# APPENDIX G

## : USER'S MANUAL

**LG**

Life's Good

OWNER'S MANUAL

# LED LCD TV / LCD TV / PLASMA TV

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

| LED LCD TV MODELS | | LCD TV MODELS | | PLASMA TV MODELS | |
|---|---|---|---|---|---|
| 19LV2500 | 32LV3500 | 22LK330 | 32LK450 | 42PW340 | 42PW350U |
| 22LV2500 | 37LV3500 | 26LK330 | 37LK450 | 50PW340 | 50PW350U |
| 26LV2500 | 42LV3500 | 32LK330 | 42LK450 | 42PW350 | |
| 32LV2500 | 47LV3500 | 32LK430 | 47LK450 | 50PW350 | |
| | 55LV3500 | 42LK430 | 42LK520 | 50PZ250 | |
| | | | 47LK520 | 60PZ250 | |
| | | | 55LK520 | | |

www.lg.com

# LICENSES

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"DivX Certified® to play DivX® video up to HD 1080p, including premium content."

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 7,295,673; 7,460,668; 7,515,710; 7,519,274"

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🛈 **NOTE**

- 📺 : Plasma TV          📺 : LED LCD TV, LCD TV

# IMPORTANT SAFETY INSTRUCTIONS

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

**WARNING / CAUTION**

**RISK OF ELECTRIC SHOCK DO NOT OPEN**

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.
- TO PREVENT FIRE OR SHOCK HAZARDS, DO NOT EXPOSE THIS PRODUCT TO RAIN OR MOISTURE.

Read these instructions.
Keep these instructions.
Heed all warning.
Follow all instruction.

- Do not use this apparatus near water.

- Clean only with a soft 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 disregard the safety purpose of the polarized or grounding-type plug. A polarized plug is a plug that has two blades with one wider than the other. A grounding-type plug is a plug that 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.

**ENGLISH**

ENGLISH

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

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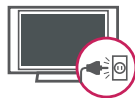
- Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way. For example, if the power-supply cord or plug is damaged, liquid has been spilled or objects have fallen into the apparatus, the apparatus has been exposed to rain or moisture,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

- 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.

- 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**
  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.

  Power Supp
  Short-circuit Breaker
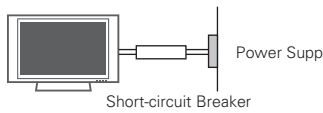
- **DISCONNECTING DEVICE FROM MAINS**
  Mains plug is the disconnecting device. The plug must remain readily operable.

- 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.
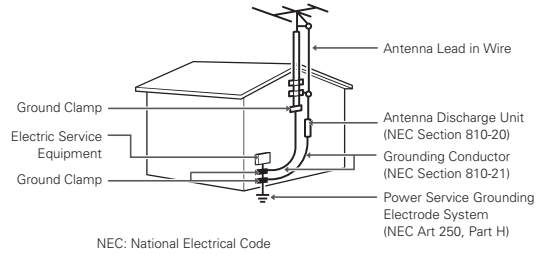
- **ANTENNAS Outdoor antenna grounding**
  (Can differ by country):
  If an outdoor antenna is installed, follow the precautions below. An outdoor antenna system should not be located in the vicinity of overhead power lines or other electric light or power circuits, or where it can come in contact with 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**

Antenna Lead in Wire
Ground Clamp
Electric Service Equipment
Antenna Discharge Unit (NEC Section 810-20)
Ground Clamp
Grounding Conductor (NEC Section 810-21)
Power Service Grounding Electrode System (NEC Art 250, Part H)
NEC: National Electrical Code

- **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 benzine.

- **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 contact an authorized service center.

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

- Keep the product away from direct sunlight.

**ENGLISH**

- **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.

- **Viewing 3D Imaging (For 3D TV)**

  - When viewing 3D imaging, watch the TV from an effective viewing angle and within the appropriate distance. If you exceed this viewing angle or distance, you may not be able to view the 3D imaging. Furthermore, the 3D imaging may not display if it is viewed while you are lying down.
  - If you watch the 3D imaging too closely or for a long period of time, it may harm your eyesight.
  - Watching the TV or playing video games that incorporate 3D imaging with the 3D glasses for a long period of time can cause drowsiness, headaches or fatigue to you and/or your eyes. If you have a headache, or otherwise feel fatigued or drowsy, stop watching the TV and take a rest.
  - Pregnant woman, seniors, persons with heart problems or persons who experience frequent drowsiness should refrain from watching 3D TV.
  - Some 3D imaging may cause you to duck or dodge the image displayed in the video. Therefore, it is best if you do not watch 3D TV near fragile objects or near any objects that can be knocked over easily.
  - Please prevent children under the age of 5 from watching 3D TV. It may affect their vision development.
  - Warning for photosensitization seizure: Some viewers may experience a seizure or epilepsy when exposed to certain factors, including flashing lights or images in TV or video games. If you or anybody from your family has a history of epilepsy or seizure, please consult with your doctor before watching 3D TV.

  Also certain symptoms can occur in unspecified conditions without any previous history. If you experience any of the following symptoms, immediately stop watching the 3D imaging and consult a doctor: dizziness or lightheadedness, visual transition or altered vision, visual or facial instability, such as eye or muscle twitching, unconscious action, convulsion, loss of conscience, confusion or disorientation, loss of directional sense, cramps, or nausea.  Parents should monitor their children, including teenagers, for these symptoms as they may be more sensitive to the effects of watching 3D TV.

  Risk of photosensitization seizure can be reduced with the following actions.

  - Take frequent breaks from watching 3D TV.
  - For those who have  vision that is different in each eye,  they should watch the TV after taking vision correction measures.
  - Watch the TV so that your eyes are on the same level as the 3D screen and refrain from sitting too closely to the TV.
  - Do not watch the 3D imaging when tired or sick, and avoid watching the 3D imaging for a long period of time.
  - Do not wear the 3D glasses for any other purpose than viewing 3D imaging on a 3D TV.
  - Some viewers may feel disoriented after watching 3D TV. Therefore, after you watch 3D TV, take a moment to regain awareness of your situation before moving.

- 🖥 LCD

  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 (Only Hg lamp used LCD TV)

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.

### For USA and Canada

#### FCC NOTICE

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:
- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and the receiver.
- Connect the equipment to an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference and (2) this device must accept any interference received, including interference that may cause undesired operation of the device.

Any changes or modifications in construction of this device which are not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

#### NOTE TO CABLE/TV INSTALLER

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

ENGLISH
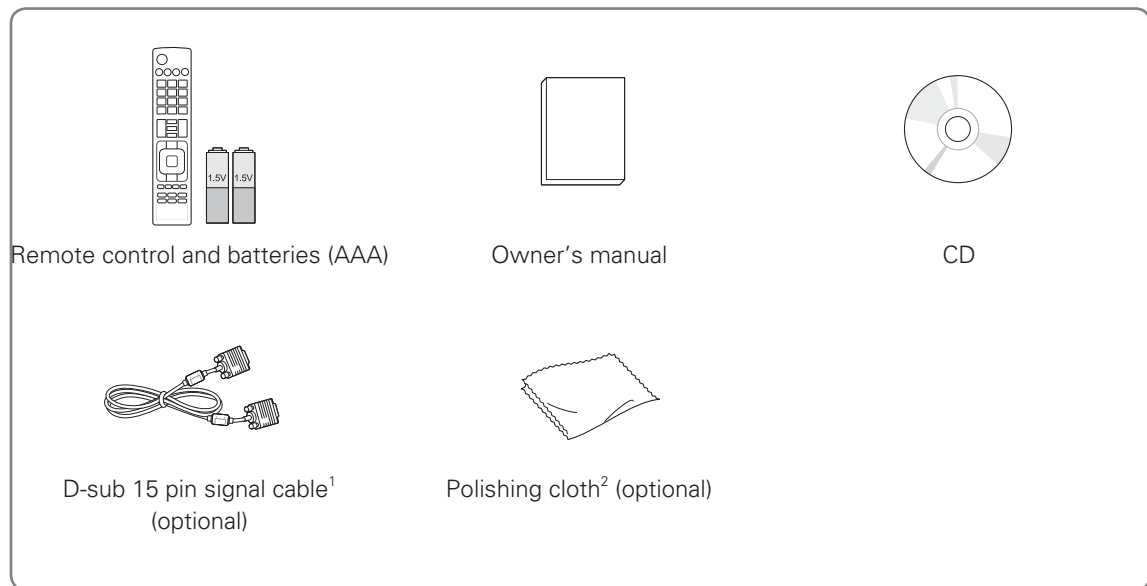
# TABLE OF CONTENTS

# 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.

Remote control and batteries (AAA)          Owner's manual                          CD

D-sub 15 pin signal cable[1]          Polishing cloth[2] (optional)
(optional)

1   When using the VGA (D-sub 15 pin signal cable) PC connection, use the shielded signal interface cable with a ferrite core to maintain standards compliance for the product.
2   Gently wipe the spots on the cabinet with the polishing cloth.
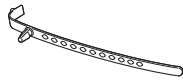
42/50PW340, 42/50PW350, 42/50PW350U, 50/60PZ250

x 4

M4 x 26

Screw for assembly

x 3

M5 x 14.5

Cable holder
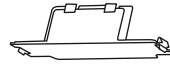
Protection cover
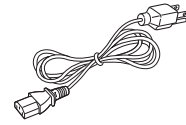
Power Cord

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32/37/42/47/55LV3500

x 8

M4 x 12

Screw for assembly

Cleansing Cloths (Mitt)[3]
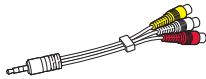
Composite gender cable
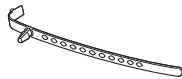
Cable holder

3    Wipe spots on the exterior only with the cleasing cloths.
Do not wipe roughly when removing stains. Excessive
pressure may cause scratches or discoloration.
For cleaning front frame, please slowly wipe in one direction
after spraying water 1-2 times on cleansing cloths. Please
remove excessive moisture after cleaning. Excessive moisture
may cause water stains on the frame.

32/37/42/47LK450

Except 47LK450

x 8

M4 x 20
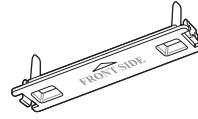
| Screw for assembly | Screw for fixing | Protection cover | Power Cord |
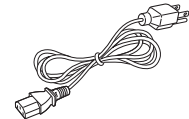
⚠ **CAUTION**

- Do not use any pirated items to ensure the safety and product life span.
- Any damages or injuries by using pirated items are not covered by the warranty.

ℹ **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.
- (Plasma) How to use the ferrite core
  - (조금 더 긴 코어 사용)Use the ferrite core to reduce the electromagnetic waves in the PC audio cable.
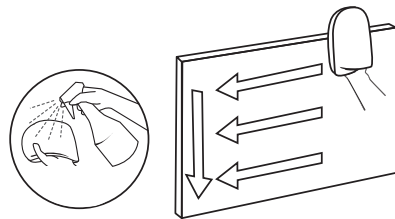    Wind the PC audio cable on the ferrite core thrice. Place the ferrite core far from the TV.
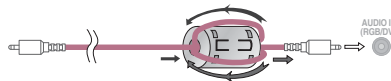


  - Use the ferrite core to reduce the electromagnetic waves that interfere with the TV. Wind the PC audio cable on the ferrite core once. Place the ferrite core on the power cable close to the wall plug.
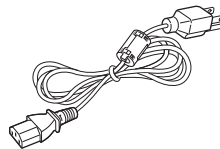


- (LCD) For an optimal connection, HDMI cables and USB devices should have bezels less than 10 mm (0.39 inches) thick and 18 mm (0.7 inches) width.
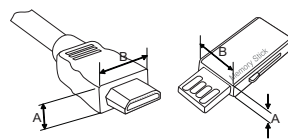


*A ≦ 10 mm (0.39 inches)
*B ≦ 18 mm (0.7 inches)

## Optional Extras

Optional extras can be changed or modified for quality improvement without any notification.
Contact your dealer for buying these items.
This device only works with compatible LG LED LCD TV, LCD TV, or Plasma TV.

Wireless Media Box
(AN-WL100W)

3D Glasses
(AG-S230, AG-S250, AG-S270)

ENGLISH

# Parts and buttons

42/50PW340, 42/50PW350, 42/50PW350U, 50/60PZ250

Screen

USB input

HDMI IN

AV (Audio
and Video)
IN

Remote control and
intelligent[1] sensors

Speakers

Touch buttons[2]

Connection panel
(See p.66)

| Touch button[2] | Description |
|---|---|
| ⏻ / I | Turns the power on or off. |
| INPUT | Changes the input source. |
| HOME | Accesses the main menus, or saves your input and exits the menus. |
| ENTER | Selects the highlighted menu option or confirms an input. |
| - VOL + | Adjusts the volume level. |
| ∧ CH ∨ | Scrolls through the saved channels. |

1   Intelligent sensor - Adjusts the image quality corresponding to the surrounding environment.
2   All of the buttons are touch sensitive and can be operated through simple touch with your finger.

ENGLISH

32/37/42/47/55LV3500



Screen

Remote control and intelligent[1] sensors

Power indicator

Speakers

Touch buttons[2]

Connection panel (See p.66)

| Touch button[2] | Description |
| --- | --- |
| ⏻ / I | Turns the power on or off. |
| INPUT | Changes the input source. |
| HOME | Accesses the main menus, or saves your input and exits the menus. |
| ENTER | Selects the highlighted menu option or confirms an input |
| - VOL + | Adjusts the volume level. |
| ∨ CH ∧ | Scrolls through the saved channels. |

1  Intelligent sensor - Adjusts the image quality corresponding to the surrounding environment.
2  All of the buttons are touch sensitive and can be operated through simple touch with your finger.

**NOTE**

You can set the Power indicator to on or off by selecting **OPTION** in the main menus.

19/22/26/32LV2500

Screen

USB input

HDMI IN

HEAD
PHONE

Remote control and
intelligent[1] sensors

Power indicator

Speakers

⌄ CH ⌃    − VOL +    ENTER ◉    HOME    INPUT    ⏻/Ⅰ

Touch buttons[2]

OPTICAL
DIGITAL
AUDIO OUT

(RGB/DVI)
AUDIO IN

COMPONENT IN

DC-IN

AV IN 1

RGB IN (PC)

RS-232C IN(CONTROL & SERVICE)

HDMI
/ DVI IN    2    1

VIDEO

MONO(R)  AUDIO  (L)

Y

Pʙ

Pʀ

L

R

VIDEO

AUDIO

ANTENNA/
CABLE IN

Connection panel
(See p.66)

| Touch button[2] | Description |
|---|---|
| ⏻/Ⅰ | Turns the power on or off. |
| INPUT | Changes the input source. |
| HOME | Accesses the main menus, or saves your input and exits the menus. |
| ENTER | Selects the highlighted menu option or confirms an input |
| - VOL + | Adjusts the volume level. |
| ⌄ CH ⌃ | Scrolls through the saved channels. |

1    Intelligent sensor - Adjusts the image quality corresponding to the surrounding environment.
2    All of the buttons are touch sensitive and can be operated through simple touch with your finger.

ⓘ NOTE

You can set the Power indicator to on or off by selecting **OPTION** in the main menus.

ENGLISH

## 32/37/42/47LK450

Screen

USB input

HDMI IN

HEAD PHONE

AV (Audic and Video) IN

Remote control and intelligent[1] sensors

Power indicator

Speakers

∨ CH ∧   − VOL +   ENTER ◉   HOME   INPUT   ⏻/|

Touch buttons[2]

OPTICAL DIGITAL AUDIO OUT   (RGB/DVI) AUDIO IN

COMPONENT IN

AV IN 1

RGB IN (PC)

RS-232C IN (CONTROL & SERVICE)

HDMI / DVI IN   2   1

ANTENNA / CABLE IN

Connection panel (See p.66)

| Touch button[2] | Description |
|---|---|
| ⏻/| | Turns the power on or off. |
| INPUT | Changes the input source. |
| HOME | Accesses the main menus, or saves your input and exits the menus. |
| ENTER | Selects the highlighted menu option or confirms an input |
| - VOL + | Adjusts the volume level. |
| ∨ CH ∧ | Scrolls through the saved channels. |

1    Intelligent sensor - Adjusts the image quality corresponding to the surrounding environment.
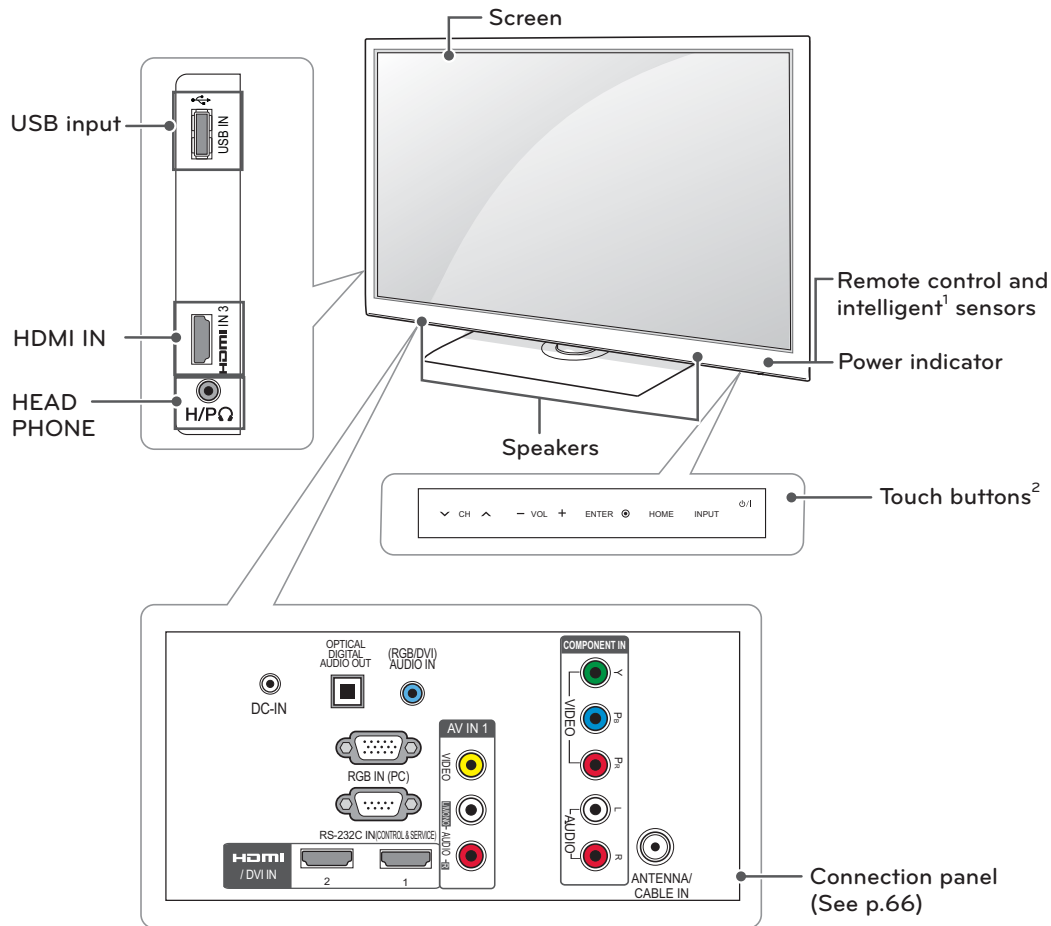2    All of the buttons are touch sensitive and can be operated through simple touch with your finger.

**NOTE**

You can set the Power indicator to on or off by selecting **OPTION** in the main menus.

ENGLISH

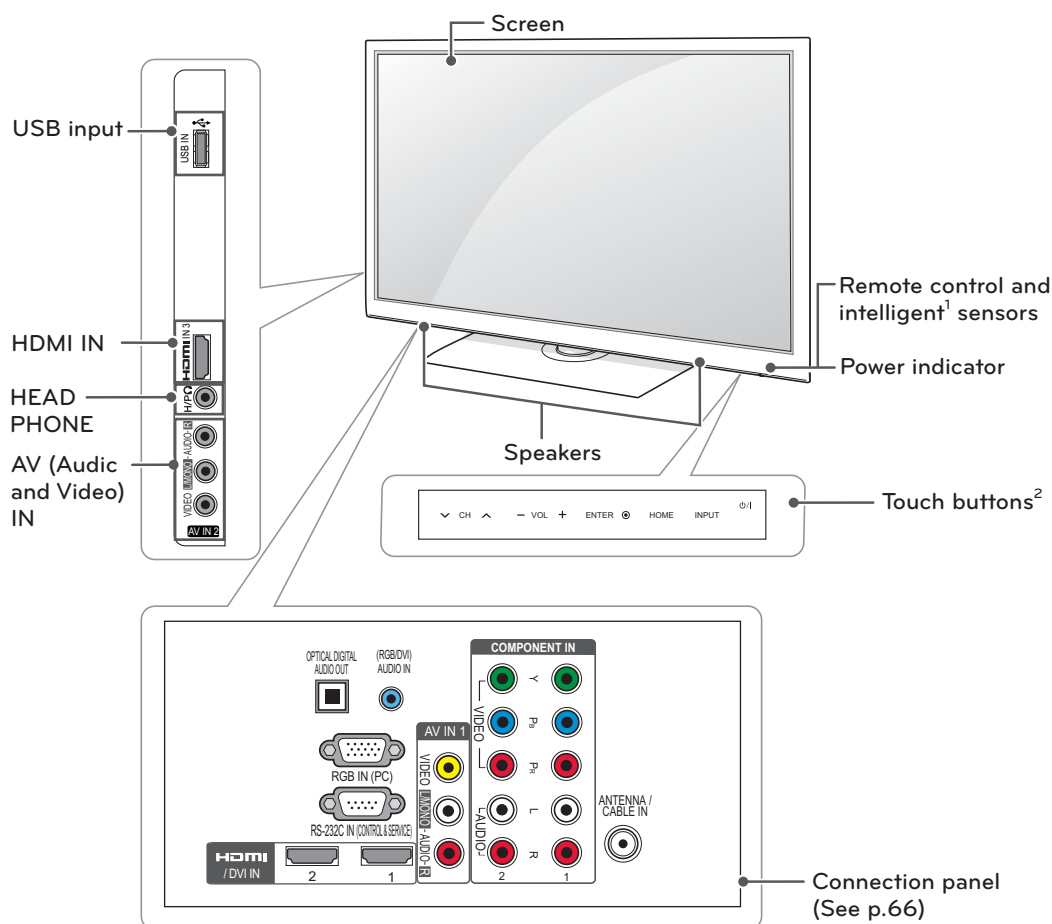## Lifting and moving the TV

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



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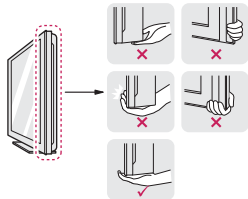


- When transporting a large TV, there should be 2 or 3 people.
- When transporting the TV by hand, hold the TV as shown in the following illustration.
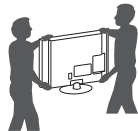


- When transporting the TV, do not expose the TV to jolts or excessive vibration.
- When transporting the TV, keep the TV upright, never turn the TV on its side or tilt towards the left or right.

## Setting up the TV

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

### Attaching the stand

Plasma

1    Lay the TV with the screen side down on a flat surface.

⚠ CAUTION

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

2    Assemble the parts of the STAND BODY with the STAND BASE of the TV.



3    Secure the TV and the stand with the 4 screws.



⚠ CAUTION

Tighten the screws firmly to prevent the TV from tilting forward. Do not over tighten.

To detach the stand,

1   Lay the TV with the screen side down on a flat surface.

2   Remove the 4 screws and pull the stand away from the TV.



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

    This will protect the opening from accumulating dust and dirt.

    When installing the wall mounting bracket, use the Protection cover.



Protection cover

1   Lay the TV with the screen side down on a flat surface.

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

2   Assemble the parts of the STAND BODY with the STAND BASE of the TV.



3   Secure the TV and the stand with the 4 screws.



⚠ CAUTION
Tighten the screws firmly to prevent the TV from tilting forward. Do not over tighten.

To detach the stand,

1   Lay the TV with the screen side down on a flat surface.

2   Remove the 4 screws and pull the stand away from the TV.
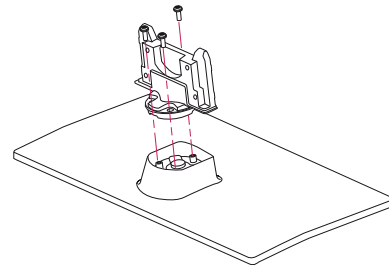


ENGLISH

## 19/22/26/32LV2500

1 Lay the TV with the screen side down on a flat surface.

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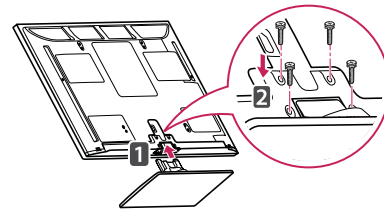
Lay a foam mat or soft protective cloth on the surface to protect the screen from damage.

