LG
Life's Good

OWNER'S MANUAL
LED LCD TV

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

22LS2100

P/NO: MFL67605611 (1207_REV00)
Printed in Korea

www.lg.com

ENGLISH

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LICENSES

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

HDMI™
HIGH-DEFINITION MULTIMEDIA INTERFACE

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WARNING

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

CAUTION

- If you ignore the caution message, you may be slightly injured or the product may be damaged.

NOTE

- The note helps you understand and use the product safely. Please read the note carefully before using the product.

ENGLISH

SAFETY INSTRUCTIONS

Please read these safety precautions carefully before using the product.

⚠ WARNING



- Do not place the TV and 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.



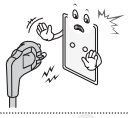
- Do not place the product where it might be exposed to dust.
  This may cause a fire hazard.



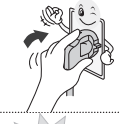
- Mains plug is the disconnecting device. The plug must remain readily operable.



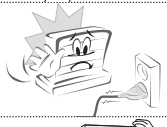
- Do not touch the power plug with wet hands. Additionally, if the cord pin is wet or covered with dust, dry the power plug completely or wipe dust off.
  You may be electrocuted due to excess moisture.



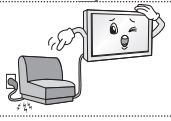
- Make sure to connect the power cable to the grounded current. (Except for devices which are not grounded.)
  You may be electrocuted or injured.



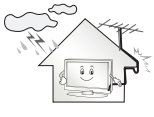
- Fix the power cable completely.
  If the power cable is not fixed completely, a fire can break out.



- 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.



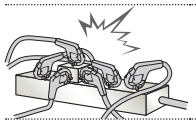
- Do not place a heavy object, or the product itself, on power cables.
  Otherwise, this may result in fire or electric shock.



- 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.



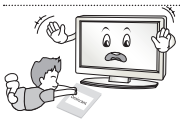
- When mounting a TV it on the wall, make sure not to install TV by hanging power and signal cables on the back of the TV.
  It may cause fire, electric shock.



- 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.



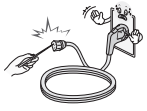
- Keep the packing anti-moisture material or vinyl packing out of the reach of children.
  Anti-moisture material is harmful if swallowed. If swallowed by mistake, force the patient to vomit and visit the nearest hospital. Additionally, vinyl packing can cause suffocation. Keep it out of the reach of 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 protect a child from eating 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.
  (Depending on model)



- 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.



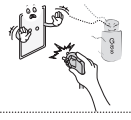
- Do not spray water on the product or scrub with an inflammable substance (thinner or benzene). Fire or electric shock accident can occur.



- Do not allow a impact shock or any objects to fall into the product, and do not drop onto the screen with something.
  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 center for check, calibration or repair.

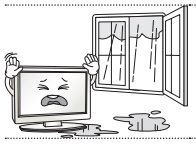


- If any of the following occur, unplug the product immediately and contact your local service centre.
  - The product has been impacted by shock
  - The product has been damaged
  - Foreign objects have entered the product
  - The product produced smoke or a strange smell

  This may result in fire or electric shock.

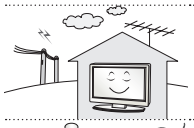


- If you don’t intend to use the product for a long time, unplug the power cable from the product.
  Covering dust can cause a fire, or insulation deterioration can cause electric leakage, electric shock or fire.

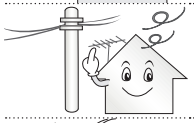


- Apparatus shall not be exposed to dripping or splashing and no objects filled with liquids, such as vases, shall be placed on the apparatus.

CAUTION



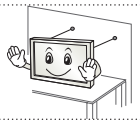
- Install the product where no radio wave occurs.



- 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.

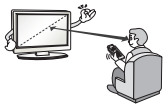


- If you install the TV on a stand, you need to take actions to prevent the product from overturning. Otherwise, the product may fall over, which may cause injury.

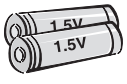
- If you intend to mount the product to a wall, attach VESA standard mounting interface (optional parts) to the back of the product. When you install the set to use the wall mounting bracket (optional parts), fix it carefully so as not to drop.
- Only use the attachments / accessories specified by the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



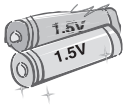
- When installing the antenna, consult a qualified service man.
  This may create a fire hazard or an electric shock hazard.



- 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.



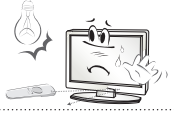
- Only use the specified type of battery.
  This could cause damage to the remote control.



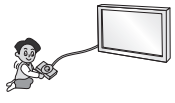
- Do not mix new batteries with old batteries.
  This may cause the batteries to overheat and leak.



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



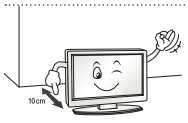
- Signal from the remote control may be disturbed by sun light or other strong light.
  In this case, darken the room.



- 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.

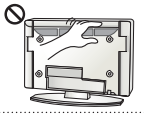


- Do not turn the product On/Off by plugging-in or unplugging the power plug to the wall outlet. (Do not use the power plug for switch.)
  It may cause mechanical failure or could give an electric shock.



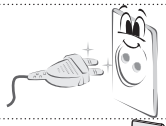
- Please follow the installation instructions below to prevent the product from overheating.
  - The distance between the product and the wall should be more than 10 cm.
  - Do not install the product in a place with no ventilation (e.g., on a bookshelf or in a cupboard).
  - Do not install the product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

  Otherwise, this may result in fire.

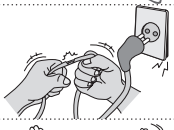


- Take care not to touch the ventilation openings when watching the TV for long periods as the ventilation openings may become hot. This does not affect the operation or performance of the product.

- 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.



- 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.

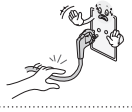


- Avoid touching the screen or holding your finger(s) against it for long periods of time. Doing so may produce some temporary distortion effects on the screen.



- 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.
  If the wires inside the power cable are disconnected, this may cause fire.



- 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.



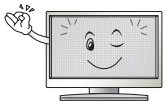
- When moving or unpacking the product, work in pairs because the product is heavy.
  Otherwise, this may result in injury.



- Contact the service center once a year to clean the internal parts of the product. Accumulated dust can cause mechanical failure.



- 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.



- The panel is a high technology product with resolution of two million to six million 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 colour of the panel depending on your viewing position(left/right/top/down).
  This phenomenon occurs due to the characteristic of the panel. It is not related with the product performance, and it is not malfunction.



- Displaying a still image (e.g., broadcasting channel logo, on-screen menu, scene from a video game) for a prolonged time may cause damage to the screen, resulting in retention of the image, which is known as image sticking. The warranty does not cover the product for image sticking.
  Avoid displaying a fixed image on your television’s screen for a prolonged period (2 or more hours for LCD, 1 or more hours for Plasma).
  Also, if you watch the TV at a ratio of 4:3 for a long time, image sticking may occur on the borders of the panel.
  This phenomenon also occurs in third-party products and is not subject to exchange or refund.

- **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 depend-ing on the product.
  This generated sound does not affect the performance and reliability of the product.

INSTALLATION PROCEDURE

1 Open the package and make sure all the accessories are included.

2 Attach the stand to the TV.

3 Connect an external device to the TV.

NOTE

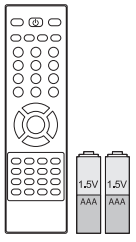
- Image shown may differ from your TV.
- Your TV's OSD (On Screen Display) may differ slightly from that shown in this manual.
- The available menus and options may differ from the input source or product model that you are using.
- New features may be added to this TV in the future.

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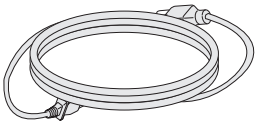
ASSEMBLING AND PREPARING

Unpacking

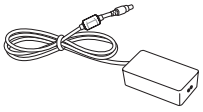
Check your product box for the following items. If there are any missing accessories, contact the local dealer where you purchased your product. The illustrations in this manual may differ from the actual product and accessories.



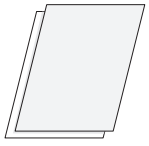
Remote control, Batteries (AAA)



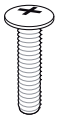
Power Cord



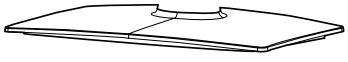
AC-DC Adapter



Owner's Manual



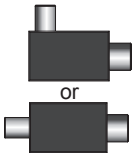
M4 x 16
2 EA
Screw for assembly



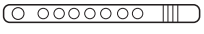
Stand Base



Stand Body



Isolator (Depending on model)



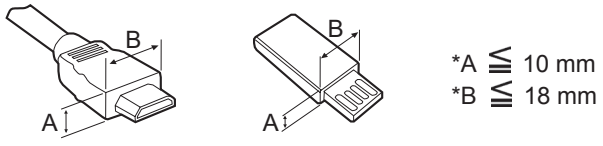
Cable Holder

CAUTION

- Do not use any pirated items to ensure the safety and product life span.
- Any damage or injuries caused by using unapproved items are not covered by the manufacturer’s warranty.

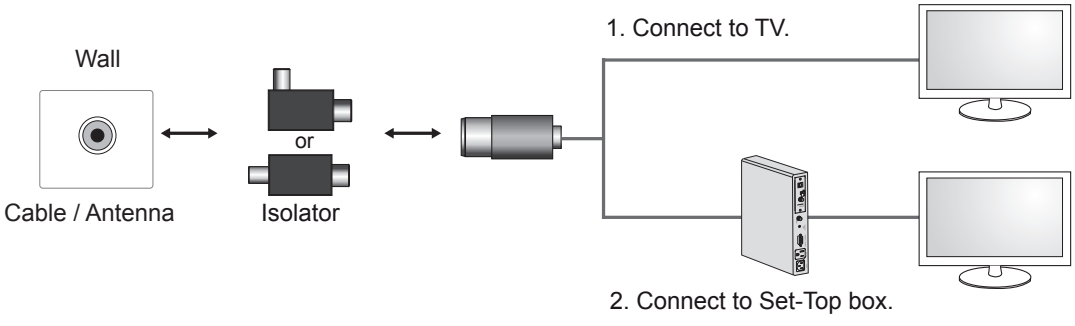
NOTE

- The accessories supplied with your product may vary depending on the model.
- Product specifications or contents in 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.



NOTE

- Antenna Isolator Installation Guide
  - Use this to install TV in a place where there is a voltage difference between TV Set and GND of antenna signal.
    - » If there is a voltage difference between TV Set and GND of antenna signal, the antenna contact may get hot and excessive heat might cause an accident.
  - You can improve the safety when watching TV by efficiently removing power voltage from TV antenna. It is recommended to mount the isolator to the wall. If it cannot be mounted to the wall, mount it on the TV. Avoid disconnecting the antenna Isolator after installation.
  - Before starting, be sure that the TV antenna is connected.

