



APPENDIX G

: USER'S MANUAL



OWNER'S MANUAL

LED LCD MONITOR TV

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

LED LCD MONITOR TV MODELS

M2080DF

M2280DF

M2380DF

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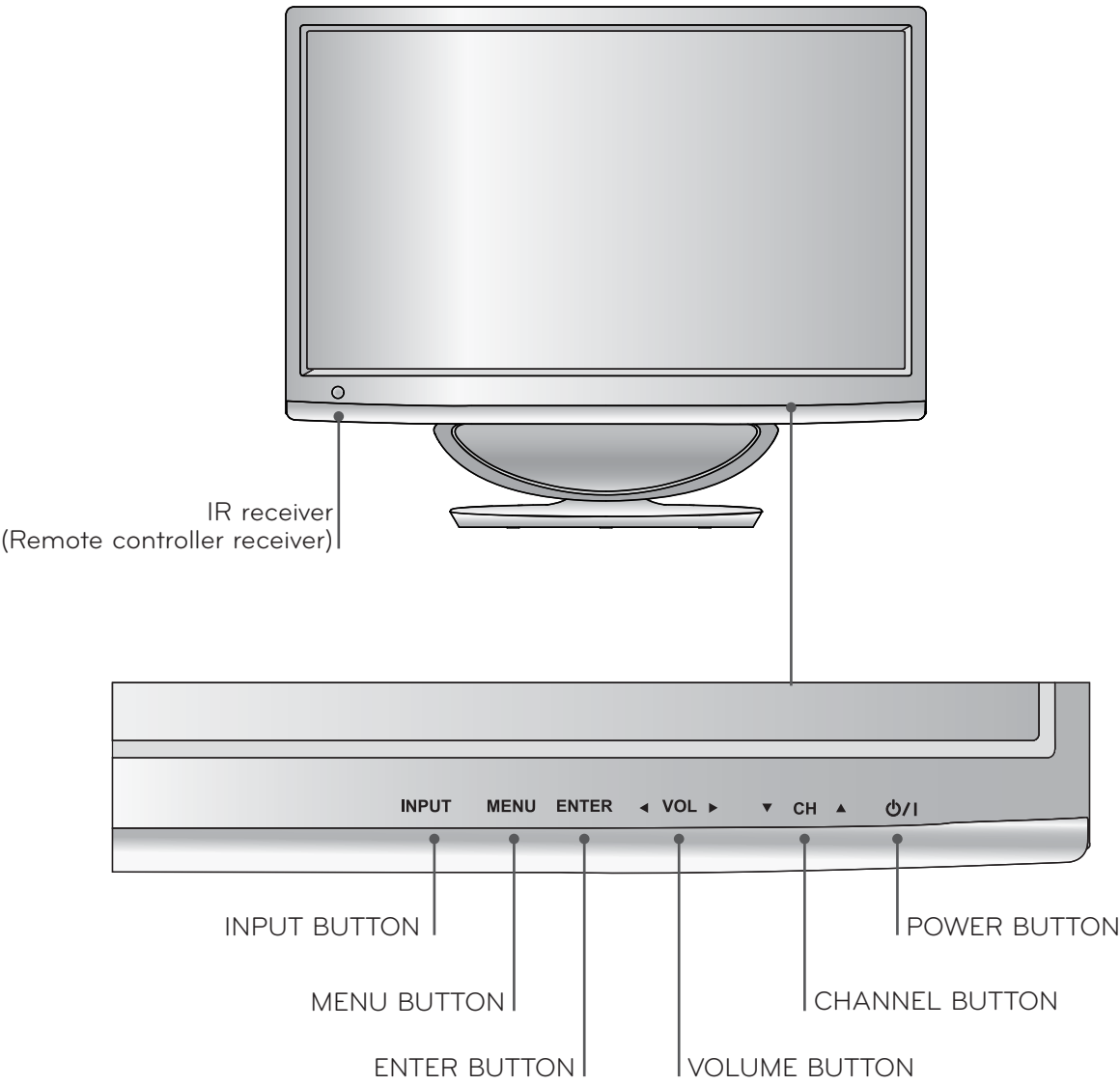
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PREPARATION

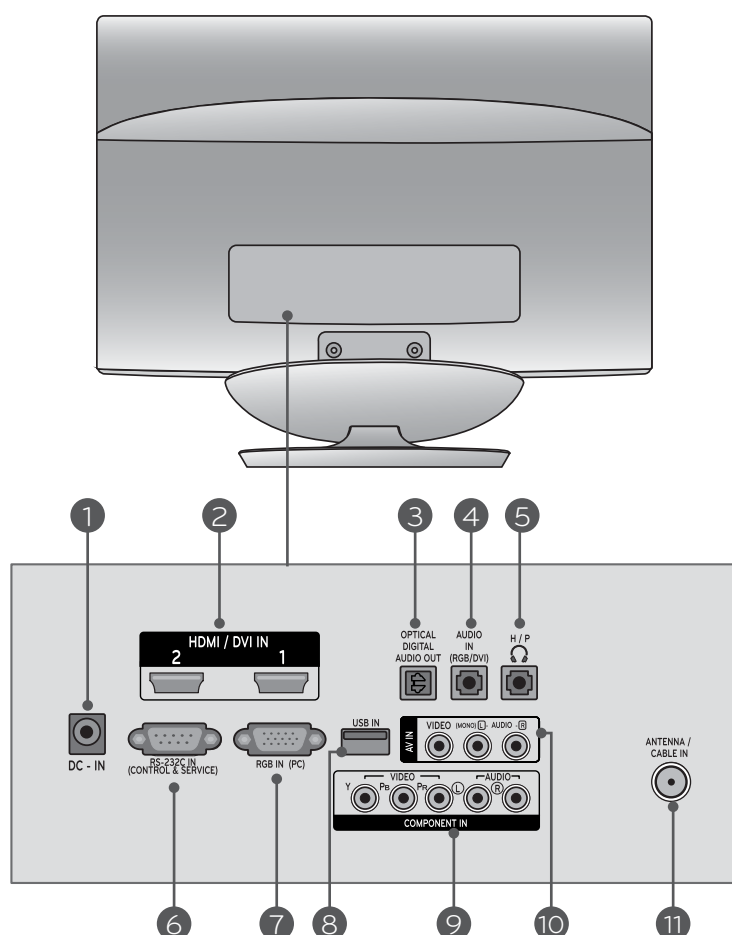
FRONT PANEL CONTROLS

- This is a simplified representation of the front panel. The image shown may be somewhat different from your set.



BACK PANEL INFORMATION

- This is a simplified representation of the back panel. The image shown may be somewhat different from your set.



1 DC ADAPTER PORT

Connect to the power cord socket.

2 HDMI INPUT

Connect a HDMI signal to HDMI IN or DVI (VIDEO) signal to HDMI IN with DVI to HDMI cable.

3 OPTICAL DIGITAL AUDIO OUT

Connect digital audio to various types of equipment. Connect to a Digital Audio Component. Use an Optical audio cable.

4 RGB/DVI AUDIO INPUT

Connect the audio from a PC.

5 HEADPHONE SOCKET

Plug the headphone into the headphone socket.

6 RS-232C IN (CONTROL & SERVICE) PORT

Connect to the RS-232C port on a PC. This port is used for Service or Hotel mode.

7 RGB INPUT (PC)

Connect the output from a PC.

8 USB Input

9 COMPONENT INPUT

Connect a component video/audio device to these jacks.

10 AV(AUDIO/VIDEO) INPUT

Connect audio/video output from an external device to these jacks.

11 ANTENNA / CABLE INPUT

Connect over-the-air signals to this jack.

PREPARATION

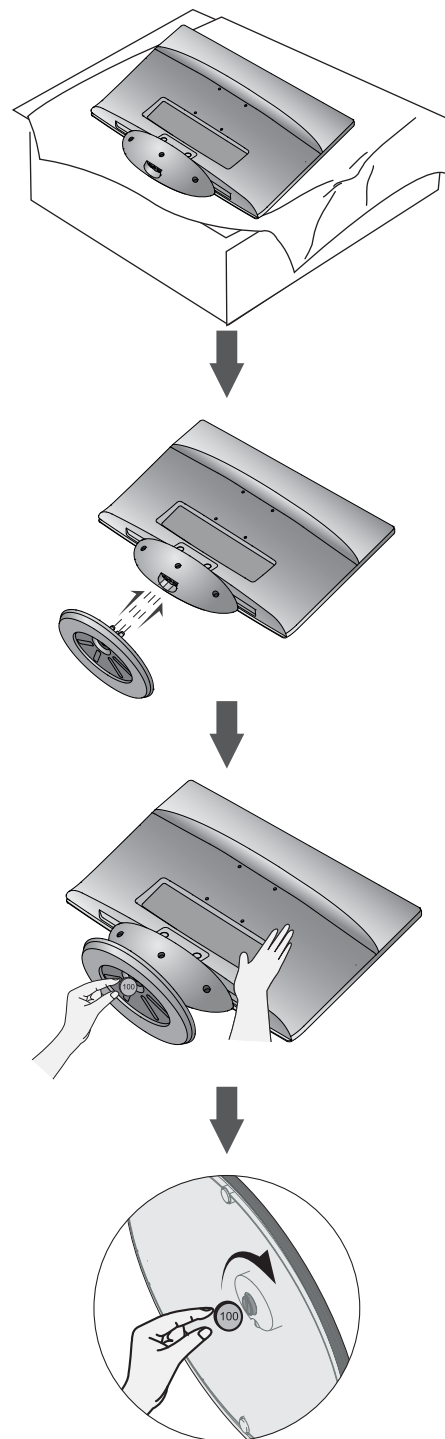
STAND INSTALLATION

■ The image shown may be somewhat different from your set.

