ENGLISH

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# LG OLED TV

## OWNER'S MANUAL

Safety and Reference

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

OLED77W6PUA
OLED83W6PUA

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. _____

*MFL05814101260 7REV01*

Supplier`s Declaration of Conformity

| | |
|---|---|
| Trade Name | LG |
| Responsible Party | LG Electronics USA, Inc. |
| Address | 111 Sylvan Avenue, North Building, Englewood Cliffs, NJ 07632 |
| E-mail | lg.environmental@lge.com |

**LG Customer Information Center**

For inquires or comments, visit www.lg.com or call;

| | |
|---|---|
| 1-800-243-0000 | USA, Consumer User |
| 1-888-865-3026 | USA, Commercial User |

**Register your product Online!**

www.lg.com

# Important Safety Instruction

- Read these instructions.
- Keep these instructions.
- Heed all warnings.
- Follow all instructions.
- Do not use this apparatus near water.
- Clean only with dry cloth.
- Do not block any ventilation openings. Install in accordance with the manufacturer's instructions.
- Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.
- Do not defeat the safety purpose of the polarized or grounding-type plug. A polarized plug has two blades with one wider than the other. A grounding type plug has two blades and a third grounding prong. The wide blade or the third prong are provided for your safety. If the provided plug does not fit into your outlet, consult an electrician for replacement of the obsolete outlet.
- Protect the power cord from being walked on or pinched particularly at plugs, convenience receptacles, and the point where they exit from the apparatus.
- Only use attachments/accessories specified by the manufacturer.
- Use only with the cart, stand, tripod, bracket, or table specified by the manufacturer, or sold with the apparatus. When a cart is used, use caution when moving the cart/apparatus combination to avoid injury from tip-over.

- Unplug this apparatus during lightning storms or when unused for long periods of time.
- Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as power-supply cord or plug is damaged, liquid has been spilled or objects have fallen into the apparatus, the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped.

# 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 (3.9 inches) 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 while 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.

    Be sure the antenna system is grounded to provide some protection against voltage surges and built-up static charges.

    Section 810 of the National Electrical Code (NEC) in the U.S.A. provides information with respect to proper grounding of the mast and supporting structure, grounding of the lead-in wire to an antenna discharge unit, size of grounding conductors, location of antenna discharge unit, connection to grounding electrodes and requirements for the grounding electrode.

    Antenna grounding according to the National Electrical Code, ANSI/NFPA 70

- 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 when the product is turned off by remote control or button, the unit remains connected to the AC power source if plugged 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 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 or 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.

# Note

## Reading the User Guide

The user guide consists of a 'Quick User Guide,' enclosed with your TV purchase, and an 'Electronic User Guide,' stored as a programme on the TV.

## Quick User Guide

Contains safety precautions that must be complied with when using the TV, component installation methods, and external device connection methods.

- You can also download or view the Quick User Guide on digital devices such as PCs and mobile phones. Search for the model name in the user guide search bar on the LG Electronics website.
- If you lose or damage the Quick User Guide, call the LG Electronics Customer Center to request a replacement.
- ⊕ : This icon indicates that application may depend upon model in Quick Setup Guide.

## Electronic User Guide

To learn how to use various product features, press the remote control **Q.Settings button** (⚙) and see the Electronic User Guide stored on the TV.

- LG Electronics is not responsible for any damage to the product or injuries caused by using non-genuine LG products.
- TV components are subject to change without prior notice for performance upgrades. The model name or design may also be changed according to the circumstances or policies of the manufacturer.
- Images shown in this manual may differ from the actual product.

## Optional Extras

**Magic Motion Remote Control**: A Magic motion remote control with smart features such as voice recognition and motion control

**External device connection cable**: Cables for connecting external devices such as antennas to the TV

- To make separate purchases, contact the LG Electronics Customer Service Center.

## Before reading this manual

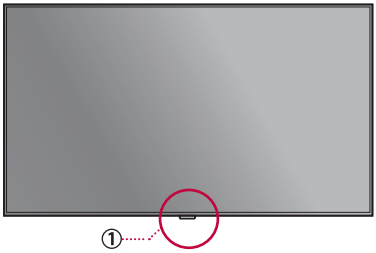
**Understanding 60 GHz wireless**

- Wireless TVs use 60 GHz radio waves to transmit high-quality video and audio wirelessly.
- The high bandwidth of 60 GHz frequencies is advantageous for large data transmission and has strong linearity but is greatly affected by obstacles.
- For the best TV viewing experience, the transmitting and receiving antennas should face each other, and there should be no obstacles in the transmission path.
- Transmission errors caused by obstacles are not malfunctions. Use the TV after properly installing it according to the recommended installation method.
- This product satisfies the standards for protecting the human body against electromagnetic waves*. (* Meets IEC 62311 standards)

# Installing and Using

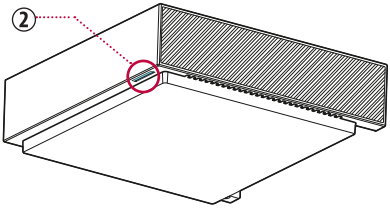
## Examining the Appearance and Component Names of the Wireless TV (TV Screen + Zero Connect Box)

### TV Screen

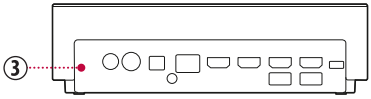



### Zero Connect Box (WM26GA)

It is a device that wirelessly transmits video and audio signals to the TV screen by connecting an external antenna or set-top box.




Front and bottom views




Rear view

① **Wireless signal receiver**

This part receives the video and audio signals sent by the Zero Connect Box.

**Power button**

The power button is used to turn the TV screen on, switch to Always Ready mode.

**Mic switch**

You can turn the TV-embedded microphone on and off by controlling the microphone switch at the bottom of the TV.

② **Front LED**

Indicates the power or operation status of the Zero Connect Box.

③ **External connection terminal**

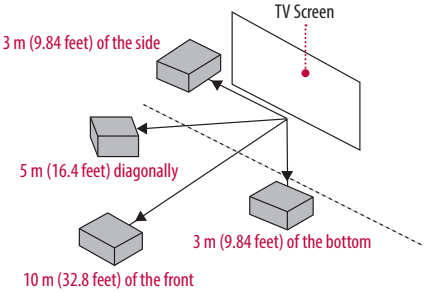
You can connect the Zero Connect Box's power cord and external video/audio devices such as external antennas and set-top boxes.

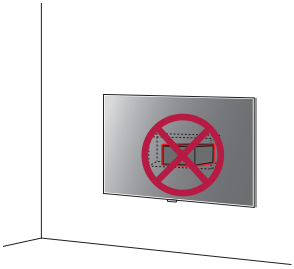
# Installing Zero Connect Box

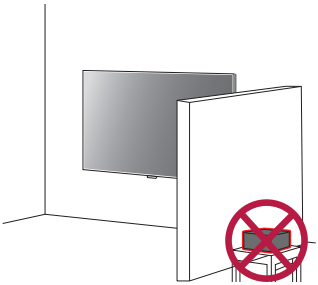
## 1. Choosing the Installation Location

The Zero Connect Box can be installed in front, beside or below the TV screen. Follow the user guide for proper installation.

- Do not place obstacles between the TV Screen and Zero Connect Box. Doing so may interfere with wireless signal transmission.
- Install the Zero Connect Box lower than the wireless signal receiver of the TV screen.
- The transmission range of the Zero Connect Box varies depending upon the direction in which it faces the TV screen. Refer to the figure below and install it within the appropriate distance.



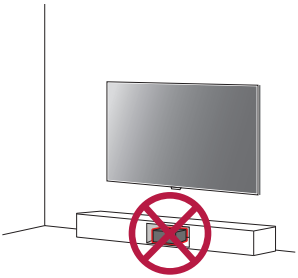


## 2. Performing Antenna Auto-Tuning

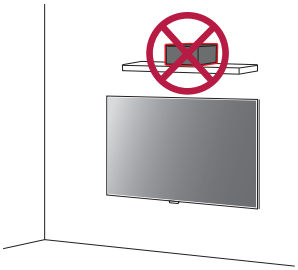
Please run the antenna auto-tuning for optimal wireless environment settings.