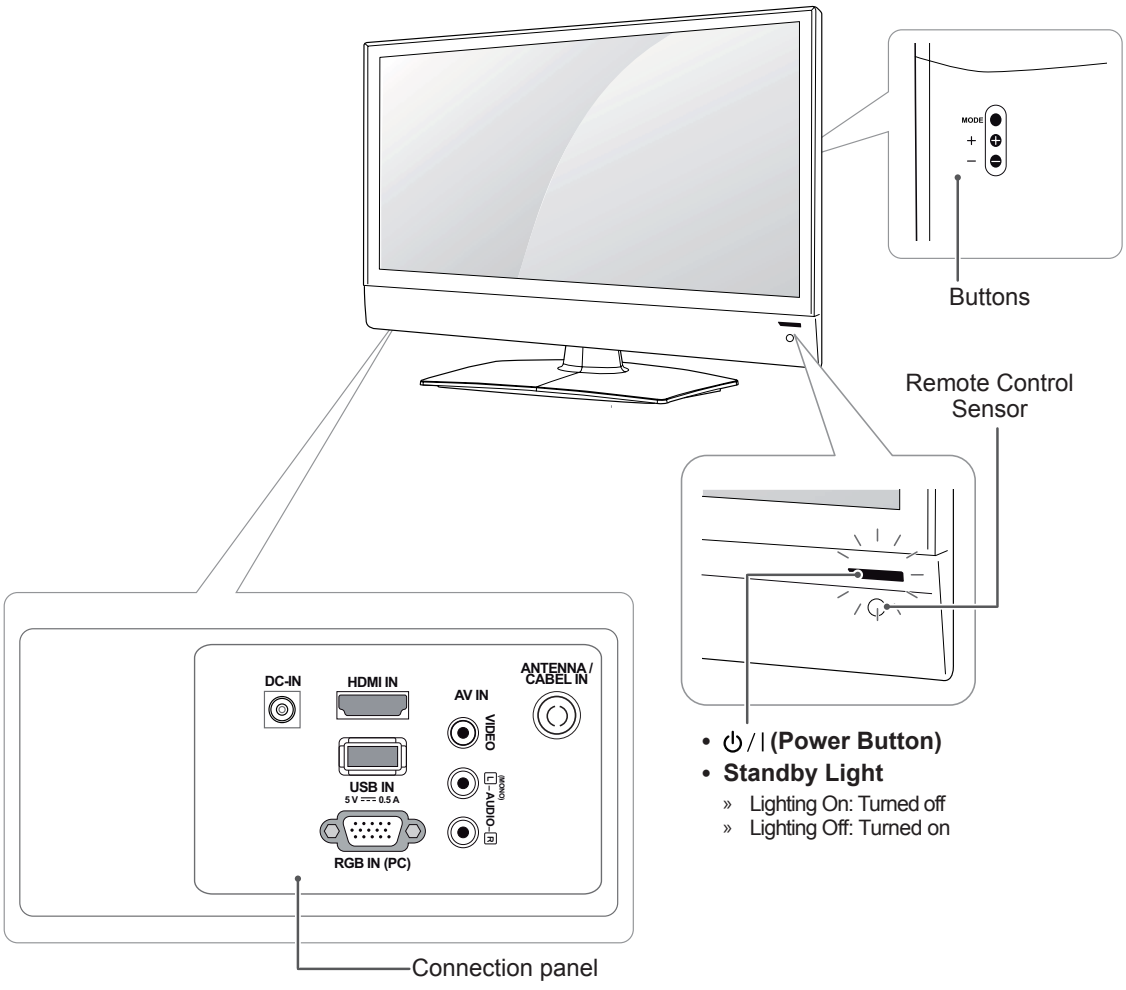


Connect one end of the isolator to cable/antenna jack and the other to TV set or set-top box.

"Equipment connected to the protective earthing of the building installation through the mains connection or through other equipment with a connection to protective earthing - and to a cable distribution system using coaxial cable, may in some circumstances create a fire hazard. Connection to a cable distribution system has therefore to be provided through a device providing electrical isolation below a certain frequency range (galvanic isolator, see EN 60728-11)"

When applying the RF Isolator, a slight loss of signal sensitivity can occur.

Parts and buttons



button	Description	
MODE "◯"	Selects the mode.(Programme ☞ Volume ☞ INPUT)	
	Programme	Scrolls through the saved programmes.
	Volume	Adjust the volume level.
	INPUT	Changes the input source.
⊕ , ⊖	Adjusts the mode button level.	

NOTE

- You can set the Standby Light to on or off by selecting **OPTION** in the main menus.
- Local keys work on **POWER, Programme, Volume** and **INPUT** only.

ENGLISH

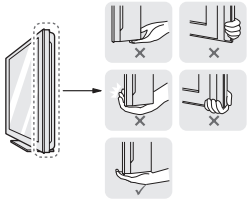
Lifting and moving the TV

When moving or lifting the TV, read the following to prevent the TV from being scratched or damaged and for save transportation regardless of its type and size.

CAUTION

- Avoid touching the screen at all times, as this may result in damage to the screen or some of the pixels used to create images.

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



- When holding the TV, the screen should face away from you to prevent the screen from scratches.

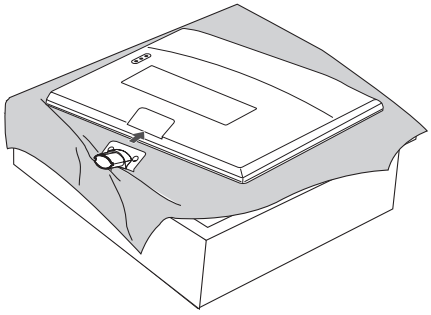


- When transporting the TV, do not expose the TV to jolts or excessive vibration.
- When transporting the TV, keep the TV upright, never turn the TV on its side, or tilt towards the left or right.

Setting up the TV

Attaching the Stand Base

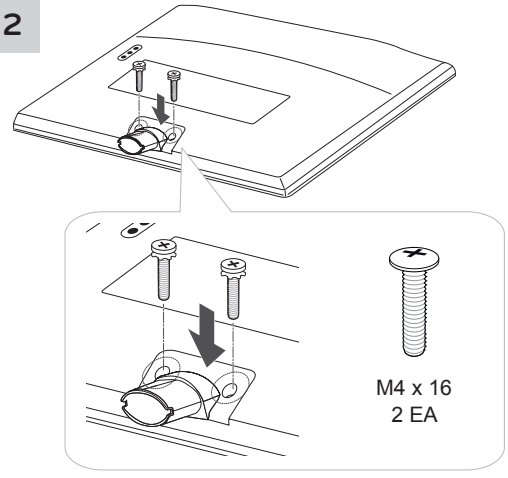
1



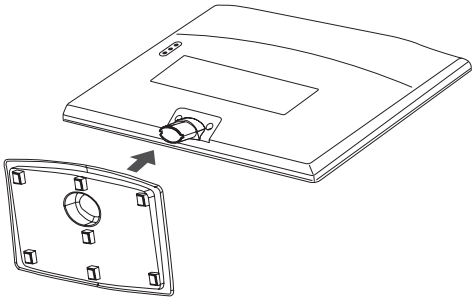
CAUTION

- Lay a foam mat or soft protective cloth on the surface to protect the screen from damage.

2



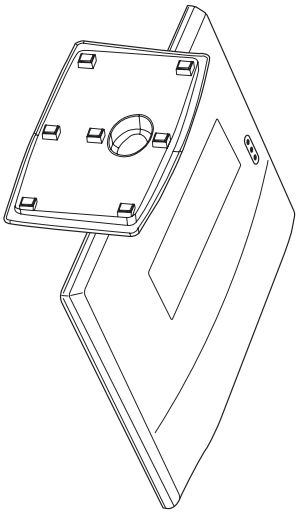
3



NOTE

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

CAUTION

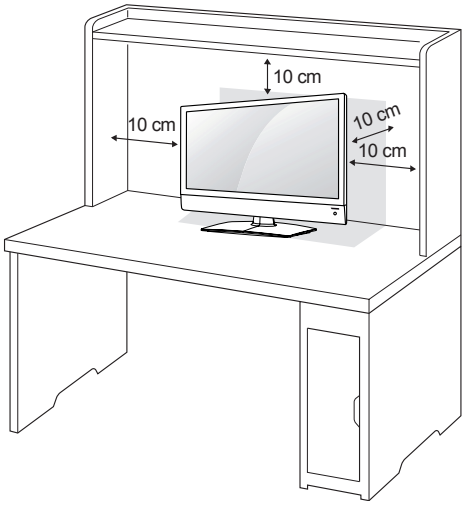


- Do not carry the TV upside-down as this may cause it to fall off its stand, resulting in damage or injury.
- The illustration shows a general example of installation and may look different from the actual product.

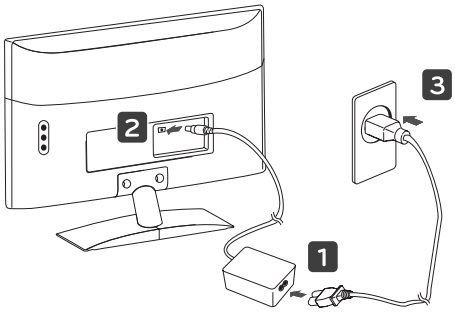
Mounting on a table

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 **AC-DC Adapter** and **Power Cord** to a wall outlet.



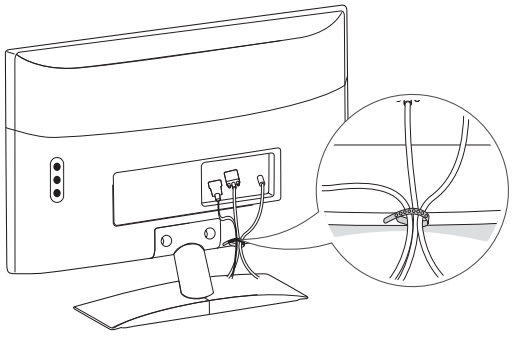
WARNING



- It's a head fixed model and prohibited from adjusting the angle.
- If you try to adjust the angle forcibly, It can be damaged.

Tidying cables

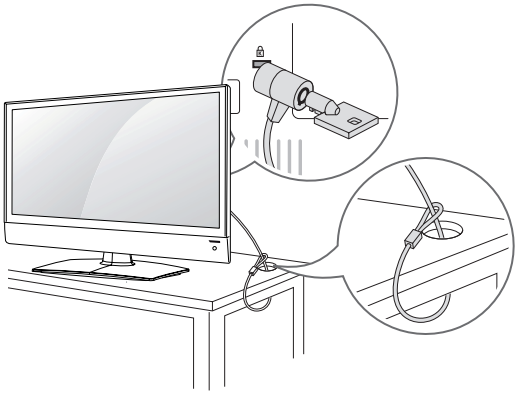
Use Cable Holder to neatly secure and position cables together.



Using the Kensington security system

The Kensington security system connector is located at the back of the TV. For more information of installation and using, refer to the manual supplied with the Kensington security system or visit *http://www.kensington.com*.

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

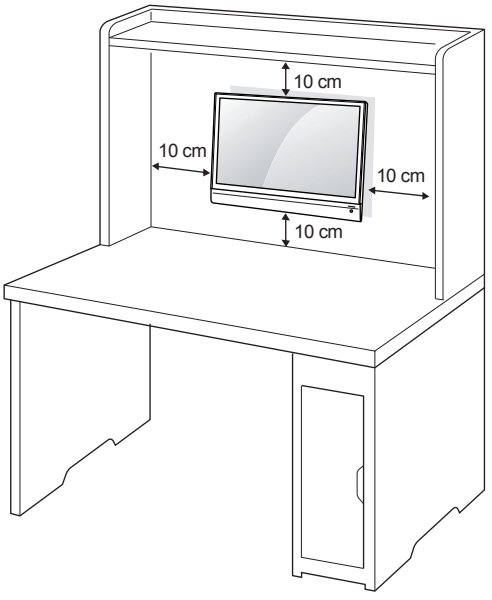


NOTE

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

Mounting on a wall

For proper ventilation, allow a clearance of 10 cm on each side and from the wall. Detailed installation instructions are available from your dealer, see the optional Tilt Wall Mounting Bracket Installation and Setup Guide.

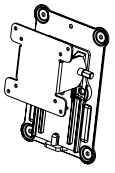


If you intend to mount the TV to a wall, attach Wall mounting interface (optional parts) to the back of the set.
When you install the TV using the wall mounting interface (optional parts), attach it carefully so it will not drop.

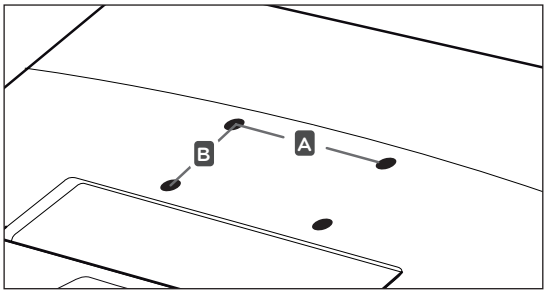
1. Please, Use the screw and wall mount interface in accordance with VESA Standards.
2. If you use screw longer than standard, the TV might be damaged internally.
3. If you use improper screw, the product might be damaged and drop from mounted position. In this case, LG Electronics is not responsible for it.
4. VESA compatible only with respect to screw mounting interface dimensions and mounting screw specifications.

5 Please use VESA standard as below.

- 784.8 mm and under
  * Wall Mount Pad Thickness : 2.6 mm
  * Screw : Φ 4.0 mm x Pitch 0.7 mm x Length 10 mm
- 787.4 mm and above
  * Please use VESA standard wall mount pad and screws.

Model	22LS2100
VESA (A x B)	100 x 100
Standard screw	M4
Number of screws	4
Wall mount bracket (optional)	RW120 

- VESA (A x B)



CAUTION

- Disconnect the power cord first, and then move or install the TV. Otherwise electric shock may occur.
- If you install the TV on a ceiling or slanted wall, it may fall and result in severe injury. Use an authorized LG wall mount and contact the local dealer or qualified personnel.
- Do not over tighten the screws as this may cause damage to the TV and void your warranty.
- Use the screws and wall mounts that meet the VESA standard. Any damages or injuries by misuse or using an improper accessory are not covered by the manufacturer's warranty.

