LG
Life's Good

OWNER'S MANUAL

Safety and Reference

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

www.lg.com

MFL69412528

P/NO : MFL69412528 (1610-REV00)

Safety Instructions

ENGLISH

Please read these safety precautions carefully before using the product.

⚠ WARNING

Do not place the TV and/or remote control in the following environments:

- A location exposed to 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
- Near containers of water such as vases

Otherwise, this may result in fire, electric shock, malfunction or product deformation.

Do not place the product where it might be exposed to dust. This may cause a fire hazard.

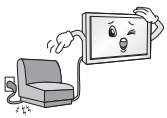
Mains Plug is the TV connecting/ disconnecting device to AC mains electric supply.This plug must remain readily attached and operable when TV is in use.

Do not touch the power plug with wet hands. Additionally, if the cord pin is wet or covered with dust, dry the power plug completely or wipe dust off. You may be electrocuted due to excess moisture.

Make sure to connect Mains cable to compliant AC mains socket with Grounded earth pin. (Except for devices which are not grounded on earth.) Otherwise possibility you may be electrocuted or injured.

Insert power cable plug completely into wall socket otherwise if not secured completely into socket, fire ignition may break out.

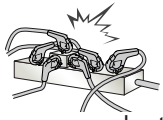
Ensure the power cord does not come into contact with hot objects such as a heater. This may cause a fire or an electric shock hazard.



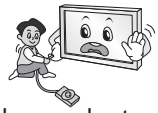
Do not place a heavy object, or the product itself, on power cables. Otherwise, this may result in fire or electric shock.

Bend antenna cable between inside and outside building to prevent rain from flowing in. This may cause water damaged inside the Product and could give an electric shock.

When mounting TV onto wall make sure to neatly install and isolate cabling from rear of TV as to not create possibility of electric shock /fire hazard.



Do not plug too many electrical devices into a single multiple electrical outlet. Otherwise, this may result in fire due to over-heating.



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.

Keep the anti-moisture packing material or vinyl packing out of the reach of children. Anti-moisture material is harmful if swallowed. If swallowed by mistake, force the patient to vomit and visit the nearest hospital. Additionally, vinyl packing can cause suffocation. Keep it out of the reach of children.

Do not let your children climb or cling onto the TV.
Otherwise, the TV may fall over, which may cause serious injury.

Dispose of used batteries carefully to ensure that a small child does not consume them. Please seek Doctor-Medical Attention immediately if child consumes batteries.

Do not insert any metal objects/ conductors (like a metal chopstick/ cutlery/screwdriver) between power cable plug and input Wall Socket while it is connected to the input terminal on the wall. Additionally, do not touch the power cable right after plugging into the wall input terminal. You may be electrocuted.

Do not put or store inflammable substances near the product. There is a danger of combustion/explosion or fire due to careless handling of the inflammable substances.

Do not drop metallic objects such as coins, hair pins, chopsticks or wire into the product, or inflammable objects such as paper and matches. Children must pay particular attention. Electrical shock, fire or injury can occur. If a foreign object is dropped into the product, unplug the power cord and contact the service centre.

Do not spray water on the product or scrub with an inflammable substance (thinner or benzene). Fire or electric shock accident can occur.

Do not allow any impact, shock or any objects to fall into the unit, and do not drop anything onto the screen. You may be injured or the product can be damaged.

Never touch this product or antenna during a thunder or lighting storm. You may be electrocuted.

Never touch the wall outlet when there is leakage of gas, open the windows and ventilate. It may cause a fire or a burn by a spark.

Do not disassemble, repair or modify the product at your own discretion. Fire or electric shock accident can occur. Contact the service centre for check, calibration or repair.

If any of the following occur, unplug the product immediately and contact your local service centre.

- The product has been impacted by shock
- The product has been damaged
- Foreign objects have entered the product
- The product produced smoke or a strange smell

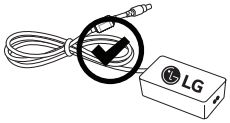
This may result in fire or electric shock.

Unplug the TV from AC mains wall socket if you do not intend to use the TV for a long period of time. Accumulated dust can cause fire hazard and insulation deterioration can cause electric leakage/shock/fire.

Apparatus shall not be exposed to dripping or splashing and no objects filled with liquids, such as vases, shall be placed on the apparatus.

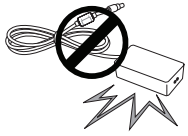
Do not install this product on a wall if it could be exposed to oil or oil mist. This may damage the product and cause it to fall.

If water or another substance enters the product (like a AC adapter, power cord, TV), disconnect the power cord and contact the service centre immediately.
Otherwise, this may result in fire or electric shock.



Only use an authorized AC adapter and power cord approved by LG Electronics. Otherwise, this may result in fire, electric shock, malfunction or product deformation.

Never Disassemble the AC adapter or power cord. This may result in fire or electric shock.



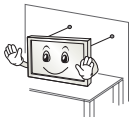
Handle the adapter carefully to avoid dropping or striking it. An impact could damage the adapter.

⚠ CAUTION

Install the product where no radio wave occurs.