2 Assemble the parts of the STAND BODY with the STAND BASE of the TV.
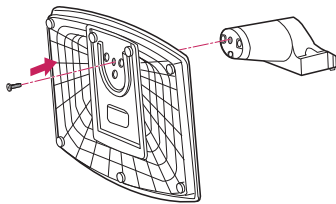


3 Secure the TV and the stand with the 2 screws.
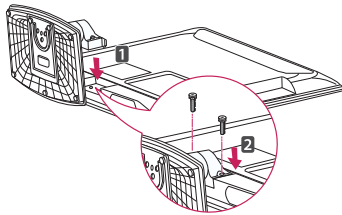


⚠ CAUTION ─────────────

Tighten the screws firmly to prevent the TV from tilting forward. Do not over tighten.

To detach the stand,

1 Lay the TV with the screen side down on a flat surface.

2 Remove the 2 screws and pull the stand away from the TV.
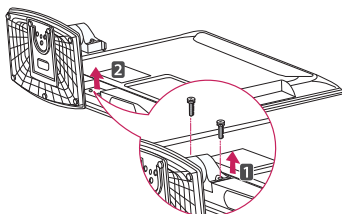


## 32/37/42/47LK450

1 Lay the TV with the screen side down on a flat surface.

⚠ CAUTION ─────────────

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

2 Assemble the parts of the STAND BODY with the STAND BASE of the TV.
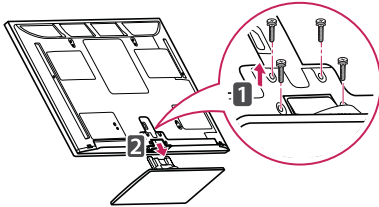


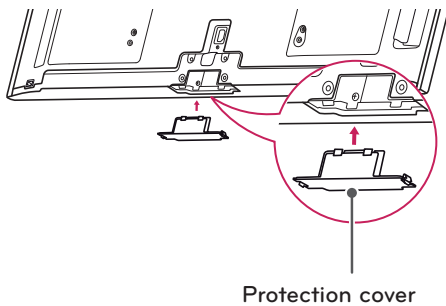3 Secure the TV and the stand with the 4 screws.



⚠ CAUTION ─────────────

Tighten the screws firmly to prevent the TV from tilting forward. Do not over tighten.

To detach the stand,

1   Lay the TV with the screen side down on a flat surface.

2   Remove the 4 screws and pull the stand away from the TV.



3   Push the supplied protection cover into the opening at the bottom of the TV until it locks in place.
    This will protect the opening from accumulating dust and dirt.
    When installing the wall mounting bracket, use the Protection cover.



Protection cover
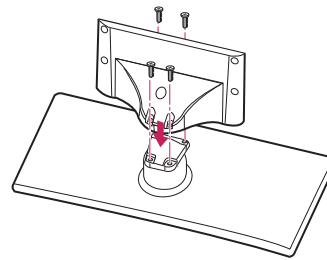
## Mounting on a table

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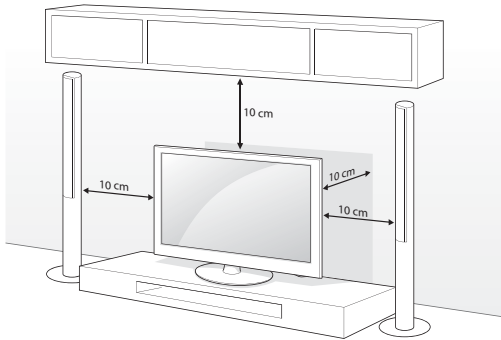


2 Connect the power cord to a wall outlet.
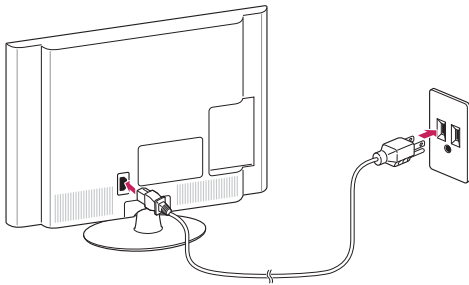


⚠ **CAUTION**

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

🛈 **NOTE**

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

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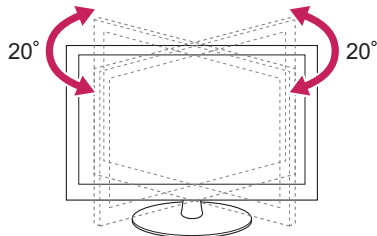
Fix the TV to a table to prevent from tilting forward, damage, and potential injury.
Mount the TV on a table, and then insert and tighten the supplied screw on the rear of the stand.
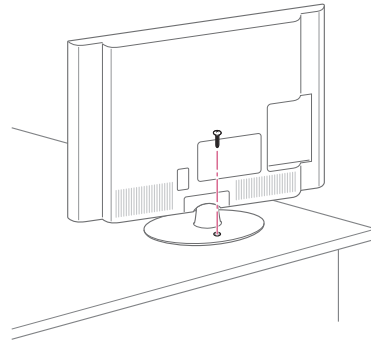


⚠ **WARNING**

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.

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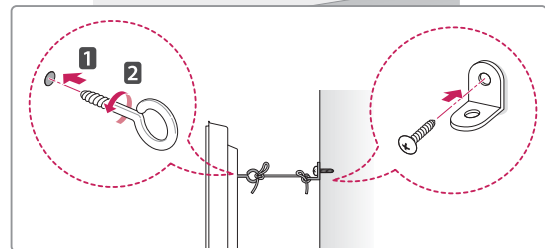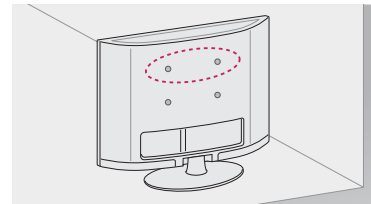


1 Insert and tighten the eye-bolts, or TV brackets and bolts on the back of the TV.
   - If there are bolts inserted at the eye-bolts position, remove the bolts first.

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)**

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.
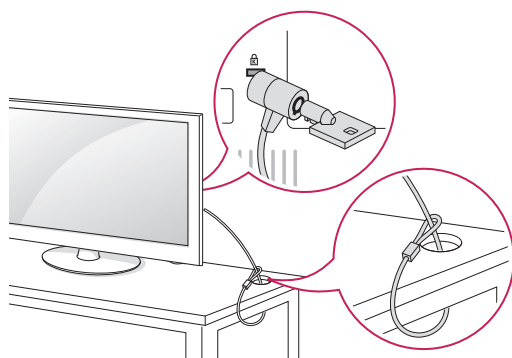


🚫 **NOTE**

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

## Mounting on a wall

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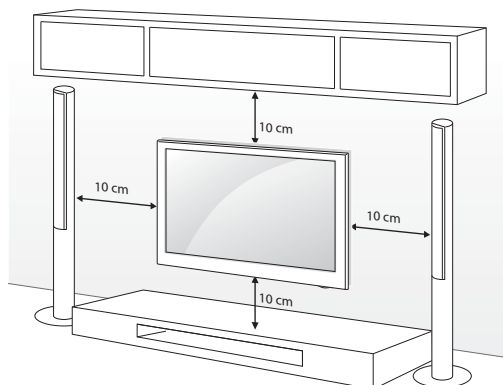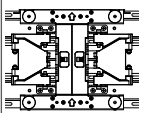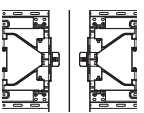


Make sure to use screws and wall mounts that meet the VESA standard. Standard dimensions for the wall mount kits are described in the following table.

| Model | 42/50PW340 42/50PW350 42/50PW350U 50PZ250 | 60PZ250 |
|---|---|---|
| VESA (A x B) | 400 x 400 | 600 x 400 |
| Standard screw | M6 | M8 |
| Number of screws | 4 | 4 |
| Wall mount bracket (optional) | PSW400B, PSW400BG, DSW400BG | PSW600B, PSW600BG |

| Model | 19/22/26LV2500 22/26LK330 | 32LV2500 32LV3500 32LK330 32LK430 32LK450 |
|---|---|---|
| VESA (A x B) | 100 x 100 | 200 x 100 |
| Standard screw | M4 | M4 |
| Number of screws | 4 | 4 |
| Wall mount bracket (optional) | LSW100B, LSW100BG | LSW100B, LSW100BG |

**ENGLISH**

| Model | 37LV3500 42LK430 37/42/47LK450 42/47LK520 | 42/47/55LV3500 |
|---|---|---|
| VESA (A x B) | 200 x 200 | 400 x 400 |
| Standard screw | M6 | M6 |
| Number of screws | 4 | 4 |
| Wall mount bracket (optional) | LSW200B, LSW200BG | LSW400B, LSW400BG, DSW400BG |

⚠ **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

Plasma `Plasma`

1  Gather and bind the cables with the cable holder.
   Install the LAN cable as shown to reduce the electromagnetic wave.

2  Push the cable management clip to be fixed firmly.
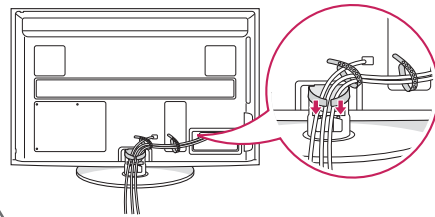


⚠ **CAUTION**

Do not move the TV by holding the cable management clip, as the cable management clip may break, and injuries and damage to the TV may occur.

32/37/42/47/55LV3500

1  Gather and bind the cables with the cable holder.
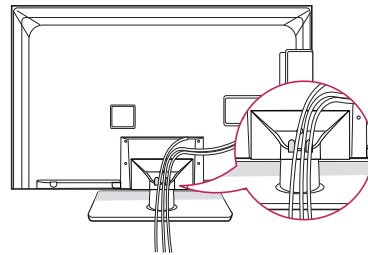


19/22/26/32LV2500

1  Gather and bind the cables with the cable holder.



ENGLISH
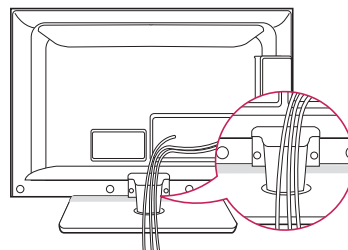
# REMOTE CONTROL

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. Be sure to point the remote control to the remote control sensor on the TV.
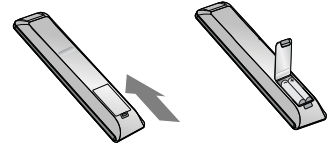
⚠ CAUTION

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

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

POWER
Turns the TV on or off.

ENERGY SAVING (See p.56)
Adjusts the Energy Saving setting.

AV MODE (See p.35)
Selects an AV mode.

INPUT (See p.35)
Rotates through inputs.
Also switches the TV on from standby.

TV
Returns to the last TV channel.
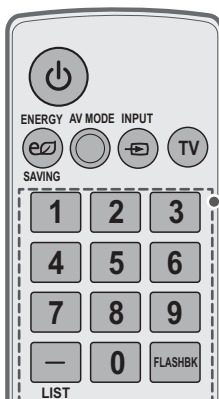
Alphanumeric buttons
Enters letters and numbers.

LIST (See p.31)
Accesses the saved channel list.
- (Dash)
Inserts a dash between numbers such as 2-1 and 2-2.

FLASHBK
Alternates between the two last channels selected (pressing repeatedly);
Selects a channel on the currently selected channel list.
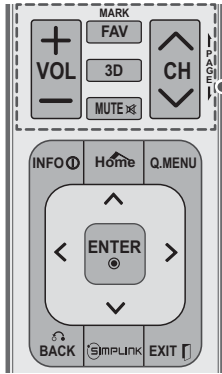
ENGLISH

**VOL**
Adjusts the volume level.

**MARK**
Selects a menu or option
FAV (See p.31)
Accesses your favorite channel list.

**3D (See p.38)**
Used for viewing 3D video.

**MUTE**
Mutes all sounds

**CH**
Scrolls through the saved channels.
PAGE
Moves to the previous or next screen.

**VOL**
Adjusts the volume level.
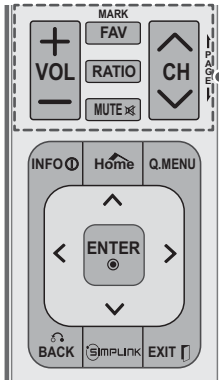
**MARK**
Selects a menu or option
FAV (See p.31)
Accesses your favorite channel list.

**RATIO (See p.34)**
Resizes an image.

**MUTE**
Mutes all sounds

**CH**
Scrolls through the saved channels.
PAGE
Moves to the previous or next screen.
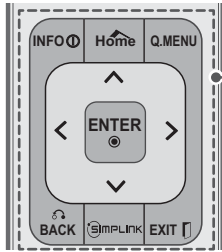
INFO (See p.32)
Views the information of the currently program and the screen.

HOME
Accesses the main menus, or saves your input and exit the menus.

Q. MENU (See p.36)
Accesses the quick menus.

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

BACK
Allows the user to move return one step in an interactive application or other user interaction function.

SIMPLINK (See p.71)
Accesses the AV devices connected to the TV;
Opens the SIMPLINK menu.

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

ENGLISH

Colored buttons
Access special functions in some menus.

3D SETTING ( Plasma ) (See p.40)
Used for viewing 3D video.

Control buttons
Controls the SIMPLINK compatible devices (USB,SIMPLINK).

FREEZE ( Plasma )
Freezes the current frame (It doesn't work at USB Mode and Simplink.)

RATIO (See p.34)
Resizes an image.
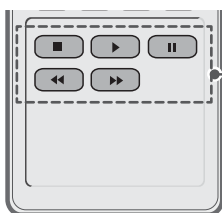
# WATCHING TV

## 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 items and a RF cable is optional.

### Connecting an antenna or basic cable

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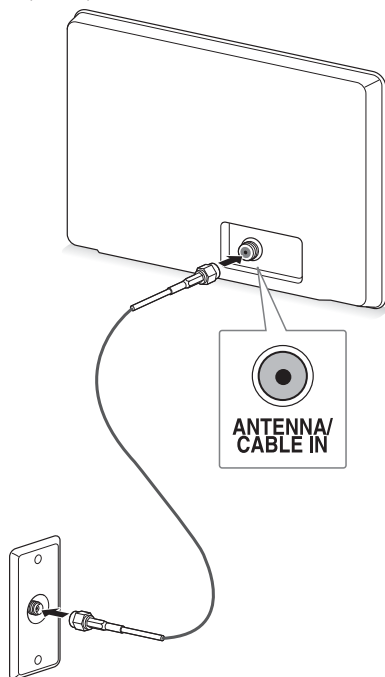


> **NOTE**
> • Use a signal splitter to use more than 2 TVs.
> • If the image quality is poor, install a signal amplifier properly to improve the image quality.
> • If the image quality is poor with an antenna connected, aim the antenna to the proper direction.
> • Visit http://lgknowledgebase.com for more information about the antenna and cable connection. Search for antenna.

## 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).
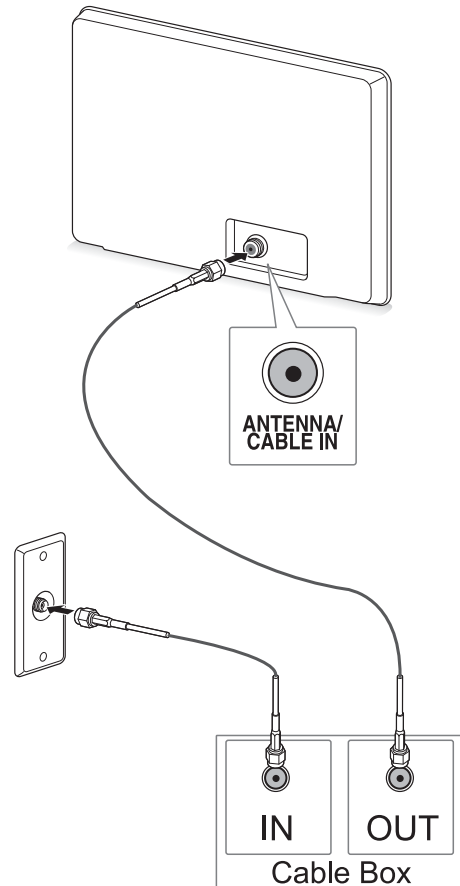


> ⚠ **CAUTION**
> • Make sure not to bend the copper wire of the RF cable.
>
> Copper wire
>
> • Complete all connections between devices, and then connect the power cord to the power outlet to prevent damage to your TV.
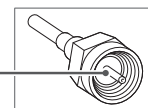
# Turning the TV on for the first time

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. The Power indicator turns red and the TV switches to Standby mode.

2   In Standby mode, press **POWER** 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 **Initial Setting** by accessing **OPTION** in the main menus.

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

| | |
|---|---|
| **Language** | Selects a language to display. |
| ⇩ | |
| **Mode Setting** | Selects **Home Use** for the home environment. |
| ⇩ | |
| **Power Indicator ( LCD )** | Sets the power indicator. |
| ⇩ | |
| **Time Zone** | Selects the time zone and daylight saving. |
| ⇩ | |
| **Auto Tuning** | Scans and saves available channels automatically. |
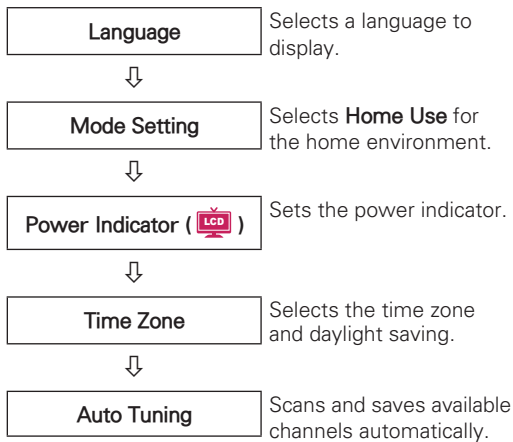
> **NOTE**
>
> • To display images in the best quality for your home environment, select **Home Use**.
> • **Store Demo** is suitable for the retail environment.
> • If you select **Store Demo**, the previously customized settings will switch to the default settings of **Store Demo** in 3 minutes.
> • **Power Indicator** feature is disable in "Step2. Mode Setting - Store Demo".

4   When the basic settings are complete, press **ENTER**.

> **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 **POWER**.

# Watching TV

1 In Standby mode, press **POWER** to turn the TV on.

2 Press **INPUT** and select TV.

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

| Button | Description |
|---|---|
| CH (^, v) | Scrolls through saved channels. |
| LIST[1] | Selects a channel on the saved channel list. |
| 0 - 9 | Selects a channel by entering numbers. |
| VOL (+, -) | Adjusts the volume level. |
| MUTE | Mutes all sounds. |
| AV MODE[2] | Selects an AV mode (See p.35). |
| ●.MENU | Accesses the quick menus (See p.36). |
| FLASHBK | Alternates between the last two channels selected. |
| RATIO | Resizes an image (See p.34). |
| FREEZE | Freezes the current frame while you are watching TV ( Plasma ). |

1 The Lock icon (🔒) appears in front of a channel blocked with parental control.
2 Each **AV mode** has the optimized image and sound settings. If you select **Off**, the image and sound settings will be restored to the previously customized settings.

4 To turn the TV off, press **POWER**.
The TV switches to Standby mode.

# Managing channels

## Setting up channels

**Storing channels**

To store channels automatically,

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

2 Press the Navigation buttons to scroll to **CHANNEL** and press **ENTER**.

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

4 Select **Start** to start automatic tuning.
The TV scans and saves available channels automatically.

> **! NOTE**
> If the TV scans and saves channels, the previously saved channels will be overwritten.

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

To store channels manually,

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

2 Press the Navigation buttons to scroll **CHANNEL** and press **ENTER**.

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

4 Scroll through the channel types, and then add or delete channels.

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

> **! NOTE**
> • If the TV scans a blocked channel, you will be prompted to enter your password to keep the channel scanned.
> • You can store up to 1000 channels. The number of channels that you can store differs depending on the broadcasting signal environment.
> • The channels are stored in the order of **DTV**, **TV**, **Cable DTV** and **Cable TV**.

ENGLISH

## Editing your channel list

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

2   Press the Navigation buttons to scroll to **CHANNEL** and press **ENTER**.

3   Press the Navigation buttons to scroll to **Channel Edit** and press **ENTER**.

4   Edit channels using the following buttons.

| Button | Description |
|---|---|
| ∧ | Highlights the channel type. |
| ∧, ∨, < , > | Scrolls through channel types or channels. |
| ENTER | Selects the highlighted channel to view. |
| CH (∧, ∨) | Moves to the previous or next page. |
| Blue button | Adds or deletes a channel. The deleted channel displays in blue. |
| FAV | Registers or cancels the current channel in favorite channel list. |
| ●.MENU | Selects your desired favorite channel group. |
| Yellow button | Blocks or unblocks a channel. |

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

## Selecting a channel on the channel list

1   Press **LIST** to access the channel list.
    - To move to the previous or next page, press CH (∧, ∨).
    - To tune to the "Channel menu - Channel Edit", press Blue button.

2   Select a channel you want and press ENTER.

! **NOTE**
• The Lock icon (🔒) appears in front of a channel blocked with parental control.
• If you select the blocked channel, you will be prompted to enter your password.

## Using favorite channels

Add the channels that you watch frequently to the favorite list.

### Setting up your favorite list

1   Select a channel to add to the favorite list.

2   Press **FAV**.

3   Press the Navigation buttons to select your desired favorite channel group.

4   Press the Yellow button to register or cancel the current channel in favorite channel list. Press the Blue button to move to **Channel Edit**.

4   Press the Navigation buttons to scroll to **Favorite**.

5   Press **ENTER** to add the selected channel to the favorite list.

6   When you are finished, press **EXIT**.

! **NOTE**
You can also setup Favorite List in the CHANNEL menu - Channel Edit.

### Selecting a channel on the favorite list

1   Press **FAV** to access the favorite list.
    - To move to the previous or next page, press CH (∧, ∨).

2   Select a channel you want and press **ENTER**.

**ENGLISH**

## Checking current program info

Press **ENTER** to view the information of the currently program while you are watching.
The following information appears at the top of the screen.

Banner information     Program title     End time     Current time

| ⎘ DTV | 8–1 | Brief Info Title Test... | | Sun, Feb 21, 2010 10: 40 AM |
| DOLBY DIGITAL HD | | 10:10 AM   ▮▬▬▬   11:40 AM | ⊙ Multilingual ꓷꓷD CC Caption 16:9 1080i 🔒 TV–PG D L S V | |
| | CNN | Next – 11:40 AM    News | | |

Start time     Progress bar
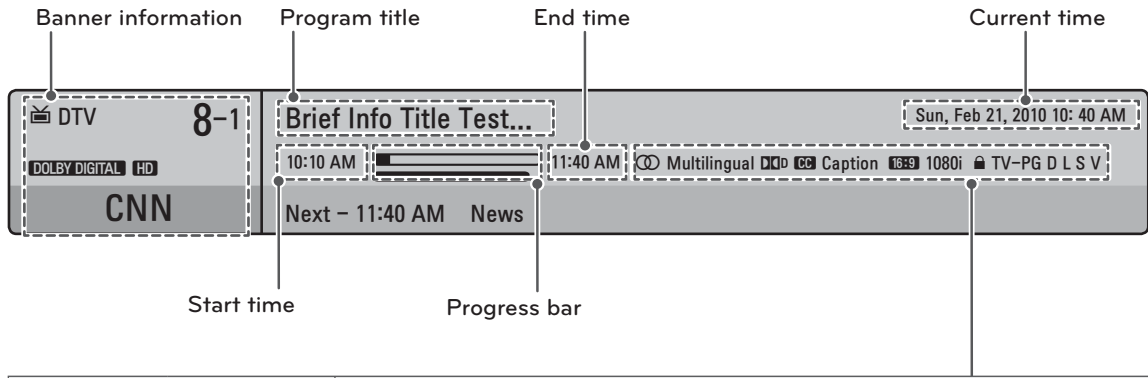
| Icon | | Description |
|---|---|---|
| Multilingual | ⊙ | The program contains two or more audio language services. You can select an audio language you want by using the quick menu. |
| Dolby Digital | ꓷꓷD | The program contains a Dolby Digital audio signal in TV and HDMI input sources. |
| Caption | CC | The program contains one or more language caption services. You can select a closed caption you want by using the quick menu. |
| Aspect ratio | 4:3<br>16:9 | The original aspect ratio of the video is 4:3.<br>The original aspect ratio of the video is 16:9 (wide). |
| Resolution | 480i<br>480p<br>720p<br>1080i<br>1080p | The video resolution is 720 x 480i.<br>The video resolution is 720 x 480p.<br>The video resolution is 1280 x 720p.<br>The video resolution is 1920 x 1080i.<br>The video resolution is 1920 x 1080p. |
| Rating | 🔒 | The program contains Rating information.<br>See "LOCK settings" on p.62. |

ENGLISH

📺 DTV **8**–1  CNN                    ↕ Ch. Change   ▶ Next   ◉ Watch

**Brief Info Title Test...**   10:10 AM  ▬▬▬▬▬▬▬▬▭ 11:40 AM   ◯◯ Multilingual D⍺D CC Caption 16:9 1080i 🔒 14 TV–PG D L S V

No information
Sarah Bradley, Steve Gray and Brendon Pongia present the latest in fashion, the arts, entertainment, lifestyle and cooking, with regular and special guests.
Sarah Bradley, Steve Gray and Brendon Pongia present the latest in fashion, the arts, entertainment, lifestyle and cooking,

▼

☐ Up
◼ Down

| Button | Description |
|---|---|
| INFO | Shows current channel information |
| < or > | Shows previous or next channel information. |
| ∧ or ∨ | Changes a channel. |

# 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 pressing ●. **MENU** or 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.
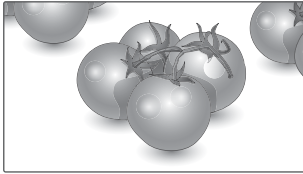
- **Just Scan**: Displays video images in the original size without disappearing parts at the edge of the image.
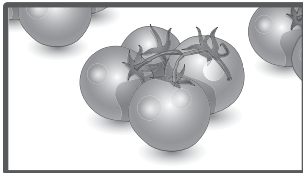
> **❗ NOTE**
> - If you select **Just Scan**, you may see image noises at the edge of the original signal.
> - The input sources: DTV, Cable TV,Component, HDMI-DTV, and DVI-DTV (720p/1080i/1080p) support Just Scan.

