



**LG**

Life's Good

OWNER'S MANUAL

# LCD TV

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

22CS410  
26CS410  
32CS410

# IMPORTANT SAFETY INSTRUCTIONS

Always comply with the following precautions to avoid dangerous situations and ensure peak performance of your product.



TO REDUCE THE RISK OF ELECTRIC SHOCK DO NOT REMOVE COVER (OR BACK). NO USER SERVICEABLE PARTS INSIDE. REFER TO QUALIFIED SERVICE PERSONNEL.

 The lightning flash with arrowhead symbol, within an equilateral triangle, is intended to alert the user to the presence of uninsulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.

 The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

## WARNING/CAUTION

- TO REDUCE THE RISK OF FIRE AND ELECTRIC SHOCK, DO NOT EXPOSE THIS PRODUCT TO RAIN OR MOISTURE.

Read these instructions.  
Keep these instructions.  
Heed all warnings.  
Follow all instructions.



- Do not use this apparatus near water.



- Clean only with a dry cloth.



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



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



- Do not defeat the safety purpose of the polarized or grounding-type plug. A polarized plug has two blades with one wider than the other. A grounding type plug has two blades and a third grounding prong. The wide blade or the third prong are provided for your safety. If the provided plug does not fit into your outlet, consult an electrician for replacement of the obsolete outlet (Can differ by country).



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



- Only use attachments/accessories specified by the manufacturer.



- Use only with a cart, stand, tripod, bracket, or table specified by the manufacturer, or sold with the apparatus. When a cart is used, use caution when moving the cart/apparatus combination to avoid injury from tip-over.



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



- Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as power-supply cord or plug is damaged, liquid has been spilled or objects have fallen into the apparatus, the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped.



- Do not stick metal objects or any other conductive material into the power cord. Do not touch the end of the power cord while it is plugged in.

- 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.

- CAUTION concerning the Power Cord (Can differ by country):

It is recommended that appliances be placed upon a dedicated circuit; that is, a single outlet circuit which powers only that appliance and has no additional outlets or branch circuits. Check the specification page of this owner's manual to be certain. Do not connect too many appliances to the same AC power outlet as this could result in fire or electric shock. Do not overload wall outlets. Overloaded wall outlets, loose or damaged wall outlets, extension cords, frayed power cords, or damaged or cracked wire insulation are dangerous. Any of these conditions could result in electric shock or fire. 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 service. 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 move the TV with the power cord plugged in. Do not use a damaged or loose power cord. Be sure do grasp the plug when unplugging the power cord. Do not pull on the power cord to unplug the TV.



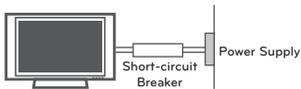
- **Warning** - To reduce the risk of fire or electrical shock, do not expose this product to rain, moisture or other liquids. Do not touch the TV with wet hands. Do not install this product near flammable objects such as gasoline or candles, or expose the TV to direct air conditioning.



- Do not expose to dripping or splashing and do not place objects filled with liquids, such as vases, cups, etc. on or over the apparatus (e.g. on shelves above the unit).



- **Grounding**  
(Except for devices which are not grounded.)  
Ensure that you connect the earth ground wire to prevent possible electric shock (i.e. a TV with a three-prong grounded AC plug must be connected to a three-prong grounded AC outlet). If grounding methods are not possible, have a qualified electrician install a separate circuit breaker. Do not try to ground the unit by connecting it to telephone wires, lightening rods, or gas pipes.



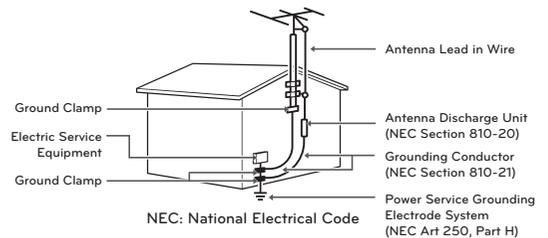
- **DISCONNECTING DEVICE FROM THE MAIN POWER**  
Mains plug is the disconnecting device. The plug must remain readily operable.

- As long as this unit is connected to the AC wall outlet, it is not disconnected from the AC power source even if the unit is turned off.
- Do not attempt to modify this product in any way without written authorization from LG Electronics. Unauthorized modification could void the user's authority to operate this product.

• **ANTENNAS Outdoor antenna grounding**  
(Can differ by country):

If an outdoor antenna is installed, follow the precautions below. An outdoor antenna system should not be located in the vicinity of overhead power lines or other electric light or power circuits, or where it can come in contact with such power lines or circuits as death or serious injury can occur. Be sure the antenna system is grounded so as to provide some protection against voltage surges and built-up static charges. Section 810 of the National Electrical Code (NEC) in the U.S.A. provides information with respect to proper grounding of the mast and supporting structure, grounding of the lead-in wire to an antenna discharge unit, size of grounding conductors, location of antenna discharge unit, connection to grounding electrodes and requirements for the grounding electrode.

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



- **Cleaning**

When cleaning, unplug the power cord and wipe gently with a soft cloth to prevent scratching. Do not spray water or other liquids directly on the TV as electric shock may occur. Do not clean with chemicals such as alcohol, thinners or benzene.

- **Moving**

Make sure the product is turned off, unplugged and all cables have been removed. It may take 2 or more people to carry larger TVs. Do not press or put stress on the front panel of the TV.

- **Ventilation**

Install your TV where there is proper ventilation. Do not install in a confined space such as a bookcase. Do not cover the product with cloth or other materials while plugged. Do not install in excessively dusty places.

- If you smell smoke or other odors coming from the TV, unplug the power cord and contact an authorized service center.
- Do not press strongly upon the panel with a hand or a sharp object such as a nail, pencil or pen, or make a scratch on it.
- Keep the product away from direct sunlight.



- Never touch this apparatus or antenna during a thunder or lightning storm.
- When mounting a TV on the wall, make sure not to install the TV by hanging the power and signal cables on the back of the TV.
- Do not allow an impact shock or any objects to fall into the product, and do not drop anything onto the screen.

- **Dot Defect**

The Plasma or LCD panel is a high technology product with resolution of two million to six million pixels. In a very few cases, you could see fine dots on the screen while you're viewing the TV. Those dots are deactivated pixels and do not affect the performance and reliability of the TV.

- **Generated Sound**

“Cracking” noise: A cracking noise that occurs when watching or turning off the TV is generated by plastic thermal contraction due to temperature and humidity. This noise is common for products where thermal deformation is required.

Electrical circuit humming/panel buzzing: A low level noise is generated from a high-speed switching circuit, which supplies a large amount of current to operate a product. It varies depending on the product.

This generated sound does not affect the performance and reliability of the product.

- Take care not to touch the ventilation openings. When watching the TV for a long period, the ventilation openings may become hot. This does not affect the performance of the product or cause defects in the product.
- If the TV feels cold to the touch, there may be a small “flicker” when it is turned on. This is normal, there is nothing wrong with TV. Some minute dot defects may be visible on the screen, appearing as tiny red, green, or blue spots. However, they have no adverse effect on the TV's performance. Avoid touching the LCD screen or holding your finger(s) against it for long periods of time. Doing so may produce some temporary distortion effects on the screen.

#### DISPOSAL (Hg lamp only used in LCD TVs)

The fluorescent lamp used in this product contains a small amount of mercury. Do not dispose of this product with general household waste. Disposal of this product must be carried out in accordance to the regulations of your local authority.

## LICENSES

Supported licenses may differ by model. For more information about licenses, visit [www.lg.com](http://www.lg.com).



HDMI, the HDMI logo and High-Definition Multimedia Interface are trademarks or registered trademarks of HDMI Licensing LLC.

## OPEN SOURCE SOFTWARE NOTICE

To obtain the source code under GPL, LGPL, MPL and other open source licenses, that is contained in this product, please visit <http://opensource.lge.com>.

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

LG Electronics will also provide open source code to you on CD-ROM for a charge covering the cost of performing such distribution (such as the cost of media, shipping and handling) upon email request to [opensource@lge.com](mailto:opensource@lge.com). This offer is valid for three (3) years from the date on which you purchased the product.

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# INSTALLATION PROCEDURE

- 1 Open the package and make sure all the accessories are included.
- 2 Attach the stand to the TV set.
- 3 Connect an external device to the TV set.

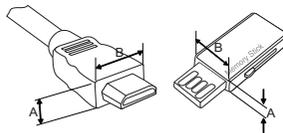
## ASSEMBLING AND PREPARING

### 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 item.

#### ! NOTE

- The items supplied with your product may vary depending on the model.
- Product specifications or contents of this manual may be changed without prior notice due to upgrade of product functions.
- For an optimal connection, HDMI cables and USB devices should have bezels less than 10 mm (0.39 inches) thick and 18 mm (0.7 inches) width.
- Use an extension cable that supports USB 2.0 if the USB cable or USB memory stick does not fit into your TV's USB port.

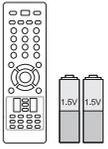


\*A ≤ 10 mm (0.39 inches)

\*B ≤ 18 mm (0.7 inches)

#### ! CAUTION

- Do not use any unapproved items to ensure the safety and product life span.
- Any damages or injuries by using unapproved items are not covered by the warranty.
- In case of some model, the thin film on screen is a part of TV, So don't take it off.