There should be enough distance between an outside antenna and power lines to keep the former from touching the latter even when the antenna falls. This may cause an electric shock.

Do not install the product on places such as unstable shelves or inclined surfaces. Also avoid places where there is vibration or where the product cannot be fully supported. Otherwise, the product may fall or flip over, which may cause injury or damage to the product.

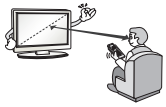


If you install the TV on a stand, you need to take actions to prevent the product from overturning. Otherwise, the product may fall over, which may cause injury.

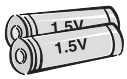
If you intend to mount the product to a wall, attach VESA standard mounting interface (optional parts) to the back of the product. When you install the set to use the wall mounting bracket (optional parts), fix it carefully so as not to drop.

Only use the attachments / accessories specified by the manufacturer.

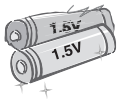
When installing the antenna, consult with a qualified service technician. If not installed by a qualified technician, this may create a fire hazard or an electric shock hazard.



We recommend that you maintain a distance of at least 2 to 7 times the diagonal screen size when watching TV. If you watch TV for a long period of time, this may cause blurred vision.



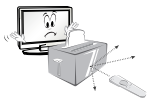
Only use the specified type of battery. This could cause damage to the remote control.



Do not mix new batteries with old batteries. This may cause the batteries to overheat and leak.

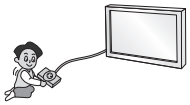
Batteries should not be exposed to excessive heat. For example, keep away from direct Sunlight , open fireplace and electric heaters .

Do not place non-rechargeable batteries in charging device.



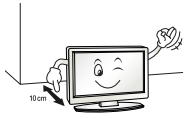
Make sure there are no objects between the remote control and its sensor.

Signal from Remote Control can be interrupted due to external/internal lighting eg Sunlight, fluorescent lighting. If this occurs turn off lighting or darken viewing area.



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.

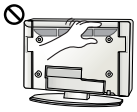
Do not turn the product On/Off by plugging-in or unplugging the power plug to the wall outlet. (Do not use the power plug for switch.) It may cause mechanical failure or could give an electric shock.



Please follow the installation instructions below to prevent the product from overheating.

- The distance between the product and the wall should be more than 10 cm.
- Do not install the product in a place with no ventilation (e.g., on a bookshelf or in a cupboard).
- Do not install the product on a carpet or cushion.
- Make sure the air vent is not blocked by a tablecloth or curtain.

Otherwise, this may result in fire.

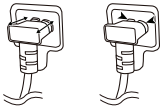


Take care not to touch the ventilation openings when watching the TV for long periods as the ventilation openings may become hot. This does not affect the operation or performance of the product.

Periodically examine the cord of your appliance, and if its appearance indicates damage or deterioration, unplug it, discontinue use of the appliance, and have the cord replaced with an exact replacement part by an authorized servicer.

Prevent dust collecting on the power plug pins or outlet. This may cause a fire hazard.

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 appliance.



Make sure the power cord is connected securely to the power plug on the TV.

Do not press strongly upon the panel with a hand or sharp object such as nail, pencil or pen, or make a scratch on it, as it may cause damage to screen.

Avoid touching the screen or holding your finger(s) against it for long periods of time. Doing so may produce some temporary or permanent distortion/ damage to screen.

When cleaning the product and its components, unplug the power first and wipe it with a soft cloth. Applying excessive force may cause scratches or discolouration. Do not spray with water or wipe with a wet cloth. Never use glass cleaner, car or industrial shiner, abrasives or wax, benzene, alcohol etc., which can damage the product and its panel. Otherwise, this may result in fire, electric shock or product damage (deformation, corrosion or breakage).

As long as this unit is connected to the AC wall outlet, it is not disconnected from the AC power source even if you turn off this unit by SWITCH.

When unplugging the cable, grab the plug and unplug it, by pulling at the plug.

Don't pull at the cord to unplug the power cord from the power board, as this could be hazardous.

When moving the product, make sure you turn the power off first. Then, unplug the power cables, antenna cables and all connecting cables. The TV set or power cord may be damaged, which may create a fire hazard or cause electric shock.

When moving or unpacking the product, work in pairs because the product is heavy. Otherwise, this may result in injury.

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.

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 (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 color 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.

* LG LED TVs are LCD TVs with LED backlighting.

Displaying a still image for a prolonged period of time may cause image sticking. Avoid displaying a fixed image on the TV screen for a long period of time.

Generated sound

"Cracking" noise: A cracking noise that occurs when watching or turning off the TV is generated by plastic thermal contraction due to tempera-ture 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.

Do not use high voltage electrical goods near the TV (e.g. electric mosquito-swatter). This may result in product malfunction.

WARNING!

Never place a television set in an unstable location. 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:

- Using cabinets or stands recommended by the manufacturer of the television set.
- Only using furniture that can safely support the television set.
- Ensuring the television set is not overhanging the edge of the supporting furniture.
- Not placing the television set on tall furniture (for example, cupboards or bookcases) without anchoring both the furniture and the television set to a suitable support.
- Not placing the television set on cloth or other materials that may be located between the television set and supporting furniture.
- Educating children about the dangers of climbing on furniture to reach the television set or its controls.

