www.lg.com

LG OLED TV

OWNER'S MANUAL

Safety and Reference

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

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. _____

MFL71946339 2305 REV00

Before reading this manual

- Read this manual thoroughly before operating your product, and keep it for future reference.
- On the website you can download the manual including installation, using, troubleshooting, specifications, license etc and view its contents on your PC or mobile device.
- **User Guide :** For more information about this product, read the USER GUIDE embedded in the product. (Depending on model)
  - To open the USER GUIDE ⚙ → [⚙] → [Support] → [User Guide]

Separate Purchase

- Separate purchase items can be changed or modified for quality improvement without any notification. Contact your dealer to buy these items. These devices only work with certain models.
- The model name or design may be changed depending on the upgrade of product functions, manufacturer's circumstances or policies.
- A cable to connect antennas and external devices must be purchased separately.

✅ Note

- Product specifications or contents of this manual may be changed without prior notice due to upgrade of product functions.
- The items supplied with your product may vary depending on the model.
- Image shown may differ from your product.

Warning! Safety instructions

	CAUTION	
	RISK OF ELECTRIC SHOCK	
	DO NOT OPEN	

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 this apparatus.

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 product 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 product to direct air conditioning.
  - Do not install in excessively dusty places.
  - On unsecured or high furniture, such as shelves or bookshelves.

  Otherwise, this may result in fire, electric shock, combustion/explosion, malfunction or product deformation.
- **Ventilation**
  - Install your product 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 product for a long period, the ventilation openings may become hot.

- Keep a distance of at least 10 cm away from other objects so that the vents of the Zero Connect Box are not blocked.
  - An increase in the internal temperature of the product may result in fire and product failure.
- 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 product 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 product.
- 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 product. Otherwise, the product may fall over, which may cause serious injury.
- **Outdoor Antenna Grounding** (Can differ by country):
  - If an outdoor antenna is installed, follow the precautions below. An outdoor antenna system should not be located in the vicinity of overhead power lines or other electric light or power circuits, or where it can come in contact with such power lines or circuits as death or serious injury can occur.
- Never touch this apparatus or antenna during a lightning storm. You may be electrocuted.
- Make sure the power cord is connected securely to the product 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 product).
  - If you smell smoke or other odors coming from the product.
  - When lightning storms or when unused for long periods of time.

  Even the product 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 product (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. Do not subject the adaptor to external shock. An impact could damage the adapter.
- To reduce the risk of fire or electrical shock, do not touch the product 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.
  - Caution: Use the correct batteries for the product. Risk of fire or explosion if the battery is replaced by an incorrect type.
- **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 products. Do not press or put stress on the front panel of the product. 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.
- Do not hold the product screen, scratch the surface with a metal object, or apply impact to it.
  - The screen may break, resulting in personal injury or malfunction of the product.
- Do not push or kick the product.
- Do not place heavy objects on top of the product.
- Be careful if you have pets
- **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 product. Do not clean your product 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.

Lifting and moving the TV Screen

Please note the following advice to prevent the TV screen from being scratched or damaged and for safe transportation regardless of its type and size.

- It is recommended to move the TV screen in the box or packing material that the TV screen originally came in.
- Before moving or lifting the TV screen, disconnect the power cord and all cables.
- When holding the TV screen, the screen should face away from you to avoid damage.
- Hold the side and bottom of the TV screen frame firmly. Make sure not to hold the transparent part, speaker, or speaker grill area.
- When transporting a large TV screen, there should be at least 2 people.
- When transporting the TV screen, do not expose the TV screen to jolts or excessive vibration.
- When transporting the TV screen, keep the TV screen upright, never turn the TV screen on its side or tilt towards the left or right.
- Do not apply excessive pressure to cause flexing / bending of frame chassis as it may damage screen.
- When handling the TV screen, be careful not to damage the protruding buttons.

⚠

- Avoid touching the screen at all times, as this may result in damage to the screen.
- When attaching the stand to the TV set, place the screen facing down on a cushioned table or flat surface to protect the screen from scratches.

Mounting on the Table

(Depending on model)

1 Lift and tilt the TV screen into its upright position on a table.
    - Leave a 10 cm (minimum) space from the wall for proper ventilation. (Depending on model)
2 Connect the power cord to a wall outlet.

⚠

- Do not apply foreign substances (oils, lubricants, etc.) to the screw parts when assembling the product. (Doing so may damage the product.)
- Do not use any unapproved items to ensure the safety and product life span.
- Any damage or injuries caused by using unapproved items are not covered by the warranty.
- If you install the TV on a stand, you need to take actions to prevent the product from overturning. Otherwise, the product may fall over, which may cause injury.
- When assembling the stand, ensure that all of the provided screws are attached. If the screws are not fully tightened, the product may tilt or tip over, resulting in damage. Tightening the screws with excessive force may cause them to come off due to abrasion of the screw joint.
- If the TV screen is placed on the stand, its screen may be tilted back slightly. If the stand is not level because an object is placed under the stand or it is not on a flat surface, the product may fall and cause injury or product damage. (Depending on model)

Securing TV screen to the Wall

(Depending on model)

1 Insert and tighten the eye-bolts, or TV brackets and bolts on the back of the TV.
    - If there are bolts inserted at the eye-bolts position, remove the bolts first.
2 Mount the wall brackets with the bolts to the wall. Match the location of the wall bracket and the eye-bolts on the rear of the TV.
3 Connect the eye-bolts and wall brackets tightly with a sturdy rope. Make sure to keep the rope horizontal with the flat surface.

- Use a platform or cabinet that is strong and large enough to support the TV securely.
- Brackets, bolts and ropes are not provided. You can obtain additional accessories from your local dealer.

Mounting to the Wall

(Depending on model)

Attach an optional wall mount bracket at the rear of the TV carefully and install the wall mount bracket on a solid wall perpendicular to the floor. When you attach the TV to other building materials, please contact qualified personnel. LG recommends that wall mounting be performed by a qualified professional installer. We recommend the use of LG's wall mount bracket. LG's wall mount bracket is easy to move with cables connected. When you do not use LG's wall mount bracket, please use a wall mount bracket where the device is adequately secured to the wall with enough space to allow connectivity to external devices. It is advised to connect all the cables before installing fixed wall mounts.

⚠️

- Remove the stand before installing the TV on a wall mount by performing the stand attachment in reverse.
- For more information of screws and wall mount bracket, refer to the Separate Purchase.
- If you intend to mount the product to a wall, attach VESA standard mounting interface (optional parts) to the back of the product. When you install the set to use the wall mounting bracket (optional parts), fix it carefully so as not to drop.
- When mounting a TV on the wall, make sure not to install the TV by hanging the power and signal cables on the back of the TV.
- Do not install this product on a wall if it could be exposed to oil or oil mist. This may damage the product and cause it to fall.
- When installing the Full Contact Wall Mount, the TV may not be contacted firmly against the wall due to some wall conditions.

Antenna/Cable

Connect the TV to a wall antenna socket with an RF cable (75 Ω).