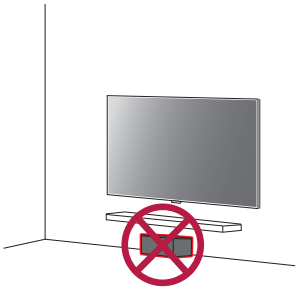
**Note**

- Do not install two wireless TVs or Zero Connect Boxes in the same room. They may interfere with one another.
- Do not place electronic devices or objects on top of the Zero Connect Box. Doing so may cause interference in transmission, resulting in screen display failure.
- When using a sound bar, ensure that it does not obstruct the wireless signal receiver of the TV screen.



**Caution**





# Installing the TV Screen

## Installing as a wall mount

This method involves installing the TV screen horizontally on the wall using a wall mount. Refer to the wall-mounting bracket guide provided separately for detailed information.

- To install the support, ensure that the wall is made of a material that can endure the weight of the TV Screen, such as concrete, natural stone, or masonry brick.
- Leave sufficient space around the product so that the ventilation vents of the TV screen are not blocked.

**Note**

- In the case of adhesive wall mounts, the TV screen may not adhere to the wall, depending upon the condition of the wall.
- LG wall mount products are recommended. If you use a wall mount not provided by LG, ensure that it provides sufficient distance from the wall.
- When using a fixed wall mount, connect the cables before installing the TV screen.
- The screws (4 screws x 2) that secure the built-in wall mount assembly to the back of the product are M3 x L3.5 mm.
- You can organize the TV screen power cord using the dedicated cable management.

**⚠ Caution**

- When installing the TV screen, ensure that you wear work gloves. Installing with unprotected hands may result in injury.
- If you installed your TV screen with an adhesive wall mount, ensure that it is used only when adhered to the wall. The TV screen may wobble or tilt, causing damage.
- Do not install the wall mount in a place where it may come into contact with oil or oil vapour. Doing so may damage the TV screen.
- Since the TV screen is heavy, at least two people should lift it vertically when unpacking or moving it.
- Do not move while holding the cable holder or cable organization band. Doing so may damage parts or the TV screen, or may cause injury. (Depending upon model)
- Do not forcibly tilt the TV screen. Doing so may cause it to fall and result in damage or injury.
- Take care to avoid getting your hands or fingers caught in the wall mount and injuring yourself.
- Any damages or injuries by using unapproved items are not covered by the warranty.

**⚠ Warning**

- Do not apply foreign substances (oils, lubricants, etc.) to the screw parts when assembling the product. Doing so may cause damage to the product.
- Tightening the screws with excessive force may cause them to come off due to abrasion of the screw joint.

# Connecting External Terminals

You can connect external devices such as cables, HDMI, and set-top boxes to the TV. For more information of external device's connection, refer to the manual provided with each device.

- When used with an external device using a 60 GHz frequency, the screen may fail to display due to mutual interference.
- Set the appropriate resolution and frequency for the connected device. Failure to do so may cause straining of the eyes.
- The detailed installation method may vary depending upon the TV model.
- The TV may be capable of operating without a set-top-box from a multichannel video programming distributor (MVPD).

## Installing Antenna/Cable

- Insert the coaxial cable that transmits audio/video signals into the antenna/cable input terminal or antenna input terminal on the back of the Zero Connect Box.
- Be careful not to bend the copper wire when connecting the coaxial cable.
- Use a signal amplifier if the signal is weak.
- When using one antenna for two or more TVs, use a signal splitter.

**Note**

- Do not apply oil or lubricant to the screws used during installation. Doing so may cause the TV to malfunction.

## HDMI

- Use an HDMI certified cable (less than 3 m (9.84 feet)) with the HDMI logo (Ultra High Speed HDMI®/™ cable).
- Turn off the power of the TV and all connected devices, and unplug them from the socket before connecting the HDMI cable.
- Connecting a device that supports the HDMI Ultra HD Deep color feature to the TV will provide a clearer image. If you connect a device that does not support this feature and enable the feature, it may not work properly. If problems arise, change the settings.

**Note**

- HDMI audio support formats may vary depending upon the TV model.
- HDMI devices should have bezels less than 10 mm (0.39 inches) thick and 18 mm (0.7 inches) width.

## USB / USB Hub

If the USB hub connected to the TV does not recognize USB devices, connect the USB directly to the TV terminal.

**Note**

- If the shapes of the TV terminal and the USB device do not match, use an extension cable that supports USB 2.0.
- USB devices should have bezels less than 10 mm (0.39 inches) thick and 18 mm (0.7 inches) width.

## IR Blaster

This is an infrared transmitter that allows smoother control of devices such as set-top boxes, Blu-ray players, DVD players, sound bars, and gaming consoles.

- If the Zero Connect Box is installed in a location other than the bottom of the TV, external devices may not be controlled smoothly with the TV remote control; therefore, connecting an IR blaster is recommended.
- Controlling the IR blaster requires an integrated remote control setting.
- Secure both ends of the IR blaster to the front (receiver) of the external device remote control using the tape provided.
- In order to control external devices through "Hands-free Voice Control", an IR blaster connection is required.

## Adapter

⚠ **Caution**

- Please be sure to connect the TV to the AC-DC power adapter before connecting the TV's power plug to a wall power outlet. (Depending upon model)

## Wired LAN

- TV audio can be transmitted to the sound bar (external audio device). When transmitting via wired methods (optical digital, HDMI ARC), connect to the rear external terminal of the Zero Connect Box, and when transmitting wirelessly (LG soundbar supporting the WOWCAST feature), use the WOWCAST feature. (Depending upon country)

## Remote RS-232C setup

To obtain the RS-232C external control setup information, please visit *www.lg.com*. Download and read the manual, (Depending upon model).

⚠ **Caution**

- Do not drop the product or let it fall over when connecting external devices. Otherwise, this may result in injury or damage to the product.
- When connecting external devices such as video game consoles, make sure the connecting cables are long enough. Otherwise, the product may fall over, which may cause injury or damage the product.

# Using the TV

## Using the power button

Press the **Power button** (⏻) located on the bottom of the TV briefly to turn the screen on and hold it to turn off all functions and the screen.

- Only use the power button when the TV screen and the Zero Connect Box are connected.
- The shape and location of the power button may vary depending upon the TV model.
- When you turn on the power for the first time after purchasing the product, it may take about 1 minute for the screen to turn on due to initialization.
- For models with motion sensors, if you set screen on with the motion sensor, the TV will turn on by recognizing the motion. (Depending upon model)

## Using hands-free voice control

- Press the remote control **Q. Settings button** (⚙) to turn on hands-free voice control. The feature settings path may vary depending upon the TV model.

# Managing

## Protecting the OLED TV Screen

- Unlike general LED/LCD TVs, OLED TVs can display perfect black and produce clear images without light blurring.
- Due to the characteristics of OLED materials that provide high-resolution display, image retention may occur or persist, leaving an afterimage on the screen.
- Image retention is a common phenomenon in all OLED panels. Using the recommended viewing mode can minimize image retention.
- Avoid displaying images that are likely to cause image retention, and follow the recommendations.

## Images that are likely to cause image retention

- Screen with black areas on one or more sides on the top, bottom, left or right.
- Images whose aspect ratio is 4:3 or 21:9.
- Screens with images fixed for a long time, such as channel numbers, broadcast station logos, game console icons, or set-top box menus.
- Other static screens or screens that repeat the same scene.

## Recommendations for Minimizing Image Retention

- If there are black areas on one or more of the top, bottom, left, or right sides of the screen, press the remote control **Q.Settings button** (⚙) to remove the black areas before watching.
- Turn off the menu for setting up external devices such as set-top boxes so that it is not displayed on the screen for a prolonged period.