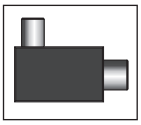
If your existing television set is being retained and relocated, the same considerations as above should be applied.

Symbols

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

天线隔离器使用方法

天线隔离器实物图片:



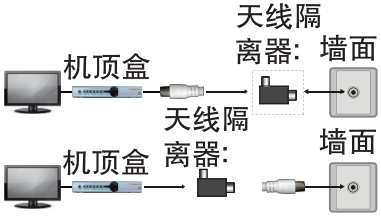
备注：

1 天线隔离器，放置在包装箱附件袋内。

2 如果机顶盒/墙面接口与天线隔离器不匹配，请 自行购买相匹配的转接头。

- 如果不使用机顶盒的用户，无需使用天线隔离器。
- 如果用户家中的有线信号线是与机顶盒连接，则必须使用提供的天 线隔离器。否则可能会引起火灾等危险。

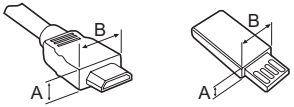
天线隔离器的连接方法参见下图：



Preparing

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.
- Image shown may differ from your TV.
- Your TV’s OSD (On Screen Display) may differ slightly from that shown in this manual.
- The available menus and options may differ from the input source or product model that you are using.
- New features may be added to this TV in the future.
- The items supplied with your product may vary depending on the model.
- Product specifications or contents of this manual may be changed without prior notice due to upgrade of product functions.
- 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 TV’s USB port.



*A ≤10 mm
*B ≤18 mm

ENGLISH

- 建议顾客使用符合 HDMI 标准的最新版本的 HDMI 线，部分劣质不符合 HDMI 标准的HDMI 线可能会导致屏幕闪烁或无显示。
- 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 (3m or less)
  - High-Speed HDMI®/™ cable
  - High-Speed HDMI®/™ cable with Ethernet

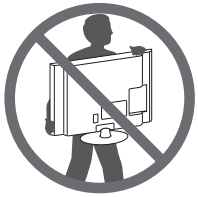
⚠ CAUTION

- 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.
- Some models have a thin film attached on to the screen and this must not be removed.

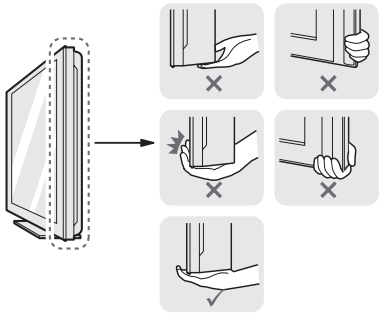
Lifting and moving the TV

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

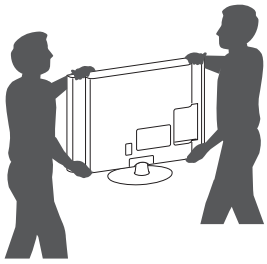
- It is recommended to move the TV in the box or packing material that the TV originally came in.
- Before moving or lifting the TV, disconnect the power cord and all cables.
- When holding the TV, the screen should face away from you to avoid damage.



- Hold the top and bottom of the TV frame firmly. Make sure not to hold the transparent part, speaker, or speaker grill area.



- When transporting a large TV, there should be at least 2 people.
- When transporting the TV by hand, hold the TV as shown in the following illustration.



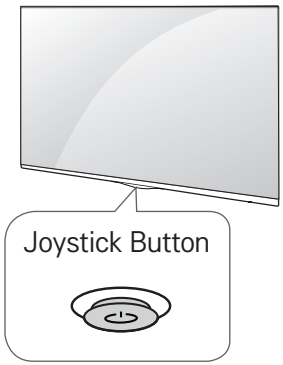
- When transporting the TV, do not expose the TV to jolts or excessive vibration.
- When transporting the TV, keep the TV upright, never turn the TV on its side or tilt towards the left or right.
- Do not apply excessive pressure to cause flexing /bending of frame chassis as it may damage screen.
- When handling the TV, be careful not to damage the protruding buttons.

⚠ CAUTION

- Avoid touching the screen at all times, as this may result in damage to the screen.
- Do not move the TV by holding the cable holders, as the cable holders may break, and injuries and damage to the TV may occur. (Depending on model)

Using the button

You can simply operate the TV functions, pressing or moving the button.



Basic Functions

	Power on (Press) Power Off (Press and hold)[1]
	Volume Control
	Programmes Control

1 All running apps will close, and any recording in progress will stop.

Adjusting the Menu

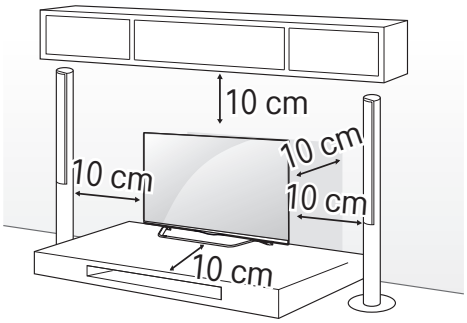
When the TV is turned on, press the button one time. You can adjust the Menu items pressing or moving the buttons.