- 1 Carefully place the product screen side down on a cushioned surface that will protect product and screen from damage.

- 2 Insert the **stand base** into the product.

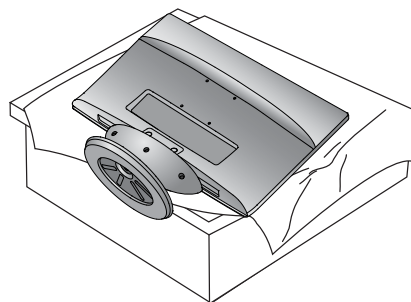
- 3 Use a coin on the bottom of the stand base and turn the screw clockwise to tighten.



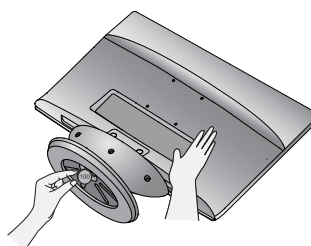
DETACHING STAND

■ The image shown may be somewhat different from your set.

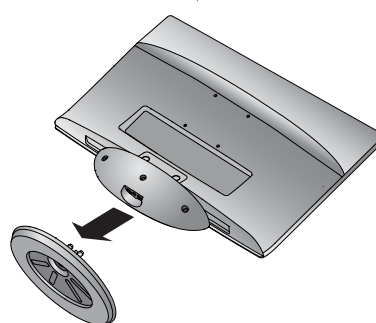
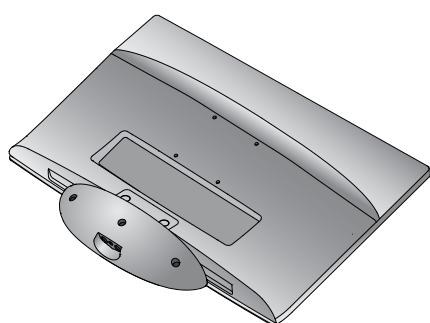
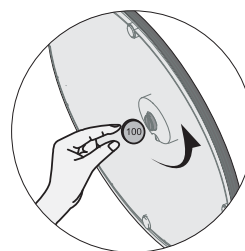
- 1 Place the set screen side down on a cushion or soft cloth.



- 2 Detach the monitor to the **Stand Base** by turning the screw to the left.
Turn the screw by using a coin.



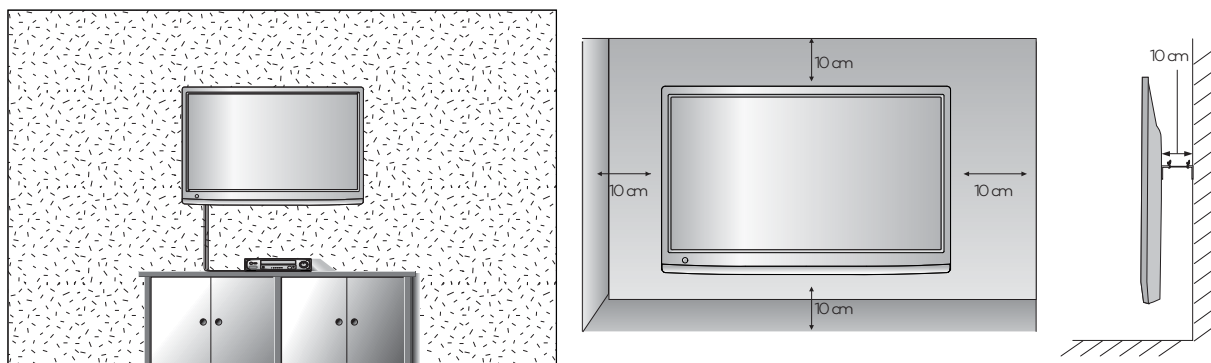
- 3 Pull the stand base.



PREPARATION

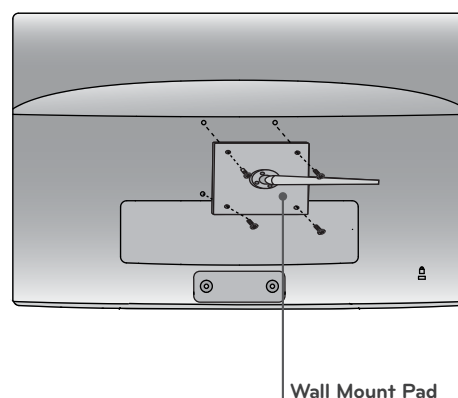
WALL MOUNT: HORIZONTAL INSTALLATION

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



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

1. Be sure to use screws and a wall mount that meet VESA standards.
2. Using screws longer than those recommended might damage the product.
3. Using screws that do not meet VESA standards might either damage the product or result in it coming away from the wall. We will not be held responsible for any damage resulting from failure to follow these instructions.
4. VESA compatible only with respect to screw mounting interface dimensions and mounting screw specifications
5. Please use VESA standard as below.
 - 5-1) 784.8 mm (30.9 inch) and under
 - * Wall Mount Pad Thickness : 2.6 mm
 - * Screw: Φ 4.0 mm x Pitch 0.7 mm x Length 10 mm
 - 5-2) 787.4 mm (31.0 inch) and above
 - * Please use VESA standard wall mount pad and screws.



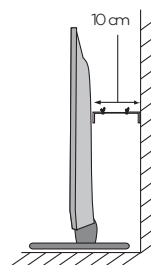
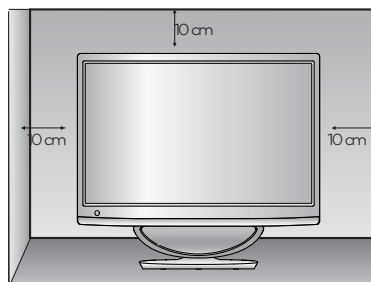
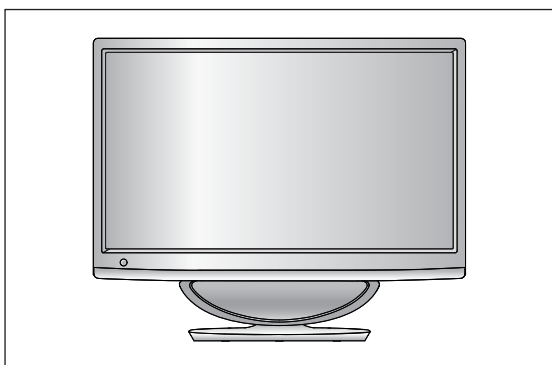
< Screw Mounting Interface Dimension >

- 75 mm x 75 mm hole spacing

DESKTOP PEDESTAL INSTALLATION

■ The image shown may be somewhat different from your set.

For proper ventilation, allow a clearance of 10 cm on each side and from the wall.

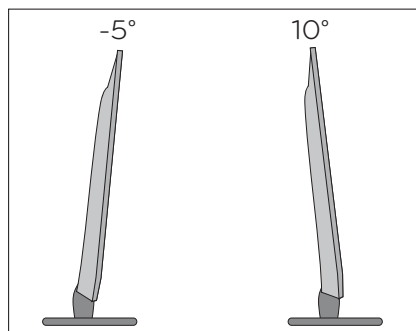


PREPARATION

POSITIONING YOUR DISPLAY

- The image shown may be somewhat different from your set.
Adjust the position of the panel in various ways for maximum comfort.

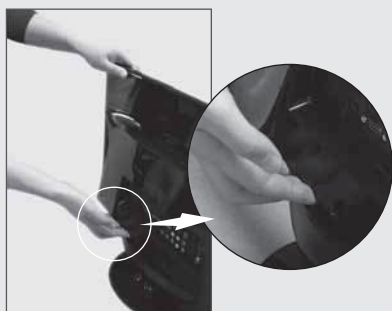
* Tilt range



LOCATION

Position your set so that no bright light or sunlight falls directly onto the screen. Care should be taken not to expose the set to any unnecessary vibration, moisture, dust or heat. Also, ensure that the set is placed in a position to allow a free flow of air. Do not cover the ventilation openings on the back cover.