**Note**

- OLED TVs automatically lower screen brightness when a fixed image is received for an extended period and restore brightness once the fixed image is gone.
- This is one of the features of the TV for minimizing image retention and is not a malfunction.

## Running Pixel Cleaning

OLED TVs are equipped with a pixel cleaning feature that detects screen conditions on its own to prevent retention.

- Pixel cleaning automatically calculates the optimal execution time based on cumulative viewing time and runs automatically when you turn off the TV.
- Horizontal lines may appear at the top and bottom of the screen during pixel cleaning.
- The pixel cleaning feature works when the TV is connected to the power cord and main power.
- Pixel cleaning can also be run manually by pressing the remote control **Q.Settings button** (⚙).

# Troubleshooting

- If you notice any of the problems below while using the product, please check again. It may not be a fault.
- Before contacting the LG Electronics Service Center, press the button on the remote control three times in TV/HDMI input mode to check the product model name and serial number. You will be able to receive faster assistance.
- For detailed information or videos, visit *www.lg.com* for the troubleshooting page.

## Power and Screen

| | |
|---|---|
| **The product does not turn on.** | » **Is the power cord plugged in properly?**<br>Check if the power cord is plugged properly into the product and socket.<br>» **Is there a problem with the socket?**<br>Plug the power plug of another device into the socket where the product was plugged in to check if the socket is functioning properly. |
| **The product turns off suddenly.** | » **Is the sleep timer set?**<br>Check if the auto-off function is activated on the settings related time.<br>» **Check if the external devices are working together.**<br>Stop using the external devices you are using together and check if the TV is working normally.<br>» **Did the auto-off feature work?**<br>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. |
| **Dots on the screen.** | » **Do you see white dots, bright dots, dark dots, or flickering dots on the screen?**<br>This product is an advanced product containing millions of pixels. You may see flickering dots of about 1/1,000,000 (1 PPM). These are not considered product defects or malfunctions.<br>• White Dots: dots that appear bright,<br>• Bright Dots: dots that appear brighter than normal image<br>• Dark Dots: dots which part of a letter or an object is invisible or blurry<br>• Flickering Dots: Dots that flicker |

## Zero Connect Box Connection

| | |
|---|---|
| **A power connection image appears on the screen.** | » **Is the Zero Connect Box connected properly?**<br>Ensure that the Zero Connect Box power cord is plugged firmly into the socket. |
| **A Zero Connect Box connection image appears on the screen.** | » **Are there any objects interfering with the wireless signal transmission?**<br>Clear any objects between the TV screen and the Zero Connect Box.<br>» **Follow the on-screen instructions to auto-tune the antenna or reconnect the Zero Connect Box.** |

## Hands-free Voice Control

| | |
|---|---|
| **Voice recognition is not working well.** | » **Is the Hands-free Voice Control feature turned on?**<br>Press the remote control **Q. Settings button** ( ) to turn on hands-free voice control. (Depending upon model) |

## Motion Detection

| | |
|---|---|
| **In Always Ready mode, the motion sensor activates unnecessarily or fails to activate.**<br>(Depending upon model) | » **Is the motion sensor clean?**<br>The motion sensor is located at the bottom center of the TV screen and may not function properly if covered with foreign substances. Wipe it clean with a soft cloth.<br>» **Is there an object interfering with the motion sensor detection?**<br>Clear any objects in front of the TV screen.<br>» **Is the motion sensor too sensitive or insensitive?**<br>The motion sensor can activate when detecting movements of pets, robot vacuum cleaners, and other objects as they are recognized as motions. |

## Noise

| | |
|---|---|
| **There is noise coming from the product.** | » **Do you hear a "ticking" sound?**<br>This is the sound of the plastic deforming due to temperature and humidity. It is a common phenomenon in plastic products like furniture and cars; therefore, it is not a cause for concern.<br>» **Is the noise related to electricity?**<br>The sound is caused by the high-speed switching circuit that supplies current to the product, and it does not affect the functionality of the product.<br>» **Do you hear the fan noise from the Zero Connect Box?**<br>This is a normal sound created to dissipate heat generated inside the product.<br>* LG Electronics manages product production with strict standards, and noise below a certain level is not considered a product defect or malfunction. |

## Magic Motion Remote Control

| | |
|---|---|
| **The remote control is not working.** | » **Is there a connection problem with the product?**<br>Press and hold the button and button in the middle of the Magic Motion Remote Control simultaneously for more than 5 seconds to re-register.<br>» **Are there any objects interfering with the wireless signal transmission?**<br>Clear any objects between the TV screen and the remote control.<br>» **Are the batteries inserted correctly?**<br>Ensure that the ⊕ side and ⊖ side of the battery are in the correct position. Replace both batteries with new ones when they run out. |

## Other

If any of the following issues occur, turn off the product, unplug the power plug from the socket and contact the LG Electronics Service Center for inspection. Do not repair the product yourself.

- **If the product fails to display images or produce sound, even when the power is turned on**
- **If the product continues to display images or produce sound, even when the power is turned off**
- **If there is smoke or a burning smell coming from the product**
- **If water or a foreign substance gets into the product**
- **If the screen image appears to be cut off**
- **If the product makes repetitive sounds, such as a "buzzing" or "cracking" noise**
- **If there is any other problem or malfunction with the product**

## Product information

| | | |
|---|---|---|
| **Broadcasting Specifications** (Depending upon country) | Television system | Terrestrial / Cable / Satellites Digital TV |
| | External antenna impedance | 75 Ω |
| **Environment Condition** | Operating Temperature | 0 °C to 40 °C (32 °F to 104 °F) |
| | Operating Humidity | Less than 80 % |
| | Storage Temperature | -20 °C to 60 °C (-4 °F to 140 °F) |
| | Storage Humidity | Less than 85 % |
| **Wireless Reception Conditions** | Distance | 3 - 10 m (9.84 -32.80 feet)<br>(Only under conditions with no obstacles) |
| **Power requirement** | | AC 120 V~ 50/60 Hz |
| **Adapter** | Zero Connect Box | Manufacturer : Shenzhen Honor Electronic Co., Ltd.<br>Model : ADT-65AI-D00-3 |

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

Estimated yearly energy consumption indicated on the FTC label is measured in accordance with the Test Procedures for Television Sets (USA only).

The actual energy consumption depends on the usage environment (The content watched, TV settings, etc.).

- 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.
  - See the label on the bottom of the product for power source, power ratings and product information.
    - * On some models, the label is inside the external device connection terminal cover.
    - * Depending upon 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, please visit *https://opensource.lge.com*.

LG Electronics will also provide open source code to you for a charge covering the cost of performing such distribution 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 Motion Remote Control supported models only)

HEVC Advance™

Covered by patents at patentlist.accessadvance.com

# Regulatory

## FCC NOTICE

(For USA)

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and the receiver.
- Connect the equipment to an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference and (2) this device must accept any interference received, including interference that may cause undesired operation. Any changes or modifications in construction of this device which are not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment. and For indoor use only, use outdoors or in other modes not covered by this manual may violate the FCC regulation and violate the user authority to use the product.

## FCC Radio Frequency Interference Requirements (for UNII devices)

(For USA)

High power radars are allocated as primary users of the 5.25 to 5.35 GHz and 5.65 to 5.85 GHz bands. These radar stations can cause interference with and/or damage this device. This device cannot be co-located with any other transmitter.

Transmitters in the 5.925-7.125 GHz band are prohibited from operating to control or communicate with unmanned aircraft systems.

## FCC RF Radiation Exposure Statement

(For USA)

(For having wireless function (WLAN, Bluetooth,...))

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter. This equipment should be installed and operated with minimum distance 20 cm (7.8 inches) between the antenna and your body. Users must follow the specific operating instructions for satisfying RF exposure compliance.