- **Set By Program**: Displays images in the same aspect ratio with the original image.

- **4:3**: Resizes images at the standard 4:3 without distortion.
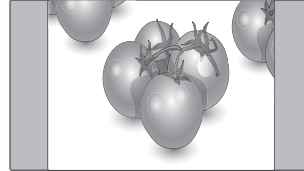
- **Zoom**: Enlarges an image to fit the screen width. The top and bottom of the image may not appear.
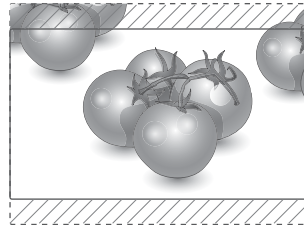
> **❗ NOTE**
> If you access, **Aspect Ratio** in the ●uick menus,
> - Press **<** or **>** to stretch an image vertically.
> - Press **∧** or **∨** to move the zoom focus up or down.

- **Cinema Zoom**: Enlarges an image in the cinemascope ratio, 2.35:1.
  - To change the ratio of the cinema zoom, press **<** or **>** and its range is from 1 to 16.
  - To move the zoom focus up or down, press **∧** or **∨**.
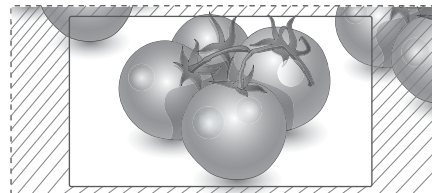
> **❗ NOTE**
> If you enlarge or reduce an image, the image may be distorted.

## Changing AV modes

Each **AV mode** has the optimized image and sound settings.
Press **AV MODE** repeatedly to select an appropriate modes.

| Mode | Description |
|------|-------------|
| Off | Changes to the previously customized settings. |
| Cinema | Uses the optimized image and sound setting for the cinematic look. |
| Sport | Uses the optimized image and sound setting for dynamic action sports. |
| Game | Uses the optimized image and sound setting for fast gaming. When playing a video game using PlayStation or Xbox. it is recommended to use the Game mode. When in Game mode, functions related to picture quality will be optimized for playing games. |

## Using the input list

### Selecting an input source

1 Press **INPUT** to access the input sources.
  - The connected device displays on each input source.

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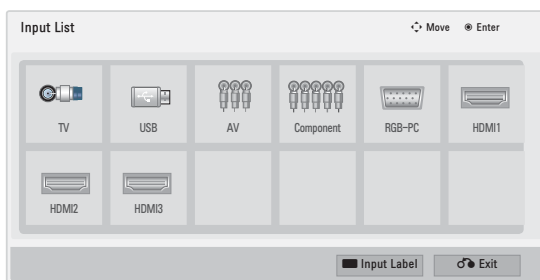


| Input source | Description |
|--------------|-------------|
| TV | Watch TV over the air, cable, and digital cable broadcast. |
| USB | Use the movie, photo or music file. |
| AV | Watch the contents in a VCR or other external devices. |
| Component | Watch the contents in a DVD or other external devices, or through a digital set-top box. |
| RGB-PC | View a PC display on the screen. |
| HDMI | Watch contents in a HTS or other high definition devices. |

The connected input sources display in black and the disconnected input sources in grey.
- To add an input label, press the Blue button. You can easily identify a device connected to each input source.
- If you connect a new external device to the TV, a pop-up window appears. Select Yes on the pop-up window to select an input source.
- If you select "**SIMPLINK** and **On**", the pop-up window for the HDMI input will not display.

### Adding an Input label

Add a label to an input source so that you can easily identify a device connected to each input source.
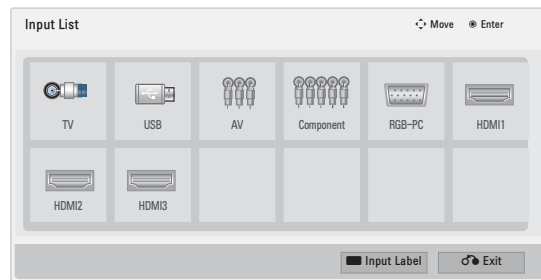


1 Press **INPUT** to access the input sources.

2 Press the Navigation buttons to scroll to one of the input sources.

3 Press the **Blue** button.

4 Press the Navigation buttons to scroll to one of the input labels and press **ENTER**.

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

## 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 **HOME** to access the main menus.

2 Press the Navigation buttons to scroll to **LOCK** and press **ENTER**.

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

4 Select **On** 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 **BACK**.

> 🔔 **NOTE**
>
> • The TV is programmed to remember the last setting after you turn the TV off.
> • If you turn the TV off with the Key lock feature activated, press the ⏻ / I, INPUT, CH (^, ∨) buttons on the TV or POWER, INPUT, CH (^, ∨) or Number buttons on the remote control.
> • If you press any button on the TV with the Key lock feature activated, ⚠ Key Lock appears on the screen.

## Using the quick menu

Customize the frequently using menus.

1 Press ●. **MENU** to access the quick menus.

2 Press the Navigation buttons to scroll through the following menus.
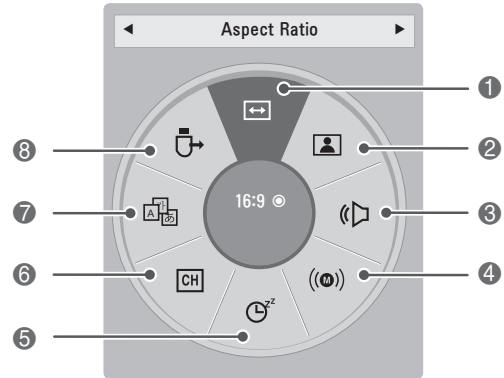


| | Menu | Description |
|---|---|---|
| ❶ | Aspect Ratio | Changes the image size (16:9, Just Scan, Set By Program, 4:3, Zoom, Cinema Zoom). |
| ❷ | Picture Mode | Changes the image mode (Intelligent sensor, Vivid, Standard, APS ( Plasma ), Cinema, Sport, Game, Expert1, Expert2). |
| ❸ | Sound Mode | Changes the sound mode (Standard, Music, Cinema, Sport, Game). |
| ❹ | Multi Audio | Changes the audio language (Digital signal). |
| | SAP | Changes the MTS sound (Analog signal). |
| ❺ | Sleep Timer | Sets the length of time until the TV to turns off. |
| ❻ | Del/Add | Edits the channels to add or delete the channel. |
| ❼ | Caption | Activates or deactivate the subtitles. |
| ❽ | USB Device | Ejects a USB device when a USB device is connected. |

> 🔔 **NOTE**
>
> The available menus and options may differ from the input source that you are using.

3 Press the Navigation buttons to scroll to the option you want.

4 When you are finished, press ●. **MENU**.

## Viewing the on-screen manual (📺)

View general information such as remote control key functions on your TV.

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

2 Press Green button to view the on-screen manual.

3 View the following information.
Press the Navigation buttons to scroll through the on-screen information.
Press Red button to go to the Index page.
Press Blue button to play the Simple Manual automatically or manually.

- Remote control key functions
- How to select a language
- Main menus and their descriptions
- Automatic channel tuning
- USB device connection
- NetCast menus and their descriptions
- Disclaimer information

🛈 **NOTE**

The TV will be muted while you are viewing the information.

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

## Using the customer supprot

### Testing the Picture / Sound

To execute picture and sound tests.

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

2 Press the Red button to access **Customer Support**.

3 Press the Navigation buttons to scroll **Picture Test** or **Sound Test** and press **ENTER**.

4 Press the Navigation buttons to scroll to **Yes** and press **ENTER**.

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

## Using the product or service information

To check the product or service information

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

2 Press the Red button to access **Customer Support** and press **ENTER**.

3 Press the Navigation buttons to scroll **Product/Service Info.**.
You can check the various product/Service infomation based on your model.

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

# 3D IMAGING (FOR PLASMA TV)

## 3D TECHNOLOGY

This TV can display in 3D via 3D broadcasting or when the TV is connected to a compatible device, such as a Blu-ray 3D Player. You need such a device to watch the TV in 3D. The 3D TV displays two separate pictures formatted for each eye. The viewer needs to wear 3D glasses in order to see these images in 3D format.

### ⚠ WARNING

- When viewing 3D imaging, watch the TV from an effective viewing angle and within the appropriate distance. The appropriate angel and distance are provided on the next page of this manual. If you exceed this viewing angle or distance, you may not be able to view the 3D imaging. Furthermore, the 3D imaging may not display if it is viewed while you are lying down (For LED LCD TV).
- If you watch the 3D imaging too closely or for a long period of time, it may harm your eyesight.
- Watching the TV or playing video games that incorporate 3D imaging with the 3D glasses for a long period of time can cause drowsiness, headaches or fatigue to you and/or your eyes. If you have a headache, or otherwise feel fatigued or drowsy, stop watching the TV and take a rest.
- Pregnant woman, seniors, persons with heart problems or persons who experience frequent drowsiness should refrain from watching 3D TV.
- Some 3D imaging may cause you to duck or dodge the image displayed in the video. Therefore, it is best if you do not watch 3D TV near fragile objects or near any objects that can be knocked over easily.
- Please prevent children under the age of 5 from watching 3D TV. It may affect their vision development.
- Warning for photosensitization seizure: Some viewers may experience a seizure or epilepsy when exposed to certain factors, including flashing lights or images in TV or video games. If you or anybody from your family has a history of epilepsy or seizure, please consult with your doctor before watching 3D TV.
  Also certain symptoms can occur in unspecified conditions without any previous history. If you experience any of the following symptoms, immediately stop watching the 3D imaging and consult a doctor: dizziness or lightheadedness, visual transition or altered vision, visual or facial instability, such as eye or muscle twitching, unconscious action, convulsion, loss of conscience, confusion or disorientation, loss of directional sense, cramps, or nausea.  Parents should monitor their children, including teenagers, for these symptoms as they may be more sensitive to the effects of watching 3D TV.
- Risk of photosensitization seizure can be reduced with the following actions.
  » Take frequent breaks from watching 3D TV.
  » For those who have  vision that is different in each eye, they should watch the TV after taking vision correction measures.
  » Watch the TV so that your eyes are on the same level as the 3D screen and refrain from sitting too closely to the TV.
  » Do not watch the 3D imaging when tired or sick, and avoid watching the 3D imaging for a long period of time.
  » Do not wear the 3D glasses for any other purpose than viewing 3D imaging on a 3D TV.
  » Some viewers may feel disoriented after watching 3D TV. Therefore, after you watch 3D TV, take a moment to regain awareness of your situation before moving.

ENGLISH

## NOTE

- To watch the TV in 3D, you must put on your 3D glasses. For best results, you should wear LG Brand 3D glasses. The 3D imaging may not display properly when using another brand of 3D glasses. Please see the 3D glasses manual for instructions on how to use the 3D glasses.
- After powering on the TV, a few seconds may be needed for your TV to calibrate.
- It may take a moment for you to see the 3D imaging if you look away from the TV and then revert your eyes back to the 3D program.
- The TV may flicker slightly if the 3D imaging is displayed under 3 wavelength fluorescent light (50 Hz - 60 Hz) or magnetic fluorescent lamp (50Hz - 60 Hz). In such instances, it is recommended to turn the lights off.
- If there is an obstacle between the TV and the 3D glasses, the 3D imaging may not display properly.
- Do not use the TV in close proximity to other electronic equipments and IR equipments.
- In Analog TV, 3D Imaging does not work.
- When watching 2D images, it is recommended to take off the 3D glasses. If you watch 2D images with the 3D glasses on, you may see distorted images.

## When using 3D Glasses

## ⚠ CAUTION

- 3D glasses are sold separately. Refer to the 3D glasses manual for operating instructions.
- Do not use the 3D glasses to replace your corrective glasses, sunglasses or protective goggles.
- Do not store the 3D glasses in hot or cold locations.
- Do not drop objects onto the 3D glasses. Do not drop or bend the glasses.
- Since the lenses of the 3D glasses are easily scratched, make sure to clean only with a soft cloth. Shake off any dust before using the cloth since the glasses are easily scratched.

## 3D Imaging viewing range

TV size, viewing angle & other circumstances may change the viewing distance and the angle of view.

| Viewing Distance | Viewing Angle |
|---|---|
| 2 m - 15 m (6.5 ft - 49.2 ft) | 120 ° (When the viewing distance is 2 m (6.5 ft)) |

TV

2 m    60 °    60 °    2 m

15 m

ENGLISH
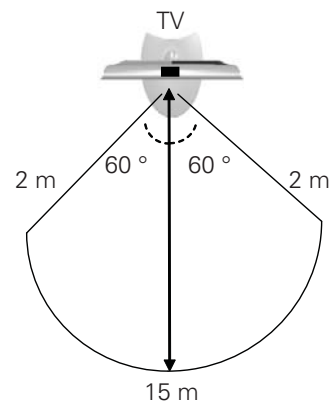
# Viewing 3D Imaging

1    Play the video produced in 3D.

2    Press **3D**.

3    Press the Navigation buttons to scroll the **3D video** or **2D video** and press **ENTER**.

4    Press the Navigation buttons to scroll the shape and press **ENTER**.

| Mode | Description |
|---|---|
| 2D » 3D | Changed from 2D imaging to 3D imaging. |
| Top & Bottom | |
| Side by Side | |
| Checker Board | |
| Frame Sequential | |

5    Wear the 3D glasses.

6    Press the Navigation buttons to scroll the **Enter** and press **ENTER**.

Power on your 3D glasses and put them on.
Sit 2 meters from TV to enjoy the best 3D view.

| Enter | Cancel |
|---|---|
| 3D Setting | |
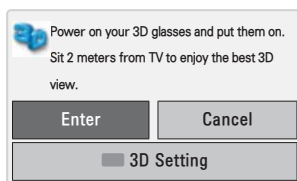
7    Press **3D** button to **Turn off 3D mode** or **Turn off 2D mode**.

Turn off 3D mode.

| 2D Video | |
|---|---|
| Enter | Cancel |
| 3D Setting | |

Turn off 2D mode.

| 3D Video | |
|---|---|
| Enter | Cancel |

---
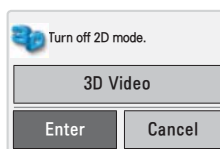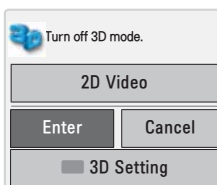
**Using 3D quick menu option**

1    Press **3D SETTING**.

2    Use the following options while viewing 3D imaging.

3D Setting
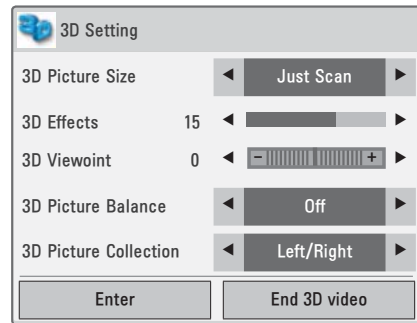
| | | |
|---|---|---|
| 3D Picture Size | ◄ | Just Scan | ► |
| 3D Effects | 15 ◄ | | ► |
| 3D Viewoint | 0 ◄ | − IIIIIIIIIIIIII + | ► |
| 3D Picture Balance | ◄ | Off | ► |
| 3D Picture Collection | ◄ | Left/Right | ► |
| Enter | | End 3D video |

| Button | Description |
|---|---|
| 3D Picture Size | 3D mode에서 영상의 주변부를 잘라내고 전체화면으로 확대하는 기능 |
| 3D Effects | 2D to 3D mode에서 영상의 배경과 물체 간의 거리를 조절하여 입체감을 높여주는 기능 |
| 3D Viewpoint | 3D mode에서 배경과 물체의 구분 없이 영상을 화면의 앞 또는 뒤쪽으로 움직여 입체감을 높여주는 기능 |
| 3D Picture Balance | 3D mode에서 Left와 Right 이미지의 밝기, 색 등이 차이나는 경우 이를 자동으로 보정하는 기능 |
| 3D Picture Collection | 3D mode에서 Left와 Right 이미지의 순서를 바꾸어 주는 기능 |

⚠ **CAUTION**

- Some menus may not work while watching the TV in 3D.
- The 3D imaging mode is disabled automatically when switching DTV channels.
- The screen may not be displayed properly if you view 2D DTV images in 3D imaging mode.
- 3D effect can be seen when 3D Mode is selected appropriately for the 3D input signal supplied to the TV.
- For *mpo files (3D camera files), the 3D imaging mode is enabled automatically.
- To enable the 3D imaging mode, you can also press the ENTER button on the Magic Motion remote control.

ⓘ **NOTE**

* For LED LCD TV
- If you select 3D mode, "Power indicator" is turned off automatically.
- While watching 3D imaging, you cannot adjust video/audio settings using the menu.
- You can only choose "Standard, Cinema, Game" with the AV MODE button on remote control. AV Mode is set as Standard while playing in 3D.
- Energy Saving is disabled while playing in 3D.
- If you'd like to play the BGM using *.mpo file(3D camera file), In advance, the contents path for BGM should be set on full-sized photo view screen which isn't *.mpo file(3D camera file).

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**Supported format**

| | Signal | Resolution | Horizontal Frequency (kHz) | Vertical Frequency (Hz) | Playable 3D video format |
|---|---|---|---|---|---|
| HDMI Input | 720p | 1280x720 | 45.00 | 60 | Top & Bottom, Side by Side HDMI (V. 1.4 with HDMI 3D) Frame Packing |
| | 1080i | | 33.75 | | Top & Bottom, Side by Side |
| | 1080p | 1920x1080 | 67.50 | | Top & Bottom, Side by Side, Checker Board Single Frame Sequential |
| | | | 27.00 | 24 | Top & Bottom, Side by Side, Checker Board HDMI (V. 1.4 with HDMI 3D) Frame Packing |
| | | | 33.75 | 30 | Top & Bottom, Side by Side Checker Board |
| USB Input | 1080p | 1920x1080 | 33.75 | 30 | Top & Bottom, Side by Side Checker Board, MPO (Photo) |
| Component (For Plasma TV) | 720p | 1280x720 | 45.00 | 60 | Top & Bottom, Side by Side |
| | 1080i | 1920x1080 | 33.75 | 60 | |

| | Signal | Playable 3D video format |
|---|---|---|
| DTV | 720p, 1080i | Top & Bottom, Side by Side |

# ENTERTAINMENT

## 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 (See "Browsing files" on page 40).
Connect a USB flash memory or USB memory card reader to the TV as shown on the following illustration. The My media screen appears.
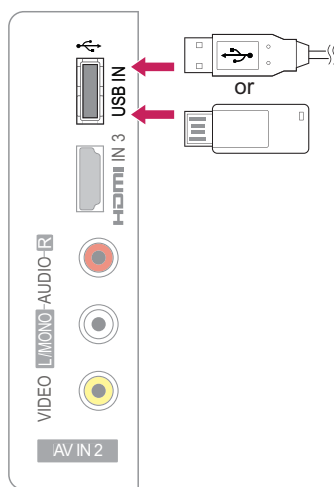


To disconnect a USB storage device, make sure to end the connection properly to prevent damages to the TV or files.

1 Press ●.MENU to access the quick menus.

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

3 Disconnect the USB storage device only when the message says that it is safe to remove.

⚠ **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 be not covered by the warranty.

**Tips for using USB storage devices**

• The TV recognizes only a USB storage device.
• If you connect a USB storage device to the TV through a USB hub, your TV may not recognize the USB storage device.
• The TV may not recognize a USB storage device that uses its own.
• The recognition speed of a USB storage device may differ depending on the device.
• Only use a USB storage device which has normal music or image files.
• Use only USB storage devices that are formatted as a FAT 32 or NTFS file system.
• If you format a USB storage device as a NTFS file system, you cannot delete the saved files.
• You may need to connect a USB storage device to an external power supply with a power adapter.
• If the TV does not recognize a connected USB storage device, replace the cable and try again. Do not use an excessively long cable.
• The TV does not support some USB storage devices properly.
• You can use a multi-partition (up to 4) USB storage device.
• You can use up to 4 USB storage devices at a time by using a USB multi-card reader.
• The file alignment method of a USB storage device is similar to the one of Window XP.
• You cannot create or delete a folder saved in a USB storage device directly on the TV.
• The number of characters for a file name is up to 100 English characters.
• The recommended capacity for a USB external hard disk is 1 TB or less and for a USB storage device is 32 GB or less.
• If a USB external hard disk with the Energy Saving feature does not work, turn the USB external hard disk off and on again to make it work properly. For more information, refer to the user manual of the USB external hard disk.
• USB storage devices below USB 2.0 are supported as well. But they may not work properly in the movie list.

## Browsing files

Access the photo, music, or movie lists and browse files.

1   Connect a USB storage device.

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

3   Press the Navigation buttons to scroll to **My Media** and press **ENTER**.

4   Press Navigation buttons to scroll to **MOVIE LIST**, **PHOTO LIST**, or **MUSIC LIST** and press **ENTER**.

MY MEDIA

Movie List    Photo List    Music List
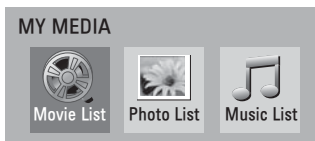
5   Select **Drive1** to access the connected USB storage device.

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.
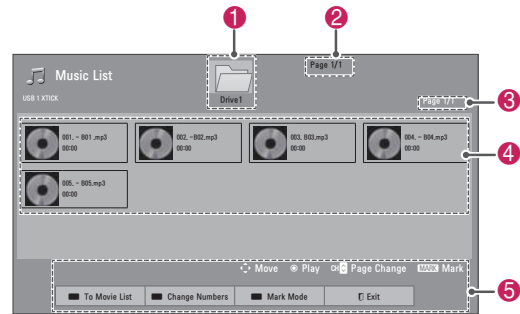
| No. | Description |
|---|---|
| ❶ | Return to the previous level? |
| ❷ | Current page number/total number of pages |
| ❸ | Current page number/total number of pages of contents |
| ❹ | Contents under the folder focused on ❶ |
| ❺ | Available buttons on the remote control |
| **Button** | **Description** |
| Green button | Move to **Photo List**, **Music List**, or **Movie List**. |
| Yellow button | **Change Numbers**: Changes the number or thumbnails displayed at a time. |
| Blue button | Allows you to mark certain files. |

Tips for using USB storage devices

| Type | Supported file format |
|---|---|
| **Video** | • MPG, MPEG, DAT, TS, TRP, TP, VOD, MP4, MOV, MKV, DivX, AVI, Motion JPEG (AVI, MP4, MKV), ASF, WMV, FLV<br>• Resolution:<br>  under 1920 pixel (width) x 1080 pixel (height)<br>• Frame Rate:<br>  under 30 frame/sec (1920 x 1080), under 60 frame/sec (1280 x 720)<br>• Max bitrate of playable movie file: 20 Mbps (Mega bit per second)<br>• Bit rate of audio format: within 32 kbps to 320 kbps (MP3)<br>• Supported subtitle format: *.smi, *.srt, *.sub (MicroDVD, SubViewer 1.0/2.0), *.ass, *ssa, *txt (TMPlayer), *.psb (PowerDivX) |

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| Type | Supported file format | | | |
|------|------|------|------|------|
| **Photo** | • JPG<br>• Available size<br>Baseline: 64 pixel (W) x 64 pixel (H) - 15360 pixel (W) x 8640 pixel (H)<br>Progressive: 64 pixel (W) x 64 pixel (H) - 1920 pixel (W) x 1440 pixel (H)<br>* The TV cannot display most of the JPG files saved in the progressive option.??<br>• It may take some time to view high-resolution images in full screen. | | | |
| | **For 3D TV** | | | |
| | | **File Extensions** | **Item** | **Profile** |
| | **2D** | jpeg<br>jpg<br>jpe | Supproted file format | • SOF0: baseline<br>• SOF1: Extend Sequential<br>• SOF2: Progressive |
| | | | Photo size | • Min: 64 x 64<br>• Max - Normal Type: 15360 (W) x 8640 (H)<br>• Progressive Type: 1920 (W) x 1440 (H) |
| | **3D** | mpo | Supproted file format | • mpo |
| | | | Photo size | • 4:3 size: 3,648 x 2,736<br>2,592 x 1,944<br>2,048 x 1,536<br>• 3:2 size: 3,648 x 2,432 |
| **Music** | • MP3<br>• Bit rate range 32 Kbps - 320 Kbps<br>• Sampling rate (Sampling Frequency)<br>MPEG1 layer 3: 32 kHz, 44.1 kHz, 48 kHz<br>MPEG2 layer 3: 16 kHz, 22.05 kHz, 24 kHz<br>MPEG2.5 layer 3: 8 kHz, 11.025 kHz, 12 kHz<br>* A copy-protected file will not play. | | | |

## Viewing videos

Play video files on the TV. Your TV displays all of the video files saved in a USB storage device.