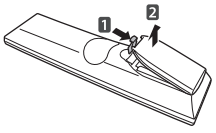
NOTE

- Use the screws that are listed on the VESA standard screw specifications.
- The wall mount kit includes an installation manual and necessary parts.
- The wall mount bracket is optional. You can obtain additional accessories from your local dealer.
- The length of screws may differ depending on the wall mount. Be sure to use the proper length.
- For more information, refer to the instructions supplied with the wall mount.

ENGLISH

REMOTE CONTROL

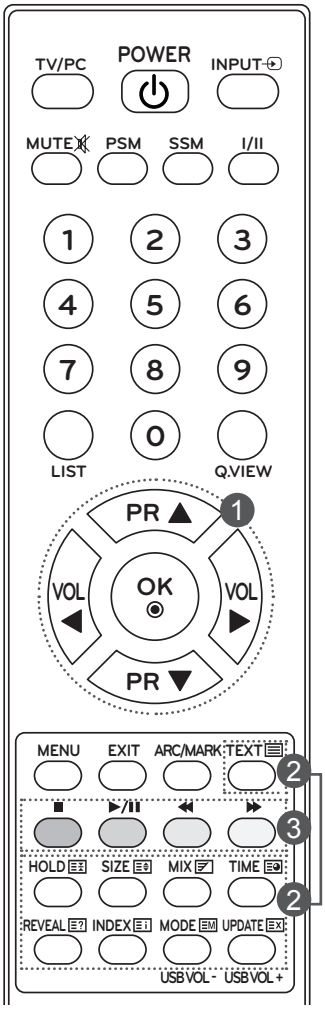
The descriptions in this manual are based on the buttons of the remote control.
Please read this manual carefully and use the TV correctly.
To replace batteries, open the battery cover, replace batteries (1.5 V AAA) matching ⊕ and ⊖ ends to the label inside the compartment, and close the battery cover.
To remove the batteries, perform the installation actions in reverse.



CAUTION

- Do not mix old and new batteries, as this may damage the remote control.
- In Analogue TV and some countries, some remote control buttons may not work.

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



TV/PC	Selects TV or PC mode.
⏻(POWER)	Turns the TV on or off.
INPUT	Selects the input mode.
MUTE	Mutes all sounds.
PSM	Recalls your preferred picture setting.
SSM	Recalls your preferred sound setting.
I/II	Selects the sound output.
Number buttons	Enters numbers.
LIST	Displays the programme table.
Q.VIEW	Returns to the previously viewed programme.
1 Navigation buttons	Scrolls through menus or options.
VOL	Adjusts the volume level.
Programme	Selects a programme.
OK	Selects menus or options and confirms your input.
MENU	Accesses the main menus or saves your input and exit menus.
EXIT	Clears all on-screen displays and returns to TV viewing from any menu.
ARC/MARK	Selects your desired picture format. / Check and un-check files in the USB menu.
2 Teletext buttons	These buttons are used for teletext. For further details, see the 'Teletext' section.
3 Coloured buttons	These buttons are used for teletext (on TELETEXT models only) , Programme edit.
3 USB Menu control buttons (■ ▶/II ◀◀ ▶▶)	USB menu(Music List).
USB VOL (Only USB Mode)	Adjusts the USB volume level.

NOTE

- If you lost remote controller, you have to buy it at once because local keys work at **POWER, Programme, Volume** and **INPUT** only.

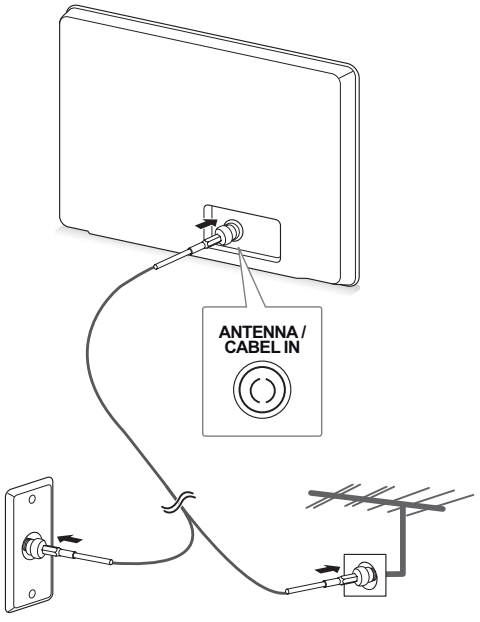
WATCHING TV

Connecting an antenna or cable

Connect an antenna, cable, or cable box to watch TV referring to the following. The illustrations may differ from the actual accessories and an RF cable is optional.

Connecting an antenna or basic cable

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

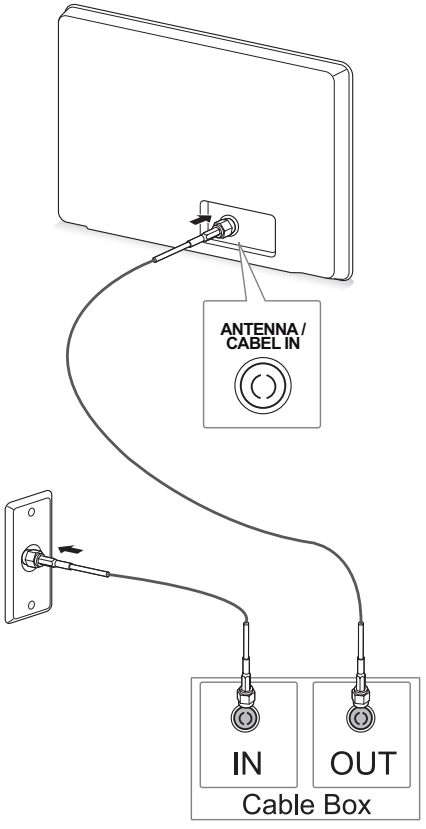


NOTE

- 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, aim the antenna to the proper direction.
- Visit *http://AntennaWeb.org* for more information about the antenna and cable connection.

Connecting with a cable box

Connect the TV to a cable box and the cable box to a wall antenna socket with 2 RF cables (75 Ω).



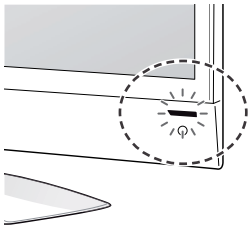
ENGLISH

Accessing the TV for the first time

When you access the TV for the first time, the initial setting screen appears. Select a language and customize the basic settings.

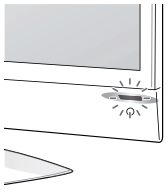
1 Connect the power cord to a power outlet.

2 Press ⏻ / I on the TV to turn the TV on.
The Standby Light lighting is turned off.



NOTE

- When the TV is in Power saving mode, the Standby Light lighting blinks.



3 The initial setting screen appears if you access the TV for the first time.

NOTE

- You can also switch the TV from PC mode to TV mode, press TV/PC.
- You can also access Factory Reset by accessing OPTION in the main menus.
- If you do not operate the TV within 40 seconds when the setting menu screen appears, the setting menus will disappear.

4 Follow the on-screen instructions to customize your TV according to your preferences.

Language	Selects a language for the display.
⇩	
Mode Setting	Selects **Home Use** for the home environment.
⇩	
Auto Tuning	Scans and saves available programmes automatically.

NOTE

- To display images in the best quality for your home environment, select Home Use mode.
- Store Demo mode is suitable for the retail environment.
- If you select Store Demo mode, the previously customized settings will switch to the default settings of Store Demo in 5 minutes.

5 When the basic settings are complete, press **OK**.

NOTE

- If you do not complete the initial setting, it will appear whenever you access the TV.

6 To turn the TV off, press ⏻ / I on the TV.
The Standby Light turns on.

CAUTION

- Disconnect the power cord from the power outlet when you do not use the TV for a long period of time.

Watching TV

1 Press ⏻ on the Remote control or ⏻/I on the TV to turn the TV on.

2 Press **INPUT** and select **Antenna**.

3 Control the TV using the following buttons and menus while you are watching TV.

Button / Menu	Description
PR(▲ , ▼)	Scrolls through the saved programmes.
0 - 9	Selects a programme by entering numbers.
VOL (◀ , ▶)	Adjusts the volume level.
MUTE	Mutes all sounds.
PSM	Selects one of the preset image modes.
SSM	Selects one of the preset audio modes.
ARC	Resizes an image.

4 To turn the TV off, Press ⏻ on the Remote control or ⏻/I on the TV.

Managing programmes

Automatically setting up programmes

Use this to automatically find and store all available programmes.

1 Press **MENU** to access the main menus.

2 Press the Navigation buttons to scroll to **SETUP** and press **OK**.

3 Press the Navigation buttons to scroll to **Auto Tuning** and press **OK**.

4 Select **Yes** to start automatic tuning.
The TV scans and saves available programmes automatically.

5 When you are finished, press **EXIT**.
When you return to the previous menu, press **MENU**.

Manually setting up programmes

Manual Tuning lets you manually tune and arrange the stations in whatever order you desire.

1 Press **MENU** to access the main menus.

2 Press the Navigation buttons to scroll to **SETUP** and press **OK**.

3 Press the Navigation buttons to scroll to **Manual Tuning** and press **OK**.

4 Press the Navigation buttons to scroll to **TV System**.

5 Press the Navigation buttons to scroll to **V/UHF** or **Cable**.

6 Press the Navigation buttons or Number buttons to scroll Select the desired channel number.

7 Press the Navigation buttons to scroll to Commence searching.

8 Press the Navigation buttons to scroll to **Store** and press **OK**

9 When you are finished, press **EXIT**.
When you return to the previous menu, press **MENU**.

Editing your programme list

1 Press **MENU** to access the main menus.

2 Press the Navigation buttons to scroll to **SETUP** and press **OK**.

3 Press the Navigation buttons to scroll to Programme **Edit** and press **OK**.

4 Edit programmes using the following buttons.

Button	Description
Navigation	Scrolls through programme types or programmes.
OK	Selects a programme to view.
Colour Button	Adds or deletes a programme. The deleted programme displays in gray.

Selecting the programme list

You can check which programmes are stored in the memory by displaying the programme list.

Displaying programme LIST

1 Press **LIST** button to access the Programme List.

2 When you are finished, press **MENU** or **EXIT**.

NOTE

- You may find some blue programmes. These have been set up to be skipped by auto programming or in the programme edit mode.
- Some programmes with the channel number shown in the programme LIST indicate there is no station name assigned.

Selecting a programme in the programme list

1 Press the Navigation buttons to programme.

2 Switch to the chosen programme number, press **OK**.

Favourite programme setup

Selecting favourite programme

Favourite programme is a convenient feature that lets you quikly scan up to programmes of your choice without having to wait for the TV to scan through all the in-between programmes.

1 Press **MENU** to access the main menus.

2 Press the Navigation buttons to scroll to **SETUP** and press **OK**.

3 Press the Navigation buttons to scroll to **Programme Edit** and press **OK**.

4 Press the Navigation buttons to scroll to **Programme** you want and press **GREEN** button.

5 When you are finished, press **EXIT**.
When you return to the previous menu, press **MENU**.

NOTE

- This will automatically include the selected programme into your favourite programme list.

Displaying the favourite programme list

1 Press **Green** button to access the Favourite Programme List.

2 When you are finished, press **MENU** or **EXIT**.

Using additional options

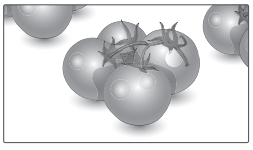
Adjusting aspect ratio

Resize the image to view the image at its optimal size by pressing **ARC** while you are watching TV.

CAUTION

- If a fixed image displays on the screen for a long period of time, it will be imprinted and become a permanent disfigurement on the screen. This is “image burn” or “burn-in” and not covered by the warranty.
- If the aspect ratio is set to 4:3 for a long period of time, image burn may occur on the letterboxed area of the screen.

- **16:9**: The following selection will allow you to adjust the picture horizontally, in linear proportion, to fill the entire screen(useful for viewing 4:3 formatted DVDs).



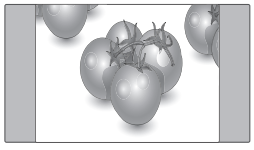
- **Just Scan**: Following Selection will lead to you view the picture of best quality without loss of original picture in high resolution image.
  Note : If there is noise in original Picture, You can see the noise at the edge.