- Use a signal splitter to use more than 2 TVs.
- If the image quality is poor, install a signal amplifier properly to improve the image quality.
- If the image quality is poor with an antenna connected, try to realign the antenna in the correct direction.
- An antenna cable and converter are not supplied.
- For a location that is not supported with Ultra HD broadcasting, this TV cannot receive Ultra HD broadcasts directly.

Satellite dish

Connect the TV to a satellite dish to a satellite socket with a satellite RF cable (75 Ω). (Depending on model)

Turning on the TV

You can simply operate the TV functions, using the button.
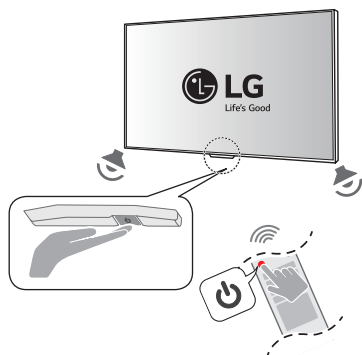
Power On (Press)
Power Off[1] (Press and Hold)
Menu Control (Press[2])
Menu Selection (Press and Hold[3])

1) All running apps will close, and any recording in progress will stop. (Depending on country)
2) You can access and adjust the menu by pressing the button when TV is on.
3) You can use the function when you access menu control.

Note
- If the TV is turned on for the first time after it was shipped from the factory, initialization of the TV may take a few minutes.
- Your TV's OSD (On Screen Display) may differ slightly from that shown in this manual.
- The device must be easily accessed to a location outlet near the access. Some devices are not made by turning on / off button, turning off the device and unplugging the power cord.
- Only use the power button when the TV screen and the Zero Connect Box are connected.

Using hands-free voice control

To use hands-free voice control, follow these steps.

- The voice recognition microphone is on the front bottom of the Zero Connect Box.
1 If you direct the front LED of the Zero Connect Box towards the user, you can use the voice recognition function smoothly.
2 Adjust the direction of the sliding button toward the TV Screen receiver by turning the dial left or right.
3 From the ⚙ → [⚙] → [General] → [AI Service] → [Voice Recognition Settings] screen, turn on the [Use Hands-free Voice Control] menu. (Depending on model)

Precautions before using wireless TV

Wireless TVs use high-frequency radio waves of 60 GHz to transmit a large amount of data in a very short time, enabling wireless transmission of high-quality video and audio. The 60 GHz frequency band used in wireless TVs is advantageous for large-capacity data transmission, has good linearity, and is well-suited for transmission and reception in a specific direction. However, if there is a metallic object in the transmission/reception path, the radio waves cannot pass through it. Non-conductive objects (e.g., glass, wood, plastic) may attenuate the signal, resulting in communication failure. Due to such characteristics of radio waves, viewing is not affected when the wireless TV transmitting and receiving antennas are facing each other; however, if there are obstacles in the transmission/reception path, the wireless signal may be attenuated or disconnected, resulting in inconvenience during viewing. This is not a product malfunction. Follow the installation method provided when using the product.

Understanding 60 GHz wireless

Characteristics of radio waves	Frequencies in the 60 GHz band applied to wireless TVs (high frequency)	Frequencies applied to general wireless communication (cell phone, WiFi/BT) (low frequency)
Linearity	Strong	Weak
Transmission volume	High	Low
Directionality	Ideal for transmission in specific direction	Ideal for broad coverage
Attenuation	High loss (linearity)	Low loss and good avoidance (diffraction)
	Radio waves absorbed by water droplets and water vapour in the air	Good obstacle avoidance

- **Wireless TVs use frequencies in the 60 GHz band.**
- The 60 GHz band is also known as millimetre wave (mmWave), and enables the transmission of large data volumes without delays.
- The 60 GHz band is a **high-frequency** band used in satellite communication.
- High-frequency bands have excellent **linearity**.
- High linearity is ideal for transmission in a specific direction; however, **obstacles cause greater attenuation loss**.
- Path loss occurs due to the presence of multiple paths created by diffraction, refraction, reflection, etc. The multiple path loss resulting from diffraction, refraction, and reflection causes antenna transmission and reception failure.
- Generally, **wireless radio waves experience interference from obstacles**.
- Conductive obstacles (metal) shield the frequency (antenna transmission/reception), whereas non-conductive obstacles (glass, wood, and plastic) cause attenuation.
- Radio waves using high frequencies in the 60 GHz band (short wavelengths) provide optimal image through the use of beamforming technology. Beamforming technology arranges multiple antennas at regular intervals, adjusts the amplitude and phase of the signal supplied to each antenna, and creates an antenna beam in a specific direction to strongly transmit and receive signals to that direction.
- For optimal image viewing, the transmission/reception must be **facing each other, that is, have an unobstructed Line Of Sight (LOS).**
- LOS is the visible path, which must be clear of obstacles in the way. If there are obstacles, the receiver must be high enough that it is visible. That is, the receiver must be higher than the transmitter. **(For wireless TVs, the Zero Connect Box must be placed lower than the TV Screen.)**

Viewing appearance
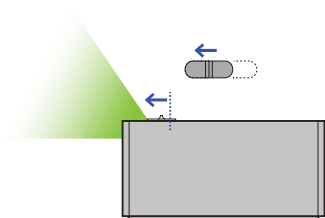
TV Screen
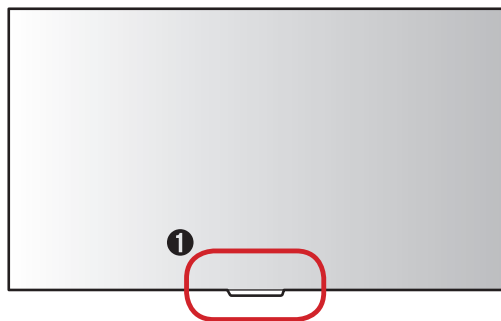
Zero Connect Box (WM23EA)
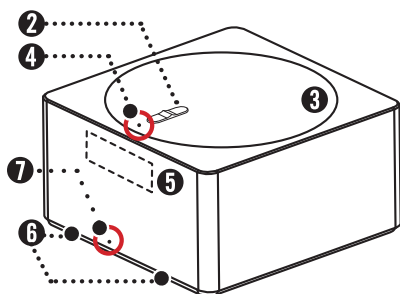
Front
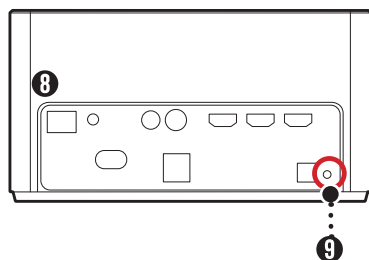
Back

Side

❶ Wireless signal receiver & Power button

This area has an antenna that receives the video transmitted from the antenna of the Zero Connect Box.

If there are any obstacles around this area, the screen may be disconnected or not displayed due to interference. The power button is used to turn the TV Screen on or switch to the standby state, or pair it with the Zero Connect Box.

❷ Sliding button

This button **adjusts the antenna transmission direction of the Zero Connect Box up and down**. If adjusted towards the top LED (**❹**), the antenna transmission direction is downward (0˚). If adjusted in the opposite direction of the top LED, the antenna transmission direction is upward (50˚). If adjusted to the centre, the antenna transmission direction is at 25˚.