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

2   Press the Navigation buttons to scroll to **MY MEDIA** and press **ENTER**.

3   Press the Navigation buttons to scroll to **Movie List** and press **ENTER**.

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

5   Press the Navigation buttons to scroll to a folder/file you want and press **ENTER**.

6   Play a movie by using the following menus/ buttons.



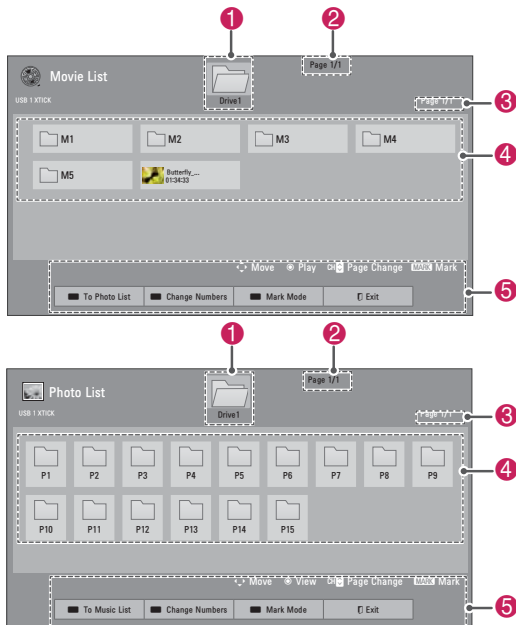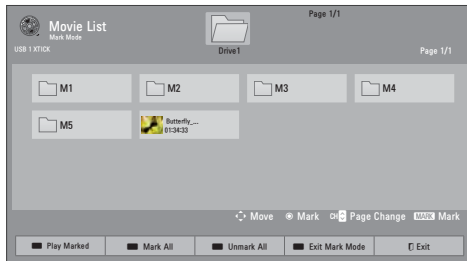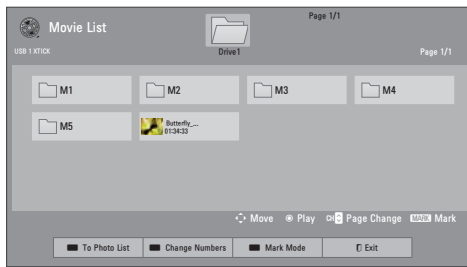| Button | Description |
|---|---|
| Navigation button | Scrolls the file. |
| ENTER | Plays the highlighted file or enters the mark mode. |
| CH (∧, ∨) | Moves to the previous or next page. |
| MARK | Enters the mark mode. |
| **Menu** | **Description** |
| Play Marked | Plays the selected video. |
| Mark All | Selects all files. |
| Unmark All | Clears all of your selections. |
| Mark Mode | Exit the Mark Mode. |

**NOTE**

- ⬛5₀ : Abnormal files are displayed using this graphic.
- ⬛5☒ : Non-supported files are displayed using this graphic.

7   Control playback by using the following buttons.



| Button | Description |
|---|---|
| ■ | Stops the playback. |
| ▶ | Plays a video. |
| II | Pauses or resumes the playback |
| ◀◀ | Scans backward in a file |
| ▶▶ | Scans forward in a file |
| II and ▶▶ | Plays videos in slow motion |
| < or > | Skips to specific points in a file during playback. The time of a specific point will appear on the status bar. In some files, this function may not work properly. |
| ENERGY SAVING | Increases or deceases the brightness of your screen. |
| ●.MENU | Shows the Option menu (See p.46). |
| AV MODE | Select the desired source |
| BACK | Hides the menu on screen. To see the menu again, press ENTER button to display. |
| EXIT | Returns to TV viewing. |

**Tips for playing video files**

- Some user-created subtitles may not work properly.
- Subtitles may not display some special characters or HTML tags.
- Subtitles in the non-supported languages are unavailable.
- The time information in an external subtitle file should be arranged in ascending order to play.

**ENGLISH**

- The screen may suffer from temporary interruptions such as image stoppage or faster playback when you change the audio language.
- If you play a damaged video file, the video file may not be played correctly or some player functions may not be unavailable.
- The TV may not properly play the video files produced with certain encoders.
- If the recorded file does not have video or audio, either video or audio is not outputted
- If the TV plays the recorded file without video or audio, either video or audio is not outputted.
- The TV may not smoothly play the video files with a resolution higher than the supported resolution for each frame.
- The TV may not properly play the video files not included on the specified type and format.
- The TV may not play the files encoded with GMC (Global Motion Compensation) or quarter-pel motion estimation.
- The TV supports the only files saved in ASCII code in subtitles.
- The maximum number of characters displayed on each subtitle line is 250 (Korean), 500 (English), and 500 (Numbers).
- The TV supports the only 10,000 sync blocks within the subtitle file.
- The TV supports the H.264 codec up to the profile level 4.1.
- The TV does not support DTS audio codec.
- The TV cannot play a video file whose size is larger than 30 GB.
- If you play a video file through the USB connection that does not support the high speed, the video player may not work properly.
- The TV supports a USB storage device whose version is lower than 2.0. However, the USB storage device may not work properly in the movie list.
- The video file and its subtitle should be in the same folder and the name of the video file and subtitle should be identical.
- You can adjust the image by using E and A. But you cannot customize image options of each mode.
- The TV may not play the video files in the supported file format depending on the encoded condition.

- The TV will not play the video files that has a damaged index or no index.

Q.MENU options for movie list

1 Press **. MENU.
A pop-up window will appears.

2 Press the Navigation buttons to scroll to movie list option and press ENTER.

3 Press the Navigation buttons to scroll to one of the following options and press ENTER.

Set Video Play.

| Option | Description | |
|---|---|---|
| Picture Size | Selects your desired picture format for videos.<br>• **Full Mode**: Files are played in full screen mode regardless of the aspect ratio of video.<br>• **Original Mode**: Files are played according to the aspect ratio of video. | |
| Audio Language | Changes the Language Group of the audio for video files. Files with a single audio track cannot be selected. | |
| Subtitle Language | The subtitles can be turned on or off. | |
| Language | Activated for SMI subtitles and can select the language within the subtitle. | |
| Code Page | Subtitle font selection. When set to default, contents are displayed in the language set in "Option - Language - Menu Language." | |
| | Subtitle Language Group | Supported Language |
| | Latin1 | English, Spanish, French |
| | Korean | English, Korean |
| Sync | When the video is not synchronized with the captions, it can be adjusted by 0.5 second. | |
| Position | Move the location of the subtitles. | |
| Size | Changes the subtitle font size. | |
| Repeat | Turn on/off repeat function of movie playback. When turned on, the file within the folder will be played back repeatedly. When turned off, if the next file name is similar to the previous file, it can be played sequentially. | |

## NOTE

- When replaying a video file after stopping, you can play from where it stopped automatically.
- If you select "Yes" when playing the same file after the video file has been stopped, it will restart where it stopped previously.
- If continuous series files exist within the folder, the next file will automatically be played. But, this excludes cases when the Repeat function of Movie List Option is turned "On" (See p.51) or when set as **Play Marked**.

**Set Video.**

Control the menu option (See p.56).

**Set Audio.**

Control the menu option (See p.60).

## DivX registration code

### Registering the DivX code

Check and register the DivX registration code of your TV so that you can rent or purchase the latest movies at www.divx.com/vod. To play a rented or purchased DivX file, the file's registration code should be same with your TV's DivX registration code.

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

2 Press the Navigation buttons to scroll to **MY MEDIA** and press **ENTER**.

3 Press the Blue button.

4 Press the Navigation buttons to scroll to **DivX Reg. Code** and press **ENTER**.

5 View the registration code of your TV.

> ⓘ You must register your device to play DivX protected videos.
> Registration code : xxxxxxxxxxx
> Register at http://http://vod.divx.com
>
> Close
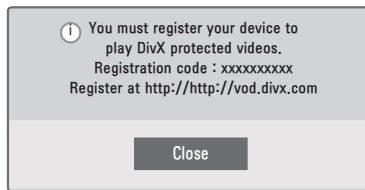
6 When you are finished, press **ENTER**.

> ⓘ **NOTE**
> - While you are checking the registration code, some buttons may not work.
> - If you use the DivX registration code of another device, you cannot play the rented or purchased DivX file. Make sure to use the DivX registration code assigned to your TV.
> - The video or audio files that are not converted by the standard DivX codec may be corrupted or not be played.
> - The DivX VOD code allows you to activate up to 6 devices under one account.

### Deactivating the DivX feature

Deactivate all of the devices through the web server and block devices from activating. Delete the existing authentication information to receive a new DivX user authentication for the TV. Once this function is executed, a DivX user authentication is required again to see DivX DRM files.

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

2 Press the Navigation buttons to scroll to **MY MEDIA** and press **ENTER**.

3 Press the Blue button.

4 Press the Navigation buttons to scroll to **Deactivation** and press **ENTER**.

5 Select **Yes** to confirm.

> ⓘ Deregistration code:
> ********
> Deregister at http://vod.divx.com
> Continue with registration?
>
> Yes    No
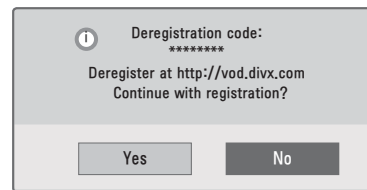
6 When you are finished, press **EXIT**.
When you return to the previous menu, press **BACK**.

## Viewing photos

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

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

2  Press the Navigation buttons to scroll to **MY MEDIA** and press **ENTER**.

3  Press the Navigation buttons to scroll to **Photo List** and press **ENTER**.

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

5  Press the Navigation buttons to scroll to a folder/file you want and press **ENTER**.

6  View photos by using the following menus/ buttons.

| Button | Description |
|---|---|
| Navigation button | Scrolls the file. |
| ENTER | Views the highlighted file or enters the mark mode. |
| CH (∧, ∨) | Moves to the previous or next page. |
| MARK | Enters the mark mode. |
| Menu | Description |
| View Marked | Views the selected photo. |
| Mark All | Selects all files |
| Unmark All | Clears all of your selections. |
| Mark Mode | Exit the Mark Mode. |

**NOTE**

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

7  Use the following options while viewing photos.

| Option | Description |
|---|---|
| Slideshow | • Starts or stops a slideshow with selected photos.<br>• If there are no selected photos, all photos saved in the current folder display during a slideshow.<br>• To set a slideshow speed, select Option. |
| BGM (Background Music) | • Turns the background music on or off. To set the background music folder, select Option. |
| ↻ (Rotate) | Rotates photos clockwise (90°, 180°, 270°, 360°).<br><br>**NOTE**<br>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. |
| ⊖ (Zoom In) | Views the photo by zoom in 2, 4 times by using Blue button. |
| e⌀ (ENERGY SAVING) | Increases or decreases the brightness of your screen |
| Option | Shows the Option menu (See p.50). |
| Hide | Hides the option window. To display the options, press ENTER. |
| Exit | Moves to the previous menu screen. |

ENGLISH

> **!** **NOTE** ——————————
> • Option values changed in Photo List do not affect Movie List and Music List.
> • Option values changed in Photo List or Music List are changed likewise in Photo List and Music List, but not Movie List.

### Q.MENU options for photo list

1 Press ●. **MENU**.
  A pop-up window will appears.

2 Press the Navigation buttons to scroll to photo list option and press **ENTER**.

3 Press the Navigation buttons to scroll to one of the following options and press **ENTER**.

**Set Photo View.**

| Option | Description |
|---|---|
| Slide Speed | Selects a slideshow speed (Fast, Medium, Slow). |
| Music Folder | Selects a music folder for the background music.<br>• Repeat<br>• Random<br><br>**!** **NOTE** ——<br>You cannot change the music folder while the background music is playing. |

**Set Video.**

Control the menu option (See p.56).

**Set Audio.**

Control the menu option (See p.60).

ENGLISH

## Listening to music

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

2   Press the Navigation buttons to scroll to **MY MEDIA** and press **ENTER**.

3   Press the Navigation buttons to scroll to **Photo List** and press **ENTER**.

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

5   Press the Navigation buttons to scroll to a folder/file you want and press **ENTER**.

6   Play music by using the following menus/buttons.
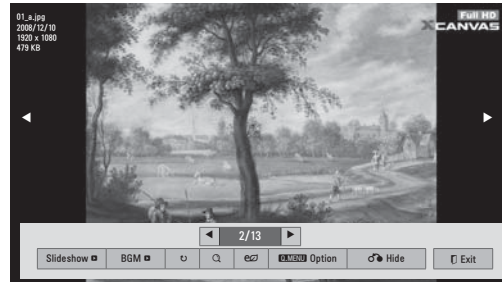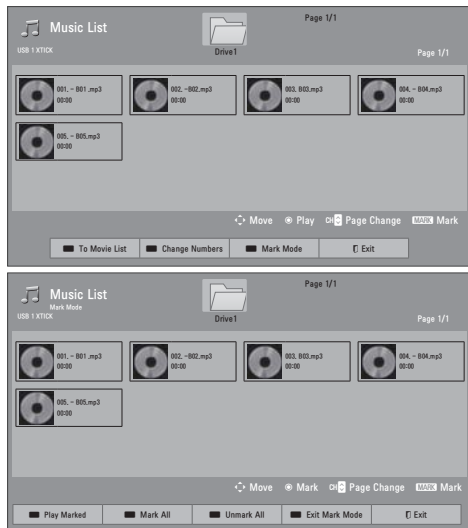


| Button | Description |
|---|---|
| Navigation button | Scrolls the file. |
| ENTER | Plays the highlighted file or enters the mark mode. |
| CH (∧, ∨) | Moves to the previous or next page. |
| MARK | Enters the mark mode. |

| Menu | Description |
|---|---|
| Play Marked | Plays the selected music file. |
| Mark All | Selects all files. |
| Unmark All | Clears all of your selections. |
| Mark Mode | Exit the Mark Mode. |

🛈 **NOTE**

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

7   Control playback by using the following buttons.

| Button | Description |
|---|---|
| ■ | Stops playback. |
| ▶ | Plays a music file. |
| ❚❚ | Pauses or resumes playback. |
| ◀◀ | Skips to the next file. |
| ▶▶ | Skips to the previous file. |
| Play with Photo | Displays photos during playback. |
| e∅ (ENERGY SAVING) | Increases or deceases the brightness of your screen. |
| Option | Shows the Option menu (See p.51). |
| Hide | Hides the option window. To display the options, press **ENTER**. |
| Exit | Moves to the previous menu screen. |

**Q.MENU options for music list**

1   Press **●. MENU**.
    A pop-up window will appears.

2   Press the Navigation buttons to scroll to music list option and press **ENTER**.

3   Press the Navigation buttons to scroll to one of the following options and press **ENTER**.

🛈 **NOTE**

- Option values changed in Movie List does not affect Photo List and Music List.
- Option value changed in Photo List and Music List are changed likewise in Photo List and Music List excluding Movie List.
- You can listen to the music only within the device currently played.

**Set Audio Play.**

| Option | Description |
|---|---|
| Repeat | |
| Ramdon | |

**Set Audio.**

Control the menu option (See p.60).

---

ⓘ **NOTE**

• 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 **ENTER** or **RETURN**.

---

File name

002. B02.mp3
▶ 00:31 / 04:04

Time elapsed /Duration
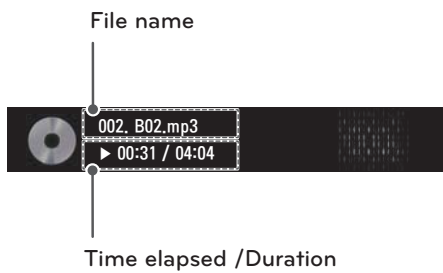
# Working

# CUSTOMIZING TV SETTINGS

## Accessing main menus

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

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

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

4 When you are finished, press **EXIT**.

**PICTURE** (See p.56)
Adjusts the image size, quality, or effect.

**AUDIO** (See p.60)
Adjusts the sound quality, effect, or volume level.

**CHANNEL** (See p.55)
Sets up and edit channels.

**TIME** (See p.61)
Sets the time, date, or Timer feature.

CHANNEL | PICTURE | AUDIO | TIME

**LOCK** (See p.62)
Locks or unlocks channels and programs.

**MY MEDIA** (See p.42)

LOCK | OPTION | INPUT | MY MEDIA

**OPTION** (See p.64)
Customizes the general settings.

**INPUT** (See p.35)
Views the input sources with their labels.

# Customizing settings

## CHANNEL settings

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

2 Press the Navigation buttons to scroll to **CHANNEL** and press **ENTER**.

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

4 When you are finished, press **EXIT**.

| CHANNEL | ⟨⟩ Move  ◉ Enter |
|---|---|
| • Auto Tuning | |
| • Manual Tuning | |
| • Channel Edit | |

The available channel settings are described in the following.

| Setting | Description |
|---|---|
| Auto Tuning | Tunes and stores all available channels through antennas or cable inputs (See p.30). |
| Manual Tuning | Tunes and stores the channels you want manually (See p.30). |
| Channel Edit | Adds or deletes channels on the channel (See p.31). |

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## PICTURE settings

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

2 Press the Navigation buttons to scroll to **CHANNEL** and press **ENTER**.

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

4 When you are finished, press **EXIT**.

| PICTURE | ✧ Move ◉ Enter |
|---|---|
| • Aspect Ratio | : 16:9 |
| • Picture Wizard | |
| • eø Energy Saving | : Off |
| • Picture Mode | : Standard |
| • Backlight | 70 |
| • Contrast | 100 |
| • Brightness | 50 |
| • Sharpness | 70 |
| • Color | 60 |
| • Tint | 0 R ⬛ G |
| • Color Temp. | 0 W ⬛ C |
| • Advanced Control | |
| • Picture Reset | |
| • TruMotion | : Low |
| • Screen (RGB-PC) | |
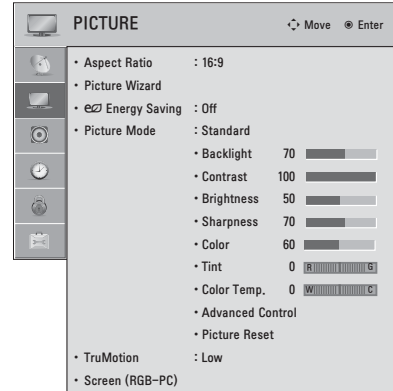
The available picture settings are described in the following.

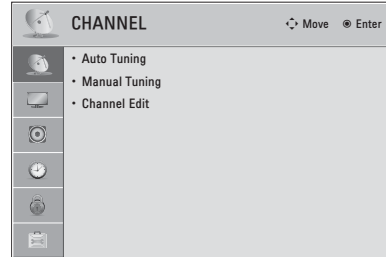| Setting | Description |
|---|---|
| Aspect Ratio | Changes the image size to view images at its optimal size (See p.34). |
| Picture Wizard | Adjusts the image quality and calibrates the screen by following the on-screen instructions. The customized options will be saved as **Expert1** in the **Picture Mode**.<br><br>🛈 **NOTE**<br>• If you use **Picture Wizard**, the Energy saving feature will turn off automatically.<br>• To reset changes made by **Picture Wizard**, operate **Picture Reset** when **Picture Mode** is on **Expert1**. |
| Energy Saving | Reduces the power consumption by adjusting the screen brightness.<br><br>🛈 **NOTE**<br>When selecting **Auto** or **Maximum**, **Backlight** will not work. |
| | **Option** |
| | Auto ( 🔲LCD ) — The backlight is adjusted automatically corresponding to the surroundings when selecting **Auto** using the **Intelligent sensor** feature. |
| | Intelligent sensor ( 🔲Plasma ) — The most suitable picture is automatically adjusted according to the surrounding conditions. |
| | Off — Energy Saving is not used. |
| | Minimum/Medium/Maximum — Selects the brightness level. |
| | Screen off — The screen turns off in 3 seconds. |

| Setting | Description | | |
|---|---|---|---|
| **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.<br>The available preset picture modes vary depending on the TV. | | |
| | **Mode** | | |
| | Intelligent Sensor ( [LCD] ) | Sets the TV to adjust the image settings, such as contrast, brightness, sharpness, color, or tint, automatically corresponding to the surrounding environments. | |
| | 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. | |
| | APS ( [Plasma] ) | This is the mode to maximize reducing the power consumption without hurting the picture quality. | |
| | Cinema | Optimizes the video image for a cinematic look to enjoy movies as if you are in a movie theater. | |
| | Sport | Optimizes the video image for high and dynamic actions by emphasizing primary colors such as white, grass, or sky blue. | |
| | Game | Optimizes the video image for a fast gaming screen such as PCs or games. | |
| | Expert | Adjusts the detailed video image settings for video experts as well as general viewers. | |
| | **NOTE**<br>If you select **Intelligent Senesor**, the option of the Energy saving feature will switch to **Auto** automatically ( [LCD] ). | | |
| **TruMotion** ( [LCD] ) | Advance video technology that provides clearer, smoother images, even during fast action scenes creating a more stable structure for a crisper picture.<br>TruMotion works with all inputs except PC mode.<br>If you enable "TruMotion", noise may appear on the screen. If this occurs, set "TruMotion" to "Off".<br>If you select "Picture Mode-Game", set "TruMotion" to "Off". | | |
| | **Option** | | |
| | High | Provides smoother picture movement. | |
| | Low | Provides smooth picture movement. Use this setting for standard use. | |
| | Off | Turn off TruMotion operation. | |
| | User | Judder | Adjusts noise of the screen. |
| | | Blur | Adjusts after-image of the screen. |
| **SCREEN (RGB-PC)** | Customizes the PC display options. | | |
| | **Option** | | |
| | Resolution | Selects a proper resolution when your PC uses 1024 X 768, 1280 X 768, or 1360 X 768 resolution. | |
| | Auto Configure | Sets the TV to optimize the options automatically for the TV display. | |
| | Position | Locates the image at the proper position. | |
| | Size | Adjusts the image size. | |
| | Phase | Eliminates horizontal streaking. | |
| | Reset | Restores the options to the default setting. | |

**ENGLISH**

**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. <br><br> ⓘ **NOTE** <br> If you use the "**Energy saving - Off**, **Minimum**, **Medium**", **Backlight** will be available. |
| 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 level of crispness in the edges between the light and dark areas of the picture. The lower the level, the softer the image. |
| 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. |
| Color | Adjusts intensity of all colors. |
| Tint | Adjusts the balance between red and green levels. |
| Color Temp. | Set to warm to enhance hotter colors such as red, or set to cool to enhance cooler colors such as blue. |
| Advanced Control | Customizes the advanced options. |
| Picture Reset | Restores the options of each mode to the factory default. |

**Advanced image options (Depending on models)**

| Setting | Description |
|---------|-------------|
| Dynamic Contrast | 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 Color | 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. |
| Skin Color | It detects the skin area of video and adjusts it to express a natural skin color. |
| Noise Reduction | Reduces screen noise without compromising video quality. |
| Digital Noise Reduction | Removes noise caused by compressing video. |
| Gamma | You can adjust brightness of dark area and middle gray level area of the picture. <br> » Low: Make the dark and middle gray level areas brighter. <br> » Medium: Express the original picture level. <br> » High: Make the dark and middle gray level area darker. |
| Black Level | Sets black level of the screen to proper level. This function is available in the following modes: AV (NTSC-M), HDMI, Component or USB. <br> » Low: The reflection of the screen gets darker. <br> » High: The reflection of the screen gets brighter. |
| Clear White | Make the white area of screen brighter and more white. |
| Eye Care | Adjusts the brightness of the screen to prevent the screen from being too bright. Dims extremely bright pictures. <br> This feature is disabled in "Picture Mode - Standard, Sport, Game". |
| Real Cinema or Film Mode | Makes video clips recorded in film look more natural by eliminating judder effect. <br> DVD and Blu-ray movies are filmed at 24 frames per second (fps). With LG Real Cinema, every frame is consistently processed 5 times in 1/24 of a second producing 120 fps with TruMotion or 2 times in 1/24 of a second producing 48 fps without TruMotion, thus totally eliminating the judder effect. <br> This function can also work when TruMotion is off. |