**Remote control,  
Batteries (AAA)**

(See p.18)

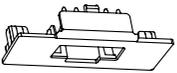
(For 26/32CS410)



**Desk-mount Screw**

1 EA  
(See p.14)

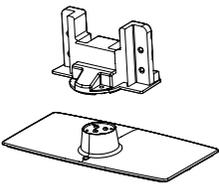
(For 26CS410)



**Protection cover**

(See p.17)

(For 26CS410)



**Stand Body / Stand Base**

(See p.13)



**Owner's manual**

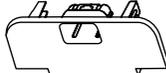
(For 22CS410)



**Stand Screws**

2 EA, P4 x 16  
(See p.12)

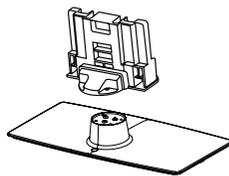
(For 32CS410)



**Protection cover**

(See p.17)

(For 32CS410)



**Stand Body / Stand Base**

(See p.13)



**Power Cord**

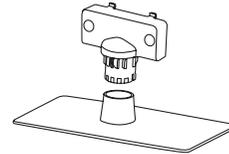
(For 26/32CS410)



**Stand Screws**

8 EA, M4 x 20  
(See p.13)

(For 22CS410)

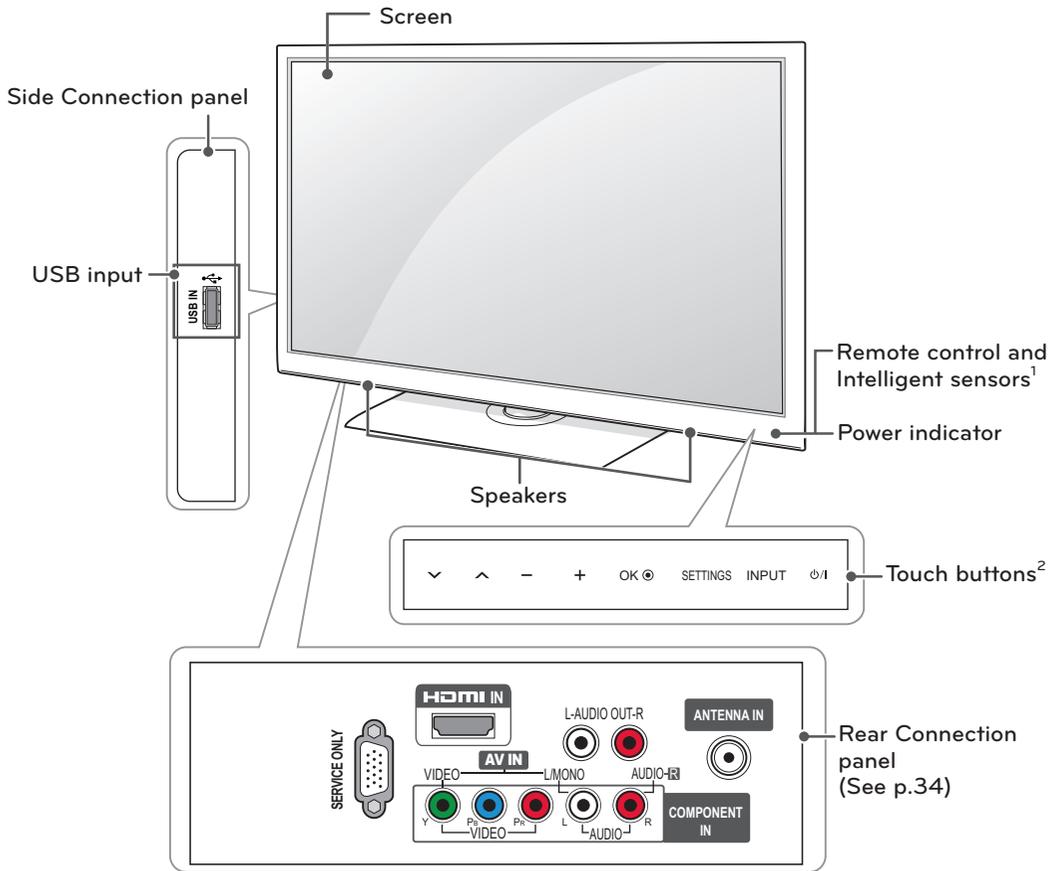


**Stand Body / Stand Base**

(See p.12)

## Parts and buttons

- Image shown may differ from your TV.



ENGLISH

Touch button <sup>2</sup>	Description
⏻ / ⏻	Turns the power on or off.
INPUT	Changes the input source.
SETTINGS	Accesses the main menus, or saves your input and exits the menus.
OK	Selects the highlighted menu option or confirms an input.
- +	Adjusts the volume level.
⏪ ⏩	Scrolls through the saved channels.

1 Intelligent sensor - Adjusts the image quality and brightness based on the surrounding environment.

2 All of the buttons are touch sensitive and can be operated through simple touch with your finger.

## 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 safe transportation regardless of its type and size.

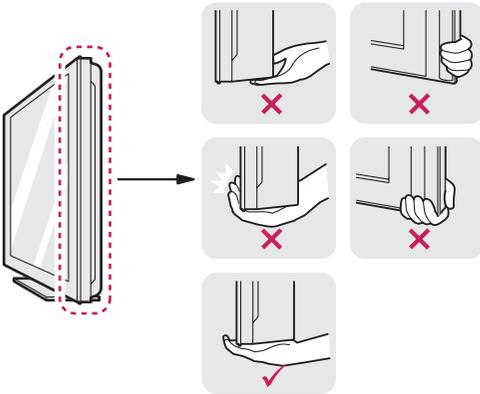
### CAUTION

- Avoid touching the screen at all times, as this may result in damage to the screen.

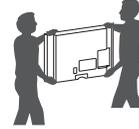
- It is recommended to move the TV in the box or packing material that the TV originally came in.
- Before moving or lifting the TV, disconnect the power cord and all cables.
- When holding the TV, the screen should face away from you to avoid damage.



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



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



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

## Setting up the TV

Put your TV on a pedestal stand and mount the TV on a table or wall.

### Attaching the stand

If you are not mounting the TV to a wall, use the following instructions to attach the stand.

#### ! CAUTION

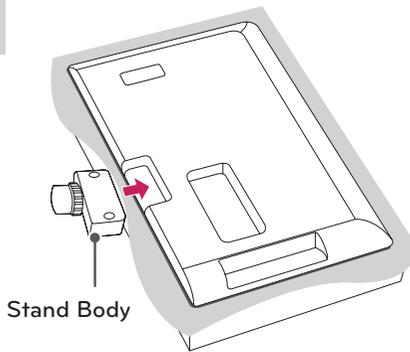
- When attaching the stand to the TV set, place the screen facing down on a cushioned table or flat surface to protect the screen from scratches.
- Make sure that the screws are fastened completely. (If they are not fastened securely enough, the TV may tilt forward after being installed.)
- Do not fasten the screws with too much force; otherwise they may be worn out and get loosened.

#### ! NOTE

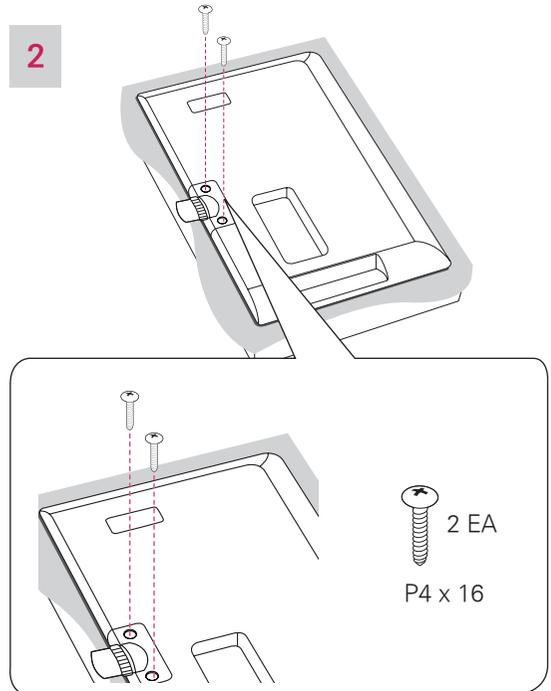
- Remove the stand before installing the TV on a wall mount by performing the stand attachment in reverse.