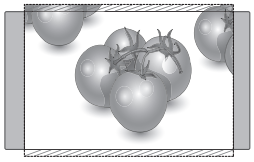
- **Original**: When your TV receives a wide screen signal it will automatically change to the picture format broadcast.



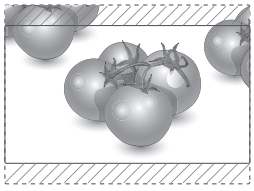
- **4:3**: The following selection will allow you to view a picture with an original 4:3 aspect ratio, gray bars will appear on both the left and right of the screen.



- **14:9**: You can view a picture format of 14:9 or a general TV programme in the 14:9 mode. The 14:9 screen is viewed in the same way as in 4:3, but is magnified to the left and right.



- **Zoom 1 & 2**: The following selection will allow you to view the picture without any alteration, while filling the entire screen. However, the top and bottom of the picture will be cropped.



NOTE

- You can only select **4:3, 16:9 (Wide)** in **RGB** mode.
- You can only select **16:9 (Wide), Just Scan, 4:3** in **HDMI** mode.
- In **HDMI** (over 720p) mode, **Just Scan** is available.
- You can only select **16:9 (Wide), Original, 4:3, 14:9, Zoom1/2** in **AV** mode.

Using the input list

Selecting an input source

1 Press **INPUT** to access the input source list.

2 Press the Navigation buttons to scroll to one of the input sources and press **OK**.

Input source	Description
Antenna or cable	Watch TV over the air and cable
AV	Watch the contents in a VCR or other external devices
RGB	View a PC display on the screen
HDMI	Watch contents in a DVD or Digital settop box or other high definition devices

On-screen menu language

The installation guide menu appears on the TV screen when it is switched on for the first time.

1 Press the Navigation buttons to scroll to **Desired Language** and press **OK**.

If you want to change Language

1 Press **MENU** to access the main menus.

2 Press the Navigation buttons to scroll to **OPTION** and press **OK**.

3 Press the Navigation buttons to scroll to **Language** and press **OK**.

4 Press the Navigation buttons to scroll to **Desired Language** option you want and press **OK**.

5 When you are finished, press **EXIT**.
When you return to the previous menu, press **MENU**.

NOTE

- If you do not finish the set-up **Installation Guide** by pressing **EXIT** or if you time out on the OSD (On Screen Display) the installation menu will continuously appear until the set up is completed whenever the TV set is switched on.

Locking the buttons on the TV

Lock the buttons on the TV to prevent any unwanted operations or accidents by children.

1 Press **MENU** to access the main menus.

2 Press the Navigation buttons to scroll to **OPTION** and press **OK**.

3 Press the Navigation buttons to scroll to **Key Lock** and press **OK**.

4 Press the Navigation buttons to scroll to **On** and press **OK** to activate the Key lock feature.
- To deactivate the Key lock feature, select **Off**.

5 When you are finished, press **EXIT**.
When you return to the previous menu, press **MENU**.

NOTE

- The TV is programmed to remember the last setting after you turn the TV off.
- If you turn the TV off while the key lock feature is activated and wish to turn it back on, press the ⏻ / I on the TV. You can also switch the device on using the remote control by pressing the ⏻, **INPUT** , **PR ▲**, **PR ▼** or **Number** buttons.
- If you press any button on the tv with the Key lock feature activated, **Key Lock ON** appears on the screen.

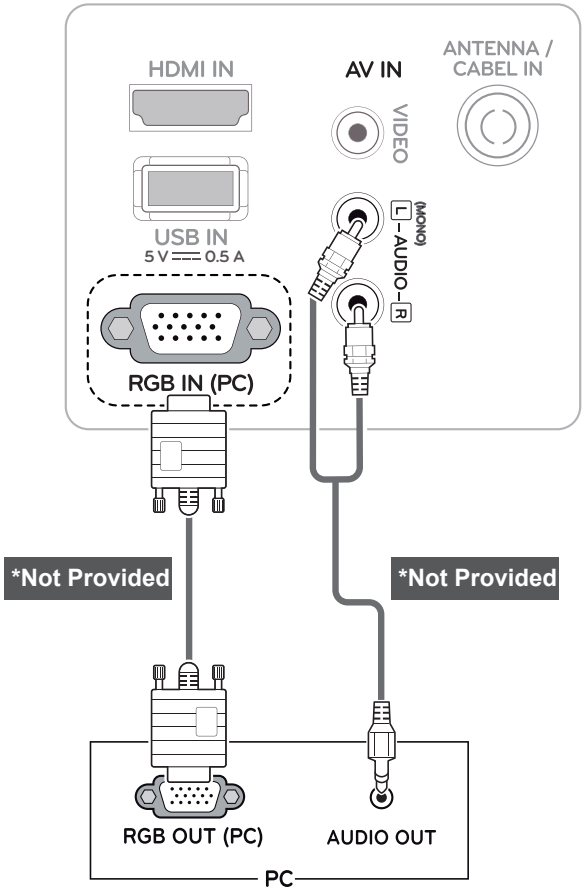
CONNECTING TO A PC

Your TV supports the Plug & Play* feature.

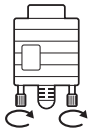
* Plug & Play: The function when a PC recognizes a connected device that users connect to a PC and turn on, without device configuration or user intervention.

RGB connection

Transmits the analog video signal from your PC to the TV. Connect the PC and the TV with the D-sub 15 pin cable as shown the following illustrations. To transmit an audio signal, connect an optional audio cable in TV.



CAUTION



- Connect the signal input cable and tighten it by turning the screws clockwise.
- Do not press the screen with your finger for a long time as this may result in temporary distortion on the screen.
- Avoid displaying a fixed image on the screen for a long period of time to prevent image burn. Use a screensaver if possible.

NOTE

- If you do not use an optional external speaker, connect the PC to the TV with the optional audio cable.
- The Audio cable is optional. You can obtain additional accessories from most electronics stores.
- If you turn the TV on when the set becomes cold, the screen may flicker. This is normal.
- Some red, green, or blue spots may appear on the screen. This is normal.

Adjusting the screen

Selecting an image mode

Display images in its optimized settings by selecting one of the preset image modes.

1 Press **MENU** to access the main menus.

2 Press the Navigation buttons to scroll to **PICTURE** and press **OK**.

3 Press the Navigation buttons to scroll to **Picture Mode** and press **OK**.

4 Press the Navigation buttons to scroll to an image mode you want and press **OK**.

Mode	Description
Vivid	Adjusts the video image for the retail environment by enhancing the **Contrast, Brightness, Colour,** and **Sharpness**.
Standard	Adjusts the image for the normal environment.
Cinema	Optimizes the video image for the cinematic look and enjoy movies as if you are in a movie theater.

5 When you are finished, press **EXIT**.
When you return to the previous menu, press **MENU**.

Customizing image options

Customize basic and advanced options of each image mode for the best screen performance.

1 Press **MENU** to access the main menus.

2 Press the Navigation buttons to scroll to **PICTURE** and press **OK**.

3 Press the Navigation buttons to scroll to **Picture Mode**.

4 Press the Navigation buttons to scroll to an image mode you want and press **OK**.

5 Select and adjust following options, and then press **OK**.

Option	Description
Backlight	Adjusts the brightness of the screen by controlling the LCD backlight. If you decrease the brightness level, the screen becomes darker and the power consumption will be reduced without any video signal loss.
Contrast	Increases or decreases the gradient of the video signal. You may use **Contrast** when the bright part of the image is saturated.
Brightness	Adjusts the base level of the signal in the image. You may use **Brightness** when the dark part of the image is saturated.
Sharpness	Adjusts the level of crispness in the edges between the light and dark areas of the picture. The lower the level, the softer the image.
Colour	Adjusts intensity of all **Colours**.
Tint	Adjusts the balance between **Red** and **Green** levels.
Advanced Control	Customizes the advanced options. See more information about advanced options See p.34.
Picture Reset	Restores the options to the default setting.

6 When you are finished, press **EXIT**.
When you return to the previous menu, press **MENU**.

Customizing PC display options

Customize options of each image mode for the best image quality.

- This function works in the following mode: RGB[PC] mode.

1 Press **MENU** to access the main menus.

2 Press the Navigation buttons to scroll to **PICTURE** and press **OK**.

3 Press the Navigation buttons to scroll to **Screen** and press **OK**.

4 Select and adjust following options, and then press **OK**.

Option	Description
Resolution	Selects a proper **Resolution**.
Auto Config.	Sets to adjust the screen **Position**, **Size** and **Phase** automatically. The displayed image may be unstable for a few seconds while the configuration is in progress.
Position/ Size/Phase	Adjusts the options when the image is not clear, especially when characters are shaky, after the auto configuration.
Reset	Restores the options to the default setting.

5 When you are finished, press **EXIT**.
When you return to the previous menu, press **MENU**.

Adjusting the sound

Selecting an sound mode

Play the sound in its optimized settings by selecting one of the preset sound modes.

1 Press **MENU** to access the main menus.

2 Press the Navigation buttons to scroll to **AUDIO** and press **OK**.

3 Press the Navigation buttons to scroll to **Sound Mode** and press **OK**.

4 Press the Navigation buttons to scroll to a sound mode you want and press **OK**.

Mode	Description
Standard	Selects when you want standard-quality sound.
Music	Selects when you listen to music.
Cinema	Selects when you watch movies.

5 When you are finished, press **EXIT**.
When you return to the previous menu, press **MENU**.

Customizing sound options

Customize options of each sound mode for the best sound quality.

1 Press **MENU** to access the main menus.

2 Press the Navigation buttons to scroll to **AUDIO** and press **OK**.

3 Press the Navigation buttons to scroll to **Sound Mode** and press **OK**.

4 Press the Navigation buttons to scroll to a sound mode you want and press **OK**.

5 Select and adjust following options, and then press **OK**.

Option	Description
Treble	Controls the dominant sounds in the output. When you turn up the treble, it will increase the output to the higher frequency range.
Bass	Controls the softer sounds in the output. When you turn up the bass, it will increase the output to the lower frequency range.
Reset	Resets the sound mode to the default setting.

6 When you are finished, press **EXIT**.
When you return to the previous menu, press **MENU**.

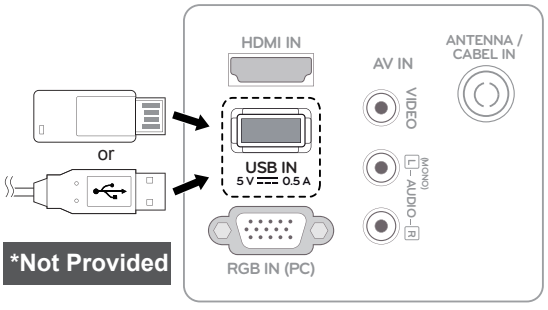
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ENTERTAINMENT

Using integrated media features

Connecting USB storage devices

Connect USB storage devices such as a USB flash memory, external hard drive, or MP3 player to the TV and use multimedia features ("**Browsing files**" See p.29).
Connect a USB flash memory or USB memory card reader to the TV as shown on the following illustration. The **USB** screen appears.



CAUTION

- Back up your files saved on a USB storage device frequently, as you may lose or damage the files and this may be not covered by the manufacturer's warranty.

Tips for using USB storage devices

- Only a USB storage device is recognizable.
- If the USB storage device is connected through a USB hub, the device is not recognizable.
- A USB storage device using an automatic recognition programme may not be recognized.
- A USB storage device which uses its own driver may not be recognized.
- The recognition speed of a USB storage device may depend on each device.
- Please do not turn off the TV or unplug the USB device when the connected USB storage device is working. When such device is suddenly separated or unplugged, the stored files or the USB storage device may be damaged.
- Please do not connect the USB storage device which was artificially maneuvered on the PC. The device may cause the product to malfunction or fail to be played. Never forget to use only a USB storage device which has normal music files, image files.
- Please use only a USB storage device which was formatted as a FAT, FAT16, FAT32 file system provided with the windows operating system. In case of a storage device formatted as a different utility programme which is not supported by Windows, it may not be recognized.
- Please connect power to a USB storage device(over 0.5 A) which requires an external power supply. If not, the device may not be recognized.
- Please connect a USB storage device with the cable offered by the device maker.
- Some USB storage devices may not be supported or operated smoothly.
- File alignment method of USB storage device is similar to Window XP and filename can recognize up to 100 English characters.
- Be sure to back up important files since data stored in a USB memory device may be damaged. We will not be responsible for any data loss.
- If the USB HDD does not have an external power source, the USB device may not be detected. So be sure to connect the external power source.
  - Please use a power adaptor for an external power source. We do not guarantee an USB cable for an external power source.
- If your USB memory device has multiple partitions or if you use a USB multi-card reader, you can use up to 6 partitions or USB memory devices.
- If a USB memory device is connected to a USB multi-card reader, its volume data may not be detected.
- If the USB memory device does not work properly, disconnect and reconnect it.
- How fast a USB memory device is detected differs from device to device.
- If the USB is connected in Standby Mode, specific hard disk will automatically be loaded when the TV is turned on.
- The recommended capacity is 32 GB or less for USB memory.
- Any device with more than the recommended capacity may not work properly.