ENGLISH

| Setting | Description |
|---|---|
| Color Gamut | **Advanced Control** ( [LCD] )<br>Maximizess the utilization of color to increase color quality.<br>&raquo; **Standard**: Displays standard set of colors.<br>&raquo; **Wide**: Increase number of colors used.<br><br>**Expert Control** ( [Plasma], [LCD] )<br>Displays color domain of the signal.<br>&raquo; **Standard**: Displays standard set of colors.<br>&raquo; **Wide**: Increase number of colors used.<br>&raquo; **EBU**: Mode to display EBU standard color area. ( [LCD] )<br>&raquo; **SMPTE**: Mode to display SMPTE standard color area. ( [LCD] )<br>&raquo; **BT709**: Mode to display BT709 standard color area. ( [LCD] ) |
| Edge Enhancer | Shows clearer and distinctive yet natural edges of the video.<br>This function is enabled in "Picture Mode - Expert". |
| xvYCC | This is produces richer colors.<br>This feature represents rich colors as much as a conventional video signal.<br>This function is enabled in "**Picture mode - Cinema, Expert**" when **xvYCC** signal is inputted through HDMI. |
| Color Filter | This is the function to filter the specific colors of the video.<br>You can use the RGB filter to set color saturation and hue accurately. |
| Expert Pattern | This is the pattern used for expert adjustment.<br>This function is enabled in "**Picture Mode - Expert**" when you watch DTV. |
| Color Temperature | Adjusts the overall color of the screen by changing the white baseline. |

| | | |
|---|---|---|
| [Plasma] | a. Gamma : Select 1.9, 2.2, 2.4<br>b. Method : 2 Points<br>• Pattern: Inner, Outer<br>• Red/Green/Blue Contrast, Red/Green/Blue Brightness<br>d. Apply to all inputs | c. Method : 20 Point IRE<br>• IRE (Institute of Radio Engineers) is the unit to display the size of the video signal and can be set among 0, 5, 10, 15 - 100 Plasma TV. You can adjust Red, Green or Blue according to each setting.<br>• Red/Green/Blue: The adjustment range is -50 - +50. |
| [LCD] | | c. Method : 10 Point IRE<br>• Pattern: Inner, Outer<br>• IRE (Institute of Radio Engineers) is the unit to display the size of the video signal and can be set among 10, 20, 30 - 100. You can adjust Red, Green or Blue according to each setting.<br>• Luminance: This function displays calculated luminance value for 2.2 gamma. You can input luminance value you want at 100 IRE, than the target luminance value for 2.2 gamma is displayed at every 10 steps from 10 IRE to 90 IRE.<br>• Red/Green/Blue: The adjustment range is -50 - +50. |

| Setting | Description |
|---|---|
| Color Management System | As the tool used by the experts to make adjustments by using the test patterns, this does not affect other colors but can be used to selectively adjust the 6 color areas (Red/Green/Blue/Cyan/Magenta/Yellow).<br>Color difference may not be distinctive even when you make the adjustments for the general video.<br>Adjusts Red/Green/Blue/Yellow/Cyan/Magenta.<br>Red/Green/Blue/Yellow/Cyan/Magenta Color: The adjustment range is -30 - +30.<br>Red/Green/Blue/Yellow/Cyan/Magenta Tint: The adjustment range is -30 - +30.<br>This feature is disable in RGB-PC and HDMI-PC mode. |

ENGLISH

## AUDIO settings

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

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

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

4  When you are finished, press **EXIT**.

| ◎ | AUDIO | ✦ Move  ◉ Enter |
|---|-------|-----------------|
| | • Auto Volume | : Off |
| | • Clear Voice II | : Off ◖ 3 |
| ⌨ | • Balance | 0 |
| ◎ | • Sound Mode | : Standard |
| | | • Infinite Surround:Off |
| ⏱ | | • Treble          50 |
| | | • Bass             50 |
| ⏲ | | • Reset |
| 🖭 | • TV Speaker | : On |
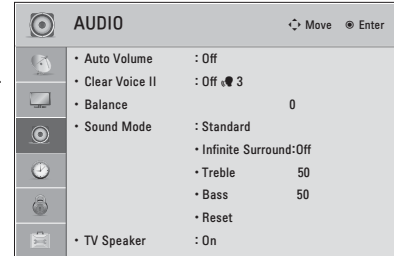
The available audio settings are described in the following.

| Setting | Description |
|---------|-------------|
| **Auto Volume** | 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. |
| **Clear Voice II** | Sets whether to enhance human voice clarity. You can adjust the level of clarity when you set this feature on. <br><br> 🛈 **NOTE** <br> If the **Clear voice II** feature is on, **Infinite Surround** will not be activated. |
| **Balance** | Adjust balance between the left and right speakers according to your room environment. |
| **Sound Mode** | Selects one of the preset sound modes or customizes options 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. |
| Sport | Select when you watch sports events. |
| Game | Select when you play games. |

🛈 **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.
• If the Clear Voice II feature is on, **Infinite Surround** will not be activated.

| Option | |
|--------|--|
| Infinite Surround | Infinite Surround is a patented LG proprietary sound processing technology that strives immersive 5.1 surround sound with just two front speakers. |
| 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. |

| Setting | Description |
|---------|-------------|
| **TV Speaker** | Turns on the internal speaker of the TV when using an external Hi-Fi system. You can use the TV speaker as an audio output device even if there is no video input. |

## TIME settings

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

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

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

4 When you are finished, press **EXIT**.

| | TIME | ⟡ Move  ◉ Enter |
|---|---|---|
| | • Clock | |
| | • Off Time | : Off |
| | • On TIme | : Off |
| | • Sleep Timer | : Off |

The available time settings are described in the following

| Setting | Description |
|---|---|
| **Clock** | Sets the time, date, time zone, and daylight-saving time feature.<br>The time will be set automatically according to a digital channel signal which includes time information provided by the broadcasting station. If not, set the time and date manually. |
| **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 advance.<br><br>🛈 **NOTE**<br>• 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.<br>• If you set both Off time and On time features to the same time, the Off time feature 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 faature will be set to off. |

## LOCK settings

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

2 Press the Navigation buttons to scroll to **LOCK** and press **ENTER**.

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

4 When you are finished, press **EXIT**.

| 🔒 LOCK | ◆ Move ◉ Enter |
|---|---|
| • Set Password | |
| • Lock System | : On |
| | • Block Channel |
| | • Movie Rating |
| | • TV Rating–Children |
| | • TV Rating–General |
| | • Downloadable Rating |
| | • Input Block |
| • Key Lock | : Off |

The available lock settings are described in the following.

| Setting | Description | |
|---|---|---|
| Lock System | Activates or deactivates the lock system. | |
| Set Password | Changes the 4-digit password. The default PIN is "0 0 0 0". If you forget your password, press "0-3-2-5" on the remote control. | |
| Block Channel | Blocks the channels that contain inappropriate contents for children by pressing the Green button. The Lock icon appears in front of the blocked channels. The channels can be selected but the screen blank and the audio is muted. To watch a locked channel, enter the password. | |
| Movie Rating | Blocks the movies that are only broadcasted on the TV and contain inappropriate contents, based on the Motion Picture Association of America (MPAA) rating. | |
| | **Rating** | |
| | G | General audiences – All ages admitted |
| | PG | Parental guidance suggested – Some material may not be suitable for children |
| | PG-13 | Patents strongly cautioned – Some material may be inappropriate for children under 13 |
| | R | Restricted – Under 17 requires accompanying parent or adult guardian |
| | NC-17 | No one 17 and under admitted |
| | X | Adults only |
| TV Rating-Children (For USA) | Blocks the children's TV programs that parents do not want their children to watch. To block other TV programs, you should set the TV Rating-General feature. | |
| | **Rating** | |
| | Age | TV-Y (All children, including children from ages 2-6) TV-Y7 (Directed to older children, suitable for children age 6 and above) |
| | Fantasy Violence | TY-Y7 (Directed to older children – Fantasy violence, suitable for children age 6 and above, containing more intense or combative fantasy violence) |

| Setting | Description | | |
|---|---|---|---|
| **TV Rating-General (For USA)** | Blocks the TV programs that you want based on the ratings by using the Parental Control Function (V-Chip). | | |
| | ⓘ **NOTE** | | |
| | The V-Chip electronically reads TV program ratings and allows parents to block program that are unsuitable for children. | | |
| | **Rating** | | |
| | Age | TV-G (General audience, suitable for all ages) TV-PG (Parental guidance suggested, containing material that are unsuitable for younger children) TV-14 (Parents strongly cautioned, containing material that are unsuitable for children age 14 and under) TV-MA (Mature audience only, unsuitable for children age under 17) | |
| | Dialog (suggestive dialogue) | TV-PG or TV-14 | |
| | Language (coarse language) | TV-PG, TV-14, or TV-MA | |
| | Sex (sexual situation) | TV-PG, TV-14, or TV-MA | |
| | Violence | TV-PG, TV-14, or TV-MA | |
| **TV Rating-English (For Canada)** | Selecting Canadian English rating system. | | |
| | **Rating** | | |
| | E | Exempt | |
| | C | Children | |
| | C8+ | Children eight years and older | |
| | G | General programming, suitable for all audiences | |
| | PG | Parental Guidance | |
| | 14+ | Viewers 14 years and older | |
| | 18+ | Adult programming | |
| | Blocking Off | Permits all programs | |
| **TV Rating-French (For Canada)** | Selecting Canadian French rating system. | | |
| | **Rating** | | |
| | E | Exempt | |
| | G | General | |
| | 8ans+ | General-Not convenient for little children | |
| | 13ans+ | Not convenient for children of 13 years and younger | |
| | 16ans+ | Not convenient for children of 16 years and younger | |
| | 18ans+ | This programs is only for adults | |
| | Blocking Off | Permits all programs | |
| **Downloadable Rating** | This function operates only when TV has received Region5 Rating data. The name of the rating option may differ. | | |
| | ⓘ **NOTE** | | |
| | This feature is available only for digital channels. | | |
| **Input Block** | Block the input sources. | | |
| **Key Lock** | Locks or unlocks the buttons on the TV. | | |

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## OPTION settings

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

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

3 Press the Navigation buttons to scroll to the setting or option you want and press **ENTER**.
   - To return to the previous level, press **BACK**.
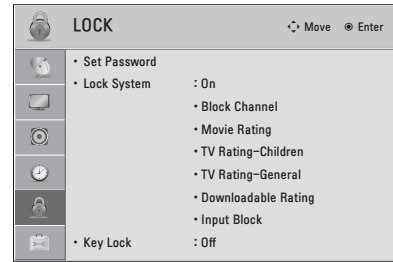
4 When you are finished, press **EXIT**.

| | OPTION | | | Move | Enter |
|---|---|---|---|---|---|
| | • Language | | | | |
| | • Caption | : Off | | | |
| | • ISM Method | : Normal | | | |
| | • Power Indicator | | | | |
| | • Initial Setting | | | | |
| | • Set ID | : 1 | | | |
| | • Mode Setting | : Home Use | | | |
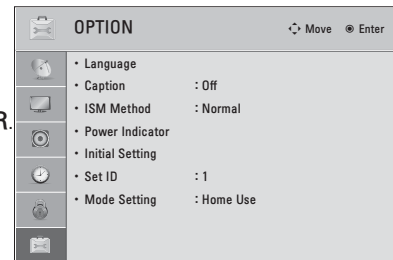
The available general settings are described in the following.

| Setting | Description | |
|---|---|---|
| **Language** | Selects a desired language. | |
| | **Option** | |
| | Menu Language | Selects a language for the display text. |
| | Audio Language | Selects an audio language for your program. This feature operates only in the DTV or CADTV mode. |
| **Caption** | Sets whether to display captions and customize your option in each mode. | |
| | **Mode** | |
| | CC 1-4 (Closed Captioning) | Displays the audio portion of a TV program as text on the TV screen. CC1 is the most common mode in use. |
| | Text 1-4 | - Field 1 data channels: two Captions (CC1, CC2) and two Text (T1, T2). - Field 2 data channels: two Captions (CC3, CC4) and two Text (T1, T2). |
| | Service 1-6 | This is only available for the digital broadcasting system. |
| | **Option** | |
| | Size | Selects the word size. |
| | Font | Selects a typeface for the text. |
| | Text Color | Selects a color for the text. |
| | Text Opacity | Adjusts the opacity for the text color. |
| | Bg Color | Selects a background color. |
| | Bg Opacity | Adjusts the opacity for the background color. |
| | Edge Type | Selects an edge type. |
| | Edge Color | Selects a color for the edges. |
| **Power Indicator** ( LCD ) | Sets to turn on or off the indicator light on the TV. | |
| | **Option** | |
| | Standby Light | Set to turn on or off the indicator light in Standby mode. |
| | Power Light | Set to turn on or off the indicator light when you turn on the power. |

| Setting | Description | |
|---|---|---|
| **ISM Method** ( Plasma ) | Prevents image sticking or removes a ghost image. A frozen still picture displayed on the screen for prolonged periods can result in a ghost image. | |
| | **NOTE** | |
| | An excessive ghosted image may be impossible to clear entirely with **White Wash**. To return to normal viewing, press the any button. | |
| | **Mode** | |
| | Normal | Sets it if image sticking is never a problem. |
| | Orbiter | Avoids a ghost image on the screen. The image will move every 2 minutes to help prevent ghost images. However, it is best not to allow any fixed image to remain on the screen. |
| | Color Wash | Removes a ghost image on the screen. The color block with the screen moved a little and the white pattern are alternately displayed. It is difficult to see the after image on all colors. Once it has been corrected it will not be visible in any color. |
| | White Wash | Removes a ghost image on the screen. Use sparingly. Watch the TV normally for a while before using this feature to see if the ghost image disappears on its own. |
| **Initial Setting** | 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. When selecting **Yes**, the TV turns off automatically and starts factory reset. | |
| | **NOTE** • When selecting "Lock System - On"in the LOCK menu, the message to enter the password appears. • If you forget your password, press "0-3-2-5" on the remote control. | |
| | **Setting** | |
| | Language | Selects a desired language. |
| | Mode Setting | Selects **Home Use** for the home environment. Selects **Store Demo** for the retail environment. Selects **Demo Mode** to set to show special features of the TV. You can cancel the demo mode by pressing any buttons except the Volume and Mute buttons. **NOTE** When selecting Store Demo, Demo Mode will be activated. |
| | Power Indicator ( LCD ) | Sets the power indicator. |
| | Time Zone | Sets the time zone and daylight saving. |
| | Auto Tuning | Scans and saves available channels automatically. |
| **Set ID** | Adds an ID to the connected devices. | |
| **Mode Setting** | Default selection is "Home Use". We recommend setting the TV to "Home Use" mode for the best picture in your home environment. | |
| | **Option** | |
| | Home Use | Selects it for the home environment. |
| | Store Demo | Selects it for the retail environment. |
| | Demo Mode | Sets to show special features of the TV. You can cancel the demo mode by pressing any buttons except the Volume and Mute buttons. |

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# 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, camcorders or cameras, gaming devices, and other external devices.

> **❶ 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.

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

| Connection type | Video | | Audio | |
|---|---|---|---|---|
| | Digital | Analog | Digital | Analog |
| HDMI (highly recommended) | O | - | O | - |
| DVI | O | - | - | - |
| Component | - | O | - | - |
| Composite | - | O | - | - |
| RGB | - | O | - | - |
| Optical audio | - | - | O | - |

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# Connection overview

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

1   Find an external device you want to connect to your TV as 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.

**HD Receiver**

HDMI – See p.68
DVI – See p.68
Component – See p.69
Composite – See p.69

**DVD**

HDMI – See p.68
DVI – See p.68
Component – See p.69
Composite – See p.69

**VCR**

Composite – See p.69

**Speaker**

Digital – See p.70

**USB**

Memory storage –
See p.71
Memory card reader –
See p.71

**PC**

HDMI – See p.68
DVI – See p.68
RGB – See p.70

**Camcorder/Camera**

HDMI – See p.68
DVI – See p.68
Component – See p.69
Composite – See p.69

**Gaming device**

HDMI – See p.68
DVI – See p.68
Composite – See p.69

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🛈 **NOTE**

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

# 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

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 a High Speed HDMI™ Cable (v.1.3, HDMI™ CEC Support).
> • High Speed HDMI™ Cables are tested to carry an HD signal up to 1080p and higher.

**Plasma**



**LCD**
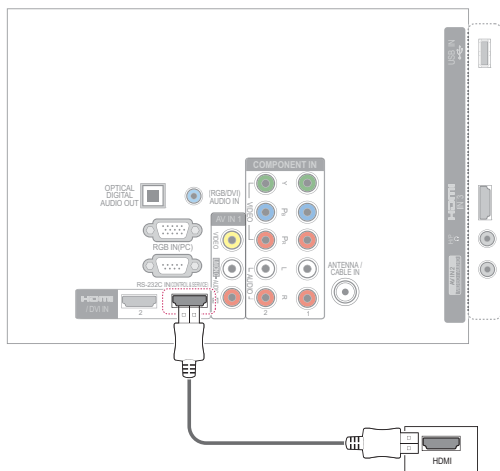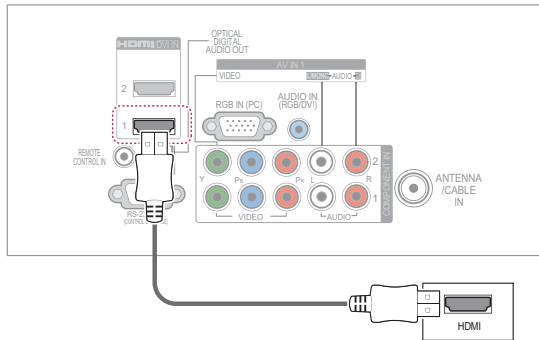


## DVI to HDMI connection

Transmits the digital video signal from an external device to the TV. Connect the external device and the TV with the DVI-HDMI cable as shown in the following illustration. To transmit an audio signal, connect an optional audio cable.

**Plasma**



**LCD**
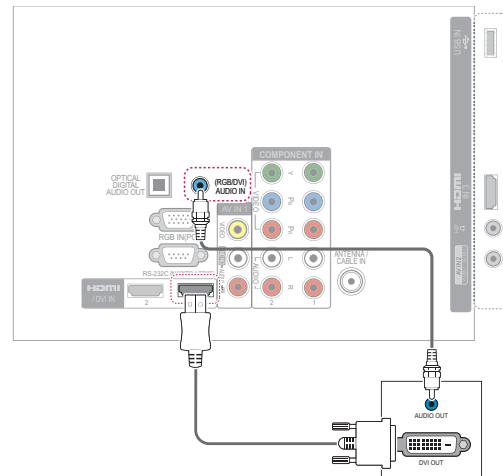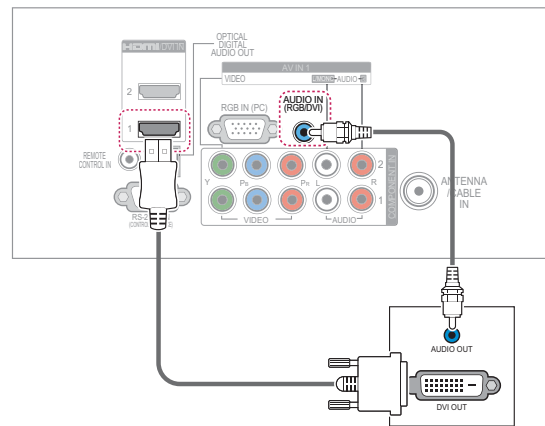
## Component connection

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. To transmit an audio signal, connect an optional audio cable.





## 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.
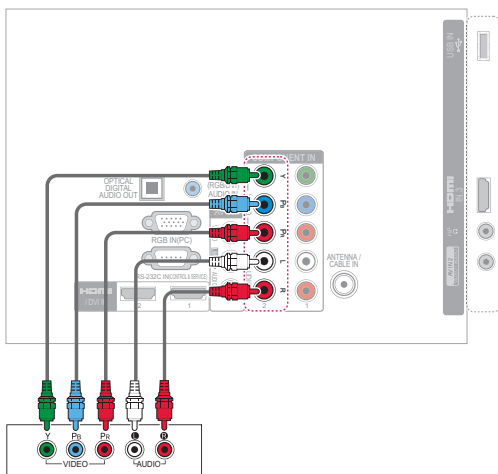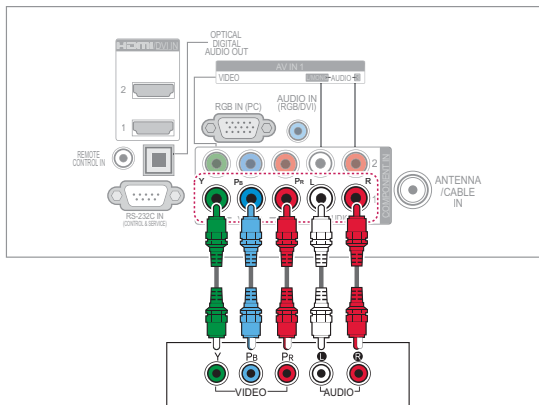




**NOTE**

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

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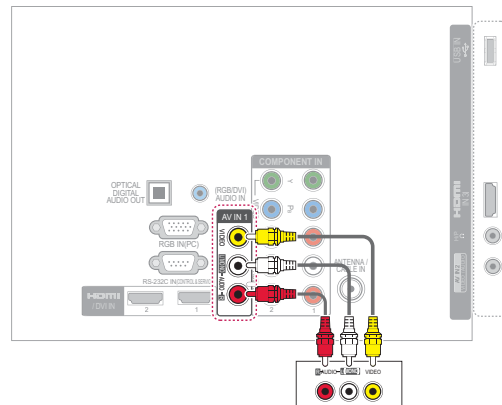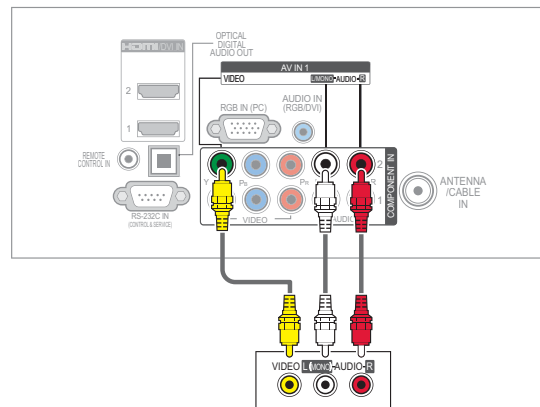
## RGB Connection

Transmits the analog video signal from an external device to the TV. Connect the external device and the TV with the RGB cable as shown in the following illustration. To transmit an audio signal,, connect an optional audio cable.
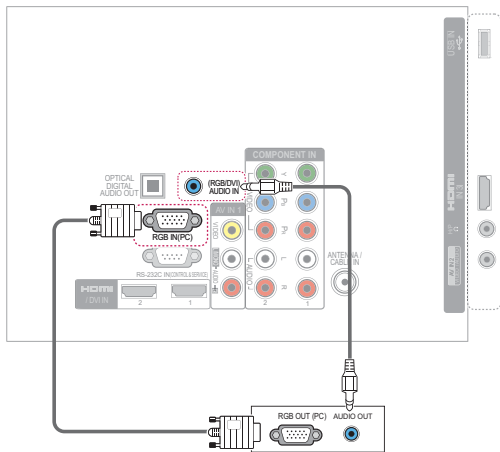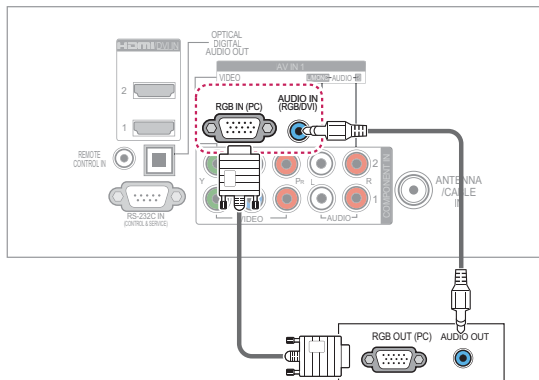




## Connecting to an audio system

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

**NOTE**

If you use an optional external audio device instead of the built-in speaker, set the TV speaker feature to off (See p.60).

### Digital optical audio connection

Transmits the digital audio signal from the TV to an external device. Connect the external device and the TV with the optical audio cable as shown in the following illustration.
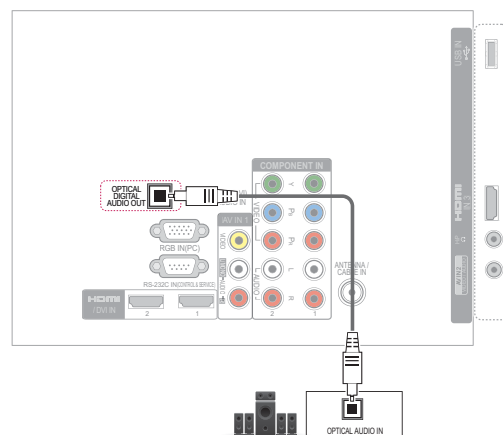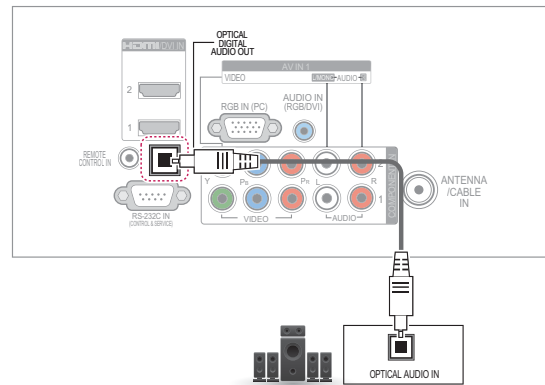
## Connecting to a USB

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 My media menu to use various multimedia files. See "Connecting USB storage devices" on p.42 and see "Browsing files" on p.43.
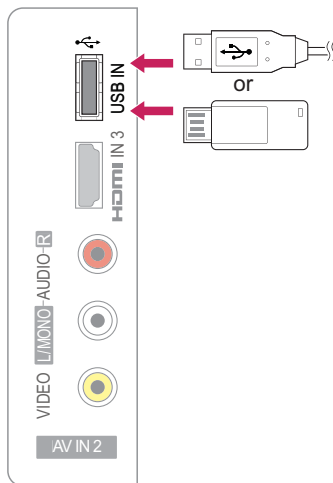
## SIMPLINK connection

Use the TV remote control to play and control the AV device connected with the HDMI cable through HDMI-CEC. Your TV only works with the devices that support HDMI-CEC.