For 22CS410

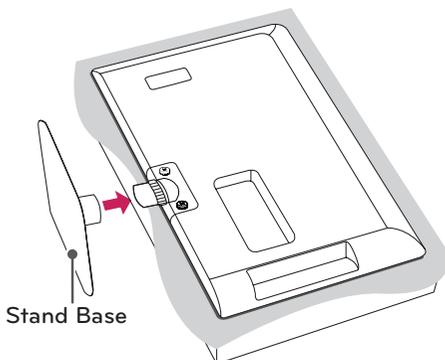
1



2

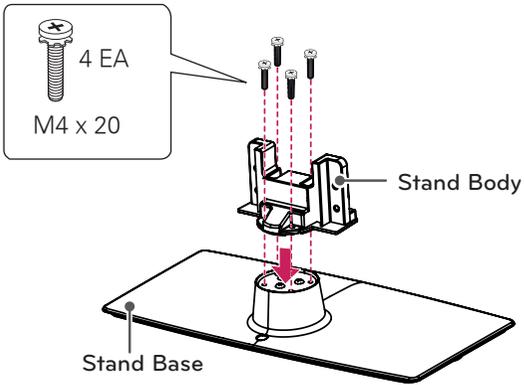


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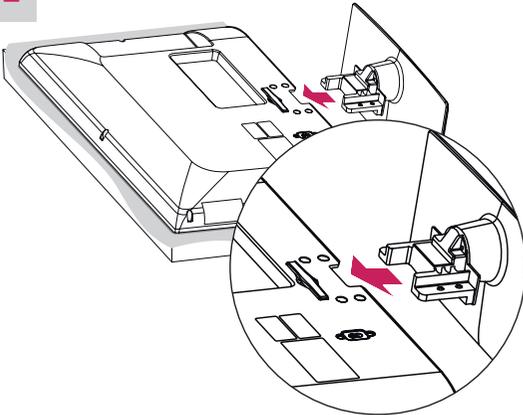


For 26CS410

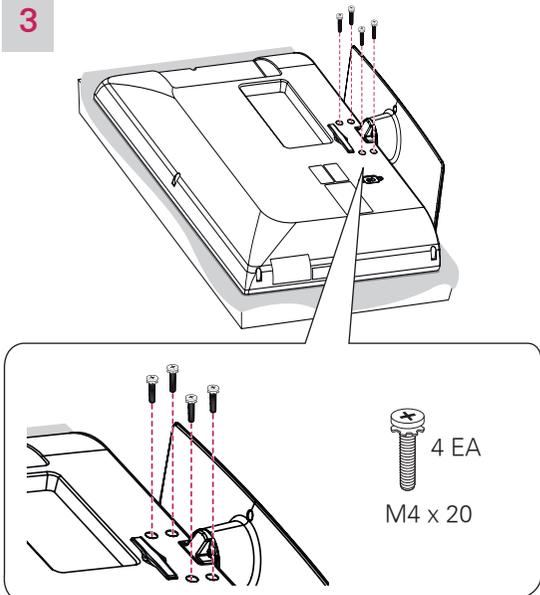
1



2

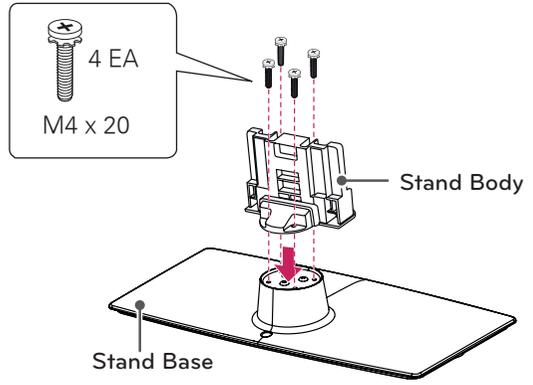


3

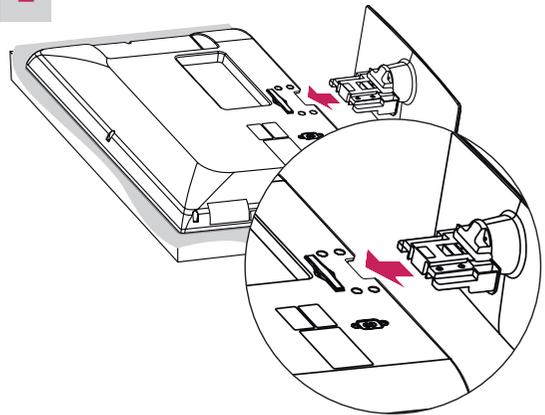


For 32CS410

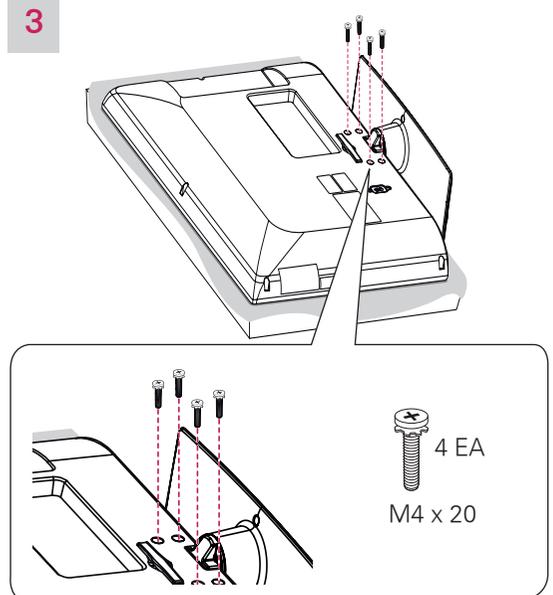
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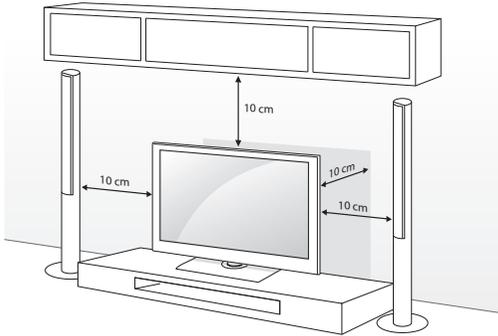


3



## Mounting on a table

- Lift and tilt the TV into its upright position on a table.
  - Leave a 10 cm (minimum) space from the wall for proper ventilation.



- Connect the power cord to a wall outlet.



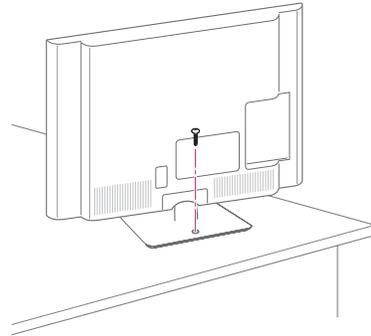
### CAUTION

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

## Securing the TV to a table

(For 26/32CS410)

Fix the TV to a table to prevent from tilting forward, damage, and potential injury. Mount the TV on a table, and then insert and tighten the supplied screw on the rear of the stand.



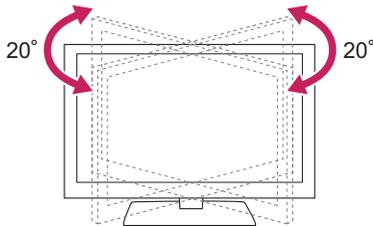
### WARNING

- To prevent TV from falling over, the TV should be securely attached to the floor/wall per installation instructions. Tipping, shaking, or rocking the TV may cause injury.

## Adjusting the angle of the TV to suit view

(For 32CS410)

Swivel 20 degrees to the left or right and adjust the angle of the TV to suit your view.

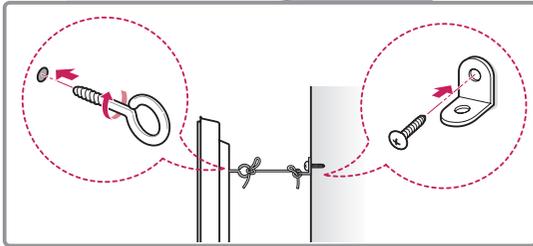
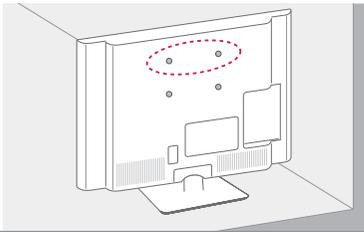


### CAUTION

- When adjusting the angle of the TV, watch out for your fingers.
  - Personal injury may occur if hands or fingers are pinched. If the product is tilted too much, it may fall, causing damage or injury.

**Securing the TV to a wall (optional)**

(Depending on model)



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

**CAUTION**

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

**NOTE**

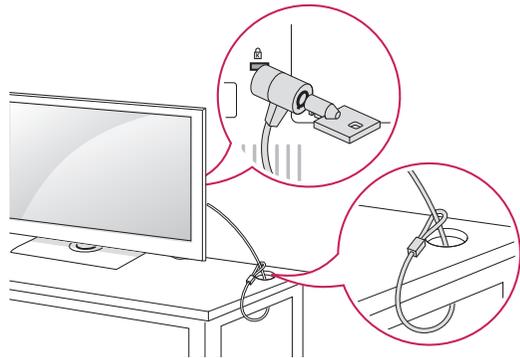
- Use a platform or cabinet that is strong and large enough to support the TV securely.
- Brackets, bolts and ropes are optional. You can obtain additional accessories from your local dealer.

**Using the Kensington security system (optional)**

(Depending on model)

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

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

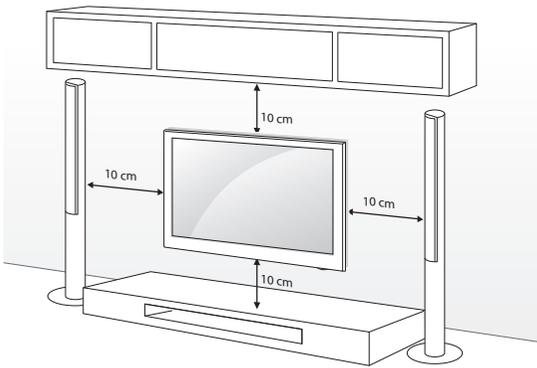
**NOTE**

- The Kensington security system is optional. You can obtain additional accessories from your local dealer.