! WARNING



- When adjusting the angle of the screen, do not put your finger(s) in between the head of the monitor and the stand body or woofer.
You can hurt your finger(s).

KENSINGTON SECURITY SYSTEM

- The product is equipped with a Kensington Security System connector on the back panel. Connect the Kensington Security System cable as shown below.
- For detailed installation and use of the Kensington Security System, refer to the user's guide provided with the Kensington Security System.

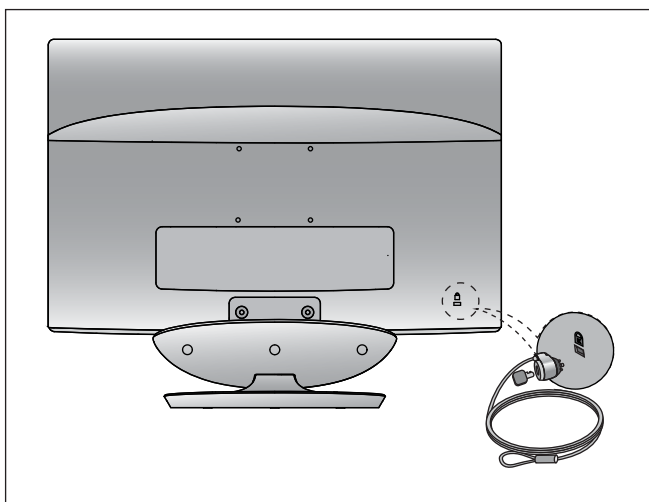
For further information, contact <http://www.kensington.com>, the internet homepage of the Kensington company. Kensington sells security systems for expensive electronic equipment such as notebook PCs and LCD projectors.

NOTE

- The Kensington Security System is an optional accessory.

NOTES

- If the product feels cold to the touch, there may be a small "flicker" when it is turned on.
This is normal, there is nothing wrong with product.
- 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 monitor'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.

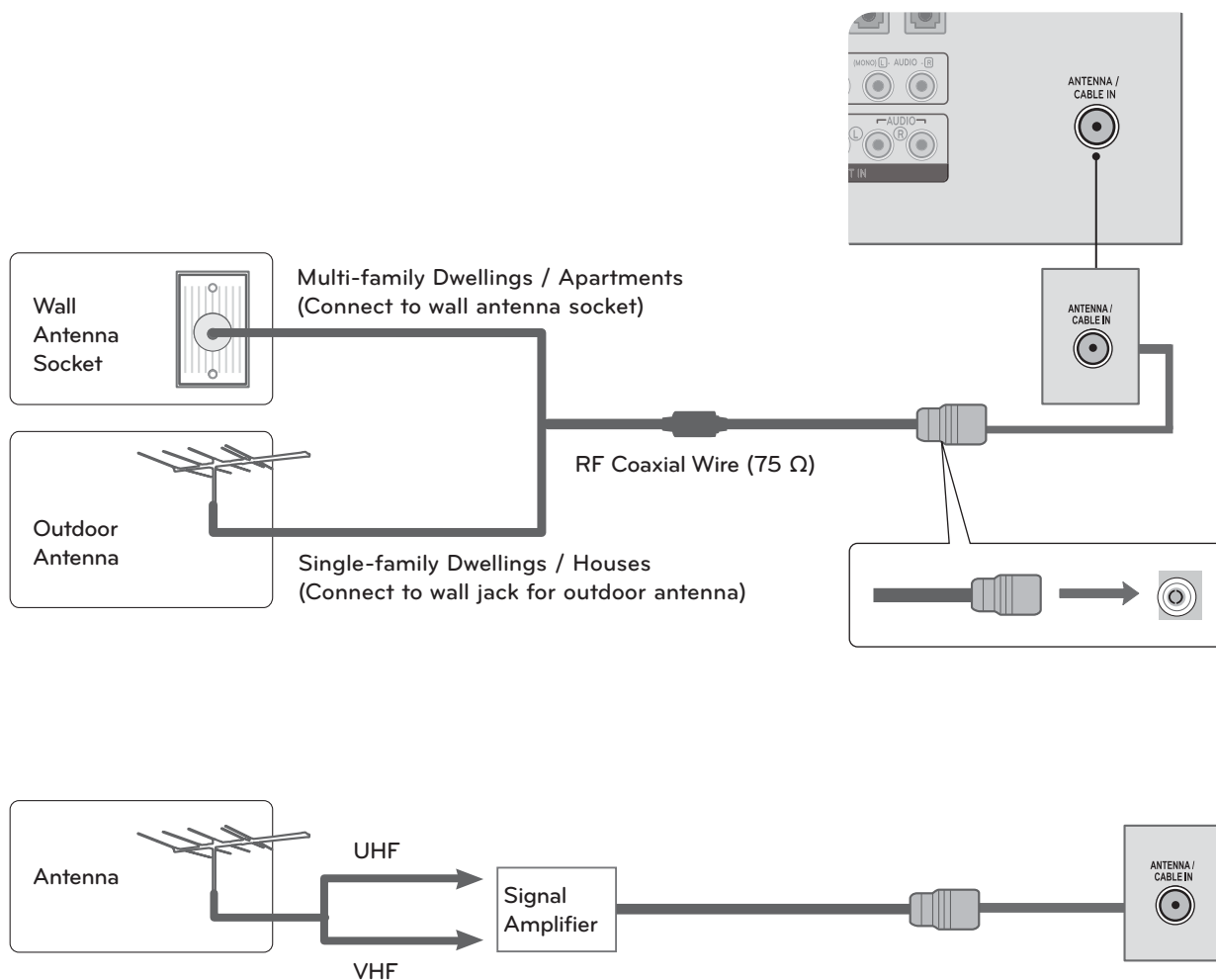


EXTERNAL EQUIPMENT SETUP

- To prevent damage do not connect to the mains outlet until all connections are made between the devices.

ANTENNA CONNECTION

- For optimum picture quality, adjust antenna direction.
- An antenna cable and converter are not supplied.



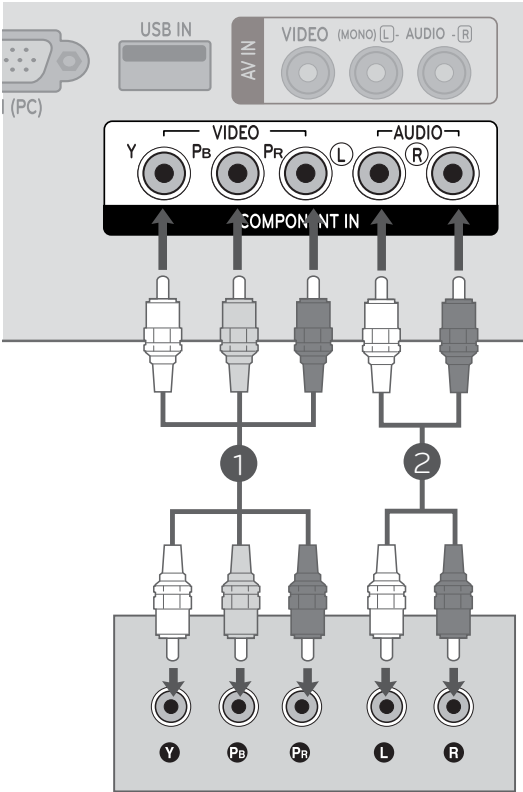
- In poor signal areas, to get better picture quality, install a signal amplifier to the antenna as shown above.
- If signal needs to be split for two sets, use an antenna signal splitter for connection.

- To avoid damaging any equipment, never plug in any power cords until you have finished connecting all equipment.
- The image shown may be somewhat different from your set.