(Device for using 5925 - 7125 MHz)

1) FCC regulations restrict the operation of this device to indoor use only.

2) The operation of this device is prohibited on oil platforms, cars, trains, boats, and aircraft, except that operation of this device is permitted in large aircraft while flying above 10,000 feet in the 5.925-6.425 GHz band.

3) Operation of transmitters in the 5.925-7.125 GHz band is prohibited for control of or communications with unmanned aircraft systems.

## NOTE TO CABLE/TV INSTALLER

(For USA)

This reminder is provided to call the CATV system installer's attention to Article 820-40 of the National Electric Code (U.S.A.). The code provides guidelines for proper grounding and, in particular, specifies that the cable ground shall be connected to the grounding system of the building, as close to the point of the cable entry as practical.

## LG Take-back & Recycling Policy

(For USA)

LG Electronics offers a customized e-waste take-back & recycling service that meets local needs and requirements in the countries where e-waste regulations are in place, and also provides product take-back & recycling service voluntarily in some regions. LG Electronics evaluates products' recyclability at the design step selectively, with the goal of improving recyclability where practicable. Through these activities, LG Electronics seeks to contribute to conserving natural resources and protecting the environment. For more information, please visit our global site at *https://www.lg.com/recycling*

## WARNING! (STABILITY HAZARD)

A television set may fall, causing serious personal injury or death. Many injuries, particularly to children, can be avoided by taking simple precautions such as:

- ALWAYS use cabinets or stands or mounting methods recommended by the manufacturer of the television set.
- ALWAYS use furniture that can safely support the television set.
- ALWAYS ensure the television set is not overhanging the edge of the supporting furniture.
- ALWAYS educate children about the dangers of climbing on furniture to reach the television set or its controls.
- ALWAYS route cords and cables connected to your television so they cannot be tripped over, pulled or grabbed.
- NEVER place a television set in an unstable location.
- NEVER place the television set on tall furniture (for example, cupboards or bookcases) without anchoring both the furniture and the television set to a suitable support.
- NEVER place the television set on cloth or other materials that may be located between the television set and supporting furniture.
- NEVER place items that might tempt children to climb, such as toys and remote controls, on the top of the television or furniture on which the television is placed.

If the existing television set is going to be retained and relocated, the same considerations as above should be applied.

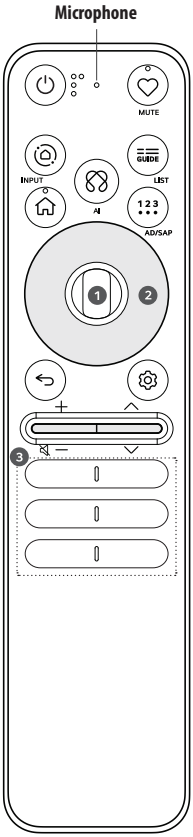
## Symbols

| | | | |
|---|---|---|---|
| ~ | Refers to alternating current (AC). | ⏻ | Refers to stand-by. |
| ⎓ | Refers to direct current (DC). | \| | Refers to “ON” (power). |
| ⧈ | Refers to class II equipment. | ϟ | Refers to dangerous voltage. |

# Using Magic Motion Remote Control

## Short press
### Basic Guide

| | |
|---|---|
| | **Power**: Turns the TV On or Off. |
| | Select **Custom Menu**. (Set the key to the user's preference such as Mute/Input/HDMI) |
| | Displays the **Home Hub**. |
| | Accesses the **TV Guide**. |
| | Check for recommended content. (Some recommended services may not be available in some countries.) |
| | Displays the **Home Menu**. |
| | Displays more remote control functions. |
| ❶ | **Press** to select menu and operate device. (play/pause, etc.)<br>**Scroll up and down** Scrolls the screen or change channels. |
| ❷ | **Up, Down, Left, Right** Navigation buttons. |
| | Move to the **Previous Step**. |
| | Displays the **Quick Settings Menu**. |
| ❸ | Various content service buttons. |




## Long press
### Extension Guide

| | |
|---|---|
| | Accesses the **Accessibility Shortcuts**. |
| | Changes the **Input Source**. |
| | Accesses the saved **Channels List**. |
| | Speak to the remote control while pressing and holding the button to use the **Voice Recognition** feature. |
| | To enable the **Screen Zoom**. |
| | Enables **SAP** (Second Audio Program) Feature. |
| | The screen displayed on the TV is closed and the **Home Menu** appears. |
| | Displays the **All Settings Menu**. |

| | |
|---|---|
| + / — | Push up and down to **Adjust the Volume**. |
| ∧ / ∨ | Push up and down to **Change Channels**. |
| 🔇 — | Push down long press to **Mute**. |

**Note**

- The terms in this manual are used in general terms to help users understand and may not match the terms displayed on the screen.

The descriptions in this manual are based on the buttons on the remote control. Please read this manual carefully and use the TV correctly.
This remote uses infrared light. When in use, it should be pointed in the direction of the TV's remote sensor.
(Some buttons and services may not be provided depending upon models or regions.)

## How to register the Magic Motion Remote Control

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

1. Put batteries into the Magic Motion Remote Control and turn the TV on.
2. Point the Magic Motion Remote Control at your TV and press the **Wheel (OK)** on the remote control.

* If the TV fails to register the Magic Motion Remote Control, try again after turning the TV off and back on.

## How to deregister the Magic Motion Remote Control

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

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

**Caution**

- It is recommended that an Access Point (AP) be located more than 0.2 m (0.65 ft) away from the TV. If the AP is installed closer than 0.2 m (0.65 ft), the Magic Motion Remote Control may not perform as expected due to frequency interference.

## Using Always Ready

(Depending upon model)

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

* Pressing the **(Power)** button while watching TV switches the screen to [Always Ready] that is turned on, and pressing the **(Power)** 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 **(Power)** button to watch TV.

**Note**

- Using Always Ready may increase energy consumption.

LG
Life's Good

OWNER'S MANUAL

# EXTERNAL CONTROL DEVICE SETUP

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

www.lg.com
P/NO : MFL71445401 (1901-REV00)

ENGLISH

# KEY CODES

- This feature is not available for all models.

| Code (Hexa) | Function | Note | Code (Hexa) | Function | Note |
|---|---|---|---|---|---|
| 00 | CH +, PR + | R/C Button | 53 | List | R/C Button |
| 01 | CH -, PR - | R/C Button | 5B | Exit | R/C Button |
| 02 | Volume + | R/C Button | 60 | PIP(AD) | R/C Button |
| 03 | Volume - | R/C Button | 61 | Blue | R/C Button |
| 06 | > (Arrow Key / Right Key) | R/C Button | 63 | Yellow | R/C Button |
| 07 | < (Arrow Key / Left Key) | R/C Button | 71 | Green | R/C Button |
| 08 | Power | R/C Button | 72 | Red | R/C Button |
| 09 | Mute | R/C Button | 79 | Ratio / Aspect Ratio | R/C Button |
| 0B | Input | R/C Button | 91 | AD (Audio Description) | R/C Button |
| 0E | SLEEP | R/C Button | 9E | LIVE MENU | R/C Button |
| 0F | TV, TV/RAD | R/C Button | 7A | User Guide | R/C Button |
| 10 - 19 | * Number Key 0 - 9 | R/C Button | 7C | Smart / Home | R/C Button |
| 1A | Q.View / Flashback | R/C Button | 7E | SIMPLINK | R/C Button |
| 1E | FAV (Favorite Channel) | R/C Button | 8E | ►► (Forward) | R/C Button |
| 20 | Text (Teletext) | R/C Button | 8F | ◄◄ (Rewind) | R/C Button |
| 21 | T. Opt (Teletext Option) | R/C Button | AA | Info | R/C Button |
| 28 | Return (BACK) | R/C Button | AB | Program Guide | R/C Button |
| 30 | AV (Audio / Video) Mode | R/C Button | B0 | ► (Play) | R/C Button |
| 39 | Caption/Subtitle | R/C Button | B1 | ■ (Stop / File List) | R/C Button |
| 40 | Λ (Arrow Key / Cursor Up) | R/C Button | B5 | RECENT | R/C Button |
| 41 | V (Arrow Key / Cursor Down) | R/C Button | BA | ❚❚ (Freeze / Slow Play / Pause) | R/C Button |
| 42 | My Apps | R/C Button | BB | Soccer | R/C Button |
| 43 | Menu / Settings | R/C Button | BD | ● (REC) | R/C Button |
| 44 | OK / Enter | R/C Button | DC | 3D | R/C Button |
| 45 | Q.Menu | R/C Button | 99 | AutoConfig | R/C Button |
| 4C | List, - | R/C Button | 9F | App / * | R/C Button |
| 4D | PICTURE | R/C Button | 9B | TV / PC | R/C Button |
| 52 | SOUND | R/C Button | | | |

* Key code 4C (0x4C) is available on ATSC/ISDB models which use major/minor channel.
(For South Korea, Japan, North America, Latin America except Colombia models)

# EXTERNAL CONTROL DEVICE SETUP

- Image shown may differ from your TV.