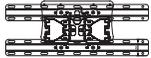
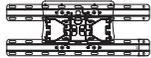
## Mounting on a wall

Attach an optional wall mount bracket at the rear of the TV carefully and install the wall mount bracket on a solid wall perpendicular to the floor. When you attach the TV to other building materials, please contact qualified personnel.

We recommend that you use an LG brand wall mount when mounting the TV to a wall.



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

Model	22CS410	26/32CS410
VESA	100 x 100	200 x 100
Standard screw	M4	M4
Number of screws	4	4
Wall mount bracket (optional)	LSW100B 	LSW100B 

### CAUTION

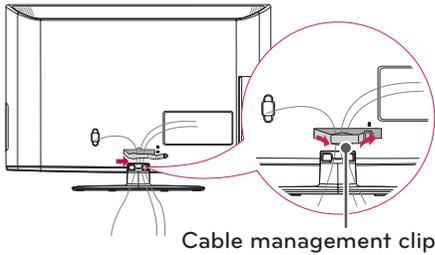
- Disconnect the power first, and then move or install the TV. Otherwise electric shock may occur.
- If you install the TV on a ceiling or slanted wall, it may fall and result in severe injury. Use an authorized LG wall mount and contact the local dealer or qualified personnel.
- Do not over tighten 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 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. Make sure to use the proper length.
- For more information, refer to the manual supplied with the wall mount.

## Tidying cables

- 1 Gather and bind the cables with the cable management clip.
- 2 Fix the cable management clip firmly to the TV.



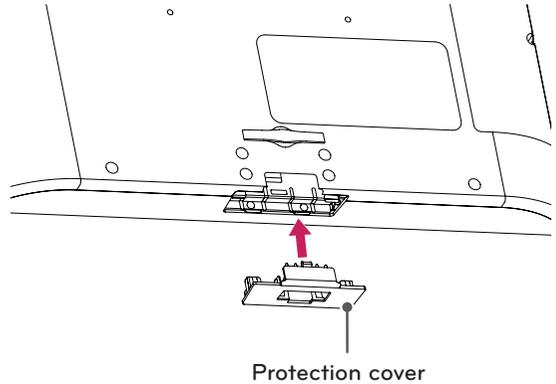
### CAUTION

- Do not move the TV by holding the cable holder and power cord holder, as the cable holders may break, and injuries and damage to the TV may occur.

## Attaching the Protection cover

(For 26/32 CS410 )

- 1 Push the supplied protection cover into the opening at the bottom of the TV until it locks in place.



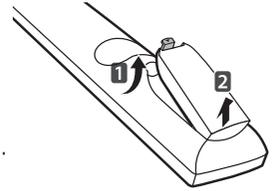
### NOTE

- When installing the wall mounting bracket, use the Protection cover.
- This will protect the opening from accumulating dust and dirt.

# REMOTE CONTROL

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

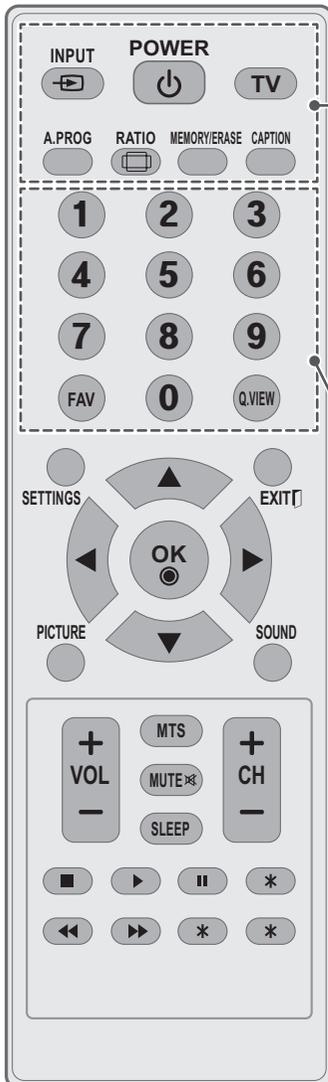
To replace batteries, open the battery cover, replace batteries (1.5 V AAA) matching the  $\oplus$  and  $\ominus$  ends to the label inside the compartment, and close the battery cover. To remove the batteries, perform the installation actions in reverse.



## CAUTION

- Do not mix old and new batteries, as this may damage the remote control.

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



### POWER

Turns the TV on or off.

### INPUT

Rotates through inputs.  
Also switches the TV on from standby.

### TV

Returns to the last TV channel.

### A.PROG

Searches for available channels.

### RATIO

Resizes an image.

### MEMORY/ERASE

Memory or erase each channel

### CAPTION

Selects CAPTION mode.

### Number button

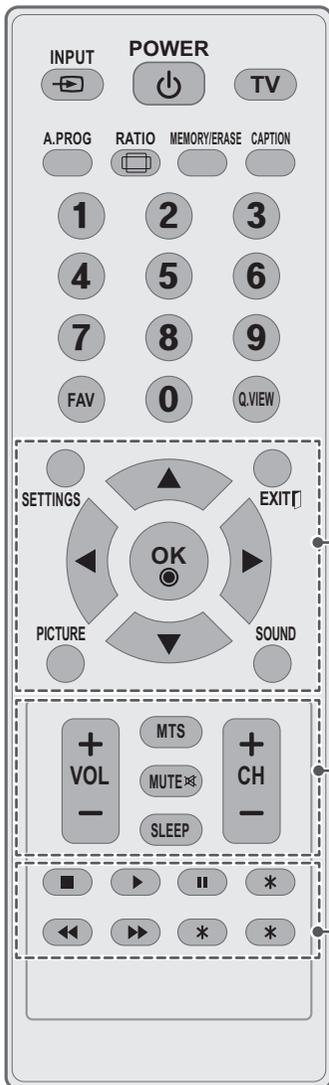
Enters numbers.

### FAV

Accesses your favorite channel list.

### Q.VIEW

Alternates between the two last channels selected (pressing repeatedly).



**SETTINGS** (See p.28)  
 Accesses the main menu.

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

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

**OK**   
 Selects menus or options and confirms your input.

**PICTURE** (See p.30)  
 Selects the factory preset picture depend on the viewing environment.

**SOUND** (See p.32)  
 Selects the factory preset sound for type of program.

**+ VOL -**  
 Adjusts the volume level.

**MTS**  
 Selects the MTS sound: Mono, Stereo, or SAP.

**MUTE**   
 Mutes all sounds.

**SLEEP** (See p.33)  
 Select the amount of time before your TV turns off automatically.

**+ CH -**  
 Scrolls through the saved channels.

**Control buttons**  
 Controls the USB compatible devices.

**\***  
 Not functional

## WATCHING TV

### Turning the TV on for the first time

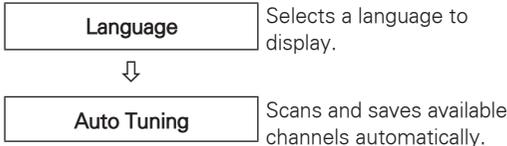
When you turn the TV on for the first time, the Initial setting screen appears. Select a language and customize the basic settings.

- 1 Connect the power cord to a power outlet.
- 2 In Standby mode, press the power button on the remote control to turn the TV on.  
The Initial setting screen appears if you turn the TV on for the first time.

#### NOTE

- You can also access **Factory Reset** by accessing **Option** in the main menu.

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



- 4 When the basic settings are complete, press **OK**.

#### NOTE

- If you do not complete the Initial setting, it will appear whenever the TV turns on.
- Disconnect the power cord from the power outlet when you do not use the TV for a long period of time.

- 5 To turn the TV off, press the power button on the remote control.

## Watching TV

- 1 In Standby mode, press the **⏻** (POWER) button on the remote control to turn the TV on.
- 2 Press **INPUT** and select TV.
- 3 To turn the TV off, press the **⏻** (POWER) button on the remote control.  
The TV switches to Standby mode.

## Managing channels

### Setting up channels

#### Storing channels

To store channels automatically,

- 1 Press **SETTINGS** 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**.

The TV scans and saves available channels automatically.

#### ! NOTE

- If the TV scans and saves channels, the previously saved channels will be overwritten.

- 4 When you are finished, press **SETTINGS**.

To store channels manually,

- 1 Press **SETTINGS** to access the main menus.
- 2 Press the Navigation buttons to scroll **Setup** and press **OK**.
- 3 Press the Navigation buttons to scroll to **Manual Tuning** and press **OK**.
- 4 Scroll through the channel, and then memory or erase channels.
- 5 When you are finished, press **SETTINGS**.

#### ! NOTE

- The channels are stored in the order of **TV** and **CATV**.

#### Using favorite channels

- 1 Press **SETTINGS** 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 **Favorite Channel** and press **OK**.
- 4 Edit channels using the following buttons.

Button	Description
▲ ▼	Select the first favorite channel position.
◀ ▶	Set the desired channel number for first favorite channel.
OK Ⓞ	Selects the highlighted channel to view.

- 5 When you are finished, press **SETTINGS**.