⏻	Turns the power off.
✕	Clears on-screen displays and returns to TV viewing.
	Changes the input source.
⚙	Accesses the setting menu.

Mounting on a table

1 Lift and tilt the TV into its upright position on a table.

- Leave a 10 cm (minimum) space from the wall for proper ventilation.



2 Connect the power cord to a wall outlet.

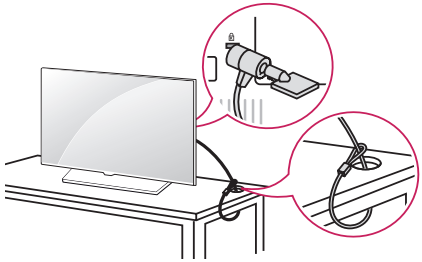
⚠ CAUTION

- Do not place the TV near or on sources of heat, as this may result in fire or other damage.

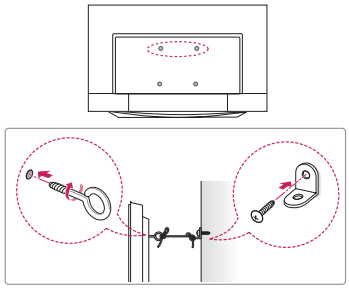
Using the kensington security system

- Image shown may differ from your TV.

The Kensington security system connector is located at the rear of the TV. For more information of installation and using, refer to the manual provided with the Kensington security system or visit *http://www.kensington.com*. Connect the Kensington security system cable between the TV and a table.



Securing the TV to a wall



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.

⚠ CAUTION

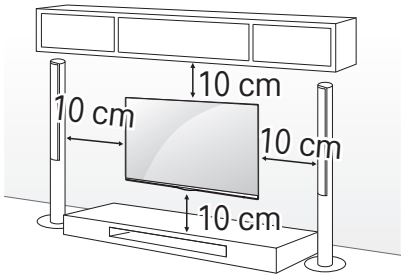
- Make sure that children do not climb on or hang on the TV.

NOTE

- 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 on a wall

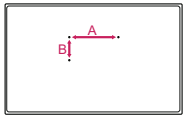
Attach an optional wall mount bracket at the rear of the TV carefully and install the wall mount bracket on a solid wall perpendicular to the floor. When you attach the TV to other building materials, please contact qualified personnel. LG recommends that wall mounting be performed by a qualified professional installer.
We recommend the use of LG's wall mount bracket. The LG wall mount is easy to adjust or to connect the cables. 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.
If you are using a non-adjustable mount, attach the mount to the wall. Attach the cables to the TV first, then attach the TV to the mount.



Make sure to use screws and wall mount bracket that meet the VESA standard. Standard dimensions for the wall mount kits are described in the following table.

Separate purchase (Wall Mounting Bracket)

Model	70UW34**
VESA (A x B)	600 x 400
Standard screw	M8
Number of screws	4
Wall mount bracket	LSW640B

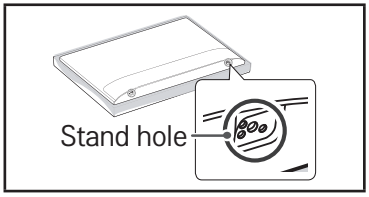


⚠ CAUTION

- Remove the stand before installing the TV on a wall mount by performing the stand attachment in reverse.

NOTE

- When using the wall mount, it is recommended that you apply a piece of tape over the Stand holes to prevent dust and bugs from entering the holes. (Depending on model)



Connections (notifications)

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. Available external devices are: 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.
- Connect external devices to the TV regardless of the order of the TV port.
- If you record a TV program on a DVD recorder or VCR, make sure to connect the TV signal input cable to the TV through a DVD recorder or VCR. For more information of recording, refer to the manual provided with the connected device.
- Refer to the external equipment's manual for operating instructions.
- If you connect a gaming device to the TV, use the cable supplied with the gaming device.

- 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.
- DTV channels that are broadcast in AVS / AVS + codec does not support recording and time-shifting.

Antenna connection

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.
- Supported DTV Audio: MPEG, Dolby Digital, Dolby Digital Plus, HE-AAC, DRA.
- 天线电缆和转换器均不提供。
- This set can meet insulation requirement between PG and RF network system so you can connect RF cable directly.

Other connections

Connect your TV to external devices. For the best picture and audio quality, Connect the external device and the TV with the HDMI cable. Some separate cable is not provided.