- USB storage devices below USB 2.0 are supported as well.
- When a broken file is played in the USB storage, the TV may turn off or work abnormally.
- If picture size is bigger than the recommended size, the picture quality would be bad.
- USB file/folder number has limitation, 648, at each folder.

Browsing files

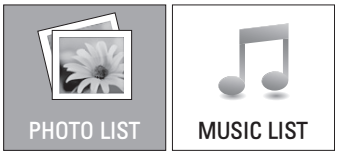
Access the **Photo** or **Music** lists and browse files.

1 Connect a **USB** storage device.

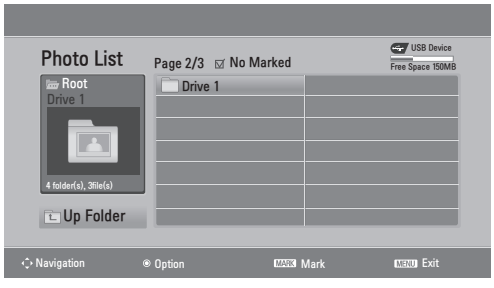
2 Press **MENU** to access the main menus.

3 Press the Navigation buttons to scroll to **USB** and press **OK**.

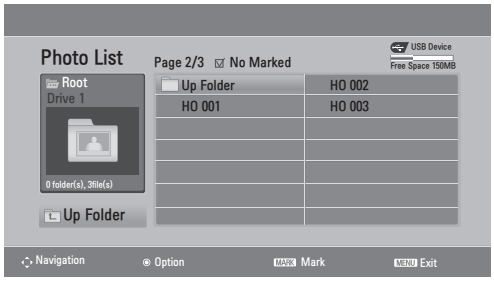
4 Press the Navigation buttons to scroll to **PHOTO LIST** or **MUSIC LIST** and press **OK**.



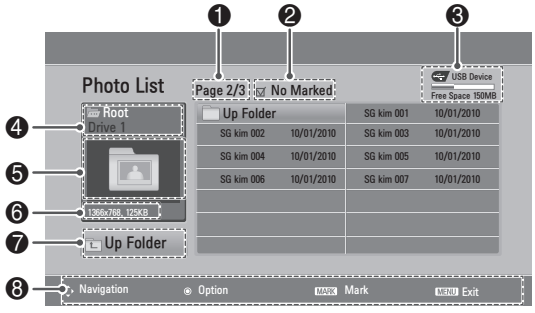
5 Select **Drive1** to access the connected USB storage device.



6 Select a folder you want.
- To return to the previous level, select **Up Folder**.



7 Press the Navigation buttons to browse files.
The highlighted file will display in the preview window.



No.	Description
❶	Current page number/total number of pages
❷	The number of selected files
❸	Usable USB memory
❹	File and Folder name
❺	Preview window
❻	File size
❼	Return to the previous level
❽	Available buttons on the remote control

Supported file format

Type	Supported file format
Photo	• JPEG • Recommended size 960 pixel (W) x 540 pixel (H) • Available size Baseline: 64 pixel (W) x 64 pixel (H) - 12244 pixel (W) x 8640 pixel (H) Progressive: 64 pixel (W) x 64 pixel (H) - 1920 pixel (W) x 816 pixel (H)
Music	• MP3 • Bit rate range 32 Kbps - 320 Kbps • Sampling rate (Sampling Frequency) MPEG1 layer 3: 32 kHz, 44.1 kHz, 48 kHz MPEG2 layer 3: 16 kHz, 22.05 kHz, 24 kHz MPEG2.5 layer 3: 8 kHz, 11.025 kHz, 12 kHz * A copy-protected file will not play.

Viewing Photos

View image files saved in a USB storage device. The displays on the screen may differ from the model.

1 Press the Navigation buttons to scroll to **USB** and press **OK**.

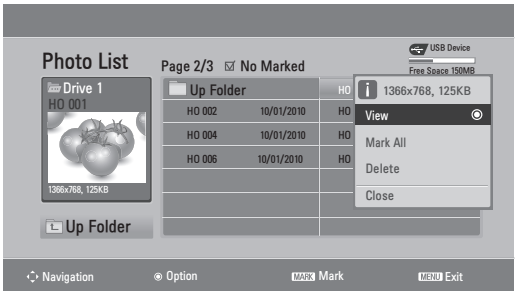
2 Press the Navigation buttons to scroll to **Photo List** and press **OK**.

3 Press the Navigation buttons to select **Drive1** to access the connected USB storage device.

4 Press the Navigation buttons to scroll to a folder you want and press **OK**.

5 Press the Navigation buttons to scroll to a file you want and press **OK**.

A pop-up window will appears.

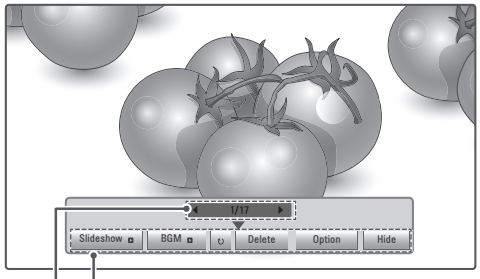


6 View photos by using the following menus.

Menu	Description
View	Displays the selected photo in a full-screen view. • **Drive**: Views photos saved in a USB storage drive.
Mark All or Unmark All	Selects all files or clears all of your selections
Delete	Deletes a file saved in a USB storage device.
Close	Closes the pop-up menu.

Using photo options

Use the following options while viewing photos.



Option	Description
Slideshow	Starts or stops a slideshow with selected photos. If there are no selected photos, all photos saved in the current folder display during a slideshow. To set a slideshow speed, select **Option**.
BGM	Turns the background music on or off. To set the background music folder, select **Option**.
↻ (Rotate)	Rotates photos clockwise (90°, 180°, 270°, 360°). **NOTE** The supported photo size is limited. You cannot rotate a photo if the resolution of the rotated width is larger than the supported resolution size.
Delete	Deletes a photo.
Option	• **Slide Speed**: Selects a slideshow speed (**Fast**, **Medium**, **Slow**). • **Music Album**: Selects a music folder for the background music. **NOTE** You cannot change the music folder while the background music is playing.
Hide	Hides the option window. To display the options, press **OK**.

Listening to Music

1 Press the Navigation buttons to scroll to **USB** and press **OK**.

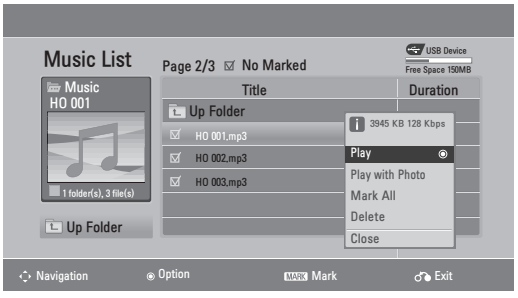
2 Press the Navigation buttons to scroll to **Music List** and press **OK**.

3 Select **Drive1** to access the connected USB storage device.

4 Press the Navigation buttons to scroll to a folder you want and press **OK**.

5 Press the Navigation buttons to scroll to a file you want and press **OK**.

A pop-up window will appears.



6 Play music by using the following menus.

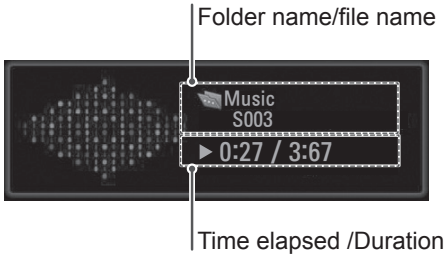
Menu	Description
Play, **Stop Play**, or **Play Marked**	Plays music, stops playback, or plays the selected music file. If you play music without selecting music files, all of the music files saved in the current folder will play. The ♪ icon will appear in front of the duration on the currently playing file. • **Drive**: Listen to music files saved in a USB storage drive.
Play with Photo	Displays photos during playback.
Mark All or **Unmark All**	Selects all files or clears all of your selections
Delete	Deletes a file saved in a USB storage device.
Close	Closes the pop-up menu.

7 Control playback by using the following buttons.

Button	Description
■	Stops playback
▶/II	Plays a music file and Pauses or resumes playback
▶▶	Skips to the next file
◀◀	Skips to the previous file

NOTE

- A damaged or corrupted file will not play and the duration of the file display as 00:00.
- A copy-protected file will not play.
- If the TV is not in use for some time during playback, the information box as a screensaver will appear to prevent image burn.
  To return to the Music list screen, press **MENU** or **EXIT**



ENGLISH

CUSTOMIZING SETTINGS

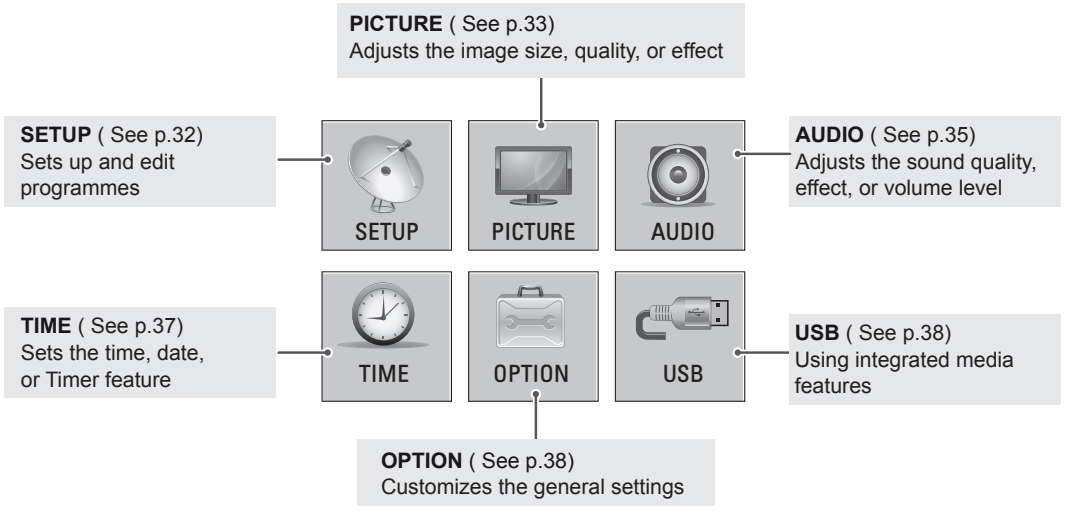
Accessing main menus

1 Press **MENU** to access the main menus.

2 Press the Navigation buttons to scroll to one of the following menus and press **OK**.

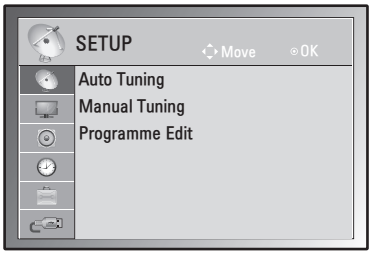
3 Press the Navigation buttons to scroll to the setting or option you want and press **OK**.

4 When you are finished, press **EXIT**.
When you return to the previous menu, press **MENU**.



Customizing settings

SETUP settings



1 Press **MENU** to access the main menus.

2 Press the Navigation buttons to scroll to **SETUP** and press **OK**.

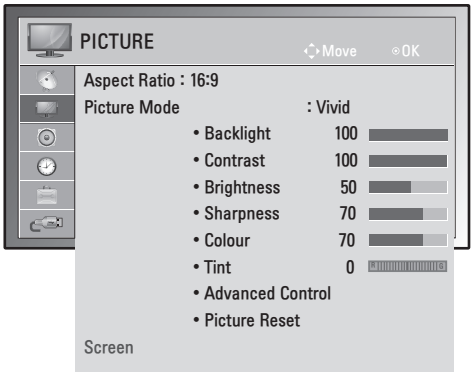
3 Press the Navigation buttons to scroll to the setting or option you want and press **OK**.
- To return to the previous level, press **MENU**.