## Using additional options

### Adjusting aspect ratio

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

#### ! NOTE

- You can also change the image size by accessing **Aspect Ratio** in the **Picture** menu.
- The available ratio varies depending on the input source.

- **16:9:** Resizes images to fit the screen width. (This function works in RF/AV/Component/HDMI/USB Mode.)



- **Original:** When your TV receives a wide screen signal it will automatically change to the picture format broadcasted. (This function works in RF/AV Mode.)



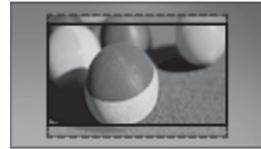
- **4:3:** Resizes images to the previous standard 4:3. (This function works in RF/AV/Component/HDMI Mode.)



- **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 moved to the up and down. (This function works in RF/AV Mode.)



- **Zoom 1:** 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. (This function works in RF/AV Mode.)



- **Zoom 2:** Choose Zoom 2 when you wish the picture to be altered, both horizontally extended and vertically cropped. The picture adopting a compromise between alteration and screen coverage. (This function works in RF/AV Mode.)



- **Just Scan:** Displays video images in the original size without removing parts of the edge of the image. (This function works in Component/HDMI (720P/1080i/1080p) Mode.)



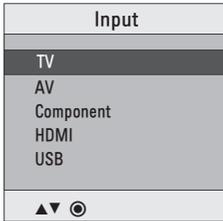
#### ! NOTE

- If you enlarge or reduce an image, the image may be distorted.

## Using the input list

### Selecting an input source

- 1 Press **INPUT** to access the input sources.
- 2 Press the Navigation buttons or **INPUT** button to scroll to one of the input sources and press **OK**.



Input source	Description
<b>TV</b>	Watch TV over the air and cable.
<b>AV</b>	Watch the contents in a VCR or other external devices.
<b>Component</b>	Watch the contents in a DVD or other external devices, or through a digital set-top box.
<b>HDMI</b>	Watches contents in a HTS or other high definition devices.
<b>USB</b>	Select it when using USB depends on connector.

## Locking the buttons on the TV (Child Lock)

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

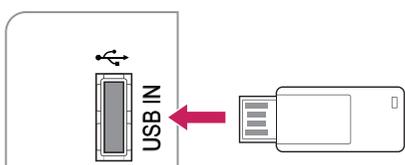
- 1 Press **SETTINGS** to access the main menus.
- 2 Press the Navigation buttons to scroll to **Option** and press **OK**.
- 3 Press the Navigation buttons to scroll to **Key Lock** and press **OK**.
- 4 Select **On** to activate the **Key lock** feature.  
- To deactivate the **Key lock** feature, select **Off**.
- 5 When you are finished, press **SETTINGS**.

# ENTERTAINMENT

## Connecting USB storage devices

Connect USB storage devices such as a USB flash drive or external hard drive to the TV and use multimedia features (See "Browsing files" on p. 25).

Connect a USB flash drive or USB memory card reader to the TV as shown in the following illustration.



### CAUTION

- Do not turn the TV off or remove a USB storage device while the USB storage device is connected to the TV, as this could result in loss of files or damage to the USB storage device.
- Back up your files saved on a USB storage device frequently, as you may lose or damage the files and this may not be covered by the warranty.

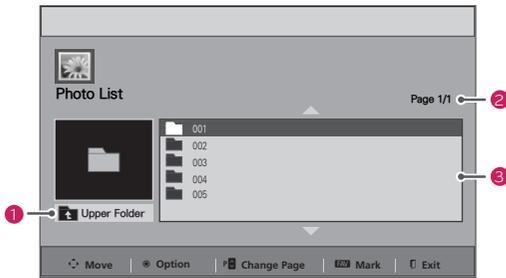
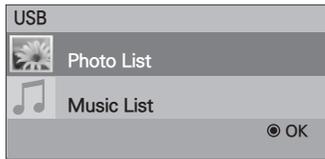
### Tips for using USB storage devices

- 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 manoeuvred 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 FAT16 or FAT32 file system.
- 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.
- 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 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.
- 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. But they may not work properly in the movie list.
- Maximum of 999 folders or files can be recognized under one folder.
- If there are a lot of folders or files all within one folder, the device may not be able to access these properly.

## Browsing files

Access the photo or music lists and browse files.

- 1 Connect a USB storage device.
- 2 Press **INPUT** button to scroll to Input 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**.



No.	Description
①	Moves to the upper level folder.
②	Current page / Total pages
③	Contents under the current folder

### Tips for using USB storage devices

Type	Supported File Formats
<b>Photo</b>	<ul style="list-style-type: none"> <li>• JPEG</li> <li>• Available size Baseline: 64 pixel (W) x 64 pixel (H) - 8192 pixel (W) x 8192 pixel (H) Progressive: 64 pixel (W) x 64 pixel (H) - 1024 pixel (W) x 768 pixel (H) * It may take some time to open high-resolution images in full screen.</li> </ul>
<b>Music</b>	<ul style="list-style-type: none"> <li>• MP3</li> <li>• Bit rate range 32 Kbps - 320 Kbps</li> <li>• 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.</li> </ul>

## Viewing Photos

You can view image files saved on a USB storage device. The displays on the screen may differ based on the model.

- 1 Press **INPUT** to access the input menus.
- 2 Press the Navigation buttons to scroll to **USB** and press **OK**.
- 3 Press the Navigation buttons to scroll to **Photo List** and press **OK**.
- 4 Press the Navigation buttons to scroll to a folder/file you want and press **OK**.
- 5 View photos by using the following menus/ buttons.



Button	Description
Navigation button	Scrolls the file.
⊙OK	Open the pop-up menu.
CH (+, -)	Moves to the previous or next page.
FAV	Marks or Unmarks each file.
Menu	Description
View	Views the selected photo.
Mark All	Selects all files
Unmark All	Clears all of your selections.
Close	Close the pop-up menu

### ! NOTE

- : Abnormal files are displayed using this graphic.
- : Non-supported files are displayed using this graphic.

- 6 The following options are available while viewing photos.

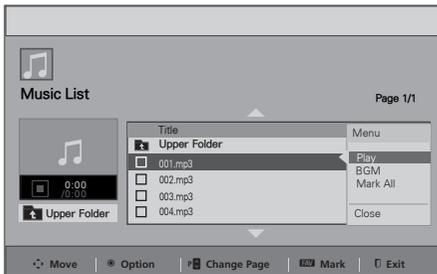
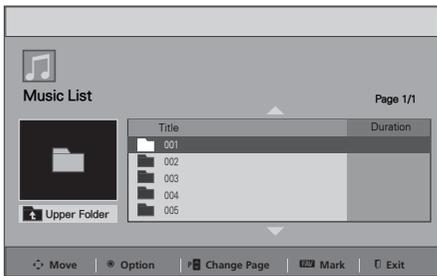


Options    Number of selected photos

Option	Description
Slideshow	<ul style="list-style-type: none"> <li>• Starts or stops a slideshow with selected photos.</li> <li>• If there are no selected photos, all photos saved in the current folder display during a slideshow.</li> <li>• To set a slideshow speed, select Option.</li> </ul>
BGM (Background Music)	<ul style="list-style-type: none"> <li>• Turns the background music on or off. To set the background music folder, select Option.</li> </ul>
↻ (Rotate)	<p>Rotates photos clockwise (90°, 180°, 270°, 360°).</p> <div style="border: 1px solid black; padding: 5px;"> <p><b>! NOTE</b></p> <ul style="list-style-type: none"> <li>• 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.</li> </ul> </div>
Option	<ul style="list-style-type: none"> <li>• Slide Speed: Selects a slideshow speed (Fast, Normal, Slow).</li> <li>• Music Folder: Selects a music folder for the background music</li> </ul> <div style="border: 1px solid black; padding: 5px;"> <p><b>! NOTE</b></p> <ul style="list-style-type: none"> <li>• You can't change the music folder while the background music is playing.</li> </ul> </div>
Close	<ul style="list-style-type: none"> <li>• The option bar at the bottom of the screen disappears.</li> </ul>

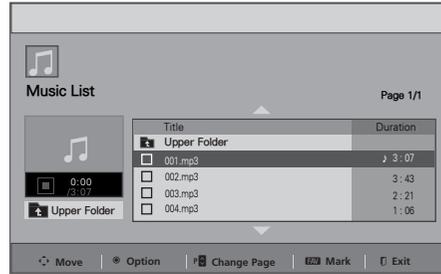
## Listening to music

- 1 Press **INPUT** to access the input menus.
- 2 Press the Navigation buttons to scroll to **USB** and press **OK**.
- 3 Press the Navigation buttons to scroll to **Music List** and press **OK**.
- 4 Press the Navigation buttons to scroll to a folder/file you want and press **OK**.
- 5 Play music by using the following menus/ buttons.



Button	Description
Navigation button	Scrolls the file.
OK	Open the pop-up menu.
CH (+, -)	Moves to the previous or next page.
FAV	Marks or Unmarks each file.
Menu	Description
Play	Plays the selected music file.
BGM	Start playing the selected music files and then move to the <b>Photo List</b> .
Mark All	Selects all files.
Unmark All	Clears all of your selections.
Close	Close the pop-up menu

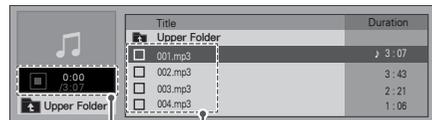
- 6 Control playback by using the following buttons.



