if the video card resolution and frequency are supported by the product. If the frequency is out of range, set to the recommended resolution in the Control Panel Display Setting menu.
The screen is displayed abnormally.	<ul style="list-style-type: none"> The proper input signal is not connected to the signal port. Connect the signal cable that matches with the source input signal.

After-image appears on the product.

Problem	Action
After-image appears when the product is turned off.	<ul style="list-style-type: none"> 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 LCD screen products.

The audio function does not work.

Problem	Action
No sound?	<ul style="list-style-type: none"> • See if the audio cable is connected properly. • Adjust the volume. • See if the sound is set properly.
Sound is too dull.	<ul style="list-style-type: none"> • Select the appropriate equalizer sound.
Sound is too low.	<ul style="list-style-type: none"> • Adjust the volume.

Screen color is abnormal.

Problem	Action
Screen has poor color resolution (16 colors).	<ul style="list-style-type: none"> • Set the number of colors to more than 24 bits (true color). Select Control Panel → Display → Settings → Color Table menu in Windows.
Screen color is unstable or mono-colored.	<ul style="list-style-type: none"> • Check the connection status of the signal cable. Or, re-insert the PC video card.
Do black spots appear on the screen?	<ul style="list-style-type: none"> • Several pixels (red, green, blue, white, or black color) may appear on the screen, which can be attributable to the unique characteristics of the LCD panel. This is not a malfunction of the LCD.

The operation does not work normally.

Problem	Action
The power suddenly turned off.	<ul style="list-style-type: none"> • Is the Timer set? • Check the power control settings. Power interrupted.



CAUTION

- Displaying a still image for a long time may cause damage to the screen, resulting in a ghost image. Damage resulting from the reason above is not covered by the product warranty.
- 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.

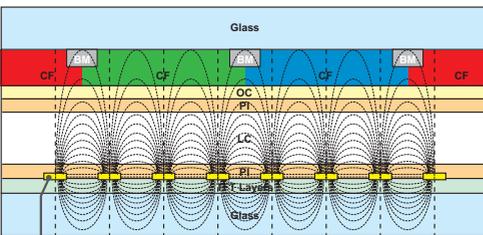


When changing colors, using complementary colors helps to prevent image sticking.

- 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.



ITO or MoTi Pixel Layer

What is image sticking?

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.

PRODUCT SPECIFICATIONS

The product specifications below may be changed without prior notice due to upgrade of product functions.

LCD screen	Screen type	Thin Film Transistor (TFT) Liquid Crystal Display (LCD) Screen
Video signal	Maximum resolution	1920 x 1080 @ 60 Hz - This may not be supported on some OS or graphic card types.
	Recommended resolution	1920 x 1080 @ 60 Hz - This may not be supported on some OS or graphic card types.
	Horizontal frequency	RGB/HDMI : 30 kHz to 83 kHz
	Vertical frequency	RGB: 50 Hz to 75 Hz HDMI: 56 Hz to 60 Hz
	Synchronization	Separate Sync, Digital
Input/output ports		RS-232C IN, AUDIO IN, PIXEL SENSOR, LAN, RGB IN, HDMI IN, USB IN
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 95 %

~ refers to alternating current (AC), and $\overline{\text{---}}$ refers to direct current (DC).

22SM3B

LCD screen	Pixel pitch	0.08265 mm (H) x 0.24795 mm (V)
Power	Rated power	AC 100-240 V~ 50/60 Hz 0.9 A
	Power consumption	On Mode: 35 W Typ. Sleep Mode (RGB, HDMI): ≤ 1.0 W Off Mode: ≤ 0.5 W
Dimensions (Width x Height x Depth) / Weight	Head	510.3 mm x 302.1 mm x 53.8 mm / 3.6 kg

Wireless module(LGSBW41)Specifications

Wireless LAN (IEEE 802.11a/b/g/n)

Frequency range (MHz)	Output power (Max.)
2400 to 2483.5	16 dBm
5150 to 5250	16 dBm
5725 to 5850 (Not for EU)	11.5 dBm
Bluetooth	
Frequency range (MHz)	Output power (Max.)
2400 to 2483.5	10 dBm

- 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.

RGB (PC) Support Mode

Resolution	Horizontal frequency (kHz)	Vertical frequency (Hz)
720 x 400	31.468	70.8
640 x 480	31.469	59.94
800 x 600	37.879	60.317
1024 x 768	48.363	60.0
1280 x 720	44.772	59.855
1280 x 960	60	60
1280 x 1024	63.981	60.02
1680 x 1050	65.29	59.954
1920 x 1080	67.5	60

HDMI (DTV) Support Mode

Resolution	Horizontal frequency (kHz)	Vertical frequency (Hz)
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	67.5	60

HDMI Support Mode

Resolution	Horizontal frequency (kHz)	Vertical frequency (Hz)
640 x 480	31.469	59.94
800 x 600	37.879	60.317
1024 x 768	48.363	60
1280 x 720	44.772	59.855
1366 x 768	47.7	60
1280 x 1024	63.981	60.02
1680 x 1050	65.29	59.954
1920 x 1080	67.5	60

NOTE

- PC resolutions available for the Input Label option in RGB / HDMI input modes: 640 x 480/60 Hz, 1280 x 720/60 Hz, 1920 x 1080/60 Hz; 480p, 720p, and 1080p DTV resolutions.
- 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.
- 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.



Make sure to read the Safety Precautions before using the product. The model and serial numbers of the SET are located on the back and one side of the SET. Record it below should you ever need service.

MODEL _____

SERIAL _____

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

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