Connect one end of the HDMI cable to the HDMI/ DVI IN or HDMI IN terminal on the rear of the TV and the other end to the SIMPLINK device.

> **NOTE**
> • If the connected device does not support HDMI-CEC, the SIMPLINK feature is unavailable.
> • To operate SIMPLINK, you should use an High Speed HDMI cable with the CEC (Consumer Electronics Control) function.

### Activating and Using the SIMPLINK menus

1 Press **SIMPINK** to access the SIMPLINK menus.

2 Press the Navigation buttons to scroll to **On**.

3 Press the Navigation buttons to scroll to one of the devices and press **ENTER**.
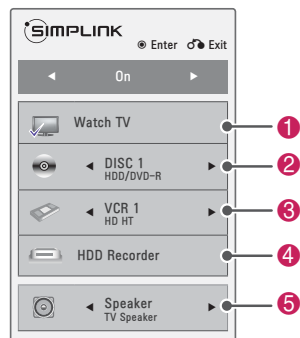
| No. | Description |
|---|---|
| ❶ | Displays the previously viewed TV channel. |
| ❷ | Plays discs. When multiple discs are available, the title of the disc appears at the bottom of the screen. |
| ❸ | Controls the connected VCR. |
| ❹ | HDD recordings playback: Controls the recording stored in HDD. |
| ❺ | Audio out to home theater speaker or Audio out to TV: Changes the audio output between Home theater speaker and TV speaker. |

- A check mark appears in front of the selected device.
    - Available devices display in a bright color.
    - Unavailable devices display in grey.

3 Control the selected AV device.
    - Direct Play: After connecting AV devices to the TV, you can directly control the devices and play media without additional settings.
    - Select AV device: Enables you to select one of the AV devices connected to the TV.
    - Disc playback: Control connected AV devices by pressing the Navigation buttons, ENTER, ▶, ■, ‖, ◀◀ and ▶▶.
    - Power off all devices: When you power off the TV, all connected devices are turned off.
    - Switch audio-out: Offers an easy way to switch audio-out.
    - Sync Power on: When the equipment with SIMPLINK function connected HDMI terminal starts to play, The TV will automatically turn on.

> **① NOTE**
>
> • If you change the input source by pressing C, the progressing function of the SIMPLINK device will stop.
> • If you select a device that has the home theater feature, the sound output automatically switches to the home theater speaker and the TV speaker turns off.
> • If a connected SIMPLINK home theater system does not play the audio from the TV, connect the DIGITAL AUDIO OUT terminal on the rear of the TV to the DIGITAL AUDIO IN terminal on the back of the SIMPLINK device with an optical cable.

# MAINTENANCE

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

## Cleaning your TV

⚠ **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 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 as these may damage the screen's finish and cause discolorations.

### Cabinet and stand

To remove dust or light dirt, wipe the cabinet with a dry, clean, 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. Then wipe immediately with a dry cloth.

⚠ **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.

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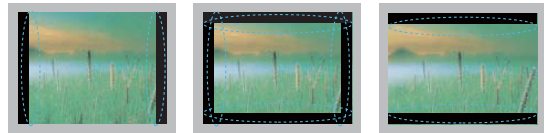


- If a fixed image displays on the TV screen for a long period of time, it will be imprinted and become a permanent disfigurement on the screen. This is "image burn" or "burn-in" and not covered by the warranty.
- If the aspect ratio of the TV is set to 4:3 for a long period of time, image burn may occur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

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# TROUBLESHOOTING

## General

| Problem | Resolution |
|---------|------------|
| Cannot control the TV with the remote control. | • Check the remote control sensor on the product and try again.<br>• Check if there is any obstacle between the product and the remote control.<br>• Check if the batteries are still working and properly installed (⊕ to ⊕, ⊖ to ⊖).<br>• Check if the appropriate input mode such as TV or VCR is set for using the remote control. |
| No image display and no sound is produced. | • Check if the product is turned on.<br>• Check if the power cord is connected to a wall outlet.<br>• Check if there is a problem in the wall outlet by connecting other products. |
| Image appears slowly when the TV turns on. | • 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. |
| Cannot connect external devices. | • See "Connection overview" on p.67 and connect an external device. |
| The TV turns off suddenly. | • Check the power control settings. The power supply may be interrupted.<br>• Check if the Auto sleep feature is activated in the Time settings. See "Sleep Timer" on p.61.<br>• If there is no signal while the TV is on, the TV will turn off automatically after 15 minutes of inactivity. |

## Audio

| Problem | Resolution |
|---------|------------|
| No sound is produced while images are displaying. | • Press **VOL +** or **-** button.<br>• Check if the sound is muted by pressing **MUTE**.<br>• Scroll to other channels. There may a problem with the broadcast.<br>• Check if the audio cables are connected properly. |
| One of the speakers produce noises or does not produce sound. | • A change in ambient humidity or temperature may result in an unusual noise when the product turns on or off.<br>• There is no problem with your product. |

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Video

| Problem | Resolution |
|---|---|
| An image displays in black and white or the color quality is poor. | • Adjust the color setting in the Picture menu (See p.56).<br>• Keep a sufficient distance between this product and other electronic products.<br>• Scroll to other channels. There may a problem with the broadcast. |
| Horizontal or vertical bars appears or images blur | • Check if there are local interferences such as an electrical appliance or power tool. |
| Lines or streaks appear on images | • Check the antenna or aim the antenna to the proper direction. |
| Afterimages (ghosts) appear when the product turns off | • 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. |
| The power is on but the screen appears extremely dark. | • Adjust the brightness and contrast in the Picture menu (See p.56). |
| "No Signal" appears on the screen. | • Check if the signal cable is connected between the TV and products properly.<br>• Check the selected input source by pressing INPUT. |
| Black spots appear on the screen. | • Several pixels in red, green, white, or black may appear on the screen that can attribute to the characteristics of the LCD panel.<br>• This is normal. |
| The display offset is wrong. | • Adjust the position setting in the Picture menu (See p.56).<br>• 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. |
| Thin lines appear in the background of the screen. | • Check the video cable connections. |
| Horizontal noises appear or characters blur. | • Adjust the Phase setting in the Picture menu.<br>See "SCREEN (RGB-PC)" on p.57. |
| The reception on some channels is poor | • Scroll to other channels. There may a problem with the broadcast.<br>• The station signal may be weak. Aim the antenna to the proper direction.<br>• Check if there are local interferences such as an electrical appliance or power tool. |

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# SPECIFICATIONS

Plasma

| MODELS | | 42PW340<br>(42PW340-UB) | 50PW340<br>(50PW340-UB) |
|---|---|---|---|
| Dimensions<br>(W x H x D) | With stand | 991.8 x 667.0 x 230.5 mm | 1175.8 x 771.6 x 289.7 mm |
| | Without stand | 991.8 x 613.8 x 52.5 mm | 1175.8 x 718.7 x 52.5 mm |
| Weight | With stand | 21.5 kg | 29.4 kg |
| | Without stand | 20.0 kg | 27.1 kg |

| MODELS | | 42PW350 (42PW350-UA)<br>42PW350U (42PW350U-UA) | 50PW350 (50PW350-UA)<br>50PW350U (50PW350U-UA) |
|---|---|---|---|
| Dimensions<br>(W x H x D) | With stand | 991.8 x 667.0 x 230.5 mm | 1175.8 x 771.6 x 289.7 mm |
| | Without stand | 991.8 x 613.8 x 52.5 mm | 1175.8 x 718.7 x 52.5 mm |
| Weight | With stand | 21.5 kg | 29.4 kg |
| | Without stand | 20.0 kg | 27.1 kg |

| MODELS | | 50PZ250<br>(50PZ250-UA) | 60PZ250<br>(60PZ250-UA) |
|---|---|---|---|
| Dimensions<br>(W x H x D) | With stand | 1171.2 x 767.7 x 289.7 mm | 1390.8 x 905.2 x 334.7 mm |
| | Without stand | 1171.2 x 711.6 x 52.5 mm | 1390.8 x 835.5 x 52.5 mm |
| Weight | With stand | 29.6 kg | 42.6 kg |
| | Without stand | 27.3 kg | 38.5 kg |

| Power requirement | | AC100-240V - 50/60Hz |
|---|---|---|
| Television System | | NTSC-M, ATSC, 64 & 256 QAM |
| Program Coverage | | VHF 2-13, UHF 14-69, CATV 1-135, DTV 2-69, CADTV 1-135 |
| External Antenna Impedance | | 75 Ω |
| Environment<br>condition | Operating<br>Temperature | 0 - 40°C |
| | Operating Humidity | Less than 80% |
| | Storage Temperature | -20 - 60°C |
| | Storage Humidity | Less than 85% |

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

**LCD**

| MODELS | | 19LV2500 (19LV2500-UA) | 22LV2500 (22LV2500-UA) |
|---|---|---|---|
| Dimensions (W x H x D) | With stand | 455.2 x 355.0 x 145.0 mm | 471.2 x 365.9 x 155.4 mm |
| | Without stand | 455.2 x 313.1 x 40.9 mm | 471.2 x 315.5 x 34.4 mm |
| Weight | With stand | 2.7 kg | 3.4 kg |
| | Without stand | 2.5 kg | 3.2 kg |

| MODELS | | 26LV2500 (26LV2500-UA) | 32LV2500 (32LV2500-UA) |
|---|---|---|---|
| Dimensions (W x H x D) | With stand | 635.6 x 475.0 x 169.0 mm | 777.4 x 551.3 x 234.0 mm |
| | Without stand | 635.6 x 413.5 x 40.9 mm | 777.4 x 501.3 x 35.4 mm |
| Weight | With stand | 5.4 kg | 11.9 kg |
| | Without stand | 5.0 kg | 10.7 kg |

| MODELS | | 32LV3500 (32LV3500-UA) | 37LV3500 (37LV3500-UA) |
|---|---|---|---|
| Dimensions (W x H x D) | With stand | 763.1 x 545.3 x 240.0 mm | 763.1 x 545.3 x 240.0 mm |
| | Without stand | 763.1 x 483.1 x 40.4 mm | 763.1 x 483.1 x 40.4 mm |
| Weight | With stand | 10.9 kg | 13.1 kg |
| | Without stand | 9.1 kg | 11.3 kg |

| MODELS | | 42LV3500 (42LV3500-UA) | 47LV3500 (47LV3500-UA) | 55LV3500 (55LV3500-UA) |
|---|---|---|---|---|
| Dimensions (W x H x D) | With stand | 997.2 x 684.2 x 256.6 mm | 1107.0 x 745.5 x 256.3 mm | 1284.8 x 846.7 x 338.0 mm |
| | Without stand | 997.2 x 614.7 x 40.1 mm | 1107.0 x 676.5 x 40.1 mm | 1284.8 x 777.3 x 40.1 mm |
| Weight | With stand | 15.5 kg | 20.9 kg | 25.5 kg |
| | Without stand | 13.3 kg | 18.7 kg | 21.4 kg |

| Power requirement | | AC100-240V - 50/60Hz |
|---|---|---|
| Television System | | NTSC-M, ATSC, 64 & 256 QAM |
| Program Coverage | | VHF 2-13, UHF 14-69, CATV 1-135, DTV 2-69, CADTV 1-135 |
| External Antenna Impedance | | 75 Ω |
| Environment condition | Operating Temperature | 0 - 40°C |
| | Operating Humidity | Less than 80% |
| | Storage Temperature | -20 - 60°C |
| | Storage Humidity | Less than 85% |

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

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**LCD**

| MODELS | | 22LK330 (22LK330-UA) | 26LK330 (26LK330-UA) | 32LK330 (32LK330-UA) |
|---|---|---|---|---|
| Dimensions (W x H x D) | With stand | | | |
| | Without stand | | | |
| Weight | With stand | | | |
| | Without stand | | | |

| MODELS | | 32LK430 (32LK430-UA) | 42LK430 (42LK430-UA) |
|---|---|---|---|
| Dimensions (W x H x D) | With stand | | |
| | Without stand | | |
| Weight | With stand | | |
| | Without stand | | |

| MODELS | | 32LK450 (32LK450-UB) | 37LK450 (37LK450-UB) |
|---|---|---|---|
| Dimensions (W x H x D) | With stand | 795.0 x 568.0 x 207.0 mm | 913.0 x 639.0 x 265.0 mm |
| | Without stand | 795.0 x 504.0 x 73.5 mm | 913.0 x 571.0 x 77.4 mm |
| Weight | With stand | | 12.2 kg |
| | Without stand | | 10.5 kg |

| MODELS | | 42LK450 (42LK450-UB) | 47LK450 (47LK450-UB) |
|---|---|---|---|
| Dimensions (W x H x D) | With stand | 1019.0 x 698.0 x 265.0 mm | 1132.0 x 762.0 x 265.0 mm |
| | Without stand | 1019.0 x 631.0 x 76.5 mm | 1132.0 x 695.0 x 76.5 mm |
| Weight | With stand | | |
| | Without stand | | |

| MODELS | | 42LK520 (42LK520-UA) | 47LK520 (47LK520-UA) | 55LK520 (55LK520-UA) |
|---|---|---|---|---|
| Dimensions (W x H x D) | With stand | | | |
| | Without stand | | | |
| Weight | With stand | | | |
| | Without stand | | | |
| Power requirement | | AC100-240V - 50/60Hz | | |
| Television System | | NTSC-M, ATSC, 64 & 256 QAM | | |
| Program Coverage | | VHF 2-13, UHF 14-69, CATV 1-135, DTV 2-69, CADTV 1-135 | | |
| External Antenna Impedance | | 75 Ω | | |
| Environment condition | Operating Temperature | 0 - 40°C | | |
| | Operating Humidity | Less than 80% | | |
| | Storage Temperature | -20 - 60°C | | |
| | Storage Humidity | Less than 85% | | |

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

### RGB (PC) supported mode

| Resolution | Horizontal Frequency (KHz) | Vertical Frequency (Hz) |
|---|---|---|
| 640x350 | 31.468 | 70.09 |
| 720x400 | 31.469 | 70.08 |
| 640x480 | 31.469 | 59.94 |
| 800x600 | 37.879 | 60.31 |
| 1024x768 | 48.363 | 60.00 |
| 1280x768 | 47.776 | 59.87 |
| 1360x768 | 47.712 | 60.015 |
| 1280x1024 | 63.981 | 60.02 |
| 1600x1200 | 75.00 | 60.00 |
| 1920x1080 RGB-PC | 66.587 | 59.934 |
| 1920x1080 HDMI-PC | 67.5 | 60.00 |

### HDMI (DTV) supported mode

| Resolution | Horizontal Frequency (KHz) | Vertical Frequency (Hz) |
|---|---|---|
| 720x480p | 31.47<br>31.50 | 59.94<br>60.00 |
| 1280x720p | 44.96<br>45.00 | 59.94<br>60.00 |
| 1920x1080i | 33.72<br>33.75 | 59.94<br>60.00 |
| 1920x1080p | 26.97<br>27.00<br>33.71<br>33.75<br>67.432<br>67.50 | 23.976<br>24.00<br>29.97<br>30.00<br>59.94<br>60.00 |

### Component supported mode

| Resolution | Horizontal Frequency (KHz) | Vertical Frequency (Hz) |
|---|---|---|
| 720x480i | 15.73<br>15.73 | 59.94<br>60.00 |
| 720x480p | 31.47<br>31.50 | 59.94<br>60.00 |
| 1280x720p | 44.96<br>45.00 | 59.94<br>60.00 |
| 1920x1080i | 33.72<br>33.75 | 59.94<br>60.00 |
| 1920x1080p | 26.97<br>27.00<br>33.71<br>33.75<br>67.432<br>67.50 | 23.976<br>24.00<br>29.97<br>30.00<br>59.94<br>60.00 |

### Component port connecting information

| Component ports on the TV | Y | $P_B$ | $P_R$ |
|---|---|---|---|

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

Video supported format

| File Extension name | Video Decoder | Audio Codec | Max Resolution |
|---|---|---|---|
| mpg, mpeg | MPEG1, MPEG2 | MP2, MP3, Dolby Digital, LPCM | 1920 x 1080 @ 30p (Only Motion JPEG 640x480@30p) |
| dat | MPEG1 | MP2 | |
| ts, trp, tp | MPEG2, H.264, AVS, VC1 | MP2, MP3, Dolby Digital, AAC, HE-AAC | |
| vob | MPEG1, 2 | MP2, MP3, Dolby Digital, LPCM | |
| mp4, mov | MPEG4,DivX 3.11, DivX 4.12, DivX 5.x, DivX 6, Xvid 1.00, Xvid 1.01, Xvid 1.02, Xvid 1.03, Xvid 1.10-beta1/2H.264 | AAC, HE-AAC, MP3 | |
| mkv | H.264, MPEG-1,2,4 | MP2, MP3, Dolby Digital, AAC HE-AAC, LPCM | |
| divx, avi | MPEG2, MPEG4, DivX 3.11, DivX 4, DivX 5, DivX 6, Xvid 1.00, Xvid 1.01, Xvid 1.02, Xvid 1.03, Xvid 1.10-beta1/2H.264 | MP2, MP3, Dolby Digital, LPCM, ADPCM, AAC, HE-AAC | |
| Motion JPEG (avi, mp4, mkv) | JPEG | LPCM, ADPCM | |
| asf, wmv | VC1 | WMA | |
| flv | Sorenson H.263, H264 | MP3, AAC | |

# IR CODES

How to Connect
Connect your wired remote control to the Remote Control port on the TV.

## Remote Control IR Codes

### Output waveform

Single pulse, modulated with 37.917kHz signal at 455kHz
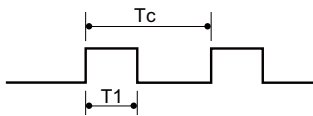


### Frame configuration

1st frame
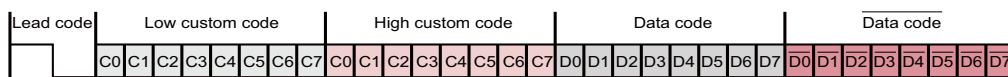


Repeat frame
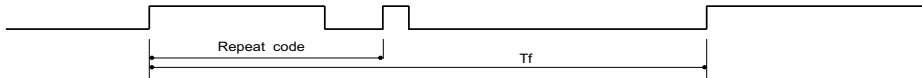


### Lead code
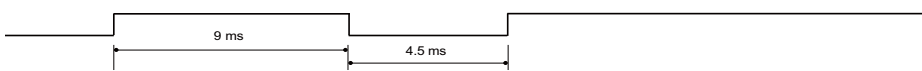


### Repeat code
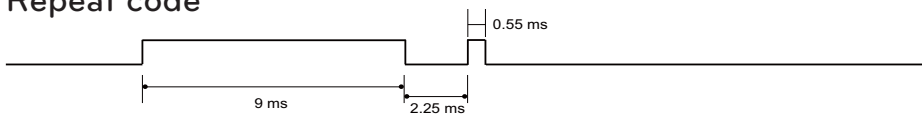


### Bit description
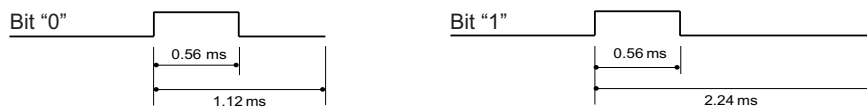


### Frame interval: Tf

The waveform is transmitted as long as a key is depressed.
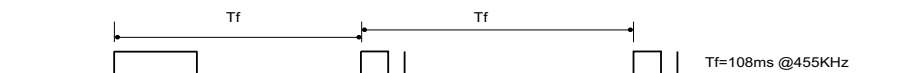
| Code (Hexa) | Function | Note | Code (Hexa) | Function | Note |
|---|---|---|---|---|---|
| 08 | POWER | Remote control Button (Power On/Off) | 0F | TV | Remote control Button |
| | | | DC | 3D | Remote control Button |
| 45 | Q.MENU | Remote control Button | 5B | EXIT | Remote control Button |
| 43 | HOME | Remote control Button | D6 | TV | Discrete IR Code (TV Input Selection) |
| 0B | INPUT | Remote control Button | | | |
| 10 - 19 | Number Key 0-9 | Remote control Button | C4 | POWER ON | Discrete IR Code (Only Power Off) |
| 4C | - (Dash)/LIST | Remote control Button | | | |
| 1A | FLASHBK | Remote control Button | C5 | POWER OFF | Discrete IR Code (Only Power Off) |
| 9 | MUTE/DELETE | Remote control Button | | | |
| 2 | VOL + | Remote control Button | 5A | AV1 | Discrete IR Code (AV1 Input Selection) |
| 3 | VOL - | Remote control Button | | | |
| 0 | CH ∧ | Remote control Button | D0 | AV2 | Discrete IR Code (AV2 Input Selection) |
| 1 | CH ∨ | Remote control Button | | | |
| 1E | FAV/MARK | Remote control Button | BF | COMPONENT1 | Discrete IR Code (Component1 Input Selection) |
| 40 | ∧ | Remote control Button | | | |
| 41 | ∨ | Remote control Button | D4 | COMPONENT2 | Discrete IR Code (Component2 Input Selection) |
| 7 | < | Remote control Button | | | |
| 6 | > | Remote control Button | D5 | RGB-PC | Discrete IR Code (RGB-PC Input Selection) |
| 44 | ENTER | Remote control Button | | | |
| 28 | BACK | Remote control Button | CE | HDMI1 | Discrete IR Code (HDMI1 Input Selection) |
| 79 | RATIO | Remote control Button | | | |
| BA ( Plasma ) | FREEZE | Remote control Button | CC | HDMI2 | Discrete IR Code (HDMI2 Input Selection) |
| 95 | ENERGY SAVING | Remote control Button | | | |
| 7E | SIMPLINK | Remote control Button | E9 | HDMI3 | Discrete IR Code (HDMI3 Input Selection) |
| AA | INFO | Remote control Button | | | |
| 30 | AV MODE | Remote control Button | DA | HDMI4 ( LCD ) | Discrete IR Code (HDMI4 Input Selection) |
| 72 | RED | Remote control Button | | | |
| 71 | GREEN | Remote control Button | 76 | Ratio 4:3 | Discrete IR Code (Only 4:3 Mode) |
| 63 | YELLOW | Remote control Button | | | |
| 61 | BLUE | Remote control Button | 77 | Ratio 16:9 | Discrete IR Code (Only 16:9 Mode) |
| B1 | ■ | Remote control Button | | | |
| B0 | ▶ | Remote control Button | AF | Ratio Zoom | Discrete IR Code (Only Zoom Mode) |
| BA | ❚❚ | Remote control Button | | | |
| 8E | ▶▶ | Remote control Button | | | |
| 8F | ◀◀ | Remote control Button | | | |

# EXTERNAL CONTROL DEVICE SETUP

## RS-232C Setup

Connect the RS-232C (serial port) input jack to an external control device (such as a computer or an A/V control system) to control the product's functions externally.
Connect the serial port of the control device to the RS-232C jack on the product back panel.

### NOTE

RS-232C on this unit is intended to be used with third party RS-232C control hardware and software. The instructions below are provided to help with programming software or to test functionality using telenet software. RS-232C connection cables are not supplied with the product.