NOTE

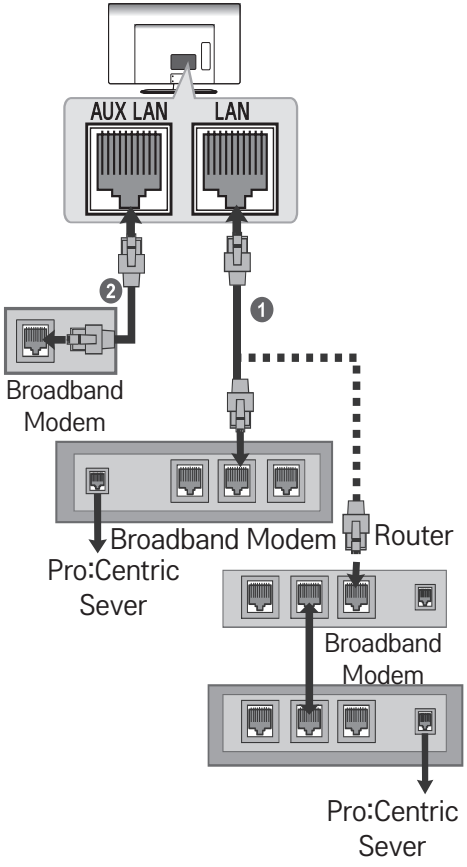
- Use only with the 3-pole 3.5 mm Stereo Jack.
- Do not connect your headphones or earphones to the port for connecting an external speaker.

Wired network connection

(Depending on model)

This TV can be connected to a Pro:Centric server via the LAN port. After making the physical connection, the TV needs to be set up for network communication.

Connect the LAN port of the Modem or Router from Pro:Centric server to the LAN port on the TV.



❶ Connect the LAN port of the Modem or Router to the LAN port on the TV.

❷ Connect the LAN port of the PC to the AUX LAN port on the TV.

⚠ CAUTION

- Do not connect a modular phone cable to the LAN port
- Since there various connection methods, please follow the sepecifications of your telecommunication carrier or internet service provider.

Remote control

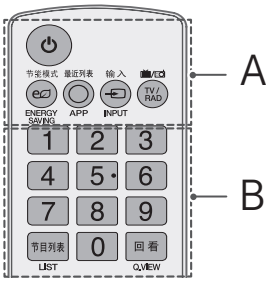
The descriptions in this manual are based on the buttons on the remote control. Please read this manual carefully and use the TV correctly.

To replace batteries, open the battery cover, replace batteries (1.5 V AAA) matching the ⊕ and ⊖ ends to the label inside the compartment, and close the battery cover. To remove the batteries, perform the installation actions in reverse.

⚠ CAUTION

- In Analogue TV and some countries, some remote control buttons may not work.

Make sure to point the remote control toward the remote control sensor on the TV.



A

⏻ (POWER) Turns the TV on or off.

节能模式 ENERGY SAVING Adjusts the brightness of the screen to reduce energy consumption.

最近列表 APP Shows the previous history.

输入 INPUT Changes the input source.

TV/RAD Selects Radio, TV and DTV programme.

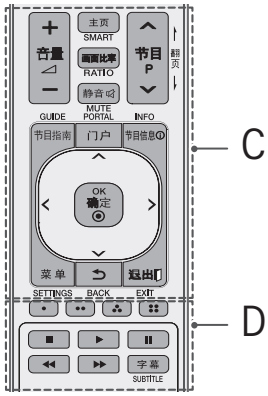
B

Number buttons Enters numbers.

节目列表 LIST Accesses the saved channel list.

回看 Q.VIEW Tunes to the last channel viewed.

ENGLISH



C

+ 音量 − Adjusts the volume level.

主页 SMART Selects a smart menu.

画面比率 RATIO Resizes an image.

静音 MUTE Mutes all sounds.

∧ 节目P ∨ Scrolls through the saved programmes.

翻页 Moves to the previous or next screen.

GUIDE 节目指南 Shows programme guide.

门户 PORTAL Displays and removes Pro:Centric Application.

INFO 节目信息 Views the information of the current programme and screen.

Navigation buttons (up/down/left/right) Scrolls through menus or options.

OK 确定 Selects menus or options and confirms your input.

菜单 SETTINGS Accesses the main menu.

BACK Returns to the previous screen.

退出 EXIT Clears all on-screen displays and returns to TV viewing.

D

Coloured buttons These access special functions in some menus.
(: Red, : Green, : Yellow, : Blue)

■, ▶, ❚❚, ◀◀, ▶▶ Control buttons for media contents

字幕 SUBTITLE Recalls your preferred subtitle in digital mode.

To use HDMI ULTRA HD Deep Colour

SETTINGS ➡ General ➡ HDMI ULTRA HD Deep Colour ➡ HDMI (1/2/3) ULTRA HD Deep Colour:

- On: Support 4K @ 50/60 Hz (4:4:4, 4:2:2, 4:2:0)
- Off: Support 4K @ 50/60 Hz 8bit (4:2:0)

• If the device connected to Input Port also supports ULTRA HD Deep Colour, your picture may be clearer. However, if the device doesn't support it, it may not work properly. In that case, connect the device to a different HDMI port or change the TV's ULTRA HD Deep Colour setting to Off.

- This feature is available on certain models which are supported ULTRA HD Deep Colour only.

Licenses

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In addition to the source code, all referred license terms, warranty disclaimers and copyright notices are available for download.

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 for three (3) years from the date on which you purchased the product.