HD RECEIVER SETUP

Connecting with a component cable

- 1 Connect the video outputs (Y, PB, PR) of the digital set-top box to the **COMPONENT IN VIDEO** jacks on the SET.
- 2 Connect the audio output of the digital set-top box to the **COMPONENT IN AUDIO** jacks on the SET.
- 3 Turn on the digital set-top box.
(Refer to the owner's manual for the digital set-top box.)
- 4 Select **COMPONENT** input source using the **INPUT** button on the remote control



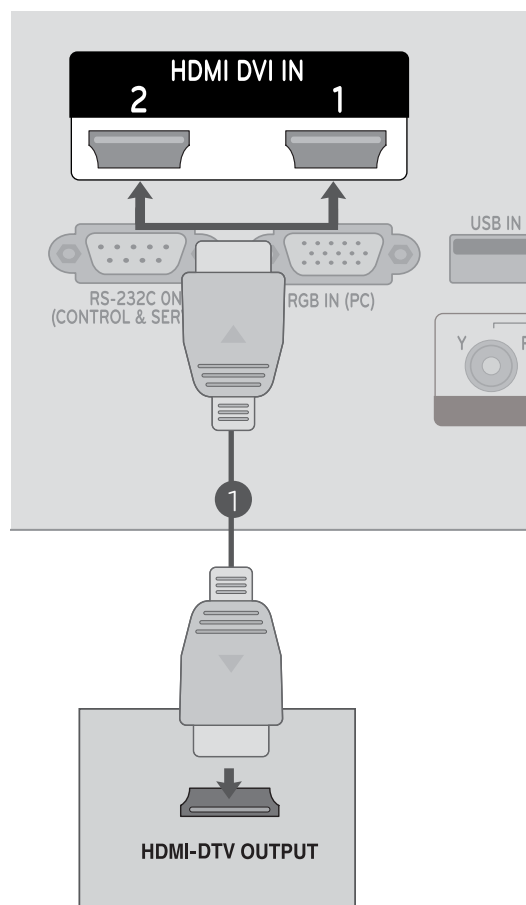
► **HDMI Audio Supported format : Dolby Digital, PCM**
DTS Audio format is not supported.

| Signal | Component | HDMI |
|--------------|----------------------------|--------------------------------------|
| 480i / 576i | YES | No |
| 480p / 576p | YES | YES |
| 720p / 1080i | YES | YES |
| 1080p | YES (50 Hz / 60Hz only) | YES (24 Hz / 30 Hz / 50Hz / 60Hz) |

EXTERNAL EQUIPMENT SETUP

Connecting a set-top box with a HDMI cable

- 1 Connect the digital set-top box to **HDMI/DVI IN 1** or **HDMI/DVI IN 2** jack on the SET
- 2 Turn on the digital set-top box.
(Refer to the owner's manual for the digital set-top box.)
- 3 Select **HDMI 1** or **HDMI 2** input source using the **INPUT** button on the remote control.

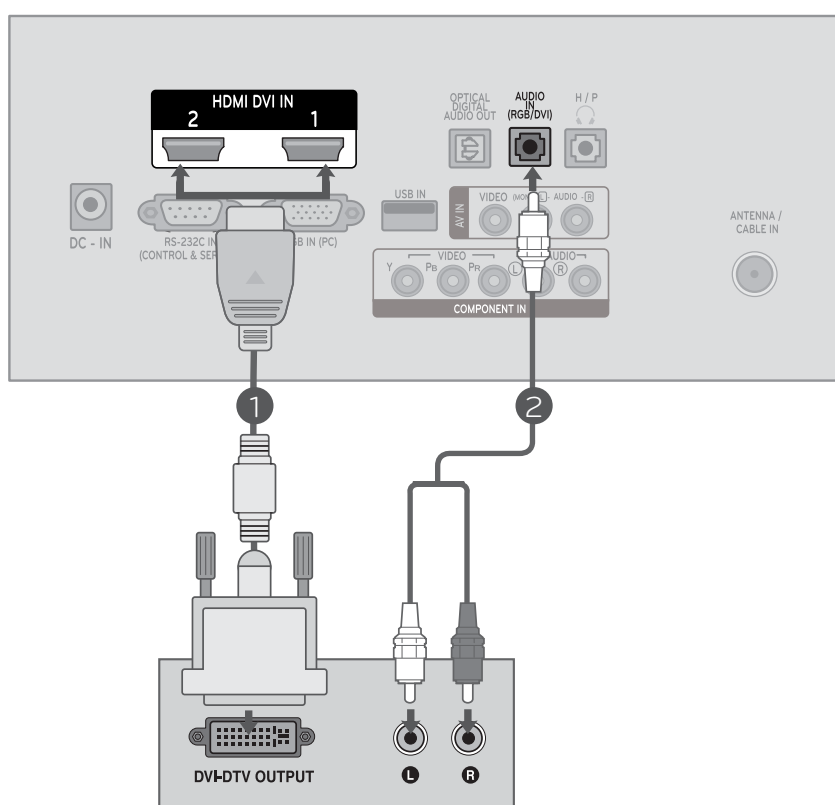


! NOTE

- Check that your HDMI cable is version 1.3 or higher. If the HDMI cables don't support HDMI version 1.3, flickering or no screen display can result. Please use the latest cables that support at least HDMI version 1.3.

Connecting with an HDMI to DVI cable

- 1 Connect the digital set-top box to **HDMI/DVI IN 1** or **HDMI/DVI IN 2** jack on the SET.
- 2 Connect the audio output of the digital set-top box to the **AUDIO IN (RGB/DVI)** jack on the SET.
- 3 Turn on the digital set-top box.
(Refer to the owner's manual for the digital set-top box.)
- 4 Select **HDMI 1** or **HDMI 2** input source using the **INPUT** button on the remote control.



EXTERNAL EQUIPMENT SETUP

DVD SETUP

Connecting with a component cable

- 1

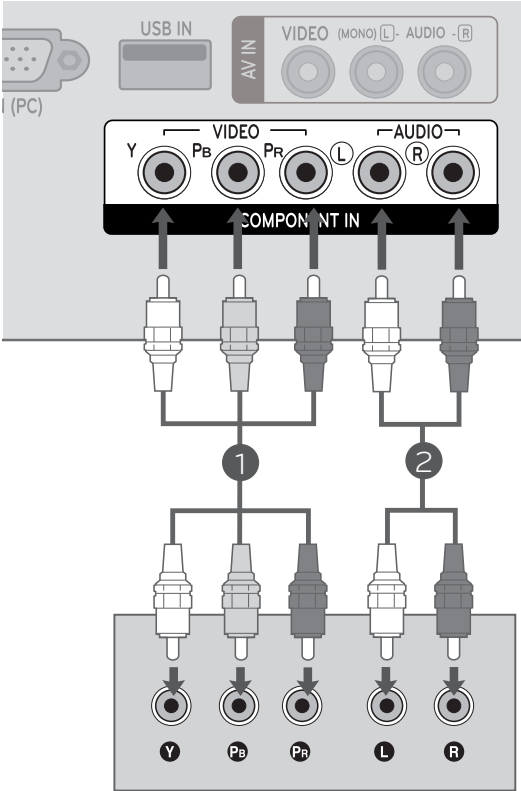
Connect the video outputs (Y, PB, PR) of the DVD to the **COMPONENT IN VIDEO** jacks on the SET.
- 2

Connect the audio outputs of the DVD to the **COMPONENT IN AUDIO** jacks on the SET.
- 3

Turn on the **DVD player**, insert a DVD.
- 4

Select **Component** input source using the **INPUT** button on the remote control.
- 5

Refer to the DVD player's manual for operating instructions.



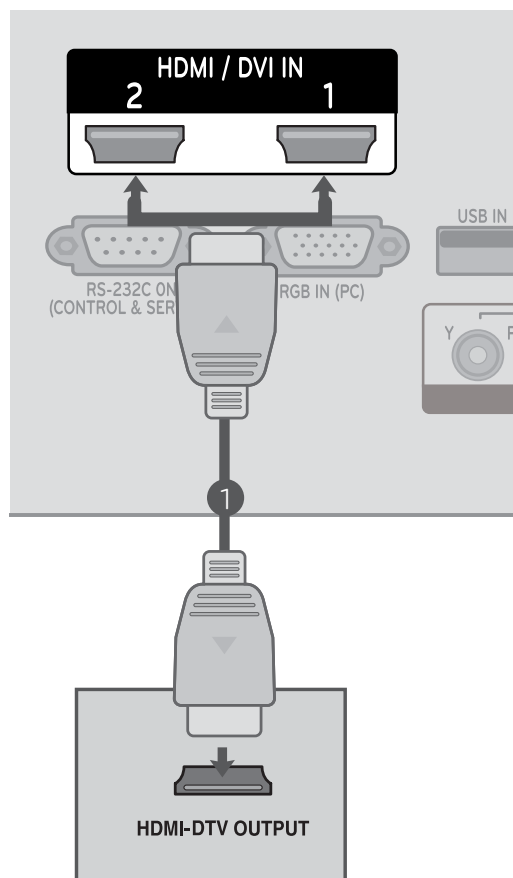
Component Input ports

To achieve better picture quality, connect a DVD player to the component input ports as shown below.

| Component ports on the SET | Y | P _B | P _R |
|-------------------------------------|---|----------------|----------------|
| Video output ports on DVD player | Y | P _B | P _R |
| | Y | P-Y | R-Y |
| | Y | Cb | Cr |
| | Y | Pb | Pr |

When connecting HDMI cable

- 1 Connect the HDMI output of the DVD to the **HDMI/DVI IN 1** or **HDMI/DVI IN 2** jack on the SET
- 2 Select **HDMI 1** or **HDMI 2** input source using the **INPUT** button on the remote control.
- 3 Refer to the DVD player's manual for operating instructions.