❸ Dial

This disc **adjusts the antenna transmission direction of the Zero Connect Box left and right**. The dial can be rotated 90˚ left or right from the front of the Zero Connect Box.

❹ Top LED

This LED is located in front of the sliding button and **indicates the wireless signal strength with different colours**. The colours include blue (good), green (moderate), yellow (weak), and red (disconnected).

❺ Wireless signal transmitter

This area has an antenna that transmits video and audio from the Zero Connect Box to the TV Screen. The antenna transmission direction is adjusted using the dial and sliding button. If there is an obstacle in front of the antenna, the screen may disconnect or display incorrectly due to interference.

❻ Voice recognition unit

This area recognises your voice and is located on the lower left and right sides of the front of the Zero Connect Box.

When giving a voice command, **speak from the front of the Zero Connect Box**. If the area with the voice recognition parts is blocked or if you speak from the side or back, voice recognition may function poorly or not work at all.

❼ Front LED

This LED is located at the bottom centre of the front of the Zero Connect Box and **indicates the power or operation status**.

❽ External connection terminal

External connection terminals found on regular TVs are located on the rear of the Zero Connect Box. An AC power cord and pairing button are added.

❾ Pairing button

This button is used to re-pair the TV Screen and Zero Connect Box if they have been unpaired. For pairing instructions, please refer to "Re-pairing" on the right.

✅ Note

- **The wireless TV consists of the TV Screen and Zero Connect Box.**
- The Zero Connect Box transmits video and audio wirelessly to the TV Screen.
- The Zero Connect Box has external connection terminals.
- You can connect video and audio signals (external antenna, set-top box) to the external connection terminals on the back of the Zero Connect Box.
- **The wireless signal receiver is on the bottom centre of the TV Screen.** It is next to the TV Screen power button.
- The voice recognition unit is on the lower left and right sides of the front of the Zero Connect Box. Ensure there is no dust or foreign matter in the small hole.
- The front LED is on the bottom of the front of the Zero Connect Box.
- The Zero Connect Box has wireless connection control terminals.
- **The wireless connection control terminals consist of a dial and a sliding button.**
- **The dial and wireless signal transmitter of the Zero Connect Box move together.**
- You can adjust the Zero Connect Box's wireless signal transmitter up and down using the sliding button.
- The signal strength LED for checking the wireless connection status is in front of the sliding button on the top.
- **The colours indicating signal strength are blue (good), green (moderate), yellow (weak), and red (disconnected).**
- The Zero Connect Box has a pairing button.
- There is a button for pairing on the TV Screen as well, which can also be used as the power button.
- The TV Screen and the Zero Connect Box are paired one to one and are already paired when provided.

Re-pairing

1. If the screen is not displayed due to the TV Screen and Zero Connect Box being disconnected, they need to re-paired. If you press and hold the pairing button on the back of the Zero Connect Box for 5 seconds, the top LED flashes white.

2. If you press and hold the power button on the TV Screen for 5 seconds, the standby indicator of the screen's power unit flashes white. The TV Screen and Zero Connect Box are now paired, and the LED on the top of the Zero Connect Box changes to the colour corresponding to the signal strength.

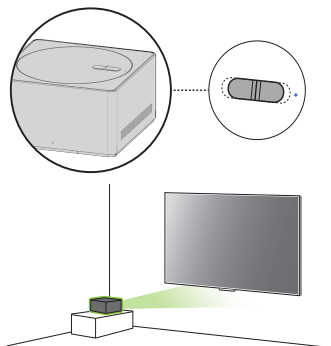* If video is not displayed and the pairing screen remains, contact customer service.

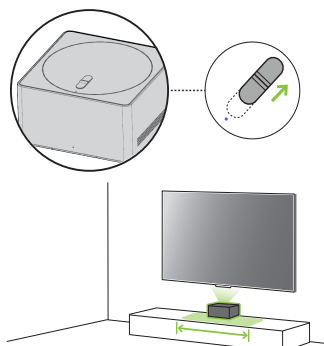## Recommended installation methods (installing Zero Connect Box)
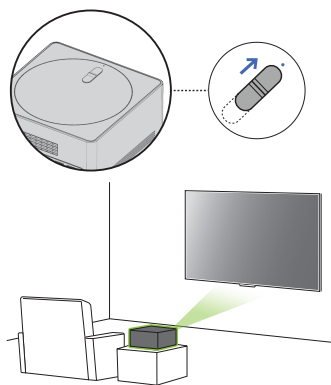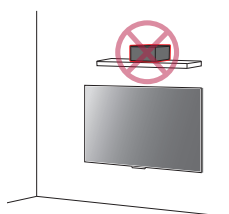

Frontal installation
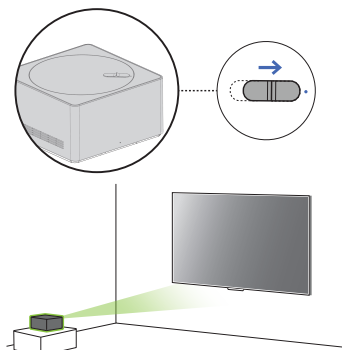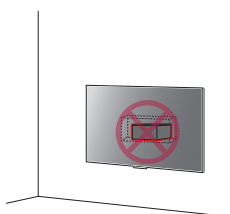

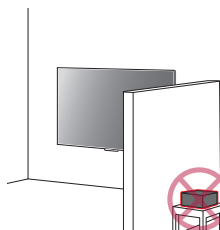Diagonal installation

Side installation

Bottom installation

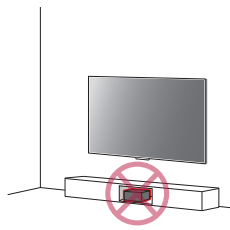## Installation don'ts (installing Zero Connect Box)

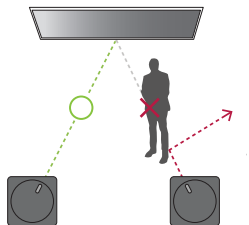Installing on shelf above TV Screen

Installing on wall behind TV Screen

Installing behind wall
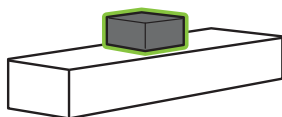
Installing inside metal cabinet

# Checking before turning on wireless TV

Clearing obstacles

- Remove any obstacles between the TV Screen and Zero Connect Box. If there are obstacles, the wireless signal is attenuated and causes screen disconnection.

Placing Zero Connect Box on top of cabinet

- When using a cabinet, install the Zero Connect Box on top of the cabinet. If installed inside a cabinet, the screen may disconnect due to interference.
- Voice recognition may also become degraded or not work at all.

Adjusting Zero Connect Box antenna left or right (dial)
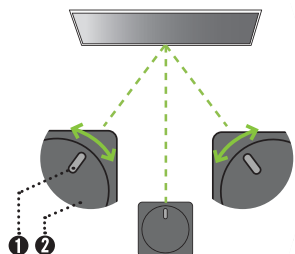
❶ Sliding button   ❷ Dial

- Adjust the dial on the Zero Connect Box left or right until the sliding button faces the wireless receiver on the TV Screen.
- By adjusting the dial, you can move the direction of the wireless signal transmission of the Zero Connect Box left or right. You can adjust the dial up to 90˚ left or right from the front LED.