4 When you are finished, press **EXIT**.
When you return to the previous menu, press **MENU**.

The available SETUP settings are described in the following:

Setting	Description
Auto Tuning	Tunes and stores all available programmes through antennas or cable inputs. (See p.21)
Manual Tuning	Tunes and stores the programmes you want manually. (See p.21)
Programme Edit	Edit the pregramme list. (See p.21)

PICTURE settings



1 Press **MENU** to access the main menus.

2 Press the Navigation buttons to scroll to **PICTURE** and press **OK**.

3 Press the Navigation buttons to scroll to the setting or option you want and press **OK**.
- To return to the previous level, press **MENU**.

4 When you are finished, press **EXIT**.
When you return to the previous menu, press **MENU**.

The available picture settings are described in the following:

Setting	Description	
Aspect Ratio	Changes the image size to view images at its optimal size. (See p.23)	
Picture Mode	Selects one of the preset image or customizes options in each mode for the best TV screen performance. You are also able to customize advanced options of each mode. The available preset picture modes vary depending on the TV .	
	Mode	
	Vivid	Adjusts the video image for the retail environment by enhancing the contrast, brightness, Colour, and sharpness.
	Standard	Adjusts the image for the normal environment.
	Cinema	Optimizes the video image for a cinematic look to enjoy movies as if you are in a movie theater.
Screen	Customizes the PC display options in RGB mode.	
	Option	
	Resolution	Selects a proper resolution. See "Specification" See p.49 for the recommended resolution for each model.
	Auto Configure	Sets to adjust the screen position, clock, and phase automatically. The displayed image may be unstable for a few seconds while the configuration is in progress.
	Position/Size/ Phase	Adjusts the options when the picture is not clear, especially when characters are shaky, after the auto configuration.
	Reset	Restores the options to the default setting.

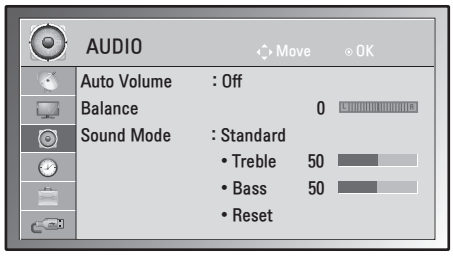
Basic image options

Setting	Description
Backlight	Adjusts the brightness of the screen by controlling the LCD backlight. If you decrease the brightness level, the screen becomes darker and the power consumption will be reduced without any video signal loss.
Contrast	Increases or decreases the gradient of the video signal. You may use **Contrast** when the bright part of the picture is saturated.
Brightness	Adjusts the base level of the signal in the picture. You may use **Brightness** when the dark part of the picture is saturated.
Sharpness	Adjusts the level of crispness in the edges between the light and dark areas of the picture. The lower the level, the softer the image.
Colour	Adjusts intensity of all Colours.
Tint	Adjusts the balance between red and green levels.
Advanced Control	Customizes the advanced options.
Picture Reset	Restores the options to the default setting.

Advanced image options

Setting	Description
Colour Temperature (Medium/Warm/Cool)	This is the function to adjust the overall colour of the screen to the feeling you want.
Dynamic Contrast (Off/Low/High)	Adjusts the contrast to keep it at the best level according to the brightness of the screen. The picture is improved by making bright parts brighter and dark parts darker.
Dynamic Colour (Off/Low/High)	Adjusts screen colours so that they look livelier, richer and clearer. This feature enhances hue, saturation and luminance so that red, blue, green and white look more vivid.
Noise Reduction (Off/Low/Medium/ High)	Reduces screen noise without compromising video quality.
Black Level (Low/High/Auto)	• Low: The picture of the screen gets darker. • High: The picture of the screen gets brighter. • Auto: Realizing the black level of the screen and set it to High or Low automatically. Set black level of the screen to proper level. This function enables to select 'Low' or 'High' in the following mode: AV(NTSC-M), HDMI. Otherwise, 'Black level' is set to 'Auto'.
Film Mode (On/Off)	You can watch a cinema-like video by eliminating judder effect. Use this function when you watch movies.
R/G/B	This is the function to filter the specific colours of the video. You can use the RGB filter to set colour saturation and hue accurately.

AUDIO settings



1 Press **MENU** to access the main menus.

2 Press the Navigation buttons to scroll to **AUDIO** and press **OK**.

3 Press the Navigation buttons to scroll to the setting or option you want and press **OK**.

- To return to the previous level, press **MENU**.

4 When you are finished, press **EXIT**.
When you return to the previous menu, press **MENU**.

The available audio options are described in the following:

Setting	Description	
Auto Volume	Activates the Auto Volume feature to keep the volume level consistent whenever you change programmes. The volume level may not be consistent due to different signal conditions of broadcasting stations.	
Balance	Adjusts balance between the left and right speakers according to your room environment.	
Sound Mode	Selects one of the preset sound modes or customize each option in each mode.	
	Mode	
	Standard	Select when you want standard-quality sound.
	Music	Select when you listen to music.
	Cinema	Select when you watch movies.
	NOTE • If sound quality or volume is not at the level you want, it is recommended to use a separate home theater system or amplifier to cope with different user environments.	
	Option	
	Treble	Controls the dominant sounds in the output. When you turn up the treble, it will increase the output to the higher frequency range.
	Bass	Controls the softer sounds in the output. When you turn up the bass, it will increase the output to the lower frequency range.
	Reset	Resets the sound mode to the default setting.

Stereo/Dual Reception

When a programme is selected, the sound information for the station appears with the programme number and station name.

1 Press **I/II** and press the **One/Two** and press **OK**.

Broadcast	On Screen Display
Mono	MONO
Stereo	STEREO
Dual	DUAL I , DUAL II , DUAL I + II

Mono sound selection
If the stereo signal is weak in stereo reception, you can switch to mono. In mono reception, the clarity of sound is improved.

Language selection for dual language broadcast
a programme can be received in two languages (dual language), you can switch to DUAL I, DUAL II or DUAL I + II.

DUAL I Sends the primary broadcast language to the loudspeakers.
DUAL I I Sends the secondary broadcast language to the loudspeakers.
DUAL I+I I Sends a separate language to each loudspeaker.

Nicam Reception

If the TV is equipped with a receiver for **NICAM** reception, high quality **NICAM** (Near Instantaneous Companding Audio Multiplex) digital sound can be received.
Sound output can be selected according to the type of broadcast received.

1 When **NICAM mono** is received, you can select **NICAM MONO** or **MONO**.

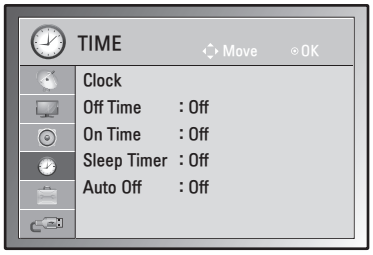
2 When **NICAM stereo** is received, you can select **NICAM STEREO** or **MONO**.
If the stereo signal is weak, switch to **MONO**.

3 When **NICAM** dual is received, you can select **NICAM DUAL I**, **NICAM DUAL II** or **NICAM DUAL I+II** or **MONO**.

Speaker Sound Output Selection

In **AV, RGB PC** and **HDMI** mode, you can select output sound for the left and right loudspeakers.
Select the sound output.
L+R: Audio signal from audio L input is sent to the left loudspeaker and audio signal from audio R input is sent to the right loudspeaker.
L+L: Audio signal from audio L input is sent to left and right loudspeakers.
R+R: Audio signal from audio R input is sent to left and right loudspeakers.

TIME settings



1 Press **MENU** to access the main menus.

2 Press the Navigation buttons to scroll to **TIME** and press **OK**.

3 Press the Navigation buttons to scroll to the setting or option you want and press **OK**.

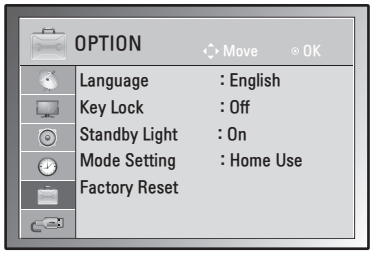
- To return to the previous level, press **MENU**.

4 When you are finished, press **EXIT**.
When you return to the previous menu, press **MENU**.

The available time settings are described in the following:

Setting	Description
Clock	You must set the time correctly before using on/off time function. If current time setting is erased by a power failure or the TV is unplugged, reset the clock.
Off Time/**On Time**	Sets the time to turn on or off the tv automatically. To use this function, you should set the current time and date in the Clock menu. NOTE • If you do not press any button within 2 hours after the TV turns on by the On Time feature, the TV enters the Standby mode automatically. • If you set the On Time feature and turn the TV off by pressing Main power switch, the On Time feature will not work. To activate the On Time feature, the TV must be in Standby mode. • If you set both Off Time and On Time features to the same time, the Off Time function overrides the On Time feature.
Sleep Timer	Sets the length of time until the TV to turns off. When you turn the TV off and turn it on again, the Sleep Timer will be set to off.
Auto Off	If the set is switched on and there is no input signal, it will switch off automatically after 15 minutes.

OPTION settings



1 Press **MENU** to access the main menus.

2 Press the Navigation buttons to scroll to **OPTION** and press **OK**.

3 Press the Navigation buttons to scroll to the setting or option you want and press **OK**.
- To return to the previous level, press **MENU**.

4 When you are finished, press **EXIT**.
When you return to the previous menu, press **MENU**.

The available option settings are described in the following:

Setting	Description	
Language	Selects a language for the display (See p.24).	
Key Lock	The TV can be set so that the remote control is required to control it. This feature can be used to prevent unauthorized viewing. NOTE • In Key Lock 'On', if the TV is turned off, press the ⏻ / I button on the TV or POWER buttons on the remote control. • With the Key Lock On, the display ' ⚠ **Key Lock On '** appears on the screen if any button on the front panel is pressed while viewing the TV.	
Standby Light	Sets to turn on or off the Standby Light on the TV.	
Mode Setting	Customizes the TV settings to suit your preference. The initial setup screen will appear when you turn on the TV for the first time.	
	Setting	
	Mode Setting	Selects **Home Use mode** for the home environment. Selects **Store Demo** mode for the retail environment.
Factory Reset	This function initializes all settings.	

USB settings



1 Press **MENU** to access the main menus.

2 Press the Navigation buttons to scroll to **USB** and press **OK**.

3 Press the Navigation buttons to scroll to the setting or option you want and press **OK**.
- To return to the previous level, press **MENU**.

4 When you are finished, press **EXIT**.
When you return to the previous menu, press **MENU**.

The available usb settings are described in the following:

Setting	Description
Photo List	You can view photo files on USB storage device. (See p.30)
Music List	You can play music files on USB storage device. (See p.31)

MAKING CONNECTIONS

Connect various external devices to the TV and switch input modes to select an external device. For more information about an external device's connection, refer to the manual supplied with each device.
Available external devices are: HD receivers, DVD players, VCRs, audio systems, USB storage devices, PC, camcorders or cameras, gaming devices, and other external devices.

NOTE

- 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 about recording, refer to the manual supplied with the connected device.
- The external device connection may differ from the model.

Connect external devices to the TV by referring to the following table.