! NOTE

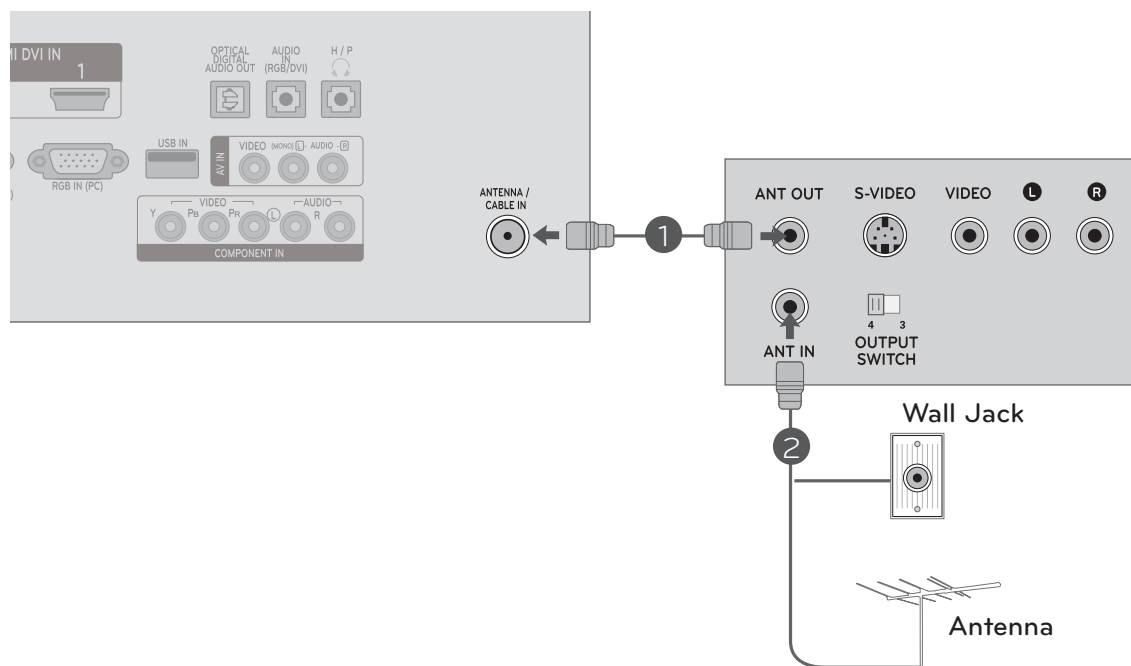
- Check that your HDMI cable is version 1.3 or higher. If the HDMI cables don't support HDMI version 1.3, flickering or no screen display can result. Please use the latest cables that support at least HDMI version 1.3.

EXTERNAL EQUIPMENT SETUP

VCR SETUP

- To avoid picture noise (interference), allow adequate distance between the VCR and SET.

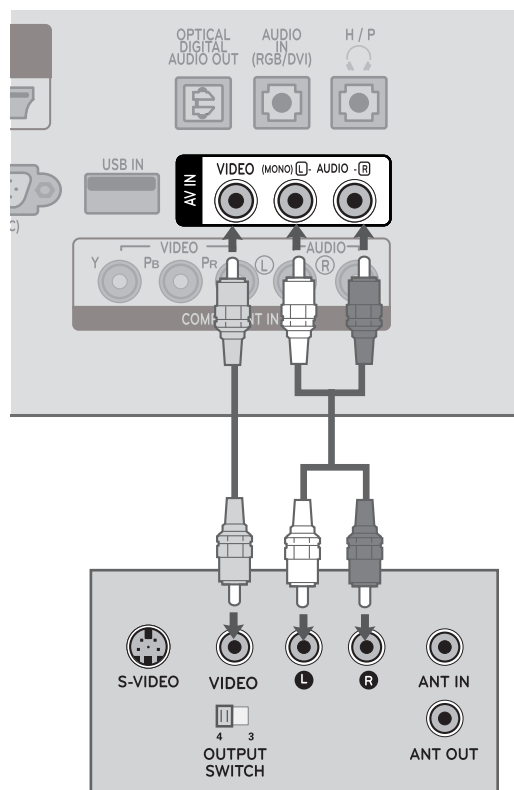
Connecting with a RF cable



- 1 Connect the **ANT OUT** socket of the VCR to the **ANTENNA IN** socket on the SET.
- 2 Connect the antenna cable to the **ANT IN** socket of the VCR.
- 3 Press the **PLAY** button on the **VCR** and match the appropriate channel between the SET and VCR for viewing.

Connecting with a RCA cable

- 1 Connect the **AUDIO/VIDEO** jacks between SET and VCR. Match the jack colours (Video = yellow, Audio Left = white, and Audio Right = red)
- 2 Insert a video tape into the **VCR** and press **PLAY** on the VCR. (Refer to the VCR owner's manual.)
- 3 Select **AV** input source using the **INPUT** button on the remote control.



! NOTE

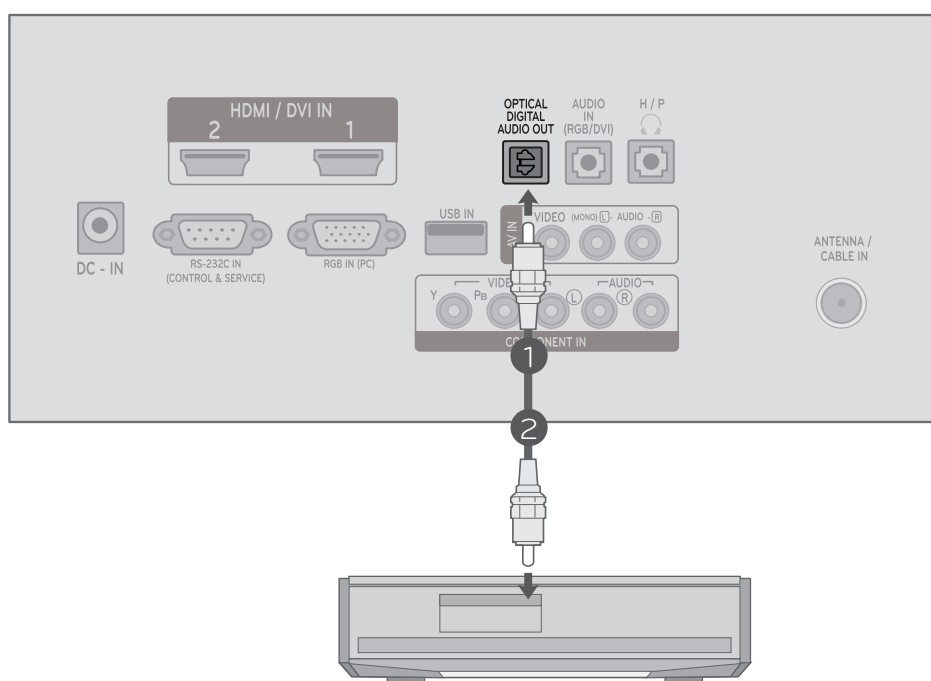
- If you have a mono VCR, connect the audio cable from the VCR to the **AUDIO L / MONO** jack of the SET.

EXTERNAL EQUIPMENT SETUP

DIGITAL AUDIO OUT SETUP

Sending the TV's audio signal to external audio equipment via the Digital Audio Output (Optical) port. If you want to enjoy digital broadcasting through 5.1-channel speakers, connect the OPTICAL DIGITAL AUDIO OUT terminal on the back of TV to a Home Theater (or amp).

- 1 Connect one end of an optical cable to the TV **Digital Audio (Optical)** Output port.
- 2 Connect the other end of the optical cable to the digital audio (Optical) input on the audio equipment.
- 3 Set the **"TV Speaker option - Off "** in the AUDIO menu. (P. 64)
Refer to the external audio equipment instruction manual for operation.