Adjusting Zero Connect Box antenna up or down (sliding button)
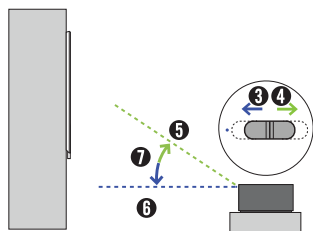
❸ Down   ❹ Up   ❺ Highest angle   ❻ Lowest angle   ❼ 50˚

- Place the Zero Connect Box lower than the TV Screen wireless receiver.
- Adjust the sliding button up or down so that the wireless signal transmission direction of the Zero Connect Box faces the TV Screen wireless signal receiver.
- If you adjust the sliding button towards the LED (blue line), the antenna transmits in a forward straight direction. If you adjust it away from the LED (green line), the antenna transmits in an upward direction. The Zero Connect Box antenna transmits in the 0-50˚ direction.

Checking after turning on wireless TV

Checking wireless signal strength on Zero Connect Box (top LED colour)

- Once default placing and settings are completed, check the colour of the top LED in front of the sliding button of the Zero Connect Box.
- The colour of the top LED indicates the wireless signal strength.
- The colours are blue (good), green (moderate), yellow (weak), and red (disconnected). Blue (good) indicates the best viewing screen condition. Blue is recommended. Adjust the settings so that the colour displays blue.
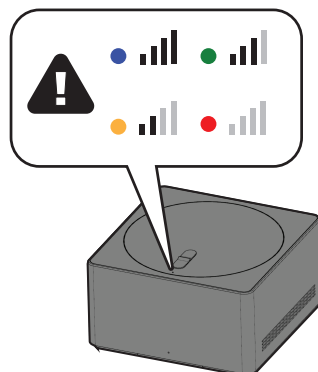
Setting wireless signal strength to blue (good) on Zero Connect Box

- If the colour is red, ensure there are no obstacles or check its position on the cabinet.
- If the colour is yellow or green, adjust the Zero Connect Box antenna left and right (dial) or up and down (sliding button).

Identifying wireless reception range
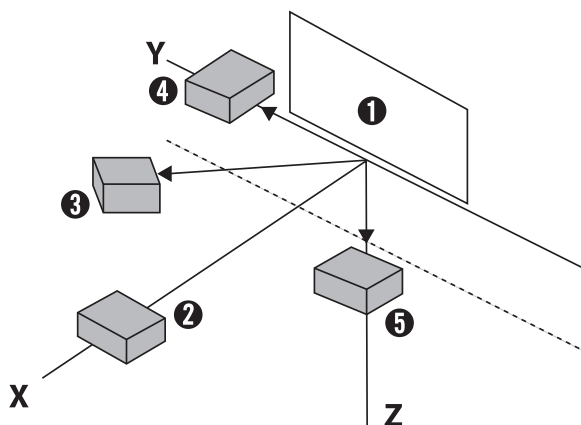
❶ TV Screen

❷ The distance between the TV Screen antenna receiver and the Zero Connect Box antenna transmitter should be within **10 m** of the **front** for stable operation.

❸ The distance between the TV Screen antenna receiver and the Zero Connect Box antenna transmitter should be within **5 m diagonally** for stable operation.

❹ The distance between the TV Screen antenna receiver and the Zero Connect Box antenna transmitter should be within **3 m** of the **side** for stable operation.

❺ The distance between the TV Screen antenna receiver and the Zero Connect Box antenna transmitter should be within **3 m** of the **bottom** for stable operation.

* The distances above are based on the condition that there are no obstacles. When installing a sound bar in front of the TV Screen, ensure that it does not cover the wireless receiver on the TV Screen. It is recommended to install the sound bar at a sufficient distance from the wireless receiver on the TV Screen.

Precautions for obstacles

Identifying wireless failure

- **The quality of the image and audio may deteriorate depending on the installation environment (installed location, surrounding devices, obstacles, and distance).**
- **Do not place obstacles between** the TV Screen and Zero Connect Box. The screen may fail to display due to interference from obstacles.
- Ensure that there are no obstacles between the Zero Connect Box and TV Screen.
- If the Zero Connect Box is installed inside the cabinet, the screen may fail to display, **depending on the cabinet material (marble, wood, etc.) and thickness**, and the voice recognition function may also deteriorate.
- Do not install **two wireless TVs or Zero Connect Boxes** in the same room. The screen may fail to display due to interference.
- When used **with an external device** using a **60 GHz** frequency, they may interfere with each other and cause failure.
- If you place **electronic devices and objects** on top of the Zero Connect Box, the screen may fail to display properly due to interference.
- **If a person or animal passes between the Zero Connect Box and the TV Screen while you are watching TV, the screen may disconnect.**
- Failure to follow the recommended installation method may result in abnormal operation.

Identifying voice recognition failure

- Speaking from directions other than the **front** of the Zero Connect Box where **the voice recognition unit** is located may cause the voice recognition function to deteriorate.
- Do not place obstacles in front of the Zero Connect Box where the voice recognition unit is located. If the Zero Connect Box is installed inside a cabinet, **open** the cabinet so that the voice recognition unit is visible.
- Please keep the small hole of the voice recognition unit free from dust or any foreign matter.
- Failure to follow the recommended installation method may result in poor or non-functional voice recognition.

Identifying installation failures

- Do not install the Zero Connect Box on **a shelf above the TV Screen**. The antenna path does not align with the Zero Connect Box antenna transmitter and the screen does not display properly due to shelf interference.
- Do not install the Zero Connect Box on **the wall behind the TV Screen**. The screen does not display because the wireless signal is shielded.
- Do not install the **Zero Connect Box behind a wall**. The screen does not display because the wireless signal is shielded by the wall.
- Do not install the Zero Connect Box **inside a metal cabinet**. The screen does not display because the signal is shielded. Thick materials such as marble, glass, or wood may also cause wireless failure and prevent the screen from displaying properly.
- Failure to follow the recommended installation method may result in the screen not displaying.
- Ensure that the wireless receiver on the TV Screen does not **come into contact** with the wireless transmitter on the Zero Connect Box.
- After **cleaning or moving** the Zero Connect Box, **check and adjust** the colour of the LED on the top. The screen may not display because of the change in installation environment.
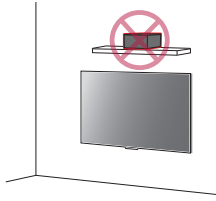
Installing on shelf above TV Screen
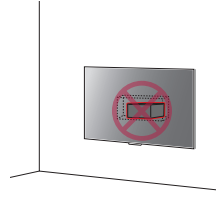
Installing on wall behind TV Screen
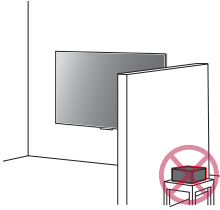
Installing behind wall
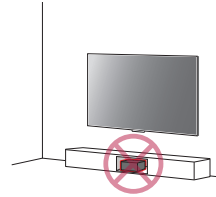
Installing inside metal cabinet
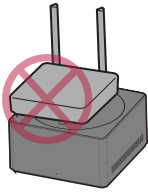
Placing electronic devices on top of Zero Connect Box