Button	Description
■	Stops playback.
▶	Plays a music file.
⏸	Pauses or resumes playback.
◀	Skips to the previous file.
▶	Skips to the next file.
Exit	When you press the <b>EXIT</b> button, only the music will be stopped and the player will not return to normal TV viewing.

### NOTE

- : Abnormal files are displayed using this graphic. The TV will not play copy protected files.
- A damaged or corrupted music does not play but displays 00:00 in playtime.
- A music downloaded from a paid service with copyright protection does not start but displays inappropriate information in playtime.



Time elapsed File name

# CUSTOMIZING TV SETTINGS

## Accessing Main Menus

- 1 Press **SETTINGS** 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**.

	Menu	Description
	<b>Setup</b>	Sets up and edit channels.
	<b>Picture</b>	Adjusts the image size, quality, or effect.
	<b>Audio</b>	Adjusts the sound quality, effect, or volume level.
	<b>Time</b>	Sets the time, date, or Timer feature.
	<b>Option</b>	Customizes the general settings.

## Customizing Settings

### Setup Settings

- 1 Press **SETTINGS** 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 **SETTINGS**.

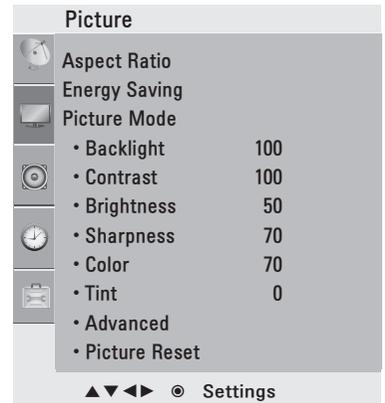


The available channel settings are described in the following.

Setting	Description
<b>Auto Tuning</b>	Tunes and stores all available channels through antennas or cable inputs.
<b>Manual Tuning</b>	Tunes and stores the channels you want manually.
	<b>Option</b>
	Fine Normally fine tuning is only necessary if reception is poor.
<b>Favorite Channel</b>	Selects your favorite channels directly (See p.21).

## Picture Settings

- 1 Press **SETTINGS** 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 **SETTINGS**.



The available picture settings are described in the following.

Setting	Description								
<b>Aspect Ratio</b>	Changes the image size to view images at its optimal size (See p.22).								
<b>Energy Saving</b>	Reduces the power consumption by adjusting the screen brightness. <div style="border: 1px solid black; padding: 5px; margin-top: 10px;"> <p><b>NOTE</b></p> <ul style="list-style-type: none"> <li>When you select <b>Screen Off</b>, the screen will be turned off in 3 seconds and <b>Screen Off</b> will start.</li> <li>If you adjust “Energy Saving-Minimum, Medium, Maximum”, Backlight adjustment will be disabled.</li> </ul> </div> <table border="1" style="width: 100%; margin-top: 10px;"> <thead> <tr> <th colspan="2">Option</th> </tr> </thead> <tbody> <tr> <td>Off</td> <td>The <b>Energy Saving</b> is off</td> </tr> <tr> <td>Minimum/Medium/Maximum</td> <td>Selects the brightness level.</td> </tr> <tr> <td>Screen off</td> <td>The screen turns off in 3 seconds.</td> </tr> </tbody> </table>	Option		Off	The <b>Energy Saving</b> is off	Minimum/Medium/Maximum	Selects the brightness level.	Screen off	The screen turns off in 3 seconds.
Option									
Off	The <b>Energy Saving</b> is off								
Minimum/Medium/Maximum	Selects the brightness level.								
Screen off	The screen turns off in 3 seconds.								
<b>Picture Mode</b>	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. <table border="1" style="width: 100%; margin-top: 10px;"> <thead> <tr> <th colspan="2">Mode</th> </tr> </thead> <tbody> <tr> <td>Vivid</td> <td>Adjusts the video image for the retail environment by enhancing the contrast, brightness, color, and sharpness.</td> </tr> <tr> <td>Standard</td> <td>Adjusts the image for the normal environment.</td> </tr> <tr> <td>Cinema</td> <td>Optimizes the video image for a cinematic look to enjoy movies as if you are in a movie theater.</td> </tr> </tbody> </table>	Mode		Vivid	Adjusts the video image for the retail environment by enhancing the contrast, brightness, color, 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.
Mode									
Vivid	Adjusts the video image for the retail environment by enhancing the contrast, brightness, color, 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.								

## Basic Image Options

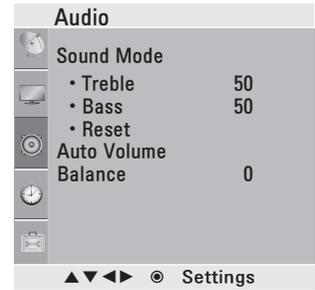
Setting	Description
<b>Backlight</b>	Adjusts the brightness of the screen by controlling the LCD backlight. If you decrease the brightness level, the screen becomes darker and the power consumption will be reduced without any video signal loss.
<b>Contrast</b>	Increases or decreases the gradient of the video signal. You may use Contrast when the bright part of the picture is saturated.
<b>Brightness</b>	Adjusts the base level of the signal in the picture.
<b>Sharpness</b>	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.
<b>Color</b>	Adjusts intensity of all colors.
<b>Tint</b>	Adjusts the balance between red and green levels.
<b>Advanced</b>	Customizes the advanced options.
<b>Picture Reset</b>	Restores the options of each mode to the factory default.

## Advanced Image Options

Setting	Description
<b>Dynamic Contrast</b>	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.
<b>Dynamic Color</b>	Adjusts screen colors so that they look livelier, richer and clearer. This feature enhances hue, saturation and luminance so that red, blue and green white look more vivid.
<b>Noise Reduction</b>	Reduces screen noise without compromising video quality.
<b>Black Level</b>	Sets black level of the screen to proper level. This function is available in the following modes: RF, AV or HDMI. <ul style="list-style-type: none"> <li>» Low: The reflection of the screen gets darker.</li> <li>» High: The reflection of the screen gets brighter.</li> </ul>
<b>Film Mode</b>	Makes video clips recorded in film look more natural by eliminating judder effect. DVD and Blu-ray movies are filmed at 24 frames per second (fps). This feature operates only in RF or AV mode 480i/576i.
<b>Color Temperature</b>	Set to warm to enhance hotter colors such as red, or set to cool to enhance cooler colors such as blue. Red/Green/Blue: The adjustment range is -30 to +30.

## Audio Settings

- 1 Press **SETTINGS** 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 **SETTINGS**.

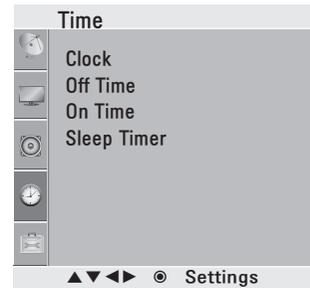


The available audio settings are described in the following.

Setting	Description	
<b>Sound Mode</b>	Selects one of the preset sound modes or customizes options in each mode.	
	<b>Mode</b>	
	Standard	Select when you want standard-quality sound.
	Music	Select when you listen to music.
	Cinema	Select when you watch movies.
	<b>Option</b>	
	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.	
<b>Auto Volume</b>	Activates the Auto Volume feature to keep the volume level consistent whenever you change channels. The volume level may not be consistent due to different signal conditions of broadcasting stations.	
<b>Balance</b>	Adjust balance between the left and right speakers according to your room environment.	

## Time Settings

- 1 Press **SETTINGS** 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 **SETTINGS**.



The available time settings are described in the following

Setting	Description
<b>Clock</b>	Sets the time.
<b>Off Time/On Time</b>	<p>Sets the time to turn on or off the TV automatically. To use this function, you should set the current time and date in advance.</p> <div style="border: 1px solid black; padding: 5px;"> <p><b>NOTE</b></p> <ul style="list-style-type: none"> <li>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.</li> <li>If you set both Off time and On time features to the same time, the Off time feature overrides the On time feature.</li> </ul> </div>
<b>Sleep Timer</b>	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 faature will be set to off.

ENGLISH

## Option Settings

- 1 Press **SETTINGS** 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 **SETTINGS**.



The available general settings are described in the following.

Setting	Description
<b>Language</b>	Selects a desired language.
<b>Key Lock</b>	Locks or unlocks the buttons on the TV.
<b>Caption/Text</b>	Sets whether to display captions and customize your option in each mode.
<b>Factory Reset</b>	Resets the TV to factory default and erases all stored channels. Customizes the TV settings to suit your preference. The initial setup screen will appear when you turn on the TV for the first time.