Supported file format

Extenstion	Codec	
.asf .wmv	Video	VC-1 Advanced Profile (WMVA excluded), VC-1 Simple and Main Profiles
	Audio	WMA Standard (WMA v1/ WMA Speech excluded)
.avi	Video	XViD(except 3 warp-point GMC), H.264/AVC, Motion Jpeg, MPEG-4
	Audio	MPEG-1 Layer I, II, MPEG-1 Layer III (MP3), Dolby Digital, LPCM, ADPCM, DTS
.mp4 .m4v .mov	Video	H.264/AVC, MPEG-4, HEVC
	Audio	Dolby Digital, Dolby Digital Plus, AAC, MPEG-1 Layer III (MP3)
.3gp .3g2	Video	H.264/AVC, MPEG-4
	Audio	AAC, AMR-NB, AMR-WB
.mkv	Video	MPEG-2, MPEG-4, H.264/AVC, VP8, VP9, HEVC
	Audio	Dolby Digital, Dolby Digital Plus, AAC, PCM, DTS, MPEG-1 Layer I, II, MPEG-1 Layer III (MP3)

Extenstion	Codec	
.ts .trp .tp .mts	Video	H.264/AVC, MPEG-2, HEVC
	Audio	MPEG-1 Layer I, II, MPEG-1 Layer III (MP3), Dolby Digital, Dolby Digital Plus, AAC, PCM
.mpg .mpeg .dat	Video	MPEG-1, MPEG-2
	Audio	MPEG-1 Layer I, II, MPEG-1 Layer III (MP3)
.vob	Video	MPEG-1, MPEG-2
	Audio	Dolby Digital, MPEG-1 Layer I, II, DVD-LPCM
.mkv .mp4 .ts	Video	H.264/AVC, H.265(HEVC)
	Audio	Dolby Digital, Dolby Digital Plus, AAC
.rm/.rmvb	Video	RV30, RV40
	Audio	Realaudio6(cook), AAC LC, HE-AAC

Supported Audio Formats

File Format	Item	Info
.mp3	Bir rate	32 Kbps - 320 Kbps
	Sample freq.	16 KHz - 48 KHz
	Support	MPEG1, MPEG2
	Channels	Mono, stereo
.wav	Sample freq.	8 Khz - 48 khz
	Support	PCM
	Channels	Mono, stereo
.ogg	Bir rate	64 Kbps - 320 Kbps
	Sample freq.	8 kHz - 48 kHz
	Support	Vorbis
	Channels	Mono, stereo
.wma	Bir rate	128 Kbps - 320 Kbps
	Sample freq.	8 kHz - 48 kHz
	Support	WMA
	Channels	Up to 6 ch

- The number of supported programmes may vary depending on the sample frequency.

Supported Photo Formats

File Format	Format	Resolution	
jpeg, jpg, jpe	JPEG	Minimum:	128 x 128
		Maximum:	Normal Type: 15360 (W) x 8640 (H)
			Progressive Type: 1920 (W) x 1440 (H)
png	PNG	Minimum:	64 x 64
		Maximum:	5760 (W) x 5760 (H)
bmp	BMP	Minimum:	64 x 64
		Maximum:	1920 (W) x 1080 (H)

Troubleshooting

The software may be updated for improvement in performance. The customer is responsible to ensure the compatibility of their equipment with any LG Electronics software. If needed, please consult with LG Electronics and update new software versions according to the guidance provided by LG Electronics.

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 Sleep Timer / Timer Power Off is activated in the TIMERS settings.
- If there is no signal while the TV is on, the TV will turn off automatically after 15 minutes of inactivity.

When connecting to the PC (HDMI), 'No signal' or 'Invalid Format' is displayed.

- Turn the TV off/on using the remote control.
- Reconnect the HDMI cable.
- Restart the PC with the TV on.

Key Codes

• This feature is not available for all models.

代码（十六进制）	功能	备注	代码（十六进制）	功能	备注
00	节目 P ∧ 翻页	R/C 按钮	71	•• (GREEN/绿色)	R/C 按钮
01	节目 P ∨ 翻页	R/C 按钮	72	• (RED/红色)	R/C 按钮
02	音量 +	R/C 按钮	79	画面比率 RATIO	R/C 按钮
03	音量 -	R/C 按钮	95	节能模式 ENERGY SAVING	R/C 按钮
06	〉(箭头键/向右键)	R/C 按钮	0B	输入 INPUT	R/C 按钮
07	〈(箭头键/向左键)	R/C 按钮	0C	PORTAL 门户	R/C 按钮
08	⏻ (电源)	R/C 按钮	1A	回看 Q.VIEW	R/C 按钮
09	静音 MUTE	R/C 按钮	5B	退出 EXIT	R/C 按钮
10 - 19	* 数字键 0 - 9	R/C 按钮	7C	主页 SMART	R/C 按钮
28	BACK (返回)	R/C 按钮	8E	►► (快进)	R/C 按钮
39	字幕 SUBTITLE	R/C 按钮	8F	◄◄ (快退)	R/C 按钮
40	Λ(箭头键/光标向上)	R/C 按钮	AA	INFO 节目信息	R/C 按钮
41	V(箭头键/光标向下)	R/C 按钮	AB	GUIDE 节目指南	R/C 按钮
43	菜单 SETTINGS	R/C 按钮	B0	► 播放	R/C 按钮
44	OK 确定	R/C 按钮	B1	■(停止/文件列表)	R/C 按钮
53	节目列表 LIST	R/C 按钮	BA	❚❚(冻结/慢放/暂停)	R/C 按钮
61	⁘(BLUE/蓝色)	R/C 按钮	B5	最近列表 APP	R/C 按钮
63	∴(YELLOW/黄色)	R/C 按钮	F0	TV/RAD	R/C 按钮

* 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.