Installing Zero Connect Box in front of TV Screen
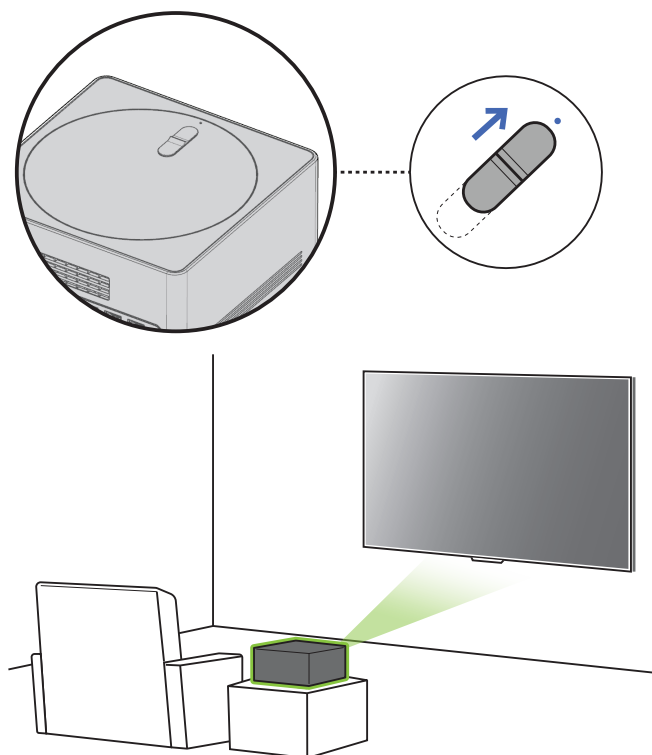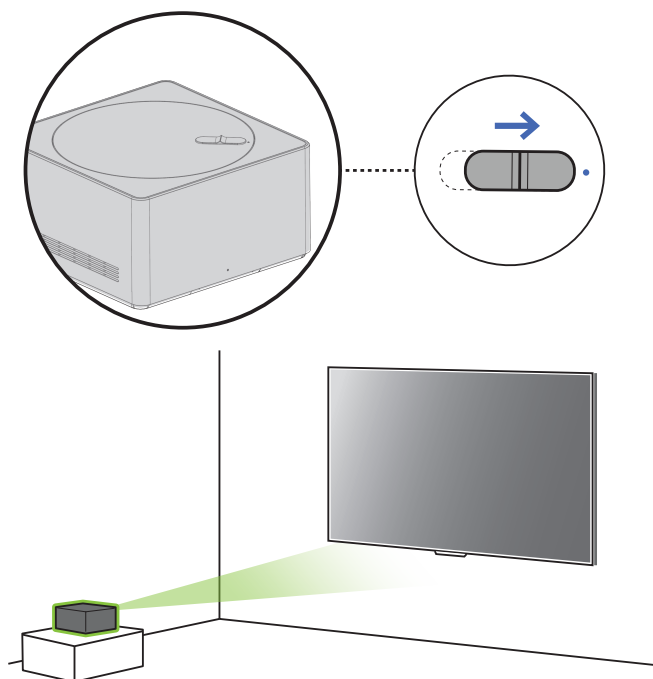

Checking before turning on wireless TV

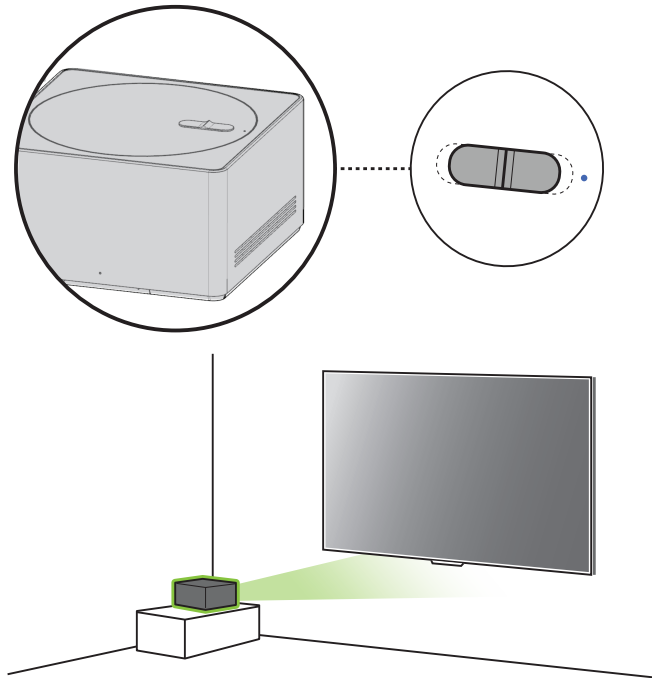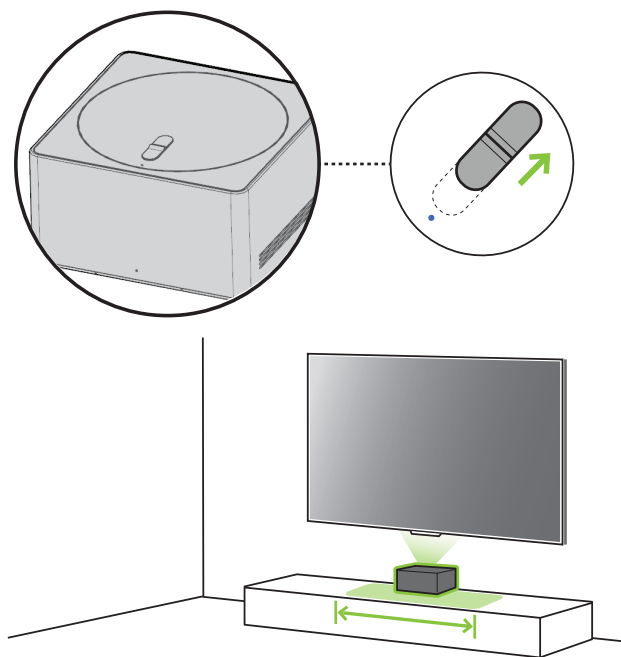If you have installed the Zero Connect Box in front of the TV Screen, follow these steps.

1   Direct the front LED of the Zero Connect Box towards the **wireless receiver on the TV Screen**.

2   If the front LED is not directed towards the TV Screen wireless receiver, turn the dial on top of the Zero Connect Box left or right until the sliding button faces the TV Screen wireless receiver.

3   Adjust the sliding button on the Zero Connect Box towards the **top LED**.

   • Once the dial and sliding button adjustments are completed, the signal transmission and reception path should be in the green direction shown in the figure.

   • Ensure there are no obstacles in the antenna transmission and reception path.