Connect the USB to Serial(RS-232C) converter/RS-232C(Serial) input jack to an external control device (such as a computer or an A/V control system) to control the product's functions externally.

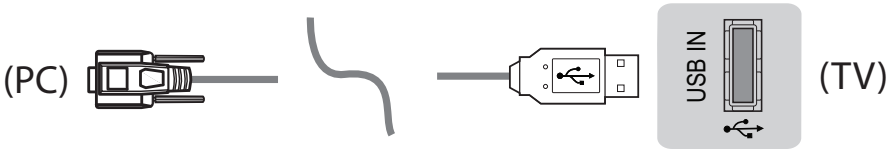
Note: The type of control port on the TV can be different between model series.

* Please be advised that not all models support this type of connectivity.

* Cable is not provided.

## USB to Serial(RS-232C) converter with USB Cable

USB Type

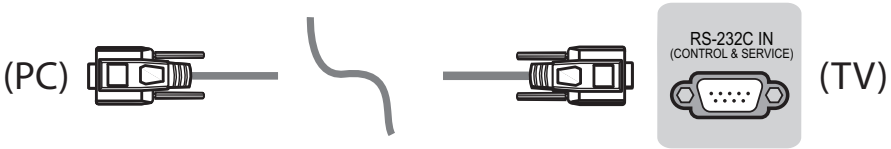



- LGTV supports PL2303 chip-based (Vendor ID : 0x0557, Product ID : 0x2008) USB to serial(RS-232C) converter which is not made nor provided by LG.
- It can be purchased from computer stores that carry accessories for IT support professionals.

## RS-232C(Serial) With RS-232C(Serial) Cable

DE9 (D-Sub 9pin) Type

- You need to purchase the RS-232C (DE9, D-Sub 9pin female-to-female type) to RS-232C(Serial) cable required for the connection between the PC and the TV, which is specified in the manual.



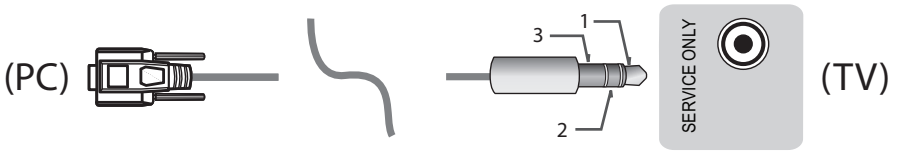

The connection interface may differ from your TV.

Phone jack Type

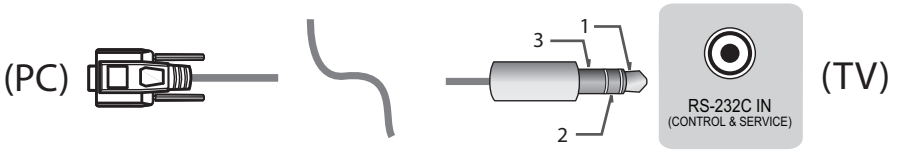
- You need to purchase the phone-jack to RS-232 cable required for the connection between the PC and the TV, which is specified in the manual.

* For other models, connect to the USB port.

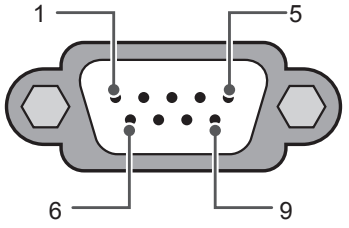
* The connection interface may differ from your TV.




- or



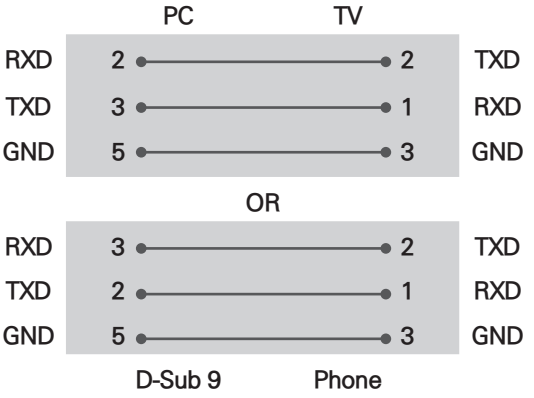

## Customer Computer




RS-232C
(Serial port)

## RS-232C configurations

3-Wire Configurations(Not standard)




**Set ID**

For Set ID number, see "**Real Data Mapping**" on p.6

1. Press **SETTINGS** to access the main menus.
2. Press the Navigation buttons to scroll to **(*General → About this TV or OPTION)** and press **OK**.
3. Press the Navigation buttons to scroll to **SET ID** and press **OK**.
4. Scroll left or right to select a set ID number and select **CLOSE**. The adjustment range is 1-99.
5. When you are finished, press **EXIT**.
   * (Depending on model)

## Communication Parameters

- Baud rate : 9600 bps (UART)
- Data length : 8 bits
- Parity : None
- Stop bit : 1 bit
- Communication code : ASCII code
- Use a crossed (reverse) cable.

## Command reference list

**(Depending on model)**

| | COMMAND1 | COMMAND2 | DATA (Hexadecimal) | | COMMAND1 | COMMAND2 | DATA (Hexadecimal) |
|---|---|---|---|---|---|---|---|
| 01. Power* | k | a | 00 to 01 | 15. Balance | k | t | 00 to 64 |
| 02. Aspect Ratio | k | c | (p.7) | 16. Color (Colour) Temperature | x | u | 00 to 64 |
| 03. Screen Mute | k | d | (p.7) | 17. ISM Method (Only Plasma TV) | j | p | (p.8) |
| 04. Volume Mute | k | e | 00 to 01 | 18. Equalizer | j | v | (p.9) |
| 05. Volume Control | k | f | 00 to 64 | 19. Energy Saving | j | q | 00 to 05 |
| 06. Contrast | k | g | 00 to 64 | 20. Tune Command | m | a | (p.9) |
| 07. Brightness | k | h | 00 to 64 | 21. Channel (Programme) Add/Del(Skip) | m | b | 00 to 01 |
| 08. Color/ Colour | k | i | 00 to 64 | 22. Key | m | c | Key Codes |
| 09. Tint | k | j | 00 to 64 | 23. Control Backlight, Control Panel Light | m | g | 00 to 64 |
| 10. Sharpness | k | k | 00 to 32 | 24. Input select (Main) | x | b | (p.11) |
| 11. OSD Select | k | l | 00 to 01 | 25. 3D (Only 3D models) | x | t | (p.11) |
| 12. Remote Control Lock Mode | k | m | 00 to 01 | 26. Extended 3D (Only 3D models) | x | v | (p.12) |
| 13. Treble | k | r | 00 to 64 | 27. Auto Configure | j | u | (p.12) |
| 14. Bass | k | s | 00 to 64 | | | | |

* Note: During playing or recording media, all commands except Power (ka) and Key (mc) are not executed and treated as NG.
With RS232C cable, TV can communicate "ka command" in power-on or power-off status. but with USB-to-Serial converter cable, the command works only if TV is on.