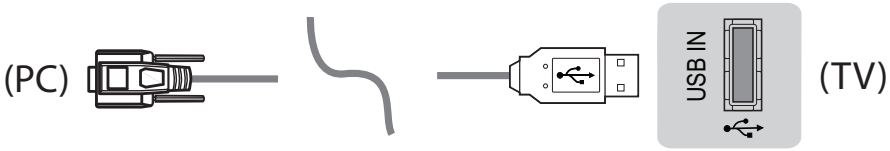
Connect the USB to Serial converter/RS-232C input jack to an external control device (such as a computer or an A/V control system) to control the product's functions externally.

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 converter with USB Cable

USB Type

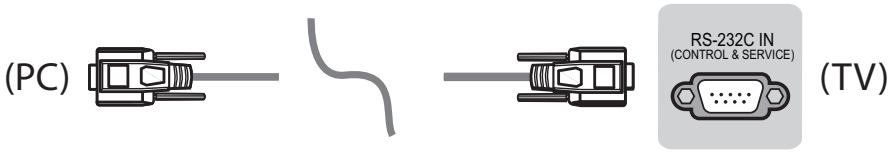


- LGTV supports PL2303 chip-based (Vendor ID : 0x0557, Product ID : 0x2008) USB to serial converter which is not made nor provided by LG.
- It can be purchased from computer stores that carry accessories for IT support professionals.

RS-232C With RS232C Cable

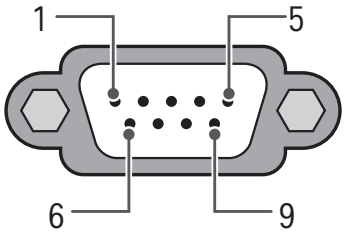
DE9 (D-Sub 9pin) Type

- You need to purchase the RS-232C (DE9, D-Sub 9pin female-to-female type) to RS-232C 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.

Type of connector : D-Sub 9-Pin male



RS-232C
(Serial port)

RS-232C Configurations

7-Wire Configurations
(Standard RS-232C cable)

PC		TV	
RXD	2	3	TXD
TXD	3	2	RXD
GND	5	5	GND
DTR	4	6	DTR
DSR	6	4	DSR
RTS	7	8	RTS
CTS	8	7	CTS
	D-Sub 9	D-Sub 9	

3-Wire Configurations
(Not standard)

PC		TV	
RXD	2	3	TXD
TXD	3	2	RXD
GND	5	5	GND
DTR	4	6	DTR
DSR	6	4	DSR
RTS	7	8	RTS
CTS	8	7	CTS
	D-Sub 9	D-Sub 9	

Set ID

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

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	12. Remote Control Lock Mode	k	m	00 to 01
02. Aspect Ratio	k	c	(p.32)	13. Balance	k	t	00 to 64
03. Screen Mute	k	d	(p.33)	14. Color (Colour) Temperature	x	u	00 to 64
04. Volume Mute	k	e	00 to 01	15. Equalizer	j	v	(p.35)
05. Volume Control	k	f	00 to 64	16. Energy Saving	j	q	00 to 05
06. Contrast	k	g	00 to 64	17. Key	m	c	Key Codes
07. Brightness	k	h	00 to 64	18. Control Backlight, Control Panel Light	m	g	00 to 64
08. Color/ Colour	k	i	00 to 64	19. Input select (Main)	x	b	(p.36)
09. Tint	k	j	00 to 64	20. Tune Command	m	a	(p.37)
10. Sharpness	k	k	00 to 32	21. Channel (Programme) Add/ Del(Skip)	m	b	00 to 01
11. OSD Select	k	l	00 to 01				

* 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 : 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 PICTURE menu.

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

Data 01 : Normal screen (4:3)
(Just Scan Off)
02 : Wide screen (16:9)
(Just Scan Off)
09 : Just Scan
06 : Original
(Just Scan off)

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

* Using the PC input, you select either 16:9 or 4:3 screen aspect ratio.

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. 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]

14. 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]

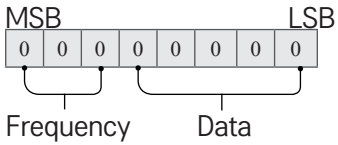
Data Min : 00 to Max : 64

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

15. 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)

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

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

16. 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]

17. Key (Command: m c)

► To send IR remote key code.

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

DataKey code -p.25

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

18. Control Backlight, Control Panel Light (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]

19. 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 ISDB-BS (Japan)	10 : ATV
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.