Checking after turning on wireless TV

1   Once you have completed all settings, check that the colour of the top LED of the Zero Connect Box is blue.

2   If the LED is not blue, adjust the dial and sliding button further to optimise the signal condition.

   • It is recommended that the installation distance between the Zero Connect Box and the TV Screen be within 10 m. (provided that there are no obstacles in the way)

   • It is recommended that the frontal installation angle between the Zero Connect Box and the TV Screen be within 45˚ left and right. (Refer to the diagonal/side installation image if the angle is over 45˚.)

Installing Zero Connect Box diagonally from TV Screen

Checking before turning on wireless TV

If you have installed the Zero Connect Box diagonally from the TV Screen, follow these steps.

1   Direct the front LED of the Zero Connect Box towards the **wireless receiver on the TV Screen**.

2   If the front LED is not directed towards the TV Screen wireless receiver, turn the dial on top of the Zero Connect Box left or right until the sliding button faces the TV Screen wireless receiver.

3   Adjust the sliding button on the Zero Connect Box **towards the top LED**.

   • Once the dial and sliding button adjustments are completed, the signal transmission and reception path should be in the green direction shown in the figure.

   • Ensure there are no obstacles in the antenna transmission and reception path.

Checking after turning on wireless TV

1   Once you have completed all settings, check that the colour of the top LED of the Zero Connect Box is blue.

2   If the LED is not blue, adjust the dial and sliding button further to optimise the signal condition.

   • It is recommended that the installation distance between the Zero Connect Box and the TV Screen be within 5 m. (provided that there are no obstacles in the way)

Installing Zero Connect Box to the side of TV Screen

Checking before turning on wireless TV

If you have installed the Zero Connect Box to the side of the TV Screen, follow these steps.

1   Direct the front LED of the Zero Connect Box towards the **wireless receiver on the TV Screen**.

2   If the front LED is not directed towards the TV Screen wireless receiver, turn the dial on top of the Zero Connect Box left or right until the sliding button faces the TV Screen wireless receiver. (If the front LED of the Zero Connect Box faces the viewing direction, turn the dial left or right until it is at a 90° angle.)

3   Adjust the sliding button on the Zero Connect Box to the **centre**.

  • Once the dial and sliding button adjustments are completed, the signal transmission and reception path should be in the green direction shown in the figure.

  • Ensure there are no obstacles in the antenna transmission and reception path.

Checking after turning on wireless TV

1   Once you have completed all settings, check that the colour of the top LED of the Zero Connect Box is blue.

2   If the LED is not blue, adjust the dial and sliding button further to optimise the signal condition.

  • It is recommended that the installation distance between the Zero Connect Box and the TV Screen be within 3 m. (provided that there are no obstacles in the way)

*   When using a floor stand, you need to adjust the position as wireless interference may occur due to the structure of the stand. (Adjust the position so that the stand does not cover the wireless transmitter of the Zero Connect Box.)

Installing Zero Connect Box to the bottom of TV Screen

Checking before turning on wireless TV

If you have installed the Zero Connect Box to the bottom of the TV Screen, follow these steps.

1 Position the Zero Connect Box so that the front LED is facing **the viewer in front of the TV Screen**.

2 If the front LED of the Zero Connect Box is not facing the viewer in front of the TV Screen, turn the dial on the top of the box left or right to adjust the direction of the sliding button with the viewer.

3 Adjust the sliding button on the Zero Connect Box **in the opposite direction of the top LED**.

   • Once the dial and sliding button adjustments are completed, the signal transmission and reception path should be in the green direction shown in the figure.

   • Ensure there are no obstacles in the antenna transmission and reception path.

Checking after turning on wireless TV

1 Once you have completed all settings, check that the colour of the top LED of the Zero Connect Box is blue.

2 If the LED is not blue, adjust the dial and sliding button further to optimise the signal condition.

   • It is recommended that the installation distance between the Zero Connect Box and the TV Screen be within 3 m. (provided that there are no obstacles in the way)

Connections

Connect various external devices to the TV and switch input modes to select an external device. For more information of external device's connection, refer to the manual provided with each device.

HDMI

- When connecting the HDMI cable, the product and external devices should be turned off and unplugged.
- Supported HDMI Audio format (Depending on model):
  True HD (48 kHz),
  Dolby Digital / Dolby Digital Plus (32 kHz, 44.1 kHz, 48 kHz),
  PCM (32 kHz, 44.1 kHz, 48 kHz, 96 kHz, 192 kHz),
  DTS (44.1 kHz, 48 kHz, 88.2 kHz, 96 kHz),
  DTS-HD (44.1 kHz, 48 kHz, 88.2 kHz, 96 kHz, 176.4 kHz, 192 kHz)

✅ Note
- If the device connected to Input Port also supports HDMI Deep Colour, your picture may be clearer. However, if the device doesn't support it, it may not work properly. In that case, change the TV's [HDMI Deep Colour] setting to off.
- ⚙️ → [⚙️] → [General] → [External Devices] → [HDMI Settings] → [HDMI Deep Colour]
- 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
  - Ultra High Speed HDMI®/™ cable (3 m or less)

USB

You can connect a USB hub that enables you to use multiple USBs simultaneously to the Zero Connect Box.
Some USB Hubs may not work. If a USB device connected using a USB Hub is not detected, connect it to the USB port on the zero connect box directly.

✅ Note
- For an optimal connection, HDMI cables and USB devices should have bezels less than 10 mm thick and 18 mm width.
- Use an extension cable that supports USB 2.0 if the USB cable or USB memory stick does not fit into your zero connect box's USB port.

IR Blaster

Control the set-top box (cable/satellite/IP/OTT), Blu-ray/DVD player, soundbar, game consoles, etc., using the IR Blaster. (Depending on country)

✅ Note
- Connect the IR Blaster cable to the TV's IR Blaster port.
- Use universal control settings to control the device.
- Secure the IR Blaster with the 3M tape provided.
- When installing the Zero Connect Box in a location other than the bottom of the TV, we recommend connecting an IR blaster to ensure smooth control of external devices (e.g., set-top box) using your TV remote control.

External Devices

Available external devices are: Blu-ray player, HD receivers, DVD players, VCRs, audio systems, USB storage devices, PC, gaming devices, and other external devices.

✅ Note
- The external device connection may differ from the model.
- In PC mode, there may be noise associated with the resolution, vertical pattern, contrast or brightness. If noise is present, change the PC output to another resolution, change the refresh rate to another rate or adjust the brightness and contrast on the [Picture] menu until the picture is clear.
- In PC mode, some resolution settings may not work properly depending on the graphics card.
- If Ultra HD content is played on your PC, video or audio may become disrupted intermittently depending on your PC's performance. (Depending on model)
- When connecting to a wired LAN, use a CAT 7 cable with high-speed Internet transmission. (Only when **LAN** port is provided.)
- TV audio can be transmitted to the sound bar (external audio device). (Depending on country)
  - If you want to transmit audio in a wired way (optical digital, HDMI ARC), you can connect it to the external terminal on the rear of the Zero Connect Box.
  - You can wirelessly transmit audio through the WOWCAST function to our sound bars that support WOWCAST.