# Transmission / Receiving Protocol

## Transmission

[Command1][Command2][ ][Set ID][ ][Data][Cr]

[Command 1] : First command to control the TV. (j, k, m or x)
[Command 2] : Second command to control the TV.
[Set ID] : You can adjust the [Set ID] to choose desired monitor ID number in option menu. Adjustment range in TV is 1 to 99. If [Set ID] value is selected to ‘0’, every connected set can be controlled.
* [Set ID] is indicated as decimal (1 to 99) on menu and as Hexadecimal (0x00 to 0x63) on transmission/receiving protocol.
[DATA] : To transmit command data (hexadecimal). Transmit ‘FF’ data to read status of command.
[Cr] : Carriage Return - ASCII code ‘0x0D’
[ ] : Space – ASCII code ‘0x20’

## OK Acknowledgement

[Command2][ ][Set ID][ ][OK][Data][x]

* The set transmits ACK (acknowledgement) based on this format when receiving normal data. At this time, if the data is data read mode, it indicates present status data. If the data is data write mode, it returns the data of the PC computer.

## Error Acknowledgement

[Command2][ ][Set ID][ ][NG][Data][x]

* The set transmits ACK (acknowledgement) based on this format when receiving abnormal data from non-viable functions or communication errors.

Data 00: Illegal Code

## Real data mapping (Hexadecimal b Decimal)

* When you enter the [data] in hexadecimal, refer to following conversion table.
* Channel Tune (ma) Command uses two-byte hexadecimal value([data]) to select channel number.

| | | |
|---|---|---|
| 00 : Step 0 | 32 : Step 50 (Set ID 50) | FE : Step 254 |
| 01 : Step 1 (Set ID 1) | 33 : Step 51 (Set ID 51) | FF : Step 255 |
| ... | ... | ... |
| 0A : Step 10 (Set ID 10) | 63 : Step 99 (Set ID 99) | 01 00 : Step 256 |
| ... | ... | ... |
| 0F : Step 15 (Set ID 15) | C7 : Step 199 | 27 0E : Step 9998 |
| 10 : Step 16 (Set ID 16) | C8 : Step 200 | 27 0F : Step 9999 |
| ... | ... | ... |

* Commands may work differently depending on model and signal.

01. Power (Command: k a)

► To control Power *On or Off of the set.

Transmission[k][a][ ][Set ID][ ][Data][Cr]

Data 00 : Power Off 01 : *Power On

Ack [a][ ][Set ID][ ][OK/NG][Data][x]

► To Show TV is Power On or *Off

Transmission [k][a][ ][Set ID][ ][FF][Cr]

Ack [a][ ][Set ID][ ][OK][Data][x]

* Similarly, if other functions transmit 'FF' data based on this format, Acknowledgement feedback presents status about each function.

02. Aspect Ratio (Command: k c)
(Main Picture Size)

► To adjust the screen format. (Main picture format)
You can also adjust the screen format using the Aspect Ratio in the Q.MENU. or PICTURE menu.

Transmission [k][c][ ][Set ID][ ][Data][Cr]

Data 01 : Normal screen (4:3)
02 : Wide screen (16:9)
04 : Zoom
05 : Zoom 2 (Latin America except Colombia Only)
06 : Set by Program/ Original
07 : 14:9 (Europe, Colombia, Mid-East, Asia except South Korea and Japan)
09 : * Just Scan
0B : Full Wide (Europe, Colombia, Mid-East, Asia except South Korea and Japan)
10 to 1F : Cinema Zoom 1 to 16
0c : 21:9 (Depending on model)

Ack [c][ ][Set ID][ ][OK/NG][Data][x]

* Using the PC input, you select either 16:9 or 4:3 screen aspect ratio.
* In DTV/HDMI/Component mode (high-definition), Just Scan is available.
* Full wide mode may work differently based on model and is supported for DTV fully, and ATV, AV partially.

03. Screen Mute (Command: k d)

► To select screen mute on/off.

Transmission [k][d][ ][Set ID][ ][Data][Cr]

Data 00 : Screen mute off (Picture on) Video mute off
01 : Screen mute on (Picture off)
10 : Video mute on

Ack [d][ ][Set ID][ ][OK/NG][Data][x]

* In case of video mute on only, TV will display On Screen Display(OSD). But, in case of Screen mute on, TV will not display OSD.

04. Volume Mute (Command: k e)

► To control volume mute on/off.
You can also adjust mute using the MUTE button on remote control.

Transmission [k][e][ ][Set ID][ ][Data][Cr]

Data 00 : Volume mute on (Volume off)
01 : Volume mute off (Volume on)

Ack [e][ ][Set ID][ ][OK/NG][Data][x]

05. Volume Control (Command: k f)

► To adjust volume.
You can also adjust volume with the volume buttons on remote control.

Transmission [k][f][ ][Set ID][ ][Data][Cr]

Data Min : 00 to Max : 64

Ack [f][ ][Set ID][ ][OK/NG][Data][x]

06. Contrast (Command: k g)

► To adjust screen contrast.
You can also adjust contrast in the PICTURE menu.

Transmission [k][g][ ][Set ID][ ][Data][Cr]

Data Min : 00 to Max : 64

Ack [g][ ][Set ID][ ][OK/NG][Data][x]

07. Brightness (Command: k h)

► To adjust screen brightness.
You can also adjust brightness in the PICTURE menu.

Transmission [k][h][ ][Set ID][ ][Data][Cr]

Data Min : 00 to Max : 64

Ack [h][ ][Set ID][ ][OK/NG][Data][x]

08. Color/Colour (Command: k i)

► To adjust the screen Color(Colour).
You can also adjust colour in the PICTURE menu.

Transmission [k][i][ ][Set ID][ ][Data][Cr]

Data Min : 00 to Max : 64

Ack [i][ ][Set ID][ ][OK/NG][Data][x]

09. Tint (Command: k j)

► To adjust the screen tint.
You can also adjust tint in the PICTURE menu.

Transmission [k][j][ ][Set ID][ ][Data][Cr]

Data Red : 00 to Green : 64

Ack [j][ ][Set ID][ ][OK/NG][Data][x]

10. Sharpness (Command: k k)

► To adjust the screen sharpness.
You can also adjust sharpness in the PICTURE menu.

Transmission [k][k][ ][Set ID][ ][Data][Cr]

Data Min : 00 to Max : 32

Ack [k][ ][Set ID][ ][OK/NG][Data][x]

11. OSD Select (Command: k l)

► To select OSD (On Screen Display) on/off when controlling remotely.

Transmission [k][l][ ][Set ID][ ][Data][Cr]

Data 00 : OSD off 01 : OSD on

Ack [l][ ][Set ID][ ][OK/NG][Data][x]

12. Remote control lock mode (Command: k m)

► To lock the front panel controls on the monitor and remote control.

Transmission [k][m][ ][Set ID][ ][Data][Cr]

Data 00 : Lock off 01 : Lock on

Ack [m][ ][Set ID][ ][OK/NG][Data][x]

* If you are not using the remote control, use this mode.
When main power is off & on (plug-off and plug-in, after 20 - 30 seconds), external control lock is released.
* In the standby mode (DC off by off timer or ‘ka’, ‘mc’ command), and if key lock is on, TV will not turn on by power on key of IR & Local Key.

13. Treble (Command: k r)

► To adjust treble.
You can also adjust in the AUDIO menu.

Transmission [k][r][ ][Set ID][ ][Data][Cr]

Data Min : 00 to Max : 64

Ack [r][ ][Set ID][ ][OK/NG][Data][x]

* (Depending on model)

14. Bass (Command: k s)

► To adjust Bass.
You can also adjust in the AUDIO menu.