Connection overview

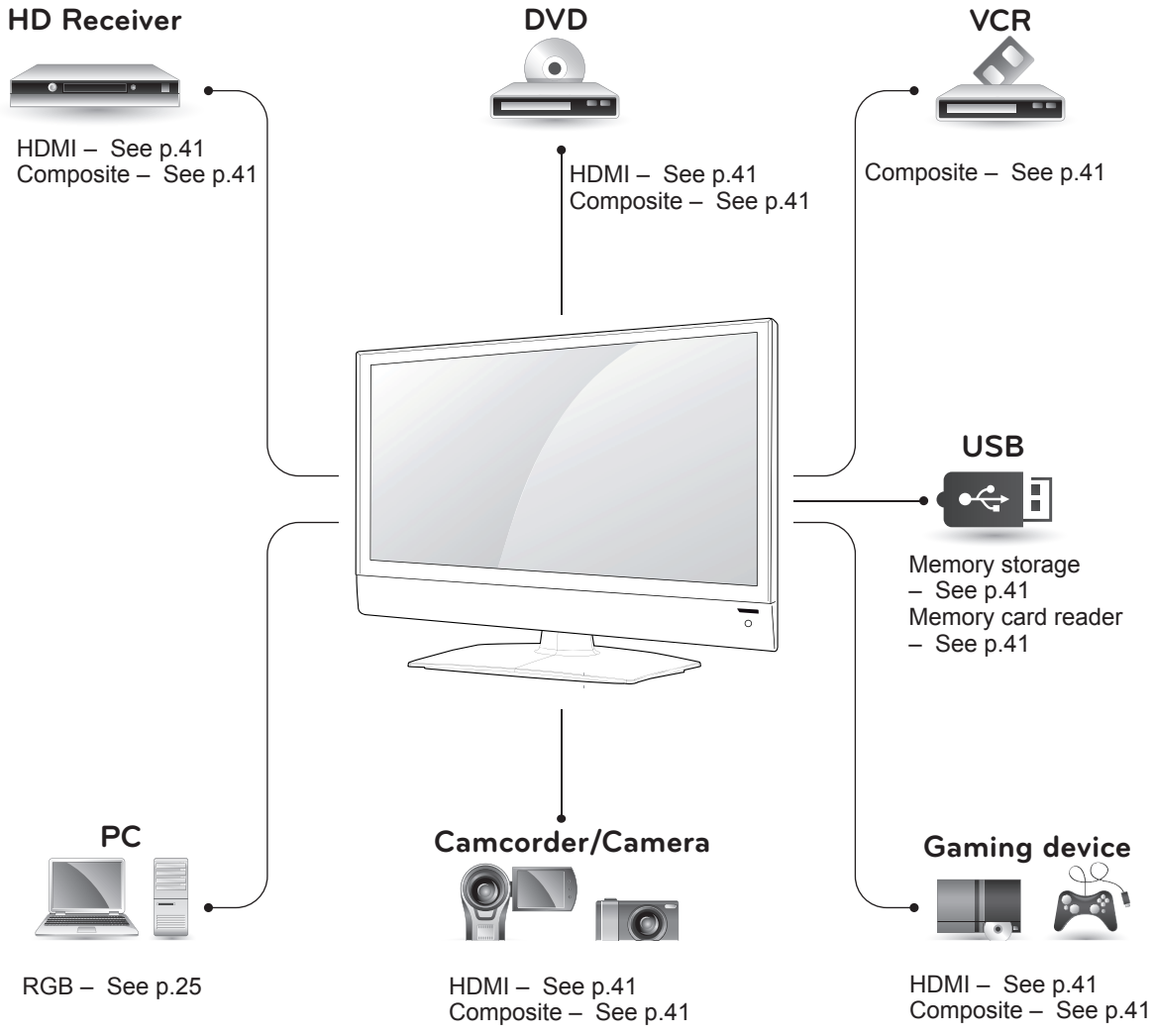
Connection type	Video		Audio	
	Digital	Analog	Digital	Analog
HDMI (highly recommended)	O	-	O	-
RGB	-	O	-	O
Composite	-	O	-	O

Connect various external devices to the ports on the TV's back panel.

1 Find an external device you want to connect to your TV shown on the following illustration.

2 Check the connection type of the external device.

3 Go to the appropriate illustration and check the connection details.



NOTE

- If you connect a gaming device to the TV, use the cable supplied with the gaming device.

Connecting to a Camcorder, Camera, HD receiver, DVD, VCR player or Gaming device

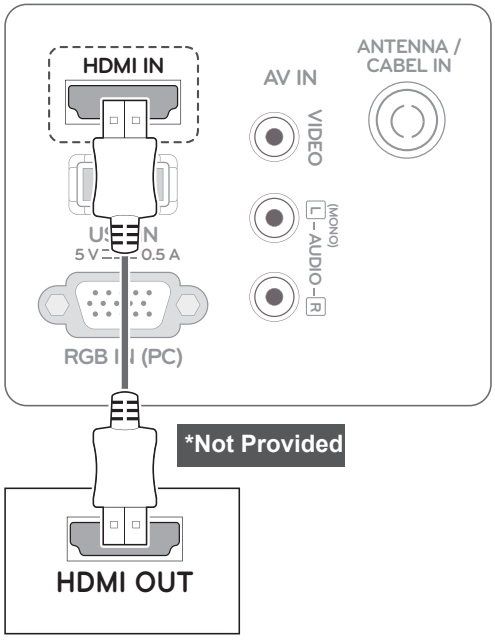
Connect a Camcorder, Camera, HD receiver, DVD, VCR player or Gaming device to the TV and select an appropriate input mode.

HDMI connection

Transmits the digital video and audio signals from an external device to the TV. Connect the external device and the TV with the HDMI cable as shown on the following illustration.

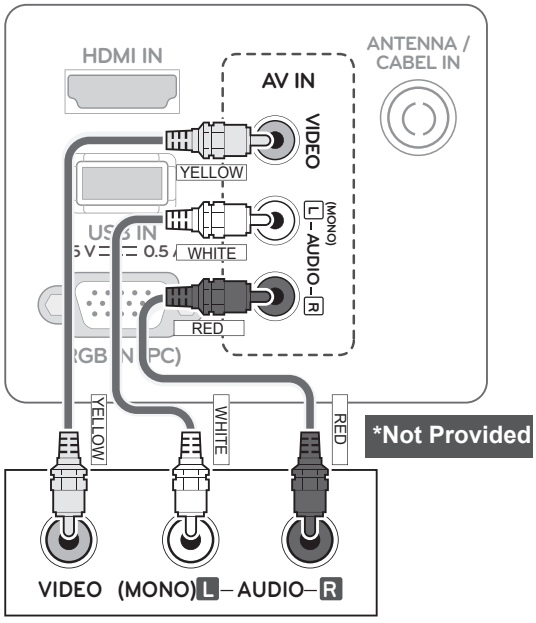
NOTE

- Use a High Speed HDMI™ Cable.
- High Speed HDMI™ Cables are tested to carry an HD signal up to 1080p and higher.



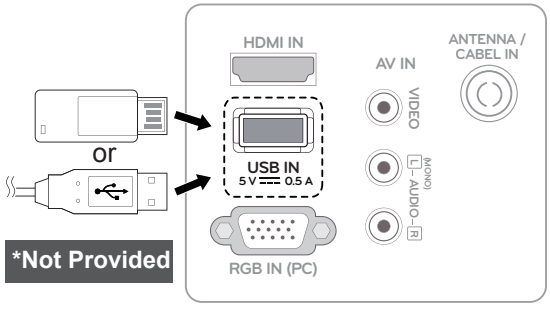
Composite connection

Transmits the analog video and audio signals from an external device to the TV. Connect the external device and the TV with the composite cable as shown in the following illustration.



Connecting to a USB

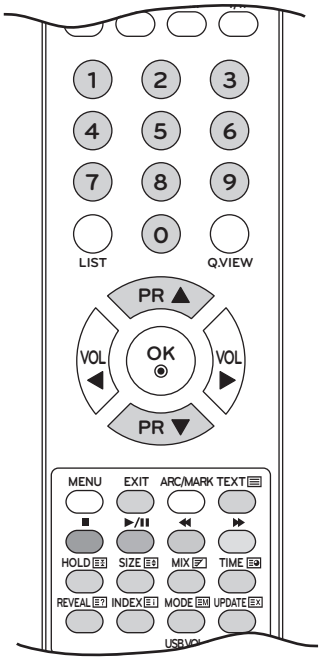
Connect a USB storage device such as s USB flash memory, external hard drive, MP3 player or a USB memory card reader to the TV and access the USB menu to use various multimedia files.
"**Connecting USB storage devices**" on See p.28 and "**Browsing files**" on See p.29



ENGLISH

TELETEXT

• This feature is not available in all countries.
Teletext is a free service broadcast by most **TV** stations which gives up to the minute information on news, weather, television programmes, share prices and many other topics. The teletext decoder of this **TV** can support the **SIMPLE**, **TOP** and **FASTEXT** systems. **SIMPLE** (standard teletext) consists of a number of pages which are selected by directly entering the corresponding page number. **TOP** and **FASTEXT** are more modern methods allowing quick and easy selection of teletext information.



Switch On/Off

Press the **TEXT** button to switch to teletext. The initial page or last page appears on the screen. Two page numbers, **TV** station name, date and time are displayed on the screen headline. The first page number indicates your selection, while the second shows the current page displayed. Press the **TEXT** or **EXIT** button to switch off teletext. The previous mode reappears.

Simple Text

Page selection

1 Enter the desired page number as a three-digit number with the **NUMBER** buttons. If during selection you press a wrong number, you must complete the three-digit number and then re-enter the correct page number.

2 The Navigation button can be used to select the previous or next page.

Programming a colour button in LIST mode

If the TV is in SIMPLE text, TOP text or FASTEXT mode, press the EM button to switch to LIST mode. Four teletext page numbers of your choice can be colour coded and easily selected by pressing the corresponding coloured button on the remote control handset.

1 Press a coloured button.

2 Using the **NUMBER** buttons, select the page you wish to programme.

3 Press the **OK** button. The selected page is stored as the selected page number, blinking once to confirm this. From now on, you can select this page with the same coloured button.

4 The three other coloured buttons are programmed in this way.

Top Text

The user guide displays four fields-red, green, yellow and blue at the bottom of the screen. The yellow field denotes the next group and the blue field indicates the next block.

Block / Group / Page Selection

1 With the **Blue** button you can progress from block to block.

2 Use the **Yellow** button to proceed to the next group with automatic overflow to the next block.

3 With the GHreen button you can proceed to the next existing page with automatic overflow to the next group. Alternatively, the ∧ button can be used.

4 The Red button permits you to return to previous selection. Alternatively, the ∧ button can be used.

Direct Page Selection

As with SIMPLE teletext mode, you can select a page by entering it as a three digit number using the NUMBER buttons in TOP mode.

Fastext

The teletext pages are colour coded along the bottom of the screen and are selected by pressing the corresponding coloured button.

Page selection

1 Press the button to select the index page.

2 You can select the pages which are colour coded along the bottom line with corresponding coloured buttons.

3 AS with SIMPLE teletext mode, you can select a page by entering its three digit page number with the NUMBER buttons in FASTEXT mode.

4 The ∧ or ∨ button can be used to select the preceding or following page.

Special Teletext Function

Hold

Stops the automatic page change which will occur if a teletext page consists of 2 or more sub pages.
The number of sub pages and the sub page displayed is, usually, shown on the screen below the time. When this menu is selected the stop symbol is displayed at the top left-hand corner of the screen and the automatic page change is inactive.

Size

Selects double height text.
Press this button to enlarge the top half of the page.
Press this button again to enlarge the bottom half of the page.
Press this button again to return to the normal display.

MIX

Displays the teletext pages superimposed on the TV picture.
To switch the TV picture off press this button again.

Time

When viewing a TV programme, select this menu to display the time at the top right hand corner of the screen.
In the teletext mode, press this button to select a sub page number. The sub page number is displayed at the bottom of the screen. To hold or change the sub page, press the RED/ GREEN, Navigation buttons or NUMBER buttons.

Reveal

Select this menu to display concealed information, such as solutions to riddles or puzzles.

Index

Select the each index page.

Update

Displays the TV picture on the screen while waiting for a new teletext page. The display will appear at the top left hand corner of the screen. When the updated page is available then display will change to the page number. Select this menu again to view the updated teletext page.

MAINTENANCE

Clean your TV regularly to keep the best performance and to extend the product lifespan.

CAUTION

- Make sure to turn the power off and disconnect the power cord and all other cables first.
- When the TV is left unattended and unused for a long time, disconnect the power cord from the wall outlet to prevent possible damage from lightning or power surges.

Screen and frame

To remove dust, wipe the surface with a dry and soft cloth.
To remove major dirt, wipe the surface with a soft cloth dampened in clean water or a diluted mild detergent. Then wipe immediately with a clean and dry cloth.

CAUTION

- Do not push, rub, or hit the surface with your fingernail or a sharp object, as this may result in scratches on the screen and image distortions.
- Do not use any chemicals, such as waxes, benzene, alcohol, thinners, insecticides, air fresheners, lubricants, as these may as these may damage the screen's finish and cause discolorations.

Cabinet and stand

To remove dust, wipe the cabinet with a dry and soft cloth.
To remove major dirt, wipe the cabinet with a soft cloth dampened in a clean water or water containing a small amount of mild detergent.

CAUTION

- Do not spray liquid onto the surface. If water enters the TV, it may result in fire, electric shock, or malfunction.
- Do not use any chemicals as this may deteriorate the surface.