## Type of connector; D-Sub 9-Pin Male
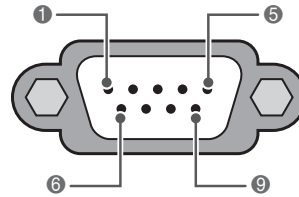
RS-232C IN
(CONTROL & SERVICE)

| No. | Pin name |
|-----|----------|
| 1 | No connection |
| 2 | RXD (Receive data) |
| 3 | TXD (Transmit data) |
| 4 | DTR (DTE side ready) |
| 5 | GND |
| 6 | DSR (DCE side ready) |
| 7 | RTS (Ready to send) |
| 8 | CTS (Clear to send) |
| 9 | No Connection |

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## RS-232C configurations

7-Wire Configuration
(Serial female-female NULL modem cable)

| | PC | | TV | |
|---|---|---|---|---|
| RXD | 2 | ———— | 3 | TXD |
| TXD | 3 | ———— | 2 | RXD |
| GND | 5 | ———— | 5 | GND |
| DTR | 4 | ———— | 6 | DSR |
| DSR | 6 | ———— | 4 | DTR |
| RTS | 7 | ———— | 8 | CTS |
| CTS | 8 | ———— | 7 | RTS |
| | D-Sub 9 | | D-Sub 9 | |
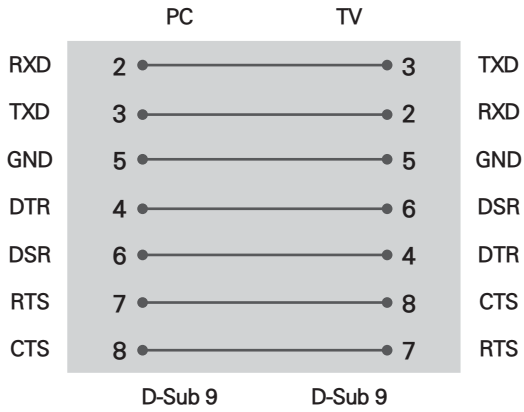
3-Wire Configurations(Not standard)
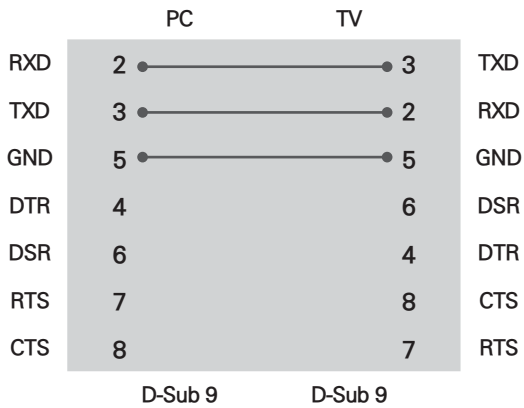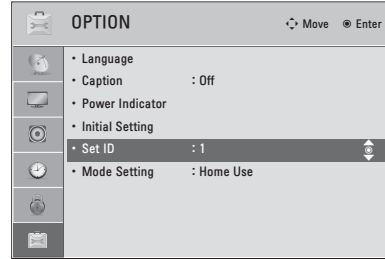
| | PC | | TV | |
|---|---|---|---|---|
| RXD | 2 | ———— | 3 | TXD |
| TXD | 3 | ———— | 2 | RXD |
| GND | 5 | ———— | 5 | GND |
| DTR | 4 | | 6 | DSR |
| DSR | 6 | | 4 | DTR |
| RTS | 7 | | 8 | CTS |
| CTS | 8 | | 7 | RTS |
| | D-Sub 9 | | D-Sub 9 | |

### Set ID

Set ID number.



| OPTION | ◆ Move   ◉ Enter |
|---|---|
| • Language | |
| • Caption | : Off |
| • Power Indicator | |
| • Initial Setting | |
| • Set ID | : 1 |
| • Mode Setting | : Home Use |

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

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

3  Press the Navigation buttons to scroll to **Set ID** and press **ENTER**.

4  Scroll left or right to select a set ID number and select **CLOSE**. The adjustment range is 1-99.

5  When you are finished, press **EXIT**.

## Communication Parameters

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

## Command reference list

| | COMMAND1 | COMMAND2 | DATA (Hexadecimal) | | COMMAND1 | COMMAND2 | DATA (Hexadecimal) |
|---|---|---|---|---|---|---|---|
| 01. Power | k | a | 00 - 01 | 14. Treble | k | r | 00 - 64 |
| 02. Input Select | x | b | (See p.87) | 15. Bass | k | s | 00 - 64 |
| 03. Aspect Ratio | k | c | (See p.87) | 16. Balance | k | t | 00 - 64 |
| 04. Screen Mute | k | d | 00 - 01 | 17. Color Temperature | x | u | 00 - 64 |
| 05. Volume Mute | k | e | 00 - 01 | 18. ISM Method ( Plasma ) | j | p | (See p.88) |
| 06. Volume Control | k | f | 00 - 64 | 19. Energy Saving | j | q | (See p.88) |
| 07. Contrast | k | g | 00 - 64 | 20. Auto Configuration | j | u | (See p.88) |
| 08. Brightness | k | h | 00 - 64 | 22. Channel Add/Del | m | b | 00 - 01 |
| 09. Color | k | i | 00 - 64 | 23. Key | m | c | (See p.89) |
| 10. Tint | k | j | 00 - 64 | 24. Backlight ( LCD ) | m | g | 00 - 64 |
| 11. Sharpness | k | k | 00 - 64 | | | | |
| 12. OSD Select | k | l | 00 - 01 | | | | |
| 13. Remote Control Lock Mode | k | m | 00 - 01 | | | | |

| | COMMAND1 | COMMAND2 | DATA00 (Hexadecimal) | DATA01 (Hexadecimal) | DATA02 (Hexadecimal) | DATA03 (Hexadecimal) | DATA04 (Hexadecimal) | DATA05 (Hexadecimal) |
|---|---|---|---|---|---|---|---|---|
| 21. Channel Tuning | m | a | physical program high | major program low | major low | minor high | minor low | attribute |

- When setting the 17 to 24, a menu does not appear on screen.
- Note : During USB operations such as Dvix or EMF, all commands except Power(ka) and Key(mc) are not executed and treated as NG.

# Transmission / Receiving protocol

### Transmission

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

[Command 1] : First command to control the set.(j, k, m or x)
[Command 2] : Second command to control the set.
[Set ID] : You can adjust the set ID to choose desired set ID number in Option menu. Adjustment range is
1~ 99. When selecting Set ID '0', every connected the set is controlled. Set ID is indicated as decimal (1~
99) on menu and as Hexa decimal (0x0~ 0x63) on transmission /receiving protocol.
[DATA] : To transmit the command data.
Transmit the 'FF' data to read status of command.
[Cr] : Carriage Return
ASCII code '0x0D'
[ ] : ASCII code 'space (0x20)'
\* In this model, set will not send the status during the standby mode.

### OK Acknowledgement

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

The set transmits ACK (acknowledgement) based on this format when receiving normal data. At this time,
if the data is data read mode, it indicates present status data. If the data is data write mode, it returns the
data of the PC computer.
\* In this model, set will not send the status during the standby mode.
\* Data Format
[Command 2] : Use as command.
[Set ID] : Use the small character, if set ID is 10, it will send the '0', 'a'.
[DATA] : Use the small character, if data is 0 x ab, it will send the 'a', 'b'.
[OK] : Use the large character.

### Error Acknowledgement

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

The set transmits ACK (acknowledgement) based on this format when receiving abnormal data from non-
viable functions or communication errors.
Data1: Illegal Code
Data2: Not supported function
Data3: Wait more time
\* In this model, set will not send the status during the standby mode.
\* Data Format
[Command 2] : Use as command.
[Set ID] : Use the small character, if set ID is 10, it will send the '0', 'a'.
[DATA] : Use the small character, if data is 0 x ab, it will send the 'a', 'b'.
[NG] : Use the large character

### 01. Power (Command: k a)

To control Power On/Off of the set.

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

Data 00: Power Off          Data 01: Power On

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

* In a like manner, if other functions transmit 'FF' data based on this format, Acknowledgement data feedback presents status about each function.
* Note: In this model, set will send the Acknowledge after power on processing completion.
There might be a time delay between command and acknowledge.

### 02. Input Select (Command: x b)

To select input source for set.

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

Data 00: DTV (Antenna)    Data 01: DTV (Cable)
Data 10: Analog (Antenna) Data 11: Analog (Cable)
Data 20: AV  or AV1        Data 21: AV2
Data 40: Component or Component1
Data 41: Component2
Data 60: RGB-PC            Data 90: HDMI1
Data 91: HDMI2            Data 92: HDMI3
Data 93: HDMI4

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

* Use the feature depending on your model.

### 03. Aspect Ratio (Command: k c)

To adjust the screen format.

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

Data 01: 4:3              Data: 09: Just scan
Data 02: 16:9            Data: 10: Cinema Zoom 1
Data 04: Zoom                            ⋮
Data 06: Set by program   Data 1F: Cinema Zoom16

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

### 04. Screen Mute (Command: k d)

To select screen mute on/off.

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

Data 00: Screen mute off (Picture on), Video-out Mute off
Data 01: Screen mute on (Picture off)
Data 10: Video-out Mute on

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

* In case of Video-out Mute on only, TV will display On Screen Display (OSD). But, in case of screen mute on, TV will not display On Screen Display (OSD).

### 05. Volume Mute (Command: k e)

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

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

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

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

### 06. Volume Control (Command: k f)

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

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

Data Min: 00 ~ Max: 64 (*transmit by Hexadecimal code)
*Refer to "Real data mapping".

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

### 07. Contrast (Command: k g)

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

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

Data Min: 00 ~ Max: 64 (*transmit by Hexadecimal code)
*Refer to "Real data mapping".

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

### 08. Brightness (Command: k h)

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

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

Data Min: 00 ~ Max: 64 (*transmit by Hexadecimal code)
*Refer to "Real data mapping".

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

### 09. Color (Command: k i)

To adjust screen color.
You can also adjust color in the PICTURE menu.

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

Data Min: 00 ~ Max: 64 (*transmit by Hexadecimal code)
*Refer to "Real data mapping".

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

### 10. Tint (Command: k j)

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

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

Data Red: 00 ~ Green: 64 (*transmit by Hexadecimal code)
*Refer to "Real data mapping".

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

### 11. Sharpness (Command: k k)

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

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

Data Min: 00 ~ Max: 64 (*transmit by Hexadecimal code)
*Refer to "Real data mapping".

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

**ENGLISH**

**12. OSD Select (Command: k l)**

To select OSD (On Screen Display) on/off.

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

Data 00: OSD off          Data 01: OSD on

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

**13. Remote Control Lock Mode (Command: k m)**

To lock the remote control and the front panel controls on the set.

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

Data 00: Lock off          Data 01: Lock on

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

If you're not using the remote control and front panel controls on the Monitor set, use this mode. When main power is on/off, remote control lock is released. If Key Lock is on in the standby mode, TV will not turn on by POWER button of remote control and on the TV.

**14. Treble (Command: k r)**

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

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

Data Min: 00 ~ Max: 64 (*transmit by Hexadecimal code)
*Refer to "Real data mapping".

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

**15. Bass (Command: k s)**

To adjust bass.
You can also adjust bass in the AUDIO menu.

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

Data Min: 00 ~ Max: 64 (*transmit by Hexadecimal code)
*Refer to "Real data mapping".
Acknowledgement [s][ ][Set ID][ ][OK/NG][Data][x]

**16. Balance (Command: k t)**

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

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

Data Min: 00 ~ Max: 64 (*transmit by Hexadecimal code)
*Refer to "Real data mapping".

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

**17. Color Temperature (Command: x u)**

To adjust color temperature.
You can also adjust color temperature in the PICTURE menu.

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

Data Min: 00 ~ Max: 64 (*transmit by Hexadecimal code)
*Refer to "Real data mapping".

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

**18. ISM Method (Command: j p) ( Plasma )**

To avoid having a fixed image remain on screen.

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

Data 02: Orbiter
    04: White Wash
    08: Normal
    20: Color Wash

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

**19. Energy Saving (Command: j q)**

To control the energy saving function.

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

Data 00: off
    01: Minimum
    02: Medium
    03: Maximum
    04: Auto (depending on model)
    05: Screen off

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

**20. Auto Configuration (Command: j u)**

To adjust picture position and minimize image shaking automatically. Auto configuration only works in RGB-PC mode.

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

Data 01: To set

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

**21. Channel Tuning (Command: m a)**

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

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

Digital channels have a Physical, Major, and Minor channel number. The Physical number is the actual digital channel number, the Major is the number that the channel should be mapped to, and the Minor is the sub-channel. Since the ATSC tuner automatically maps the channel to the Major number, the Physical number is not required when sending a command.
Data 00: Physical Channel Number
NTSC air: 02~45, NTSC cable: 01, 0E~7D
ATSC air: 01~45, ATSC cable: 01~87
Data 01 & 02: Major Channel Number
Data 01: High byte          Data 02: Low byte
Two bytes are available for the Major and Minor, normally only the second byte is used.
Data 03 & 04: Minor Channel Number
Not needed for NTSC.

The table above lists the binary code which must be converted to Hexadecimal before sending. For example:

| 7 | Main/Sub Picture | 6 | Two/One Part Channel | 5 | Using Physical Channel | 4 Reserved | 3 | 2 | 1 | 0 | Step |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0 | Main | 0 | Two | 0 | Use | x | 0 | 0 | 0 | 0 | NTSC Air |
| 1 | Sub | 1 | One | 1 | No Use | x | 0 | 0 | 0 | 1 | NTSC Cable |
| | | | | | | x | 0 | 0 | 1 | 0 | ATSC Air |
| | | | | | | x | 0 | 0 | 1 | 1 | ATSC Cable_std |
| | | | | | | x | 0 | 1 | 0 | 0 | ATSC Cable_hrc |
| | | | | | | x | 0 | 1 | 0 | 1 | ATSC Cable_irc |
| | | | | | | x | 0 | 1 | 1 | 0 | ATSC cable_auto |
| | | | | | | x | 0 | 1 | 1 | 1 | Reserved |
| | | | | | | x | x | x | x | x | ... |
| | | | | | | x | 1 | 1 | 1 | 1 | Reserved |

The binary code to tune the sub source to an NTSC cable channel is "1000 0001", which translates to "81" in Hex.
* 7th bit : For which source do you want to change the channel.
* 6th bit: Use a two part or one part channel. Most cases just use 0 since it's ignored when using NTSC.
* 5th bit: Use 0 with NTSC since it can only use the physical channel number. Normally use 1 for ATSC since most times it doesn't matter what the physical number is.
* 4th bit: Set to 0.
* 3-0 bits: Choose signal type.

* Tune Command Examples:
1. Tune to the analog (NTSC) cable channel 35.
Data 00 = Physical of 35 = 23
Data 01 & 02 = No Major = 00 00
Data 03 & 04 = No Minor = 00 00
Data 05 = 0000 0001 in binary = 01
Total = ma 00 23 00 00 00 00 01

2. Tune to the digital (ATSC) local channel 30-3.
Data 00 = Don't know Physical = 00
Data 01 & 02 = Major is 30 = 00 1E
Data 03 & 04 = Minor is 3 = 00 03
Data 05 = 0010 0010 in binary = 22
Total = ma 00 00 00 1E 00 03 22

### 22. Channel Add/Del (Command: m b)
To add and delete the channels.

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

Data 00: Channel Delete Data 01: Channel Add

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

### 23. Key (Command: m c)
To send IR remote key code.

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

See page 101.

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

When TV is in the standby mode, TV will turn on by POWER button of remote control only.

### 24. Backlight (Command: m g) ( LCD )
To adjust screen backlight.

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

Data Min:00 ~ Max:64 (*transmit by Hexadecimal code)
*Refer to "Real data mapping".

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

ENGLISH

# LG

## Life's Good

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

MODEL _____

SERIAL _____

## :: FCC Compliance Statement

This equipment has been tested and found to comply within the limits of a Class B digital device pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation.

This equipment generates, uses, and can radiate radio frequency energy and if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation.

If this equipment does cause harmful interference to radio or television reception (which can be determined by turning the equipment on and off), the user is encouraged to try to correct the interference by using one or more of the following measures:

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

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

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

## :: Canadian DOC Notice

This Class B digital apparatus meets all requirements of the Canadian Interference-Causing Equipment Regulations. Cet appareil numérique de la classe B

respecte toutes les exigences du Règlement sur le matériel brouilleur du Canada.

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

## :: CE Conformity Notice (for Europe)

Products with the "CE" Marking comply with the EMC Directive(89/336/EEC) and LOW VOLTAGE Directive (73/23/EEC) issued by the Commission of the European Community.
Compiance with these directives implies conformity to the following European Norms :
• EN 55022          ; Radio Frequency Interference
• EN 55024          ; Electromagnetic Immunity
• EN 61000-3-2      ; Power Line Harmonics
• EN 61000-3-3      ; Voltage Fluctuations
• EN 60950-1        ; Product Safety

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

## :: Low Radiation Compliance (MPR II)

This monitor meets one of the strictest guidelines available today for low radiation emissions, offering the user extra shielding and an antistatic screen coating. These guidelines, set forth by a government agency in Sweden, limit the amount of emission allowed in the Extremely Low Frequency (ELF) and Very Low Frequency (VLF) electromagnetic range.

## :: TCO'99 (TCO'99 applied model only)

**Congratulations!**
You have just purchased a TCO'99 approved and labelled product! Your choice has provided you with a product developed for professional use. Your purchase has also contributed to reducing the burden on the environment and also to the further development of environmentally adapted electronics products.

**Why do we have environmentally labelled computers?**
In many countries, environmental labelling has become an established method for encouraging the adaptation of goods and services to the environment. With the growing manufacture and usage of electronic equipment throughout the world, there is a recognized concern for the materials and substances used by electronic products with regards to their eventual recycling and disposal. By proper selection of these materials and substances, the impact on the environment can be minimized.

There are also other characteristics of a computer, such as energy consumption levels, that are important from the viewpoints of both the work (internal) and natural (external) environments. Electronic equipment in offices is often left running continuously, resulting in unnecessary consumption of large amounts of energy and additional power generation. From the standpoint of carbon dioxide emissions alone, it is vital to save energy.

**What does labelling involve?**
The product meets the requirements for the TCO'99 scheme which provides for international and environmental labelling of personal computers and/or displays.
The labelling scheme was developed as a joint effort by the TCO (The Swedish Confederation of Professional Employees), Svenska Naturskyddsforeningen
(The Swedish Society for Nature Conservation) and Statens Energimyndighet (The Swedish National Energy Administration).
Approval requirements cover a wide range of issues: ecology, ergonomics, emission of electrical and magnetical fields, energy consumption and electrical safety.

Ecological criteria impose restrictions on the presence and use of heavy metals, brominated and chlorinated flame retardants, and other substances. The product must be prepared for recycling and the manufacturing site(s) shall be certified according to ISO14001 or EMAS registered.

Energy requirements include a demand that the system unit and/or display, after a certain period of inactivity, shall reduce its power consumption to a lower level in one or more stages. The length of time to reactivate the system unit shall be reasonable for the user.

Labelled products must meet strict environmental demands, for example, in respect of the reduction of electrical and magnetical fields as well as work load and visual ergonomics.

Below you will find a brief summary of the ecological requirements met by this product. The complete ecological criteria document can be found at TCO Development's website http://www.tcodevelopment.com or may be ordered from:

**TCO Development**
SE-114 94 STOCKHOLM, Sweden
Fax: +46 8 782 92 07
Email : development@tco.se
Information regarding TCO'99 approved and labelled products may also be obtained at
http://www.tcodevelopment.com

**Ecological requirements**
Flame retardants
Flame retardants may be present in printed wiring board laminates, cables, and housings. Their purpose is to prevent, or at least to delay the spread of fire. Up to 30% by weight of the plastic in a computer casing can consist of flame retardant substances. Many flame retardants contain bromine or chlorine, and these flame retardants are chemically related to PCBs (polychlorinated biphenyls). Both the flame retardants containing bromine or chlorine and the PCBs are suspected of giving rise to health effects, including reproductive damage in fish-eating birds and mammals, due to the bio-accumulative* processes when not disposed of in accordance with strict standards for disposal.

TCO'99 requires that plastic components weighing more than 25 grams shall not contain flame retardants with organically bound bromine or chlorine. Flame retardants are allowed in the printed wiring board laminates due to the lack of commercially available alternatives.

Cadmium**
Cadmium is present in rechargeable batteries and in the colour-generating layers of certain computer displays.
TCO'99 requires that batteries, the colour-generating layers of display screens, and the electrical or electronics components shall not contain any cadmium.

Mercury**
Mercury is sometimes found in batteries, relays and switches. TCO'99 requires that batteries shall not contain any mercury. It also demands that mercury is not present in any of the electrical or electronics components associated with the labelled unit. There is however one

exception. Mercury is, for the time being, permitted in the back light system of flat panel monitors as there today is no commercially available alternative. TCO aims on removing this exception when a mercury free alternative is available.

Lead**

Lead can be found in picture tubes, display screens, solders and capacitors. TCO'99 permits the use of lead due to the lack of commercially available alternatives, but in future requirements TCO Development aims at restricting the use of lead.

_____

**\* Bio-accumulative is defined as substances which accumulate in living organisms.**
**\*\*Lead, Cadmium and Mercury are heavy metals which are bio-accumulative.**

## :: TCO'03 (TCO'03 applied model only)



**Congratulations!**

The display you have just purchased carries the TCO'03 Displays label.

This means that your display is designed,manufactured and tested according to some of the strictest quality and environmental requirements in the world. This makes for a high performance product, designed with the user in focus that also minimizes the impact on our natural environment. Some of the features of the TCO'03 Display requirements:

**Ergonomics**

- Good visual ergonomics and image quality in order to improve the working environment for the user and to reduce sight and strain problems. Important parameters are luminance, contrast, resolution, reflectance, colour rendition and image stability.

**Energy**

- Energy-saving mode after a certain time – beneficial both for the user and the environment
- Electrical safety

**Emissions**

- Electromagnetic fields

- Noise emissions

**Ecology**

- The product must be prepared for recycling and the manufacturer must have a certified environmental management system such as EMAS or ISO 14 001
- Restrictions on
  - chlorinated and brominated flame retardants and polymers
  - heavy metals such as cadmium, mercury and lead.

The requirements included in this label have been developed by TCO Development in co-operation with scientists, experts, users as well as manufacturers all over the world. Since the end of the 1980s TCO has been involved in influencing the development of IT equipment in a more user-friendly direction. Our labelling system started with displays in 1992 and is now requested by users and IT-manufacturers all over the world.

For more information, please visit
**www.tcodevelopment.com**

■ **English**

**Information for Environmental Preservation**

LGE. announced the 'LG Declaration for a Cleaner Environment' in 1994, and this ideal has served as a guiding managerial principle ever since. The Declaration is a foundation that has allowed us to undertake environmentally friendly activities in careful consideration of economic, environmental, and social aspects.

We promote activities for environmental preservation, and we specifically develop our products to embrace the concept of environment-friendly.
We minimize the hazardous materials contained in our products. For example, there is no cadmium to be found in our monitors.

**Information for recycling**

This monitor may contain parts which could be hazardous to the environment. It is important that this monitor be recycled after use.

LGE. handles all waste monitors through an environmentally acceptable recycling method. There are several take-back and recycling systems currently in

operation worldwide. Many parts will be reused and recycled, while harmful substances and heavy metals are treated by an environmentally friendly method.
If you want to find out more information about our recycling program, please contact your local LG vendor or a corporate representative of LG.

We set our vision and policies on a cleaner world by selecting the issue of the global environment as a task for corporate improvement. Please visit our website for more information about our 'green' policies.
http://www.lge.com/about/environment/html/Recycling.jsp

### ■■ Deutsch

**Informationen zur Erhaltung der Umwelt**
Im Jahr 1994 verkündete LGE die 'LG Declaration for a Cleaner Environment' (LG Erklärung für eine sauberere Umwelt). Seitdem dient dieses Ideal als führendes Prinzip des Unternehmens. Diese Erklärung war die Basis für die Durchführung von
umweltfreundlichen Aktivitäten, wobei wirtschaftliche, umweltbezogene und soziale Aspekte in die
Überlegungen mit einbezogen wurden.
Wir fördern Aktivitäten zum Schutz der Umwelt und die Entwicklung unserer Produkte ist darauf ausgerichtet, unserem Konzept bezüglich Umweltfreundlichkeit gerecht zu werden.
Wir sind darauf bedacht, den Anteil der in unseren Produkten enthaltenen schädlichen Materialien zu minimieren. So ist in unseren Monitoren beispielsweise kein Kadmium zu finden.

**Informationen zum Thema Recycling**
Dieser Monitor enthält Teile, die umweltschädlich sein können. Es ist unbedingt erforderlich, dass der Monitor recycelt wird, nachdem er außer Dienst gestellt wurde.

Bei LGE. werden alle ausrangierten Monitore in einem unter umweltbezogenen Aspekten geeigneten Verfahren recycelt. Augenblicklich sind weltweit mehrere Rücknahme- und Recyclingsysteme im Einsatz. Viele Teile werden wieder verwendet und recycelt. Schädliche Substanzen und Schwermetalle werden durch umweltverträgliche Verfahren behandelt.
Falls Sie mehr über unser Recyclingprogramm erfahren möchten, wenden Sie sich bitte an Ihren lokalen LG-Händler oder einen Unternehmensvertreter von LG.

Wir richten unsere Firmenpolitik auf eine sauberere Umwelt hin aus, indem wir umweltspezifische Aspekte als wichtigen Punkt in die Weiterentwicklung unseres Unternehmens einfließen lassen. Zusätzliche
Informationen über unsere 'grüne' Firmenpolitik erhalten Sie auf unserer Website.
http://www.lge.com/about/environment/html/Recycling.jsp

### ■■ Français

**Information sur la protection del'environnement**
LGE. a publié sa 'Déclaration en faveur d'un environnement plus propre' en 1994 et celle-ci est restée, depuis lors, un principe directeur de notre entreprise. Cette déclaration a servi de base à notre réflexion et nous a permis de prendre en compte à la fois les aspects économiques et sociaux de nos activités, tout en respectant l'environnement.

Nous encourageons les activités en faveur de la préservation de l'environnement et c'est dans cet esprit que nous développons nos produits : nous réduisons au minimum les matières dangereuses qui entrent dans leur composition et l'on ne trouve pas de cadmium, par exemple, dans nos moniteurs.

**Information sur le recyclage**
Ce moniteur peut contenir des composants qui présentent un risque pour l'environnement. Il est donc important que celui-ci soit recyclé après usage.