Specifications

Power requirement	AC 100-240 V~ 50/60 Hz

(Depending on country)

Broadcasting Specifications				
	Digital TV			Analogue TV
Television system	DVB-T/T2, DVB-C, DVB-S/S2			PAL B/B, PAL B/G, PAL D/K, PAL-I, SECAM B/G, SECAM D/K, NTSC-M
Programme coverage	DVB-S/S2	DVB-C	DVB-T/T2	
	950 ~ 2,150 MHz	46 ~ 890 MHz	VHF III : 174 ~ 230 MHz UHF IV : 470 ~ 606 MHz UHF V : 606 ~ 862 MHz S Band II : 230 ~ 300 MHz S Band III : 300 ~ 470 MHz	46 ~ 862 MHz
Maximum number of storable programmes	6,000	3,000		
External antenna impedance	75 Ω			
CI Module (W x H x D)	100.0 mm x 55.0 mm x 5.0 mm			

Environment Condition			
Operating Temperature	0 ℃ to 40 ℃	Storage Temperature	-20 ℃ to 60 ℃
Operating Humidity	Less than 80 %	Storage Humidity	Less than 85 %

Conditions for Wall Mount Installation	
Tilt Angle	0° - 15°

* This specification applies only to products with an adjustable wall mount angle.

- For information of the power supply and power consumption, refer to the label attached to the product.
  - The typical power consumption is measured in accordance with IEC 62087 or each country's energy regulations.
    * On some models, the label is inside the external device connection terminal cover.
    * Depending on the model or country, the typical power consumption may not be on label.

Open Source Software Notice Information

To obtain the source code that is contained in this product, under GPL, LGPL, MPL, and other open source licenses that have the obligation to disclose source code, and to access all referred license terms, copyright notices and other relevant documents please visit *https://opensource.lge.com*.

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

Licenses

HDMI™
HIGH-DEFINITION MULTIMEDIA INTERFACE

QUICKSET®
(Magic Remote supported models only)

HEVC Advance™
Covered by patents at patentlist.accessadvance.com

Troubleshooting

In TV / HDMI input, press the ⊗ button on the remote control three times to display the model name and serial number on the screen.

Cannot control the TV with the remote control.	• Check the remote control sensor on the product and try again. • Check if there is any obstacle between the product and the remote control. • Check if the batteries are still working and properly installed (⊕ to ⊕, ⊖ to ⊖).
No image display and no sound is produced.	• Check if the product is turned on. • Check if the power cord is connected to a wall outlet. • Check if there is a problem in the wall outlet by connecting other products.
The TV turns off suddenly.	• Check the power control settings. The power supply may be interrupted. • Check if the auto-off function is activated on the settings related time. • The auto-off function may have worked. This product is equipped with an auto-off function that automatically turns off the power if the remote control is not used for 15 minutes without an input signal.
When connecting to the PC (HDMI), no signal is detected.	• Turn the TV off/on using the remote control. • Reconnect the HDMI cable. • Restart the PC with the TV on.
Abnormal Display	• If the product feels cold to the touch, there may be a small "flicker" when it is turned on. This is normal, there is nothing wrong with product. • This panel is an advanced product that contains millions of pixels. You may see tiny black dots and/or brightly coloured dots (white, red, blue or green) at a size of 1 ppm on the panel. This does not indicate a malfunction and does not affect the performance and reliability of the product. This phenomenon also occurs in third-party products and is not subject to exchange or refund. • You may find different brightness and colour of the panel depending on your viewing position(left/right/top/down). This phenomenon occurs due to the characteristic of the panel. It is not related with the product performance, and it is not malfunction. • Avoid touching the screen or holding your finger(s) against it for long periods of time. Doing so may produce some temporary distortion effects on the screen.
Generated Sound	• **"Cracking" noise**: A cracking noise that occurs when watching or turning off the TV is generated by plastic thermal contraction due to temperature and humidity. This noise is common for products where thermal deformation is required. • **Electrical circuit humming/panel buzzing**: A low level noise is generated from a high-speed switching circuit, which supplies a large amount of current to operate a product. It varies depending on the product. This generated sound does not affect the performance and reliability of the product. • **Fan noise**: It is a sound made to dissipate the heat generated by the Zero Connect Box, and does not make the product defective.
A Zero Connect Box connection image appears on the screen.	• Remove the obstacles between the product and the Zero Connect Box. • Turn the dial on the top of the Zero Connect Box left or right. • Move the sliding button on the top of the Zero Connect Box up or down.
A power connection image appears on the screen.	• Connect the power cord of the Zero Connect Box.

The product does not turn on continuously due to Always Ready mode operation or does not automatically turn on by sensor.	• The motion sensor is located on the bottom centre of the product. • The motion sensor is only supported by some models. • If there is a foreign substance on the motion sensor, it may not work properly. • If the environment around the product is too bright or too dark, the motion sensor may not work properly. • Obstacles in front of the product may affect the detection function of the motion sensor. • It can operate by recognising changes in lighting around the product or movement of objects (pets/robot vacuum cleaners, etc.). • To stop using the Always Ready mode in ⚙ → [⚙] → [General] → [Always Ready] → [Enable the function], or to use only the General Always Ready mode function, you can select Enable Always Ready mode, turn off the screen, and then stop using the motion sensor in [Always Ready Settings]. The screen-on function with the motion sensor can be set by adjusting the performance of the sensor through the [Always Ready Settings] → [Motion Sensor Sensitivity] setting.
Hands-free Voice Control does not work properly.	• Direct the front of the Zero Connect Box towards the user. • Turn the dial on the top of the Zero Connect Box left or right to adjust the direction of the sliding button towards the TV Screen receiver. • From the ⚙ → [⚙] → [General] → [AI Service] → [Voice Recognition Settings] screen, turn on the [Use Hands-free Voice Control] menu. (Depending on model)

⚠

• Make sure to wring any excess water or cleaner from the cloth.
• Do not spray water or cleaner directly onto the TV screen.
• Make sure to spray just enough of water or cleaner onto a dry cloth to wipe the screen.

Precautions for Protecting the OLED TV Screen

Unlike regular LED/LCDs, OLED TVs produce images that emit light for each pixel, achieving a perfect black colour and delivering clear images without blurring.

Due to the nature of the organic materials used to achieve high-resolution image quality, OLED displays generally experience image retention on the screen, which can be a persistent phenomenon. This phenomenon is observed in all OLED panels, and although recommended picture modes can minimise image retention, current technology cannot completely prevent this from occurring.

Displaying the same image for a long time or repeatedly displaying the same image can cause image retention on the screen, which is a common phenomenon in OLED panel products due to the nature of the product. This product has a built-in screen protection feature. Avoid displaying images that are likely to cause image retention, and follow the recommendations.

Images that are likely to cause image retention

- Images with black areas on the top and bottom and/or the left and right sides of the screen.
- Images whose aspect ratio is 4:3 or 21:9.
- Images that are fixed for a long time, such as program number, station logo, game console icon, set-top box menu, etc.
- Other fixed screen images or repeatedly displayed images.