Transmission [k][s][ ][Set ID][ ][Data][Cr]

Data Min : 00 to Max : 64

Ack [s][ ][Set ID][ ][OK/NG][Data][x]

* (Depending on model)

15. Balance (Command: k t)

► To adjust balance.
You can also adjust balance in the AUDIO menu.

Transmission [k][t][ ][Set ID][ ][Data][Cr]

Data Min : 00 to Max : 64

Ack [t][ ][Set ID][ ][OK/NG][Data][x]

16. Color(Colour) Temperature (Command: x u)

► To adjust colour temperature. You can also adjust Color(Colour) Temperature in the PICTURE menu.

Transmission [x][u][ ][Set ID][ ][Data][Cr]

Data Min : 00 to Max : 64

Ack [u][ ][Set ID][ ][OK/NG][Data][x]

17. ISM Method (Command: j p) (Only Plasma TV)

► To control the ISM method. You can also adjust ISM Method in OPTION menu.

Transmission [j][p][ ][Set ID][ ][Data][Cr]

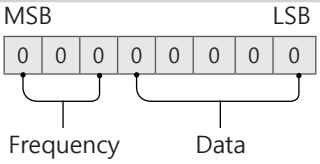
Data Min : 02: Orbiter
08: Normal
20: Color(Colour) Wash

Ack [p][ ][Set ID][ ][OK/NG][Data][x]

18. Equalizer (Command : j v)

► Adjust EQ of the set.

Transmission [j][v][ ][Set ID][ ][Data][Cr]




| 7 | 6 | 5 | Frequency | 4 | 3 | 2 | 1 | 0 | Step |
|---|---|---|---|---|---|---|---|---|---|
| 0 | 0 | 0 | 1st Band | 0 | 0 | 0 | 0 | 0 | 0(decimal) |
| 0 | 0 | 1 | 2nd Band | 0 | 0 | 0 | 0 | 1 | 1(decimal) |
| 0 | 1 | 0 | 3rd Band | ... | ... | ... | ... | ... | ... |
| 0 | 1 | 1 | 4th Band | 1 | 0 | 0 | 1 | 1 | 19(decimal) |
| 1 | 0 | 0 | 5th Band | 1 | 0 | 1 | 0 | 1 | 20(decimal) |

Acknowledgement [v][ ][Set ID][ ][OK/NG][Data][x]

* It depends on model, and can adjust when sound mode is EQ adjustable value.

19. Energy Saving (Command: j q)

► To reduce the power consumption of the TV. You can also adjust Energy Saving in PICTURE menu.

Transmission [j][q][ ][Set ID][ ][Data][Cr]

Data
- 00 : Off
- 01 : Minimum
- 02 : Medium
- 03 : Maximum
- 04 : Auto (For LCD TV / LED TV) / Intelligent sensor (For PDP TV)
- 05 : Screen off

* (Depending on model)

Ack [q][ ][Set ID][ ][OK/NG][Data][x]

20. Tune Command (Command: m a)

* This command may work differently depending on model and signal.

• For Europe, Mid-East, Colombia, Asia except South Korea and Japan Model

► Select channel to following physical number.

Transmission [m][a][ ][Set ID][ ][Data 00][ ]
[Data 01][ ][Data 02][Cr]

* Analog Antenna/Cable

[Data 00][Data 01] Channel Data
Data 00 : High byte channel data
Data 01 : Low byte channel data
- 00 00 ~ 00 C7 (Decimal : 0 ~ 199)

Data 02 : Input Source (Analog)
- 00 : Antenna TV (ATV)
- 80 : Cable TV (CATV)

* Digital Antenna/Cable/Satellite

[Data 00][Data 01]: Channel Data
Data 00 : High Channel data
Data 01 : Low Channel data
- 00 00 ~ 27 0F (Decimal: 0 ~ 9999)

Data 02 : Input Source (Digital)
- 10 : Antenna TV (DTV)
- 20 : Antenna Radio (Radio)
- 40 : Satellite TV (SDTV)
- 50 : Satellite Radio (S-Radio)
- 90 : Cable TV (CADTV)
- a0 : Cable Radio (CA-Radio)

* Tune Command Examples:

1. Tune to the Analog antenna (PAL) Channel 10.
   Set ID = All = 00
   Data 00 & 01 = Channel Data is 10 = 00 0a
   Data 02 = Analog Antenna TV = 00
   Result = **ma 00 00 0a 00**

2. Tune to the digital antenna (DVB-T) Channel 01.
   Set ID = All = 00
   Data 00 & 01 = Channel Data is 1 = 00 01
   Data 02 = Digital Antenna TV = 10
   Result = **ma 00 00 01 10**

3. Tune to the satellite (DVB-S) Channel 1000.
   Set ID = All = 00
   Data 00 & 01 = Channel Data is 1000 = 03 E8
   Data 02 = Digital Satellite TV = 40
   Result = **ma 00 03 E8 40**

Ack [a][ ][Set ID][ ][OK][Data 00][Data 01]
[Data 02][x][a][ ][Set ID][ ][NG][Data 00][x]

• For South Korea, North/Latin America except Colombia Model

► To tune channel to following physical/major/minor number.

Transmission [m][a][ ][0][ ][Data00][ ][Data01]
[ ][Data02][ ][Data03][ ][Data04][ ][Data05][Cr]

Digital channels have a Physical, Major, and Minor channel number. The Physical number is the actual digital channel number, the Major is the number that the channel should be mapped to, and the Minor is the sub-channel. Since the ATSC tuner automatically maps the channel from the Major / Minor number, the Physical number is not required when sending a command in Digital.

* Analog Antenna/Cable

Data 00 : Physical Channel Number
- Antenna (ATV) : 02~45 (Decimal: 2 ~ 69)
- Cable (CATV) : 01, 0E~7D (Decimal : 1, 14~125)

[Data 01 ~ 04]: Major/Minor Channel Number
Data 01 & 02: xx (Don't care)
Data 03 & 04: xx (Don't care)
Data 05: Input Source (Analog)
- 00 : Antenna TV (ATV)
- 01 : Cable TV (CATV)

* Digital Antenna/Cable

Data 00 : xx (Don't care)

[Data 01][Data 02]: Major Channel Number
Data 01 : High byte Channel Data
Data 02 : Low byte Channel Data
- 00 01 ~ 27 0F (Decimal: 1 ~ 9999)

[Data 03][Data 04]: Minor Channel Number
Data 03 : High byte Channel Data
Data 04 : Low byte Channel Data

Data 05 : Input Source (Digital)
- 02 : Antenna TV (DTV) – Use Physical Channel Number
- 06 : Cable TV (CADTV) – Use Physical Channel Number
- 22 : Antenna TV (DTV) – Don't Use Physical Channel Number
- 26 : Cable TV (CADTV) - Don't Use Physical Channel Number
- 46 : Cable TV (CADTV) – Use Physical/Major Channel Number Only (One Part Channel)
- 66 : Cable TV (CADTV) – Use Major Channel Number Only (One Part Channel)
- 0b : Cable DTV Plus – Use Physical Channel Number
- 2b : Cable DTV Plus – Don't Use Physical Channel Number
- 4b : Cable DTV Plus – Use Physical/Major Channel Number Only (One Part Channel)
- 6b : Cable DTV Plus – Use Major Channel Number Only (One Part Channel)

Two bytes are available for each major and minor channel data, but usually the low byte is used alone (high byte is 0).