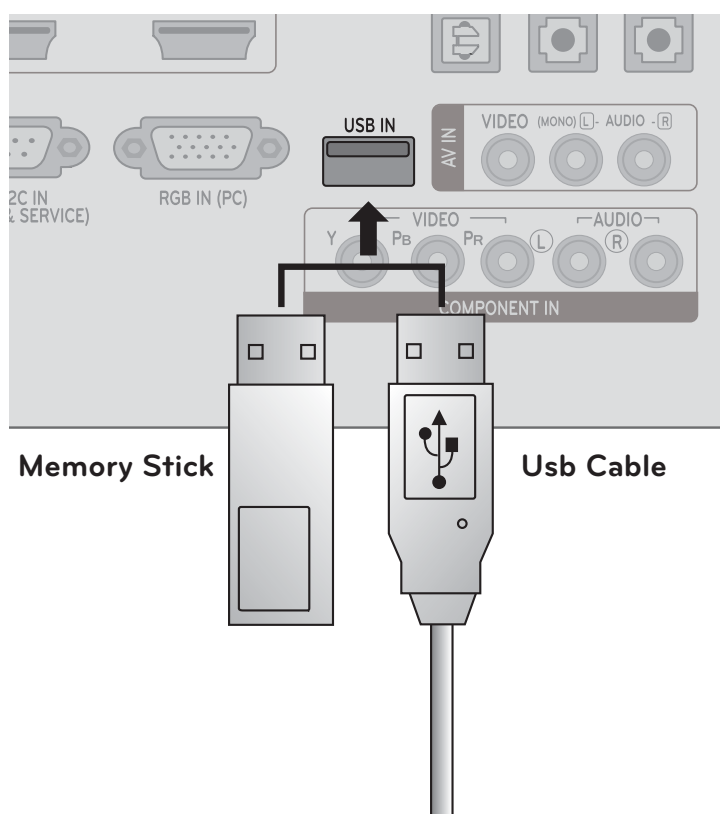


CAUTION

► Do not look into the optical output port. Looking at the laser beam may damage your vision.

USB SETUP

- 1 Connect the USB device to the **USB IN** jacks on the side of SET.
- 2 After connecting the **USB IN** jacks, you use the **USB** function. (▶ p.90)

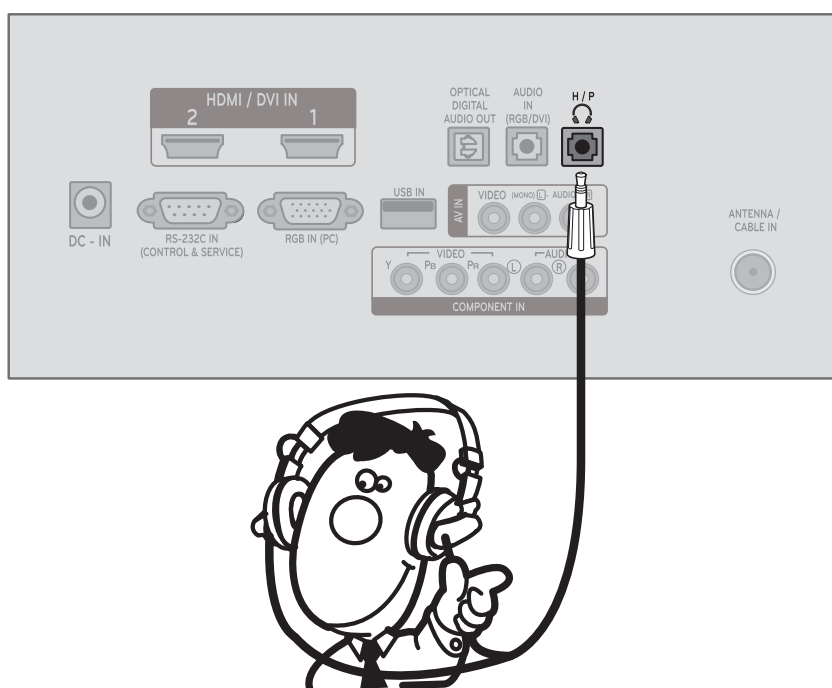


EXTERNAL EQUIPMENT SETUP

HEADPHONE SETUP

You can listen the sound through the headphone.

- 1 Plug the headphone into the **headphone** socket.
- 2 To adjust the **headphone volume**, press the **VOL +** or **-** button. If you press the **MUTE** button, the sound from the headphone is switched off.

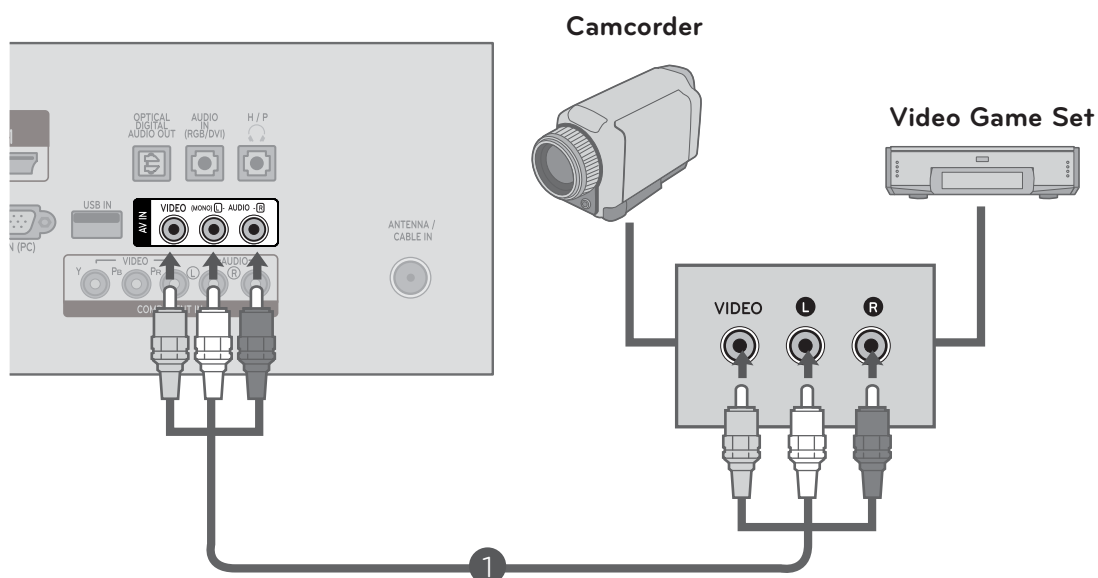


! NOTE

- ▶ AUDIO menu items are disabled when connecting a headphone.
- ▶ Optical Digital Audio Out is not available when connecting a headphone.

OTHER A/V SOURCE SETUP

- 1 Connect the **AUDIO / VIDEO** jacks between SET and external equipment. Match the jack colours. (Video = yellow, Audio Left = white, and Audio Right = red)
- 2 Select **AV** input source with using the **INPUT** button on the remote control.
- 3 Operate the corresponding external equipment.
Refer to external equipment operating guide.



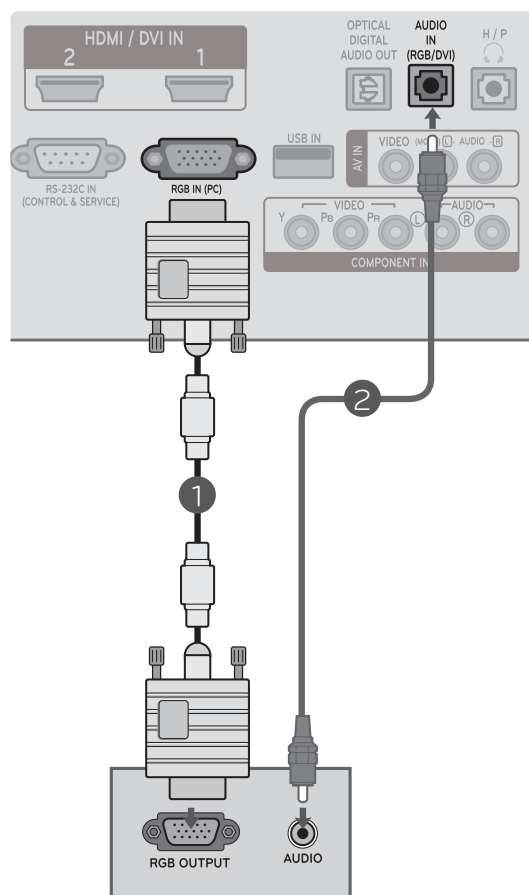
EXTERNAL EQUIPMENT SETUP

PC SETUP

When using the remote control, aim it at the remote control sensor on the SET.