Running [Pixel Cleaning] to Protect the OLED TV Screen

The OLED TV is equipped with a pixel cleaning feature to check the status of the screen by itself and prevent image retention that leaves an image on a screen. This feature automatically calculates the optimal execution time based on the accumulated viewing time and is automatically executed when the TV is turned off. While this feature is running, horizontal lines may appear at the top and bottom of the screen. The pixel cleaning feature works when the product is connected to the power cord and main power.

- To run this function manually, press the ⚙ button on the remote control, go to [⚙] → [General] → [OLED Care] → [OLED Panel Care] and press [Pixel Cleaning].

Recommendations for Minimising Image Retention

When watching the TV for a long time, press the ⚙ button on the remote control, go to [⚙] → [Picture] → [Select Mode] and set the mode to [Auto Power Save], go to [Advanced Settings] → [Brightness] and set [OLED Pixel Brightness] to a lower level. In addition, press the ⚙ button on the remote control, go to [⚙] → [General] → [OLED Care] → [OLED Panel Care] and set the [Adjust Logo Brightness] value to [High].

When showing images with black bars at the top/bottom/left/right side of the screen, press the ⚙ button on the remote control, go to [⚙], and go to [Picture] → [Aspect Ratio] → [User Selection] → [Vertical Zoom] or [4-Way Zoom] to remove the black bars.

Turn off the menus for setting up devices such as set-top boxes so that they are not displayed on the screen for a long time.

✅ Note

- When the screen is showing one fixed image for a long time, the screen brightness will be automatically reduced and then restored once the screen content changes. This is a normal function to minimise image retention.

Using Magic Remote Control

Power Turns the TV on or off.

Accesses the saved programmes list.

Number buttons Enters numbers.

⑨** Accesses the [Quick Help].

▢** Accesses the [Edit Quick Access].
- [Edit Quick Access] is a feature that allows you to enter a specified app or Live TV directly by pressing and holding the number buttons.

Accesses the [Guide].

** Accesses the saved programmes list.

Volume buttons Adjusts the volume level.

Mute Mutes all sounds.

Mute ** Accesses the [Accessibility] menu.

Voice recognition Network connection is required to use the voice recognition function.
Check for recommended content. (Some recommended services may not be available in some countries.)

Voice recognition ** Speak while pressing and holding the button to use the voice recognition feature.

Home Accesses the Home menu.

Home ** Launches the last used apps.

Back Returns to the previous level.

Back ** The screen displayed on the TV is closed and the home menu appears.

These access special functions in some menus.

Red button ** Runs the record function.

Various services button Connects to various services such as streaming and voice search.

Ⓜ Microphone
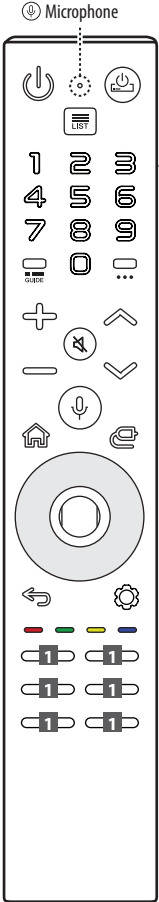
STB Power You can turn your set-top box on or off by adding the set-top box to the universal remote control for your TV.

⋯ More Actions Displays more remote control functions.

⋯ More Actions** Audio descriptions function will be enabled.

Programme buttons Scrolls through the saved programmes.

Input Changes the input source.

Input ** Accesses the [Home Hub].

up/down/left/right Press the up, down, left or right button to scroll the menu. If you press the up, down, left or right button while the pointer is in use, the pointer will disappear from the screen and Magic Remote will operate like a general remote control. To display the pointer on the screen again, shake Magic Remote to the left and right.

Wheel (OK) Press the centre of ◯ button to select a menu. You can change programmes by using ◯ button.
- Do not move the wheel on the remote control right or left. This may cause the malfunction of the product.

Wheel (OK) ** Accesses the [Magic Explorer]. You can run the [Magic Explorer] feature when the pointer colour is changed to purple. If watching a programme, press and hold down the pointer onto the video. When using [TV Guide], [Settings], [Sports Alert], or [Art Gallery], press and hold down on the text.

Q. Settings Accesses the Quick Settings.

Q. Settings ** Displays the All Settings menu.

✅ Note   ** To use the button, press and hold for more than 1 second.

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

(Some buttons and services may not be provided depending on models or regions.)

How to register the Magic Remote Control

To use the Magic Remote, first pair it with your TV.

1 Put batteries into the Magic Remote and turn the TV on.
2 Point the Magic Remote at your TV and press the ⭕ **Wheel (OK)** on the remote control.
* If the TV fails to register the Magic Remote, try again after turning the TV off and back on.

How to deregister the Magic Remote Control

Press the ⟵ **(Back)** and 🏠 **(Home)** buttons at the same time, for five seconds, to unpair the Magic Remote with your TV.

* Press and hold the 🏠 **(Home)** and ⚙ **(Q. Settings)** buttons for more than 5 seconds to disconnect and re-register the Magic Remote at the same time.

⚠

• It is recommended that an Access Point (AP) be located more than 0.2 m away from the TV. If the AP is installed closer than 0.2 m, the Magic remote control may not perform as expected due to frequency interference.

Using Always Ready

(Depending on model)

You can operate the TV and connect to Bluetooth with direct voice recognition while the power is off.

* ⚙ → [⚙] → [General] → [Always Ready], setting [Enable the function] to on.

* Pressing the ⏻ button while watching TV switches the screen to [Always Ready] that is turned on, and pressing the ⏻ button once more turns the screen to [Always Ready] that is turned off.

* Press the 🏠 **(Home)** button or the ⟵ **(Back)** button to watch TV when the screen is in [Always Ready] that is turned on.

* Press the ⭕ **Wheel (OK)** button to display the wallpaper when the screen is in [Always Ready] that is turned off, and press the ⏻ button to watch TV.

✅ **Note**

• Using Always Ready may increase energy consumption.
• For models with motion sensors, such as M3, if you set screen on with the motion sensor, the TV will turn on by recognising the motion.
• For more information about the feature, refer to the ⚙ → [⚙] → [Support] → [User Guide] → [Troubleshooting] → [Learn More About Always Ready].

Connecting Smart Devices using NFC Tagging

NFC is technology that uses Near Field Communication (13.56 MHz), allowing you to conveniently send and receive information without separate settings. By bringing a smart device near the NFC-enabled remote control, you can install the LG ThinQ app and connect the device to the TV.

1 Turn on NFC in the smart device's settings. To use NFC with Android devices, set the NFC option to enable 'read/write tags' in the smart device's settings. The NFC settings may vary depending on the device.
2 Bring the smart device near the 📶 (NFC) on the remote control. The required distance for NFC tagging is about 1 cm.
3 Follow the instructions to install the LG ThinQ app on your smart device.
4 Retagging the smart device to the remote control allows you to conveniently access various features on the connected TV through the LG ThinQ app.

✅ **Note**

• This feature is available for NFC-enabled smart devices only.
• This feature is only available if the remote control has an NFC logo.

Specifications

Specifications (PM23GN)		
	Frequency range	Output Power (Max.)
Bluetooth	2,400 to 2,483.5 MHz	8 dBm
NFC	13.553 to 13.567 MHz	-9.95 dBuA/m @ 10 m