* Tune Command Examples:

1. Tune to the Analog cable (NTSC) channel 35.
   Set ID = All = 00
   Data 00 = Channel Data is 35 = 23
   Data 01 & 02 = No Major = 00 00
   Data 03 & 04 = No Minor = 00 00
   Data 05 = Analog Cable TV = 01
   Total = **ma 00 23 00 00 00 00 01**

2. Tune to the digital antenna (ATSC) channel 30-3.
   Set ID = All = 00
   Data 00 = Don't know Physical = 00
   Data 01 & 02 = Major is 30 = 00 1E
   Data 03 & 04 = Minor is 3 = 00 03
   Data 05 = Digital Antenna TV = 22
   Total = **ma 00 00 00 1E 00 03 22**

Ack [a][ ][Set ID][ ][OK][Data 00][Data 01]
[Data 02][Data 03][Data 04][Data 05]
[x][a][ ][Set ID][ ][NG][Data 00][x]

- For Japan Model

► To tune channel to following physical/major/minor number.

Transmission [m][a][ ][0][ ][Data00][ ][Data01]
[ ][Data02][ ][Data03][ ][Data04][ ][Data05][Cr]

* Digital Antenna/Satellite

Data 00: xx (Don't care)

[Data 01][Data 02]: Major Channel Number
Data 01: High byte Channel Data
Data 02: Low byte Channel Data
- 00 01 ~ 27 0F (Decimal: 1 ~ 9999)

[Data 03][Data 04]: Minor/Branch Channel Number (Don't care in Satellite)
Data 03: High byte Channel Data
Data 04: Low byte Channel Data

Data 05 : Input Source (Digital/Satellite for Japan)
- 02 : Antenna TV (DTV)
- 42 : Antenna TV (DTV) – Use Physical/Major Channel Number Only (One Part Channel)
- 62 : Antenna TV (DTV) – Use Major Channel Number Only (One Part Channel)
- 07 : BS (Broadcasting Satellite)
- 08 : CS1 (Communication Satellite 1)
- 09 : CS2 (Communication Satellite 2)

* Tune Command Examples:

1 Tune to the digital antenna (ISDB-T) channel 17-1.
   Set ID = All = 00
   Data 00 = Don't know Physical = 00
   Data 01 & 02 = Major is 17 = 00 11
   Data 03 & 04 = Minor/Branch is 1 = 00 01
   Data 05 = Digital Antenna TV = 02
   Total = **ma 00 00 00 11 00 01 02**

2. Tune to the BS (ISDB-BS) channel 30.
   Set ID = All = 00
   Data 00 = Don't know Physical = 00
   Data 01 & 02 = Major is 30 = 00 1E
   Data 03 & 04 = Don't Care = 00 00
   Data 05 = Digital BS TV = 07
   Total = **ma 00 00 00 1E 00 00 07**

* This feature is varied based on the model.

Ack [a][ ][Set ID][ ][OK][Data 00][Data 01]
[Data 02][Data 03][Data 04][Data 05]
[x][a][ ][Set ID][ ][NG][Data 00][x]

21. Channel(Programme) Add/Del(Skip) (Command: m b)

► To skip current channel(programme) for next time.

Transmission [m][b][ ][Set ID][ ][Data][Cr]

Data 00 : Del(ATSC,ISDB)/Skip(DVB) 01 : Add

Ack [b][ ][Set ID][ ][OK/NG][Data][x]

* Set the saved channel status to del(ATSC, ISDB)/ skip(DVB) or add.

22. Key (Command: m c)

► To send IR remote key code.

Transmission [m][c][ ][Set ID][ ][Data][Cr]

Data Key code - p.2.

Ack [c][ ][Set ID][ ][OK/NG][Data][x]

23. Control Backlight (Command: m g)

• For LCD TV / LED TV

► To control the backlight.

Transmission [m][g][ ][Set ID][ ][Data][Cr]

Data Min : 00 to Max : 64

Ack [g][ ][Set ID][ ][OK/NG][Data][x]

Control Panel Light (Command: m g)

• For Plasma TV

► To control the panel light.

Transmission [m][g][ ][Set ID][ ][Data][Cr]

Data Min : 00 to Max : 64

Ack [g][ ][Set ID][ ][OK/NG][Data][x]

24. Input select (Command: x b) (Main Picture Input)

► To select input source for main picture.

Transmission [x][b][ ][Set ID][ ][Data][Cr]

Data
00 : DTV 01 : CADTV
02 : Satellite DTV 10 : ATV
ISDB-BS (Japan)
03 : ISDB-CS1 (Japan)
04 : ISDB-CS2 (Japan)
11 : CATV
20 : AV or AV1 21 : AV2
40 : Component1 41 : Component2
60 : RGB
90 : HDMI1 91 : HDMI2
92 : HDMI3 93 : HDMI4

Ack [b][ ][Set ID][ ][OK/NG][Data][x]

* This function depends on model and signal.

25. 3D(Command: x t) (only 3D models) (Depending on model)

► To change 3D mode for TV.

Transmission [x][t][ ][Set ID][ ][Data 00][ ][Data 01]
[ ][Data 02][ ][Data 03][Cr]

* (Depending on model)

Data Structure

[Data 00] 00 : 3D On
01 : 3D Off
02 : 3D to 2D
03 : 2D to 3D

[Data 01] 00 : Top and Bottom
01 : Side by Side
02 : Check Board
03 : Frame Sequential
04 : Column interleaving
05 : Row interleaving

[Data 02] 00 : Right to Left
01 : Left to Right

[Data 03] 3D Effect(3D Depth): Min : 00 - Max : 14
(*transmit by Hexadecimal code)

* [Data 02], [Data 03] functions depend on model and signal.
* If [Data 00] is 00 (3D On), [Data 03] has no meaning.
* If [Data 00] is 01 (3D off) or 02 (3D to 2D), [Data 01], [Data 02] and [Data 03] have no meaning.
* If [Data 00] is 03 (2D to 3D), [Data 01] and [Data 02] have no meaning.
* If [Data 00] is 00 (3D On) or 03 (2D to 3D), [Data 03] works when 3D Mode (Genre) is manual only.
* All 3D pattern options ([Data 01]) may not be available according to broadcasting/video signal.

| [Data 00] | [Data 01] | [Data 02] | [Data 03] |
|---|---|---|---|
| 00 | O | O | O |
| 01 | X | X | X |
| 02 | X | X | X |
| 03 | X | O | O |

X : don't care

Ack [t][ ][Set ID][ ][OK][Data00][Data01][Data02][Data03][x]
[t][ ][Set ID][ ][NG][Data00][x]

26. Extended 3D(Command: x v) (only 3D models) (Depending on model)

► To change 3D option for TV.

Transmission [x][v][ ][Set ID][ ][Data 00][ ][Data 01][Cr]

[Data 00] 3D option
00 : 3D Picture Correction
01 : 3D Depth (3D Mode is Manual Only)
02 : 3D Viewpoint
06 : 3D Color Correction
07 : 3D Sound Zooming
08 : Normal Image View
09 : 3D Mode (Genre)

[Data 01] It has own range for each 3D option determined by [Data 00].

1) When [Data 00] is 00
00 : Right to Left
01 : Left to Right

2) When [Data 00] is 01, 02
Data Min: 0 - Max: 14 (*transmit by Hexadecimal code)
Data value range(0 - 20) converts Viewpoint range (-10 - +10) automatically (Depending on model)
* This option works when 3D Mode (Genre) is manual only.

3) When [Data 00] is 06, 07
00 : Off
01 : On

4) When [Data 00] is 08
00 : Revert to 3D video from 3D-to-2D converted 2D video
01 : Change 3D video to 2D video, except 2D-to-3D video
* If conversion condition doesn't meet, command is treated as NG.

5) When [Data 00] is 09

00 : Standard 01 : Sport
02 : Cinema 03 : Extreme
04 : Manual 05 : Auto

Ack [v][ ][Set ID][ ][OK][Data00][Data01][x]
[v][ ][Set ID][ ][NG][Data00][x]

27. Auto Configure (Command: j u) (Depending on model)

► To adjust picture position and minimize image shaking automatically. It works only in RGB (PC) mode.

Transmission [j][u][ ][Set ID][ ][Data][Cr]

Data 01 : To set Auto Configure

Ack [u][ ][Set ID][ ][OK/NG][Data][x]

LG

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