# MAKING CONNECTIONS

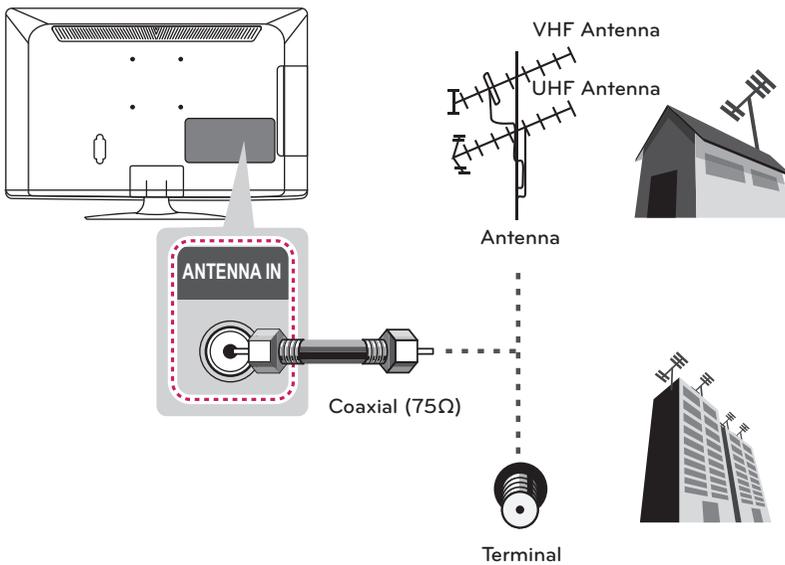
Connect various external devices to the TV and switch input modes to select an external device. For more information of external device's connection, refer to the manual provided with each device. Available external devices are: HD receivers, DVD players, VCRs, audio systems, USB storage devices, PC, 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 of recording, refer to the manual provided with the connected device.
- The external device connection may differ from the model.
- Connect external devices to the TV regardless of the order of the TV port.

## Connecting to an antenna or cable

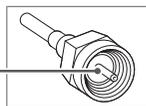
Connect an antenna, cable, or cable box to watch TV while referring to the following. The illustrations may differ from the actual items and a RF cable is optional.



## ! CAUTION

- Make sure not to bend the copper wire of the RF cable.

Copper wire



- Complete all connections between devices, and then connect the power cord to the power outlet to prevent damage to your TV.

## ! NOTE

- To improve the picture quality in a poor signal area, please purchase a signal amplifier and install properly.
- Use a signal splitter to use more than 2 TVs.
- If the antenna is not installed properly, contact your dealer for assistance.

## Connecting to a HD receiver, DVD, or VCR player

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

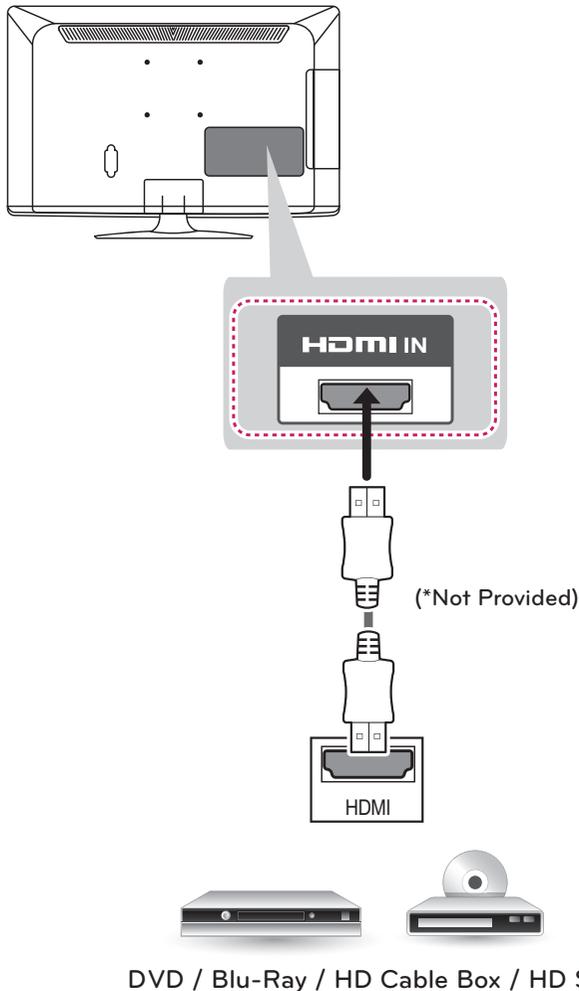
### HDMI Connection

**HDMI is the best way to connect a device.**

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 in the following illustration.

#### ! NOTE

- Use the latest High Speed HDMI™ Cable with CEC (Customer Electronics Control) function.
- High Speed HDMI™ Cables are tested to carry an HD signal up to 1080p and higher.



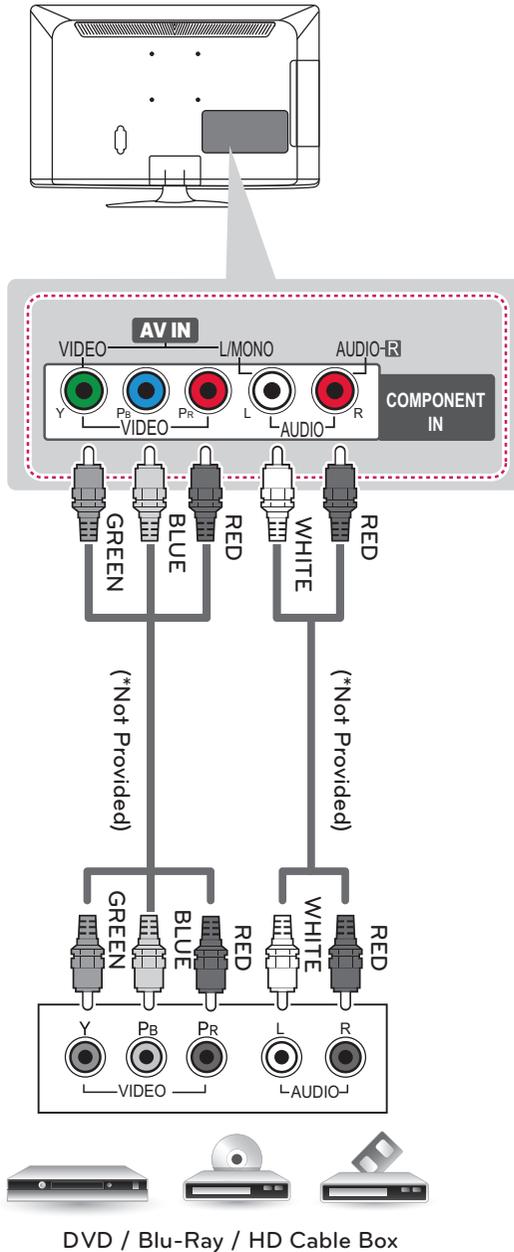
## Component Connection

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



**NOTE**

- If cables are installed incorrectly, it could cause the image to display in black and white or with distorted color.
- Check to ensure the cable are matched with the corresponding color connection.

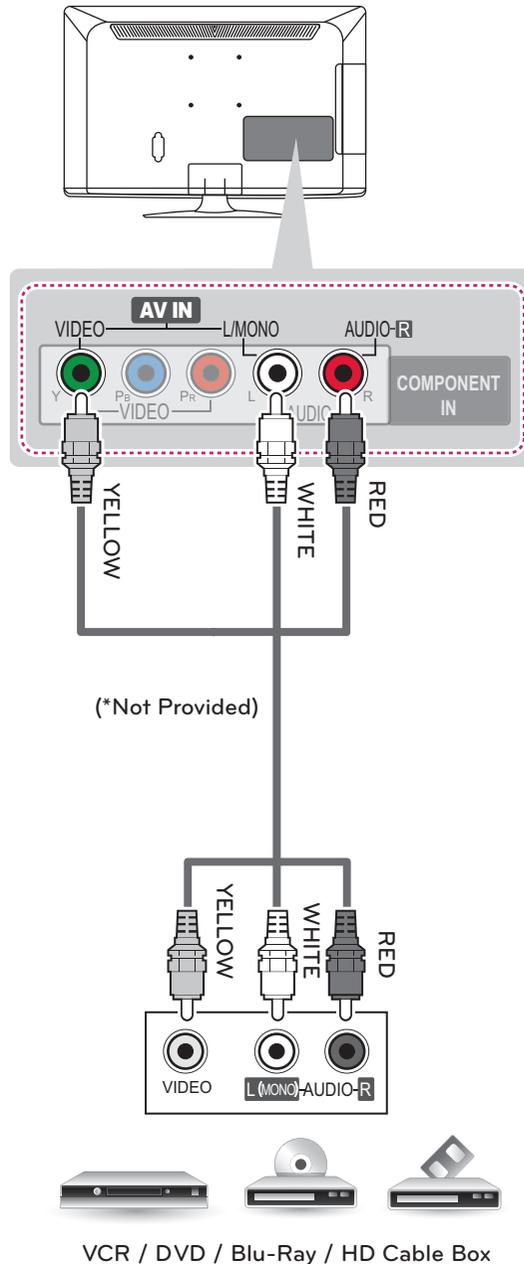


## Composite Connection

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.

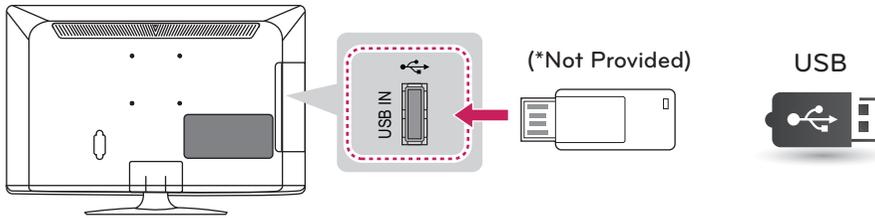
**! NOTE**

- If you have a mono VCR, connect the audio cable from the VCR to the AUDIO L/MONO jack of the TV.