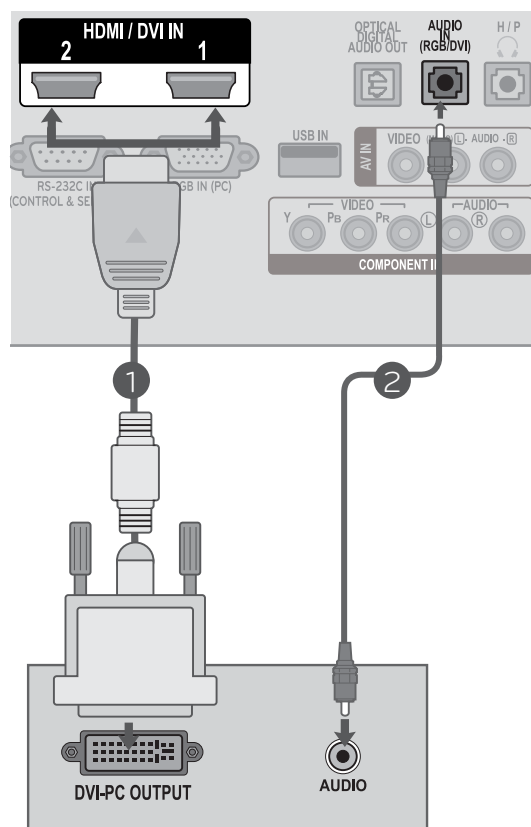
When connecting with a D-sub 15 pin cable

- 1 Connect the signal cable from the monitor output socket of the **PERSONAL COMPUTER** to the **PC input** socket of the SET.
- 2 Connect the audio cable from the **PC** to the **AUDIO IN(RGB)** sockets of the SET.
- 3 Press the **INPUT** button to select **RGB**.
- 4 Switch on the **PC**, and the **PC** screen appears on the set. The set can be operated as a PC monitor.



Connecting with an HDMI to DVI cable

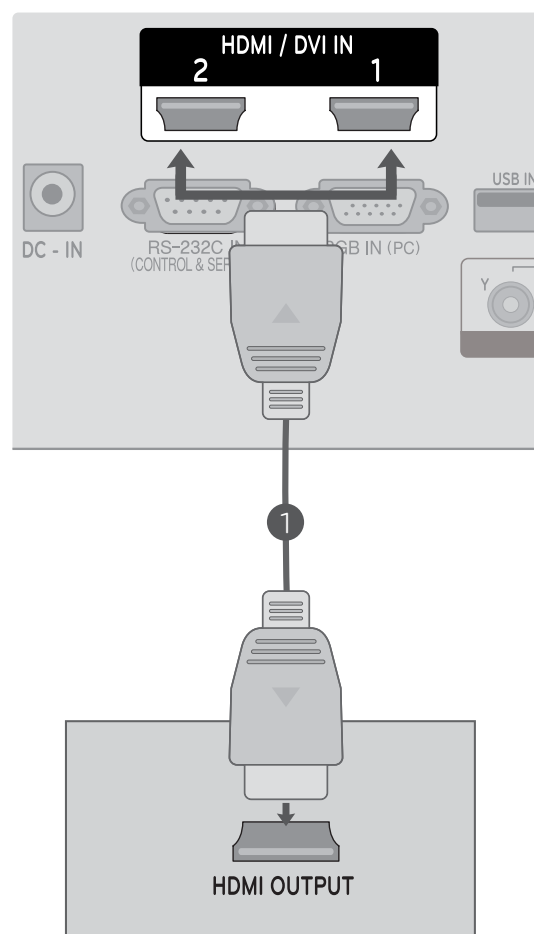
- 1 Connect the DVI output of the PC to the **HDMI/DVI IN1** or **HDMI/DVI IN2** jack on the SET.
- 2 Connect the PC audio output to the **AUDIO IN (RGB/DVI)** jack on the SET.
- 3 Turn on the PC and the SET.
- 4 Select **HDMI 1** or **HDMI 2** input source using the **INPUT** button on the remote control.



EXTERNAL EQUIPMENT SETUP

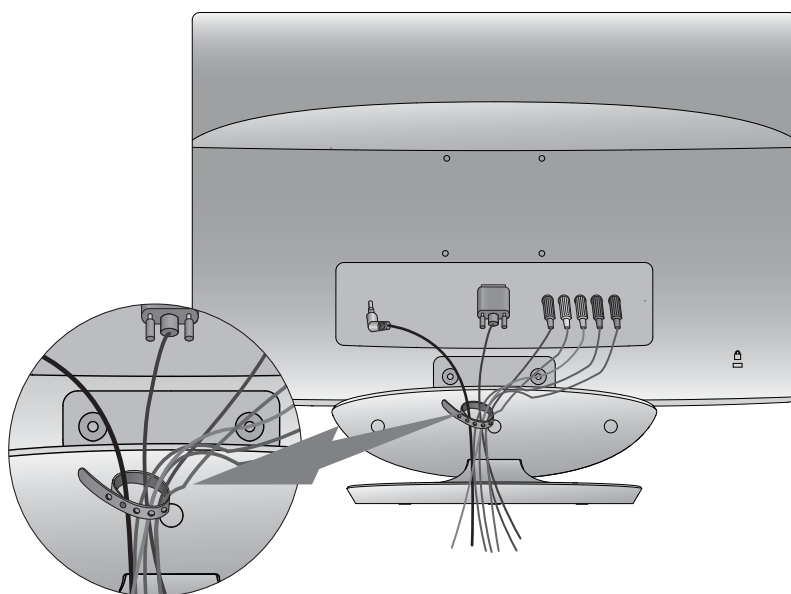
Connecting with an HDMI to HDMI cable

- 1 Connect the HDMI output of the PC to the **HDMI/DVI IN1** or **HDMI/DVI IN2** jack on the SET.
- 2 Turn on the PC and the SET.
- 3 Select **HDMI 1** or **HDMI 2** input source using the **INPUT** button on the remote control.



BACK COVER FOR WIRE ARRANGEMENT

Tie cables together with a cable management as shown in the illustration.



EXTERNAL EQUIPMENT SETUP

SUPPORTED DISPLAY RESOLUTION

RGB[PC] mode

M2080DF

| Resolution | Horizontal Frequency(kHz) | Vertical Frequency(Hz) |
|-------------|---------------------------|------------------------|
| 640 x 480 | 31.469 | 59.94 |
| 640 x 480 | 37.5 | 75 |
| 800 x 600 | 37.879 | 60.317 |
| 800 x 600 | 46.875 | 75 |
| 832 x 624 | 49.725 | 64.55 |
| 1024 x 768 | 48.363 | 60 |
| 1024 x 768 | 60.023 | 75.029 |
| 1280 x 1024 | 63.981 | 60.02 |
| 1600 x 900 | 60 | 60 |

M2280DF/M2380DF

| Resolution | Horizontal Frequency(kHz) | Vertical Frequency(Hz) |
|-------------|---------------------------|------------------------|
| 720 x 400 | 31.468 | 70.08 |
| 640 x 480 | 31.469 | 59.94 |
| 640 x 480 | 37.5 | 75 |
| 800 x 600 | 37.879 | 60.317 |
| 800 x 600 | 46.875 | 75.0 |
| 1024 x 768 | 48.363 | 60.0 |
| 1024 x 768 | 60.023 | 75.029 |
| 1152 x 864 | 67.500 | 75.000 |
| 1280 x 1024 | 63.981 | 60.02 |
| 1280 x 1024 | 79.976 | 75.025 |
| 1680 x 1050 | 64.674 | 59.883 |
| 1680 x 1050 | 65.290 | 59.954 |
| 1600 x 1200 | 75.0 | 60.0 |
| 1920 x 1080 | 67.5 | 60 |

HDMI/DVI - PC mode

M2080DF

| Resolution | Horizontal Frequency(kHz) | Vertical Frequency(Hz) |
|-------------|---------------------------|------------------------|
| 640 x 480 | 31.469 | 59.94 |
| 640 x 480 | 37.5 | 75 |
| 800 x 600 | 37.879 | 60.317 |
| 800 x 600 | 46.875 | 75 |
| 832 x 624 | 49.725 | 64.55 |
| 1024 x 768 | 48.363 | 60 |
| 1024 x 768 | 60.023 | 75.029 |
| 1280 x 1024 | 63.981 | 60.02 |
| 1600 x 900 | 60 | 60 |

M2280DF/M2380DF

| Resolution | Horizontal Frequency(kHz) | Vertical Frequency(Hz) |
|-------------|---------------------------|------------------------|
| 720 x 400 | 31.468 | 70.08 |
| 640 x 480 | 31.469 | 59.94 |
| 640 x 480 | 37.5 | 75 |
| 800 x 600 | 37.879 | 60.317 |
| 800 x 600 | 46.875 | 75.0 |
| 1024 x 768 | 48.363 | 60.0 |
| 1024 x 768 | 60.023 | 75.029 |
| 1152 x 864 | 67.500 | 75.000 |
| 1280 x 1024 | 63.981 | 60.02 |
| 1280 x 1024 | 79.976 | 75.025 |
| 1680 x 1050 | 64.674 | 59.883 |
| 1680 x 1050 | 65.290 | 59.954 |
| 1600 x 1200 | 75.0 | 60.0 |
| 1920 x 1080 | 67.5 | 60 |