Power cord

Remove the accumulated dust or dirt on the power cord regularly.

TROUBLESHOOTING

General

The TV set does not operate properly

Problem	Resolution
The remote control doesn't work.	• Check to see if there is any object between the product and the remote control causing obstruction. Ensure you are pointing the remote control • Ensure that the batteries are installed with correct polarity (⊕ to ⊕, ⊖ to ⊖). • Ensure that the correct remote operating mode is set: TV, VCR, etc. • Install new batteries.
Power is suddenly turned off.	• Is the sleep timer set? • Check the power control settings. Power interrupted. • If the TV is switched on and there is no input signal, it will switch off automatically after 15 minutes to save the power consumption. • When a broken file was played in the USB mode, the TV may turn off. Please check the file in your usb storage.

The video function does not work.

Problem	Resolution
No picture & No sound.	• Check whether the product is turned on. • Try another channel. The problem may be with the broadcast. • Is the power cord inserted into wall power outlet? • Check your antenna direction and/or location. • Test the wall power outlet, plug another product's power cord into the outlet where the product's power cord was plugged in.
Picture appears slowly after switching on.	• This is normal, the image is muted during the product startup process. Please contact your service centre, if the picture has not appeared after five minutes.
No Colour, poor colour, or poor picture.	• Adjust Colour in menu option. • Keep a sufficient distance between the product and the VCR. • Try another channel. The problem may be with the broadcast. • Are the video cables installed properly? • Activate any function to restore the brightness of the picture.
Horizontal / vertical bars or picture shaking.	• Check for local interference such as an electrical appliance or power tool.
Poor reception on some channels.	• Station or cable product experiencing problems, tune to another station. • Station signal is weak, reorient antenna to receive weaker station. • Check for sources of possible interference.
Lines or streaks in pictures.	• Check antenna (Change the direction of the antenna).
No picture when connecting HDMI.	• Check that your HDMI cable is High Speed HDMI Cable. If the HDMI cables are not High Speed HDMI Cable, flickering or no screen display can result. Please use the High Speed HDMI Cable.

The audio function does not work.

Problem	Resolution
Picture OK & No sound.	• Press the **VOL** ◀ or ▶ button. • Sound muted? Press MUTE button. • Try another channel. The problem may be with the broadcast. • Are the audio cables installed properly?
No output from one of the speakers.	• Adjust Balance in menu option.
Unusual sound from inside the product.	• A change in ambient humidity or temperature may result in an unusual noise when the product is turned on or off and does not indicate a problem with the product.
No sound when connecting HDMI or USB.	• Check HDMI cable is High Speed HDMI Cable. • Check USB cable over version 2.0. • If the sound is abnormal in the HDMI, check the audio format in your external equipments. » Audio Supported format: PCM

There is a problem with PICTURE settings.

Problem	Resolution
When the user changes the picture settings, the TV automatically converts back to the initial settings after a certain period of time.	• It means that the TV is currently set to **Store Demo** mode. To switch to Home use mode you should do the followings: From the TV Menu, choose **OPTION** → Choose **Mode Setting** → Choose Home use. Now, you have completed switching to the Home use mode.

PC mode

No image is displayed.

Problem	Resolution
Power is on, but the screen appears extremely dark.	• Adjust brightness and contrast again.
Does the ‘Check signal cable’ message appear?	• The signal cable between PC and product is not connected. Check the signal cable. • Press the ‘INPUT’ button in the remote control to check the input signal.

'Unknown Product’ message appears when the product is connected.

Problem	Resolution
Did you install the driver?	• Install the product driver, which is provided with the product, or download it from the web site. (http://www.lg.com) • See if the plug & play function is supported by referring to the video card user’s guide.

After-image appears on the product.

Problem	Resolution
After-image appears when the product is turned off.	• If you use a fixed image for a long time, the pixels may be damaged quickly. Use the screen saver function.

Screen Colour is abnormal.

Problem	Resolution
Screen has poor Colour resoluion (16_Colours).	• Set screen Colour resolution to more than 24 bits (true Colour) Select control Panel → Display → Settings → Colour Table menu in Windows.
Screen Colour is unstable or mono Colour.	• Check the connection status of the signal cable.
Do back spots appear on the screen?	• Several pixels (red, green, white or black Colour) may appear on the screen, which can be attributable to the unique characteristics of the LCD panel. It is not a malfunction of the LCD.

The screen image looks abnormal.

Problem	Resolution
Is the screen position wrong?	• Adjust the Position menu in OSD. From the TV Menu, Choose **PICTURE** → Choose **Screen** → Adjusts **Position**. • A See if the video card resolution and frequency are supported by the product. If the frequency is out of range, set to the recommended resolution in the Control Panel → Display → Setting menu.
Do thin lines appear on the background screen?	• Adjust the **Size** menu in OSD. From the TV Menu, Choose **PICTURE** → Choose **Screen** → Adjusts **Size**.
Horizontal noise appears or the characters look blurred.	• Adjust the **Phase** menu in OSD. From the TV Menu, Choose **PICTURE** → Choose **Screen** → Adjusts **Phase**.

ENGLISH

ENVIRONMENTAL INFORMATION

(India only)

WEEE



Disposal of your old appliance

1. When this crossed-out wheeled bin symbol is attached to a product it means the product is covered by the e-waste (Management and Handling) Rules, 2011.
2. All electrical and electronic products should be disposed of separately from the municipal waste stream via designated collection facilities appointed by the government or the local authorities.
3. The correct disposal of your old appliance will help prevent potential negative consequences for the environment and human health.
4. For more detailed information about disposal of your old appliance, please contact your city office, waste disposal service or the shop where you purchased the product.
5. This product does not contain any of the hazardous substances as specified in the rule 13 (1) and (2) of the e-waste (Management and Handling) Rules, 2011.

पर्यावरणीय जानकारी

WEEE



अपने पुराने उपकरण का निपटान

१. जब यह काटे गये पहिये वाले बिन का चिह्न किसी उत्पाद के साथ संलग्न होता है तो इसका अर्थ है उत्पाद ई–अपशिष्ट (प्रबंधन और हथालन) नियम २०११ के अंतर्गत सम्मिलित किया गया है।

२. सभी इलेक्ट्रिकल एवं और इलेक्ट्रानिक उत्पादों को सरकार या स्थानीय अधिकारियों द्वारा नियुक्त नगरपालिका अपशिष्ट धारा से अलग प्राधिकृत की गई संग्रह सुविधाओं के माध्यम से निपटाया जाना चाहिए।

३. सही तरीके से अपने पुराने उपकरणों का निपटान वातावरण और मानवीय स्वास्थ्य के लिए संभावित नकारात्मक परिणामों को रोकने में मदद करेगा।

४. अपने पुराने उपकरणों के निपटान के संबध में और अधिक विसतृत जानकारी के लिए, कृपया अपने नगर कार्यालय, अपशिष्ट निपटान सेवा या जहां से आपने उत्पाद खरीदा था, वहां संपर्क करें।

५. इस उत्पाद में ई–अपशिष्ट(प्रबंधन और हथालन) नियम, २०११ के नियम १३ (१) और (२) में निर्देशानुसार कोई भी हानिकारक पदार्थ भाामिल नहीं है।

SPECIFICATIONS

Product specifications may be changed without prior notice due to upgrade of product functions.
For the power supply and power consumption, refer to the label attached to the product.

LCD Panel	Screen Type	546.86 mm Wide TFT (Thin Film Transistor) LED LCD Panel. Visible diagonal size : 546.86 mm
	Pixel Pitch	0.248 mm (H) x 0.248 mm (V)
Video Signal	Max. Resolution	1920 × 1080 @ 60 Hz
	Recommended Resolution	1920 × 1080 @ 60 Hz
	Horizontal Frequency	30 kHz to 69 kHz
	Vertical Frequency	56 Hz to 61 Hz
	Synchronization Type	Separate Sync
Input Connector		TV, D-Sub Analog, CVBS, HDMI
Power	Rated Voltage	19 V ⎓ 1.6 A
	Power Consumption	On Mode : 27 W (typ.) Off Mode ≤ 0.5 W
AC/DC Adapter		Manufacturer : Lien Chang, Model LCAP25A Manufacturer : HONOR, Model ADS-40SG-19-2 19032G
Dimensions (Width x Height x Depth)	With stand (mm)	520.8 x 424.8 x 167.9
	Without stand (mm)	520.8 x 372.0 x 61.0
Weight	With stand (kg)	3.6
	Without stand (kg)	3.3
Environmental conditions	Operating Temperature Operating Humidity	10°C to 35 °C 20 % to 80 %
	Storage Temperature Storage Humidity	-10°C to 60 °C 5 % to 90 %

		Analogue TV
Indonesia, Israel, Myanmar, Sri Lanka	Television System	PAL/SECAM-B/G/D/K, PAL-I, NTSC-M
	Programme Coverage	BG : VHF/UHF 1 to 69, CATV 01 to 47 I : VHF/UHF 1 to 69, CATV 01 to 47 DK : VHF/UHF 1 to 69, CATV 01 to 47 M : VHF/UHF 2 to 78, CATV 01 to 71
Vietnam, Malaysia	Television System	PAL/SECAM-B/G/D/K, PAL-I, NTSC-M
	Programme Coverage	BG : VHF/UHF 1 to 69, CATV 01 to 47 I : VHF/UHF 1 to 69, CATV 01 to 47 DK : VHF/UHF 1 to 69, CATV 01 to 47 M : VHF/UHF 2 to 78, CATV 01 to 71
Iran, Algeria, Tunisia, Digital model	Television System	PAL/SECAM-B/G/D/K, PAL-I, NTSC-M
	Programme Coverage	BG : VHF/UHF 1 to 69, CATV 01 to 47 I : VHF/UHF 1 to 69, CATV 01 to 47 DK : VHF/UHF 1 to 69, CATV 01 to 47 M : VHF/UHF 2 to 78, CATV 01 to 71
Analogue model, India, Thailand, South Africa, --	Television System	PAL/SECAM-B/G/D/K, PAL-I, NTSC-M
	Programme Coverage	BG : VHF/UHF 1 to 69, CATV 01 to 47 I : VHF/UHF 1 to 69, CATV 01 to 47 DK : VHF/UHF 1 to 69, CATV 01 to 47 M : VHF/UHF 2 to 78, CATV 01 to 71
	External Antenna Impedance	75 Ω

RGB (PC) supported mode

Resolution	Horizontal Frequency(kHz)	Vertical Frequency(Hz)
640 x 480	31.469	59.940
800 x 600	37.879	60.317
1024 x 768	48.363	60.000
1152 x 864	54.340	60.050
1280 x 1024	63.981	60.020
1600 x 900	55.540	60.000
1680 x 1050	64.674	59.883
1680 x 1050	65.290	59.954
1920 x 1080	67.500	60.000

HDMI (DTV) mode

Resolution	Horizontal Frequency(kHz)	Vertical Frequency(Hz)
720 x 480	31.470	59.940
720 x 480	31.500	60.000
720 x 576	31.250	50.000
1280 x 720	44.960	59.940
1280 x 720	45.000	60.000
1280 x 720	37.500	50.000
1920 x 1080	33.720	59.940
1920 x 1080	33.750	60.000
1920 x 1080	28.125	50.000
1920 x 1080	67.432	59.940
1920 x 1080	67.500	60.000
1920 x 1080	56.250	50.000

NOTE

- There may be interference relating to resolution, vertical pattern, contrast or brightness in PC mode. Change the PC mode to another resolution or change the refresh rate to another rate or adjust the brightness and contrast on the menu until the picture is clear. If the refresh rate of the PC graphic card can not be changed, change the PC graphic card or consult the manufacturer of the PC graphic card.
- The synchronization input waveform for Horizontal and Vertical frequencies are separate.
- Connect the signal cable from the TV output port of the PC to the RGB (PC) port of the TV.
- If using a sound card, adjust PC sound as required.
- If the graphic card on the PC does not output analogue and digital RGB simultaneously, connect only one of either RGB to display the PC output on the TV.
- If the graphic card on the PC does output analogue and digital RGB simultaneously, TV to either RGB. (The other mode is set to Plug and Play automatically by the TV.)
- If you use too long an RGB-PC cable that is too long, there may be interference on the screen. We recommend using under 5 m of cable. This provides the best picture quality.



Record the model number and serial number of the TV.Refer to the label on the back cover and quote this information to your dealer when requiring any service.

MODEL _____

SERIAL _____