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
Data00 : High byte channel data
Data01 : 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
Data00 : High Channel data
Data01 : Low Channel data
- 00 00 ~ 27 0F (Decimal: 0 ~ 9999)

Data02 : 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

Data00 : 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
Data01 & 02: xx (Don't care)
Data03 & 04: xx (Don't care)
Data05: Input Source (Analog)
- 00 : Antenna TV (ATV)
- 01 : Cable TV (CATV)

* Digital Antenna/Cable

Data00 : xx (Don't care)
[Data 01][Data 02]: Major Channel Number
Data01 : High byte Channel Data
Data02 : Low byte Channel Data
- 00 01 ~ 27 0F (Decimal: 1 ~ 9999)

[Data 03][Data 04]: Minor Channel Number
Data03 : High byte Channel Data
Data04 : Low byte Channel Data
Data05 : 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)

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)
- 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)/ 01 : Add Skip(DVB)

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

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

Specifications

	Digital TV	Analogue TV
Television System	DTMB, DVB-C	PAL D/K/B/G/I, NTSC-M
Programme Coverage	DTMB:1~62 DVB-C : 52.5 MHz ~ 866 MHz	PAL D/K : VHF/UHF 1 ~ 62, CATV 1~41 PAL B/G/I : VHF/ UHF 1 ~ 69, CATV 1 ~ 47 NTSC M : VHF/UHF 2 ~ 78, CATV 1 ~ 71
Maximum number of storable programmes	420	
External Antenna Impedance	75 Ω	

Environment condition	Operating Temperature	0 °C to 45 °C
	Operating Humidity	Less than 80 %
	Storage Temperature	-20 °C to 60 °C
	Storage Humidity	Less than 85 %

本设备包含型号核准代码(分别)为 : CMIIT ID:2015AJ5419的无线电发射模块。

HDMI (PC) supported mode

(Use HDMI IN 1 for PC mode)

Resolution	Horizontal Frequency (kHz)	Vertical Frequency (Hz)
640 x 350	31.46	70.09
720 x 400	31.46	70.08
640 x 480	31.46	59.94
800 x 600	37.87	60.31
1024 x 768	48.36	60.00
1152 x 864	54.34	60.05
1360 x 768	47.71	60.01
1280 x 1024	63.98	60.02
1920 x 1080	67.50	60.00
3840 x 2160	67.50	30.00
	56.25	25.00
	54.00	24.00
4096 x 2160	53.95	23.97
	54.00	24.00

HDMI (DTV) supported mode

Resolution	Horizontal Frequency (kHz)	Vertical Frequency (Hz)
640 x 480	31.46	59.94
	31.50	60.00
720 x 480	31.47	59.94
	31.50	60.00
720 x 576	31.25	50.00
1280 x 720	44.96	59.94
	45.00	60.00
	37.50	50.00
1920 x 1080	28.12	50.00
	33.72	59.94
	33.75	60.00
	26.97	23.97
	27.00	24.00
	33.71	29.97
	33.75	30.00
	56.25	50.00
	67.43	59.94
	67.50	60.00
3840 x 2160	53.95	23.98
	54.00	24.00
	56.25	25.00
	61.43	29.97
	67.50	30.00
	112.50	50.00
	135.00	59.94
	135.00	60.00
4096 x 2160	53.95	23.98
	54.00	24.00
	56.25	25.00
	61.43	29.97
	67.50	30.00
	112.50	50.00
	135.00	59.94
	135.00	60.00

Component port connecting information

Component ports on the TV	Y	P_B	P_R

Video output ports on DVD player	Y	P_B	P_R
	Y	B-Y	B-Y
	Y	Cb	Cr
	Y	Pb	Pr

Signal	Component
480i / 576i	O
480p / 576p	O
720p / 1080i	O
1080p	O (Only 50 Hz / 60 Hz)

Important Safety Instructions

1) Read these instructions.

2) Keep these instructions.

3) Heed all warnings.

4) Follow all instructions.

5) Do not use this apparatus near water.

6) Clean only with dry cloth.

7) Do not block any ventilation openings. Install in accordance with the manufacturer's instructions.

8) Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.

9) 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.

10) Protect the power cord from being walked on or pinched particularly at plugs, convenience receptacles, and the point where they exit from the apparatus.

11) Only use attachments/accessories specified by the manufacturer.

12) 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.

13) Unplug this apparatus during lightning storms or when unused for long periods of time.

14) 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.

FCC Compliance Statement

This equipment has been tested and found to comply within the limits of 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 on and off), the user is encouraged to try to correct the interference by using 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 into 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.

Caution: Changes or modifications not expressly approved by the party responsible for compliance could void the user's (or your) authority to operate the equipment. Only peripherals (digital input/output devices, terminals, printers, etc.) certified to comply with the Class B limits may be attached to this monitor. Operation with non-certified peripherals is likely to result in interference to radio and TV reception. Only shielded signal cables may be used with this System.

NOTICE
The regulations are applied only to the products with the ID LABEL indicating specific requirements.

Canadian DOC Notice

This Class B digital apparatus meets all requirements of the Canadian Interference-Causing Equipment Regulations. Cet appareil numérique de la classe B respecte toutes les exigences du Règlement sur le matériel brouilleur du Canada.

NOTICE
The regulations are applied only to the products with the ID LABEL indicating specific requirements.