LGE. traite les moniteurs en fin de cycle conformément à une méthode de recyclage respectueuse de l'environnement. Nous reprenons nos produits et les recyclons dans plusieurs sites répartis dans le monde entier. De nombreux composants sont réutilisés et recyclés, et les matières dangereuses, ainsi que les métaux lourds, sont traités selon un procédé écologique.
Si vous souhaitez plus de renseignements sur notre programme de recyclage, veuillez contacter votre revendeur LG ou un l'un de nos représentants.

Nous voulons agir pour un monde plus propre et croyons au rôle de notre entreprise dans l'amélioration de l'environnement. Pour plus de renseignements sur notre politique "verte", rendez visite à notre site :
http://www.lge.com/about/environment/html/Recycling.jsp

## ■■ Italiano

### Informazioni per la tutela dell'ambiente

La LGE. ha annunciato nel 1994 la cosiddetta 'LG Declaration for a Cleaner Environment' (Dichiarazione di LG a favore di un ambiente più pulito), un ideale che da allora funge da principio ispiratore della gestione aziendale. La dichiarazione rappresenta il fondamento che consente di intraprendere attività a favore dell'ambiente tenendo conto degli aspetti economici, ambientali e sociali.Noi della LG, promuoviamo attività a favore della tutela dell'ambiente sviluppando appositamente i nostri prodotti per cogliere il concetto del rispetto dell'ambiente riducendo i materiali dannosi presenti nei nostri prodotti. Ad esempio nei nostri monitor non è presente il cadmio.

### Informazioni per il riciclaggio

Il monitor può presentare componenti che potrebbero risultare eventualmente dannosi per l'ambiente. È importante che il monitor sia riciclato al termine del suo utilizzo.

La LGE. gestisce tutti i monitor di rifiuto con un metodo di riciclaggio soddisfacente dal punto di vista ambientale. In tutto il mondo sono attualmente in funzione numerosi sistemi di riciclaggio e recupero. I diversi componenti sono riutilizzati e riciclati, mentre le sostanze dannose e i metalli pesanti vengono trattati con un metodo rispettoso dell'ambiente.
Se si desiderano maggiori informazioni in merito al programma di riciclaggio, è consigliabile rivolgersi al proprio rivenditore LG o ad un rappresentante aziendale della LG.

Noi della LG impostiamo la nostra visione e le nostre politiche a favore di un mondo più pulito ponendo la questione dell'ambiente dal punto di vista globale come una mansione rivolta al miglioramento della nostra azienda. Vi invitiamo a visitare il nostro sito internet per ulteriori informazioni sulla nostra politica "verde".
http://www.lge.com/about/environment/html/Recycling.jsp

## ■■ Espanõl

### Información para la conservación medioambiental

LGE. presentó la 'Declaración para un entorno más limpio de LG' en 1994 y este ideal ha servido para guiar nuestros principios empresariales desde entonces. La Declaración es la base que nos ha permitido llevar a cabo tareas que respetan el medio ambiente siempre teniendo en cuenta aspectos sociales,
económicos y medioambientales.

Promocionamos actividades orientadas a la conservación del medio ambiente y desarrollamos nuestros productos específicamente para que se ajusten a la filosofía que protege el entorno.
Reducimos al máximo el uso de materiales de riesgo en nuestros productos. Un ejemplo de ello es la ausencia total de cadmio en nuestros monitores.

### Información para el reciclaje

Este monitor puede contener piezas que entrañen riesgos medioambientales. Es importante reciclar este monitor después de su utilización.
LGE. trata todos los monitores usados siguiendo un método de reciclaje que no daña al entorno. Contamos con diversos sistemas de recuperación y reciclaje que funcionan a nivel mundial en la actualidad. Es posible reciclar y reutilizar muchas de las piezas, mientras que las sustancias dañinas y los metales pesados se tratan siguiendo un método que no perjudique al medio ambiente. Si desea obtener más información acerca del programa de reciclaje, póngase en contacto con su proveedor local de LG o con un representante empresarial de nuestra marca.

Basamos nuestra visión y nuestras políticas en un mundo más limpio y para ellos optamos por un entorno global como tarea principal de nuestra evolución como empresa. Visite nuestra página Web para obtener más información sobre nuestras políticas ecológicas.
http://www.lge.com/about/environment/html/Recycling.jsp

## ■■ Português

### Informações relacionadas à preservação ambiental

A LGE. anunciou a 'LG Declaration for a Cleaner Environment' (Declaração da LG para um ambiente mais limpo) em 1994 e esse ideal tem servido desde então como um princípio administrativo de orientação. A Declaração é a base que nos tem permitido realizar atividades favoráveis ao ambiente com consideração atenta aos aspectos econômicos, ambientais e sociais.

Promovemos atividades de preservação ambiental e desenvolvemos nossos produtos para englobar

especificamente o conceito de favorável ao ambiente. Reduzimos os materiais perigosos contidos em nossos produtos. Por exemplo, não há cádmio em nossos monitores.

### Informações relacionadas à reciclagem

Este monitor pode conter peças que podem representar riscos ao ambiente. É importante que ele seja reciclado após o uso.

A LGE. cuida de todos os monitores descartados através de um método de reciclagem agradável ao ambiente. Há vários sistemas de devolução e reciclagem atualmente em operação no mundo. Muitas peças serão reutilizadas e recicladas e as substâncias nocivas e os metais pesados passarão por tratamento através de um método favorável ao ambiente.

Para obter mais informações sobre nosso programa de reciclagem, entre em contato com seu fornecedor LG local ou com um representante corporativo da LG.

Definimos nossa visão e nossas políticas relacionadas a um mundo mais limpo selecionando a questão do ambiente global como uma tarefa de aprimoramento corporativo. Visite nosso site para obter mais informações sobre nossas políticas de meio ambiente.

http://www.lge.com/about/environment/html/Recycling.jsp

### ▦ Nederlands

### Informatie met betrekking tot het behoud van het milieu

LGE. publiceerde in 1994 de 'LG Declaration for a Cleaner Environment' (de LG-verklaring met betrekking tot een schoner milieu). Deze verklaring en het ideaal van een schoner milieu fungeren sindsdien als een bestuurlijke leidraad voor onze onderneming. Op basis van deze verklaring ontplooien wij milieuvriendelijke activiteiten, waarbij er zowel met sociale en economische aspecten, als met milieuaspecten zorgvuldig rekening wordt gehouden.

Wij ondersteunen activiteiten die zijn gericht op het behoud van het milieu en wij houden bij het ontwikkelen onze producten specifiek rekening met de milieuvriendelijkheid van onze producten.

Wij minimaliseren het gebruik van schadelijke stoffen in onze producten. Er wordt bijvoorbeeld geen cadmium verwerkt in onze monitors.

### Informatie met betrekking tot recycling

Deze monitor bevat materialen die schadelijk zouden kunnen zijn voor het milieu. Het is belangrijk dat deze monitor aan het einde van zijn levensduur wordt gerecycled.

LGE. verwerkt alle afvalmonitors via een milieuvriendelijke recyclingmethode. Hiervoor worden er momenteel wereldwijd verscheidene inname- en recyclingsystemen gehanteerd. Een groot aantal onderdelen wordt opnieuw gebruikt en gerecycled, waarbij schadelijke stoffen en zware metalen volgens een milieuvriendelijke methode worden verwerkt.

Voor meer informatie over ons recyclingprogramma kunt u contact opnemen met uw plaatselijke LG-vertegenwoordiger of een LG-vestiging.

Onze visie en ons beleid met betrekking tot een schonere wereld vloeien voort uit het feit dat wij het milieu hebben aangemerkt als een onderwerp dat speciale aandacht verdient binnen onze onderneming. Bezoek onze website voor meer informatie over ons 'groene' beleid.

http://www.lge.com/about/environment/html/Recycling.jsp

### ▦ Russian

### Информация по охране окружающей среды

В 1994 году корпорация LGE опубликовала 'Декларацию LG по охране окружающей среды', которая с тех пор служит основным принципом управления. На основе этой декларации мы смогли предпринять действия, обеспечивающие безопасность окружающей среды, уделяя при этом должное внимание экономическим, экологическим и социальным аспектам.

Мы стимулируем деятельность по охране окружающей среды, уделяя особое внимание разработке нашей продукции в соответствии с концепцией экологической безопасности.

Мы сводим к минимуму содержание опасных веществ в нашей продукции. Например, в наших мониторах вы не найдете кадмия.

### Информация по утилизации отходов

Этот монитор может содержать компоненты, которые могут нанести ущерб окружающей среде.

Необходимо утилизировать монитор после использования.

Корпорация LGE перерабатывает все бракованные мониторы с помощью экологически приемлемого метода утилизации отходов. По всему миру действуют системы утилизации отходов и возврата использованной продукции. Многие компоненты будут вторично использованы и утилизированы, в то время как вредные вещества и тяжелые металлы будут обработаны с помощью экологически приемлемого метода.

За более подробной информацией по нашей программе утилизации отходов обращайтесь к местному поставщику или представителю

корпорации LG.

Мы ориентируемся на обеспечение экологической безопасности, ставя себе целью глобальную защиту окружающей среды. Дополнительную информацию о нашей политике по охране окружающей среды вы можете найти на нашем сайте:
http://www.lge.com/about/environment/html/Recycling.jsp

### ■■ 한국어

#### 환경 보존 정보

LG 전자는 1994년 'LG 환경 선언문'을 발표한 후 현재까지 이를 기업 경영의 이념으로 삼아왔습니다. 이 선언문을 바탕으로 LG 전자는 모든 경영 활동에서 경제성뿐만 아니라 환경성 및 사회성을 주요 의사 결정의 기준으로 삼음으로써 지속적으로 환경 친화적인 경영을 전개하고 있습니다.

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#### 재활용 정보

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여러 가지가 있습니다. 대부분의 부품의 경우 재사용 또는 재활용되지만 환경 위해 물질과 중금속은 환경 친화적 방법으로 처리됩니다.
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LG 전자는 기업 개선 정책의 하나로 지구 환경 문제를 채택함으로써 보다 나은 환경을 만들어 나가기 위한 비전과 정책을 수립했습니다. 본사의 친환경 정책에 대한 자세한 정보를 보시려면 아래의 웹 사이트를 방문하십시오.
http://www.lge.co.kr/cokr/about/environ/purity__02.jsp

### ::EPA (EPA applied model only)

ENERGY STAR is a set of power-saving guidelines issued by the U.S. Environmental Protection Agency(EPA).



As an ENERGY STAR Partner LGE U. S. A.,Inc. has determined that this product meets the ENERGY STAR guidelines for energy efficiency.

### ::NOM MARK (Mexico only)

## :: WEEE (for Europe )



### ■■ English
#### 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 European Directive 2002/96/EC.
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.

### ■■ French
#### Élimination de votre ancien appareil

1. Ce symbole, représentant une poubelle sur roulettes barrée d'une croix, signifie que le produit est couvert par la directive européenne 2002/96/EC.
2. Les éléments électriques et électroniques doivent être jetés séparément, dans les vide-ordures prévus à cet effet par votre municipalité.
3. Une élimination conforme aux instructions aidera à réduire les conséquences négatives et risques éventuels pour l'environnement et la santé humaine.
4. Pour plus d'information concernant l'élimination de votre ancien appareil, veuillez contacter votre mairie, le service des ordures ménagères ou encore la magasin où vous avez acheté ce produit.

### ■■ Italian
#### Smaltimento delle apparecchiature obsolete

1. Quando su un prodotto è riportato il simbolo di un bidone della spazzatura barrato da una croce significa che il prodotto è coperto dalla direttiva europea 2002/96/EC.
2. Tutti i prodotti elettrici ed elettronici dovrebbero essere smaltiti separatamente rispetto alla raccolta differenziata municipale, mediante impianti di raccolta specifici designati dal governo o dalle autorità locali.
3. Il corretto smaltimento delle apparecchiature obsolete contribuisce a prevenire possibili conseguenze negative sulla salute umana e sull'ambiente.
4. Per informazioni più dettagliate sullo smaltimento delle apparecchiature obsolete, contattare il comune, il servizio di smaltimento rifiuti o il negozio in cui è stato acquistato il prodotto.

### ■■ Swedish
#### Kassering av din gamla apparat

1. När den här symbolen med en överkryssad soptunna på hjul sitter på en produkt innebär det att den regleras av European Directive 2002/96/EC.
2. Alla elektriska och elektroniska produkter bör kasseras via andra vägar än de som finns för hushållsavfall, helst via för ändamålet avsedda uppsamlingsanläggningar som myndigheterna utser.
3. Om du kasserar din gamla apparat på rätt sätt så bidrar du till att förhindra negativa konsekvenser för miljön och människors hälsa.
4. Mer detaljerad information om kassering av din gamla apparat kan får av kommunen, renhållningsverket eller den butik där du köpte produkten.

### ■■ Dutch
#### Uw oude toestel wegdoen

1. Als het symbool met de doorgekruiste verrijdbare afvalbak op een product staat, betekent dit dat het product valt onder de Europese Richtlijn 2002/96/EC.
2. Elektrische en elektronische producten mogen niet worden meegegeven met het huishoudelijk afval, maar moeten worden ingeleverd bij speciale inzamelingspunten die door de lokale of landelijke overheid zijn aangewezen.
3. De correcte verwijdering van uw oude toestel helpt negatieve gevolgen voor het milieu en de menselijke gezondheid voorkomen.

4. Wilt u meer informatie over de verwijdering van uw oude toestel? Neem dan contact op met uw gemeente, de afvalophaaldienst of de winkel waar u het product hebt gekocht.

### Finnish

**Vanhojen laitteiden hävittäminen**

1. Tämä merkki tuotteessa tarkoittaa, että tuote kuuluu sähkö- ja elektroniikkalaiteromusta annetun EU-direktiivin 2002/96/EY soveltamisalaan.
2. Kaikki elektroniset laitteet ovat ongelmajätettä, joten ne on toimitettava paikalliseen keräyspisteeseen.
3. Vanhan laitteen asianmukainen hävittäminen ehkäisee mahdollisia ympäristöön ja terveyteen kohdistuvia haittavaikutuksia.
4. Lisätietoa vanhan laitteen hävittämisestä saat ottamalla yhteyden paikallisiin viranomaisiin, kierrätyskeskukseen tai myymälään, josta ostit laitteen.

### German

**Entsorgung von Altgeräten**

1. Wenn dieses Symbol eines durchgestrichenen Abfalleimers auf einem Produkt angebracht ist, unterliegt dieses Produkt der europäischen Richtlinie 2002/96/EC.
2. Alle Elektro- und Elektronik-Altgeräte müssen getrennt vom Hausmüll über dafür staatlich vorgesehenen Stellen entsorgt werden.
3. Mit der ordnungsgemäßen Entsorgung des alten Geräts vermeiden Sie Umweltschäden und eine Gefährdung der persönlichen Gesundheit.
4. Weitere Informationen zur Entsorgung des alten Geräts erhalten Sie bei der Stadtverwaltung, beim Entsorgungsamt oder in dem Geschäft, wo Sie das Produkt erworben haben.

### Danish

**Sådan smider du dit gamle apparat ud**

1. Når der er et tegn med et kryds over en skraldespand, betyder det, at produktet er omfattet af EU-direktiv 2002/96/EC.
2. Alle elektriske og elektroniske produkter skal smides ud et andet sted end gennem den kommunale affaldsordning ved hjælp af specielle indsamlingsfaciliteter, der er organiseret af staten

eller de lokale myndigheder.
3. Korrekt bortskaffelse af dit gamle apparat er med til at forhindre mulige skadevirkninger på miljøet og menneskelig sundhed.
4. Mere detaljerede oplysninger om bortskaffelse af dit gamle apparat kan fås ved at kontakte dit lokale kommunekontor, renovationsselskab eller den butik, hvor du købte produktet.

### Greek

**Απόρριψη της παλιάς σας συσκευής**

1. Όταν ένα προϊόν διαθέτει το δύμβολο ενός διαγραμμένου κάλαθου απορριμμάτων, τότε το προϊόν καλύπτεται από την Ευρωπαϊκή Οδηγία 2002/96/ΕΟΚ.
2. Η απόρριψη όλων των ηλεκτρικών και ηλεκτρονικών προϊόντων πρέπει να γίνεται χωριστά από τα γενικά οικιακά απορρίμματα μέσω καθορισμένων εγκαταστάσεων συλλογής απορριμμάτων, οι οποίες έχουν δημιουργηθεί είτε από την κυβέρνηση ή από τις τοπικές αρχές.
3. Η σωστή απόρριψη της παλιάς σας συσκευής θα βοηθήσει στην αποτροπή πιθανών αρνητικών συνπειών ως προς το περιβάλλον και την υγεία του ανθρώπου.
4. Για πιο λεπτομερείς πληροφορίες σχετικά με την απόρριψη της παλιάς σας συσκευής, επικοινωνήστε με το αρμόδιο τοπικό γραφείο, υπηρεσία διάθεσης οικιακών απορριμμάτων ή το μαγαξί από το οποίο αγοράσατε το προϊόν.

### Spanish

**Cómo deshacerse de aparatos eléctricos y electrónicos viejos**

1. Si en un producto aparece el símbolo de un contenedor de basura tachado, significa que éste se acoge a la Directiva 2002/96/CE.
2. Todos los aparatos eléctricos o electrónicos se deben desechar de forma distinta del servicio municipal de recogida de basura, a través de puntos de recogida designados por el gobierno o las autoridades locales.
3. La correcta recogida y tratamiento de los dispositivos inservibles contribuye a evitar riesgos potenciales para el medio ambiente y la salud pública.
4. Para obtener más información sobre cómo deshacerse de sus aparatos eléctricos y electrónicos viejos, póngase en contacto con su ayuntamiento, el servicio de recogida de basuras o el establecimiento donde adquirió el producto.

## Portuguese

**Eliminação do seu antigo aparelho**

1. Quando este símbolo de latão cruzado estiver afixa-do a um produto, significa que o produto é abrangi-do pela Directiva Europeia 2002/96/EC.
2. Todos os produtos eléctricos e electrónicos devem ser eliminados separadamente do lixo doméstico através de pontos de recolha designados, facilitados pelo governo ou autoridades locais.
3. A eliminação correcta do seu aparelho antigo ajuda a evitar potenciais consequências negativas para o ambiente e para a saúde humana.
4. Para obter informaçõs mais detalhadas acerca da eliminação do seu aparelho antigo, contacte as autoridades locais, um serviço de eliminação de resíduos ou a loja onde comprou o produto.

## Slovak

**Likvidácia váš ho starého prístroja**

1. Keď sa na produkte nachádza tento symbol prečiarknutej smetnej nádoby s kolieskami, zna-mená to, že daný produkt vyhovuje európskej Smernici č. 2002/96/EC.
2. Všetky elektrické a elektronické produkty by mali byť zlikvidované oddelene od komunálneho odpadu prostredníctvom na to určených zberných zariadení, ktoré boli ustanovené vládou alebo orgánmi miestnej správy.
3. Správnou likvidáciou starých zariadení pomôžete predchádzať potenciálnym negatívnym násled-kom pre prostredie a ľudské zdravie.
4. Podrobnejšie informácie o likvidácii starých zari-adení nájdete na miestnom úrade, v službe na likvidáciu odpadu alebo u predajcu, kde ste tento produkt zakúpili.

## Czech

**Likvidace starých spotřebičů**

1. Pokud je u výrobku uveden symbol pojízdného konte-jneru v přeškrtnutém poli, znamená to, že na výrobek se vztahuje směrnice Evropské unie číslo 2002/96/EC.
2. Všchny elektrické a elektronické výrobky by měly být likvidovány odděleně od běžného komunálního odpadu prostřednictvím sběrných zařízení zřízených za tímto účelem vládou nebo místní samosprávou.
3. Správný způsob likvidace starého elektrického spotřebiče pomáhá zamezit možným negativním dopadům na životní prostředí a zdraví.
4. Bližší informace o likvidaci starého spotřebiče získáte u místní samosprávy, ve sběrném zařízení nebo v obchodě, ve kterém jste výrobek zakoupili.

## Croatian

**Uklanjanje starog aparata**

1. Ako se na proizvodu nalazi simbol prekrižene kante za smeće, to znači da je proizvod pokriven europskom direk-

tivom 2002/96/EC.
2. Električni i elektronski proizvodi ne smiju se odlagati zajedno s komunalnim otpadom, već u posebna odla-gališta koja je odredila vlada ili lokalne vlasti.
3. Pravilno odlaganje starog proizvoda sprečit če potenci jalne negativne posljedice po okoliš i zdravlje ljudi.
4. Podrobnije informacije o odlaganju starog proizvoda potražite u gradskom uredu, službi za odlaganje otpada ili u trgovini u kojoj ste kupili proizvod.

## Hungarian

Régi eszközök ártalmatlanítása

1. A termékhez csatolt áthúzott, kerekes szeméttároló jel jelöli, hogy a termék a 2002/96/EC EU-direktíva hatálya alá esik.
2. Minden elektromos és elektronikai terméket a lakossági hulladéktól elkülönítve kell begyüjteni, a kormány vagy az önkormányzatok által kijelölt begyüjtö eszközök használatával.
3. Régi eszközeinek megfelelö ártalmatlanítása segíthet megelözni az esetleges egészségre vagy környezetre ártalmas hatásokat.
4. Ha több információra van szüksége régi eszközeinek ártalmatlanításával kapcsolatban, tanulmányozza a vonatkozó környezetvédelmi szabályokat, vagy lépjen kapcsolatba az üzlettel, ahol a terméket vásárolta.

## Polish

**Utylizacja starych urządzeń**

1. Kiedy do produktu dołączony jest niniejszy przekreślony symbol kołowego pojemnika na śmieci, oznacza to, że produkt jest objęty dyrekty-wą 2002/96/EC.
2. Wszystkie elektryczne i elektroniczne produkty powinny być utylizowane niezależnie od odpadów miejskich, z wykorzystaniem przeznaczonych do tego miejsc składowania wskazanych przez rząd lub miejscowe władze.
3. Właściwy sposób utylizacji starego urządzenia pomoże zapobiec potencjalnie negatywnemu wpływowi na zdrowie i środowisko.
4. Aby uzyskać więcej informacji o sposobach utyl-izacji starych urządzeń, należy skontaktować się z władzami lokalnymi, przedsiębiorstwem zajmują-cym się utylizacją odpadów lub sklepem, w którym produkt został kupiony.

## Estonian

**Kasutuskõlbmatu seadme käitlemise kord**

1. Kui seade on märgistatud selle elektri- ja elek-
   troonikaseadmete lahuskogumist märgistava
   tähisega (ratastega prügikonteineri kujutis, millele on
   rist peale tõmmatud), tuleb toodet käidelda vastavalt
   Eurodirektiivile 2002/96/EÜ.
2. Elektri- ja elektroonikaseadmeid ei tohi visata
   tavalise prügi hulka. Nad kuuluvad lahuskogumisele
   selleks määratud kogumispunktides.
3. Kasutuskõlbmatu tervikseadme käitlemine
   tavaprügist lahus on korraldatud selleks, et vältida
   negatiivseid tagajärgi, mida põhjustaksid seadme
   osade purunemisel vabaneda võivad ohtlikud
   jäätmed loodusele või inimorganismile.
4. Täpsemat informatsiooni selle kohta, kuhu ja millal
   saab ära anda oma kasutamiskõlbmatu elektri- ja
   elektroonikaseadme, küsige kohalikult omavalit-
   suselt, prügifirmalt või kaupluselt, kust seadme ost-
   site.

## Latvian

**Vecās elektroierīces nodošana**

1. Ja uz produkta ir simbols ar pārsvītrotu atkritu-
   mu tvertni, tas nozīmē, ka produkts ir iekļauts
   Eiropas direktīvā 2002/96/EC.
2. Visi elektriskie un elektroniskie produkti ir
   jāutilizē, nododot pašvaldības īpaši noteiktās
   pieņemšanas vietās. Tos nedrīkst izmest
   parastās municipalitātes atkritumu urnās.
3. Ievērojot prasības veco elektroierīču
   utilizēšanā, jūs pasargāsiet apkārtējo vidi un
   cilvēku veselību no iespējami nelabvēlīgajām
   sekām, kādas varētu rasties, ierīcēm sadaloties
   nepiemērotā vietā.
4. Lai gūtu plašāku informāciju par veco ierīču uti-
   lizēšanas iespējām, sazinieties ar pilsētas
   pašvaldību, atkritumu savākšanas saimniecību
   vai veikalu, kurā ierīci iegādājāties.

## Lithuanian

**Senos įrangos atliekų tvarkymas**

1. Užbrauktas konteinerio simbolis pritvirtintas ant
   prekės reiškia, kad įrangą saugo Europos direktyva
   20002/96/EC.
2. Visos elektros ir elektroninės įrangos atliekos turi
   būti renkamos atskirai ir neišmetamos į atliekų
   konteinerį kartu su kitomis komunalinėmis
   atliekomis, taikant specialią atliekų surinkimo sis-
   temą, patvirtintą vyriausybės ar vietos valdžios.
3. Teisingas senos įrangos atliekų tvarkymas, padės
   išvengti neigiamų pasekmių aplinkai ir žmonių
   sveikatai.
4. Dėl išsamesnės informacijos apie senos įrangos
   tvarkymą, prašome kreiptis į miesto valdžią,
   atliekų perdirbimo tarnybą arba parduotuvę, kurio-
   je pirkote įrangą.