## Connecting to a USB

Connect a USB storage device such as a USB flash memory or a USB memory card reader to the TV.

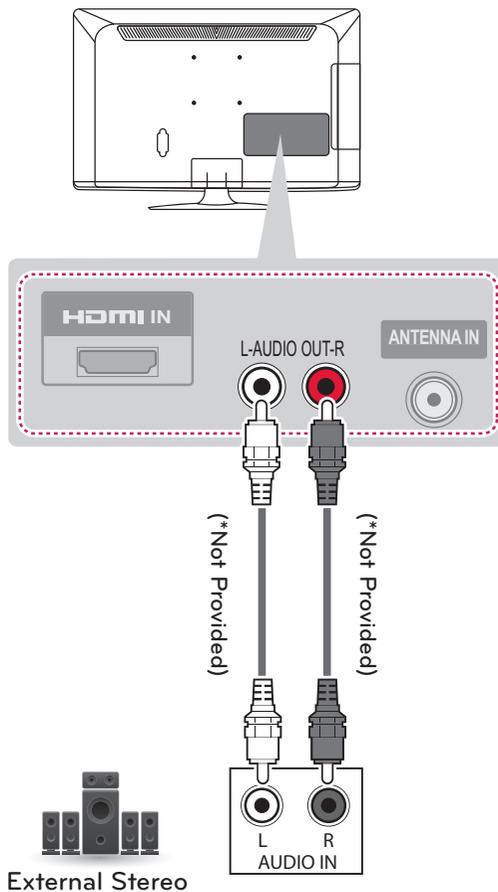


## Connecting to an audio system

Use an optional external audio system instead of the built-in speaker.

### External stereo connection

Use to connected either an external amplifier or surround sound system.



# MAINTENANCE

## Cleaning Your TV

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, frame, cabinet and stand

To remove dust or light dirt, wipe the surface with a dry, clean, 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 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 damage the screen's finish and cause discoloration.
- Do not spray liquid onto the surface. If water enters the TV, it may result in fire, electric shock, or malfunction.

## Power cord

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

## Preventing "Image burn" or "Burn-in" on your TV screen



- If a fixed image displays on the TV 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 of the TV is set to 4:3 for a long period of time, image burn may occur on the letterboxed area of the screen.
- Avoid displaying a fixed image on the TV screen for a long period of time (2 or more hours for LCD, 1 or more hours for the Plasma TV) to prevent image burn.

# TROUBLESHOOTING

## General

Problem	Solution
Cannot control the TV with the remote control.	<ul style="list-style-type: none"> <li>• Check the remote control sensor on the product and try again.</li> <li>• Check if there is any obstacle between the product and the remote control.</li> <li>• Check if the batteries are still working and properly installed (⊕ to ⊕, ⊖ to ⊖).</li> <li>• Check if the appropriate input mode such as TV or VCR is set for using the remote control.</li> </ul>
No image display and no sound is produced.	<ul style="list-style-type: none"> <li>• Check if the product is turned on.</li> <li>• Check if the power cord is connected to a wall outlet.</li> <li>• Check if there is a problem in the wall outlet by connecting other products.</li> </ul>
Image appears slowly when the TV turns on.	<ul style="list-style-type: none"> <li>• The image is muted during the product startup process. This is normal. If the image does not appear in a few minutes, unplug the TV for 30 seconds and try again. If the image still does not appear, contact the authorized service center in your local area.</li> </ul>
Cannot connect external devices.	<ul style="list-style-type: none"> <li>• Refer to the connect an external device.</li> </ul>
The TV turns off suddenly.	<ul style="list-style-type: none"> <li>• Check the power control settings. The power supply may be interrupted.</li> <li>• Check if the Auto sleep feature is activated in the Time settings. Refer to the "Sleep Timer".</li> <li>• If there is no signal while the TV is on, the TV will turn off automatically after 15 minutes of inactivity.</li> </ul>

## Audio

Problem	Solution
No sound is produced while images are displaying.	<ul style="list-style-type: none"> <li>• Press <b>VOL +</b> or - button.</li> <li>• Check if the sound is muted by pressing <b>MUTE</b>.</li> <li>• Scroll to other channels. There may a problem with the broadcast.</li> <li>• Check if the audio cables are connected properly.</li> </ul>
No output from one of the speakers	<ul style="list-style-type: none"> <li>• Adjust Balance in the menu option.</li> </ul>
Unusual sound from inside the TV is produced.	<ul style="list-style-type: none"> <li>• A change in ambient humidity or temperature may result in an unusual noise when the product turns on or off. There is no problem with your product.</li> </ul>

## Video

Problem	Solution
An image displays in black and white or the color quality is poor.	<ul style="list-style-type: none"> <li>• Adjust the color setting in the menu option.</li> <li>• Keep a sufficient distance between this product and other electronic products.</li> <li>• Scroll to other channels. There may a problem with the broadcast.</li> </ul>
Horizontal or vertical bars appears or images blur	<ul style="list-style-type: none"> <li>• Check if there are local interferences such as an electrical appliance or power tool.</li> </ul>
Lines or streaks appear on images	<ul style="list-style-type: none"> <li>• Check the antenna or aim the antenna to the proper direction.</li> </ul>
Afterimages (ghosts) appear when the product turns off	<ul style="list-style-type: none"> <li>• Pixels may have been damaged from a fixed image displayed for a long time (image burn). Use a screen saver to prevent the pixel damage on the screen.</li> </ul>
The power is on but the screen appears extremely dark.	<ul style="list-style-type: none"> <li>• Adjust the brightness and contrast in the menu option.</li> </ul>
"No Signal" appears on the screen.	<ul style="list-style-type: none"> <li>• Check if the signal cable is connected between the TV and products properly.</li> <li>• Check the selected input source by pressing <b>INPUT</b>.</li> </ul>
Black spots appear on the screen.	<ul style="list-style-type: none"> <li>• Several pixels in red, green, white, or black may appear on the screen that can attribute to the characteristics of the panel. This is normal.</li> </ul>
The display offset is wrong.	<ul style="list-style-type: none"> <li>• Adjust the position setting in the menu option.</li> <li>• Check if the video card resolution and frequency are supported by the product. If the frequency is out of range, set to the recommended resolution using the display settings on the external device.</li> </ul>
Thin lines appear in the background of the screen.	<ul style="list-style-type: none"> <li>• Check the video cable connections.</li> </ul>
The reception on some channels is poor	<ul style="list-style-type: none"> <li>• Scroll to other channels. There may a problem with the broadcast.</li> <li>• The station signal may be weak. Aim the antenna to the proper direction.</li> <li>• Check if there is local interference such as an electrical appliance or power tool.</li> </ul>

# SPECIFICATIONS

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

Power requirement	AC100 - 240 V - 50/60 Hz	
Television System	NTSC, PAL-M/N	
Program Coverage	VHF2-13, UHF14-69, CATV 1-125	
External Antenna Impedance	75 $\Omega$	
Environment condition	Operating Temperature	0 - 40 °C
	Operating Humidity	Less than 80 %
	Storage Temperature	-20 - 60 °C
	Storage Humidity	Less than 85 %

MODELS		22CS410 (22CS410-MB)	26CS410 (26CS410-MB)
Dimensions (W x H x D)	With stand	539.0 mm x 400.0 mm x 164.6 mm	663.0 mm x 483.0 mm x 197.0 mm
	Without stand	539.0 mm x 345.0 mm x 56.8 mm	663.0 mm x 424.0 mm x 72.8 mm
Weight	With stand	4.2 kg	7.4 kg
	Without stand	3.9 kg	6.6 kg
Current Value / Power consumption		0.8 A / 50 W	1.0 A / 100 W

MODELS		32CS410 (32CS410-MB)
Dimensions (W x H x D)	With stand	794.0 mm x 565.0 mm x 207.0 mm
	Without stand	794.0 mm x 504.0 mm x 73.5 mm
Weight	With stand	9.0 kg
	Without stand	8.0 kg
Current Value / Power consumption		1.1 A / 110 W

## HDMI (DTV) supported mode

Resolution	Horizontal Frequency (KHz)	Vertical Frequency (Hz)
720x480p	31.47	59.94
	31.50	60.00
720x576p	31.250	50.00
1280x720p	44.96	59.94
	45.00	60.00
	37.500	50.00
1920x1080p	26.97	23.976
	27.00	24.00
	33.71	29.97
	33.75	30.00
	67.432	59.94
	67.50	60.00
	56.250	50.00

## Component port connecting information

Component ports on the TV	Y	P <sub>B</sub>	P <sub>R</sub>
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Video output ports on DVD player	Y	P <sub>B</sub>	P <sub>R</sub>
	Y	B-Y	R-Y
	Y	Cb	Cr
	Y	Pb	Pr

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



The model and serial number of the TV is located on the back and one side of the TV.  
Record it below should you ever need service.

MODEL \_\_\_\_\_

SERIAL \_\_\_\_\_