HDMI/DVI - DTV mode

| Resolution | Horizontal Frequency(kHz) | Vertical Frequency(Hz) |
|-------------|---------------------------|------------------------|
| 720 x 480 | 31.469 | 59.94 |
| | 31.5 | 60 |
| 720 x 576 | 31.25 | 50 |
| 1280 x 720 | 37.500 | 50 |
| 1280 x 720 | 44.96 | 59.94 |
| | 45 | 60 |
| 1920 x 1080 | 33.72 | 59.94 |
| | 33.75 | 60 |
| 1920 x 1080 | 28.125 | 50.00 |
| 1920 x 1080 | 27 | 24 |
| 1920 x 1080 | 33.75 | 30.00 |
| 1920 x 1080 | 56.250 | 50 |
| 1920 x 1080 | 67.43 | 59.94 |
| | 67.5 | 60 |

Component mode

| Resolution | Horizontal Frequency(kHz) | Vertical Frequency(Hz) |
|-------------|---------------------------|------------------------|
| 720 x 480 | 15.73 | 59.94 |
| 720 x 480 | 15.75 | 60.00 |
| 720 x 576 | 15.625 | 50.00 |
| 720 x 480 | 31.47 | 59.94 |
| 720 x 480 | 31.50 | 60.00 |
| 720 x 576 | 31.25 | 50.00 |
| 1280 x 720 | 44.96 | 59.94 |
| 1280 x 720 | 45.00 | 60.00 |
| 1280 x 720 | 37.50 | 50.00 |
| 1920 x 1080 | 33.72 | 59.94 |
| 1920 x 1080 | 33.75 | 60.00 |
| 1920 x 1080 | 28.125 | 50.00 |
| 1920 x 1080 | 56.25 | 50 |
| 1920 x 1080 | 67.432 | 59.94 |
| 1920 x 1080 | 67.5 | 60.00 |

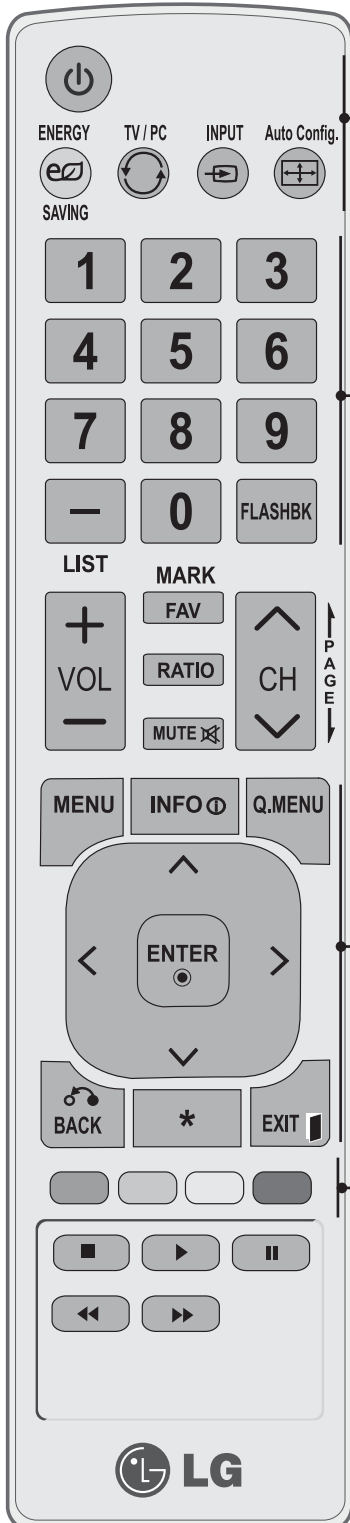
! NOTE

- ▶ Avoid keeping a fixed image on the set's screen for prolonged periods of time. The fixed image may become permanently imprinted on the screen use a screen saver when possible.
- ▶ There may be interference relating to resolution, vertical pattern, contrast or brightness in PC mode. Change the PC mode to another resolution or change the refresh rate to another rate or adjust the brightness and contrast on the menu until the picture is clear. If the refresh rate of the PC graphic card can not be changed, change the PC graphic card or consult the manufacturer of the PC graphic card.
- ▶ The synchronization input waveform for Horizontal and Vertical frequencies are separate.
- ▶ We recommend using 1920 x 1080 @ 60 Hz (**Except for M2080DF**), 1600 x 900 @ 60 Hz (**Only M2080DF**) for the PC mode, this should provide the best picture quality.
- ▶ Connect the signal cable from the monitor output port of the PC to the RGB (PC) port of the SET or the signal cable from the HDMI output port of the PC to the HDMI/DVI IN port on the SET.
- ▶ Connect the audio cable from the PC to the Audio input on the SET. (Audio cables are not included with the TV).
- ▶ If using a sound card, adjust PC sound as required.
- ▶ If the graphic card on the PC does not output analogue and digital RGB simultaneously, connect only one of either RGB or HDMI/DVI IN to display the PC output on the SET.
- ▶ If the graphic card on the PC does output analogue and digital RGB simultaneously, set the SET to either RGB or HDMI. (The other mode is set to Plug and Play automatically by the SET.)
- ▶ DOS mode may not work depending on the video card if you use an HDMI to DVI cable.
- ▶ If you use too long an RGB-PC cable that is too long, there may be interference on the screen. We recommend using under 5m of cable. This provides the best picture quality.

WATCHING TV / PROGRAMME CONTROL

REMOTE CONTROL KEY FUNCTIONS

When using the remote control, aim it at the remote control sensor on the set.



⏻ (POWER) Switches the set on from standby or off to standby.

ENERGY SAVING Adjust the **Energy Saving**. (► P. 46)

TV/PC Selects TV or PC mode.

INPUT External input mode rotates in regular sequence.

Auto Config. Automatically adjusts picture position and minimizes image instability.

0-9 number button Selects a programme.
Selects numbered items in a menu.

LIST Displays the programme table. (► P. 39)

FLASHBK Tunes to the last channel viewed.

MENU Selects a menu.
Clears all on-screen displays and returns to TV viewing from any menu. (► P. 35)

INFO ⓘ Shows the present screen information.

Q. MENU Select the desired quick menu source. (Aspect Ratio, Picture Mode, Sound Mode, Audio, Sleep Timer, Del/Add/Fav, Caption, USB Device). (► P.34)

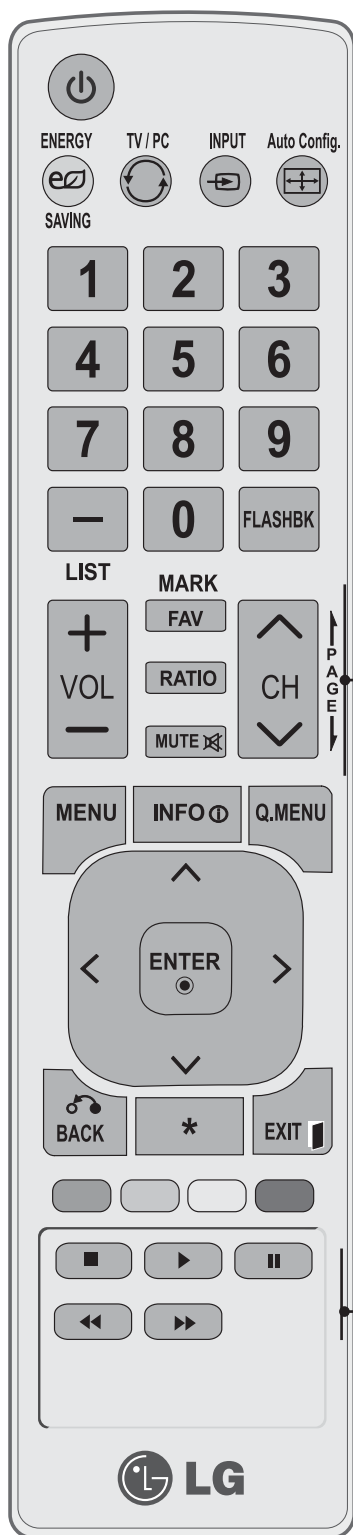
THUMBSTICK Allows you to navigate the on-screen menus and adjust the system settings to your preference.
(Up/Down/Left/Right)

ENTER Accepts your selection or displays the current mode.

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

EXIT Clears all on-screen displays and returns to TV viewing from any menu

Coloured buttons Access special function in some menus.



VOLUME UP/DOWN Adjusts the volume.

FAV Scroll through the programmed Favorite channels.
(► P. 40)

MARK Check and un-check programmes in the USB menu.

RATIO Selects your desired Aspect Ratio of picture.

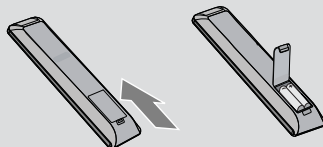
MUTE Switches the sound on or off.

CHANNEL UP/DOWN Changes the channel.

PAGE UP/DOWN Move from one full set of screen information to the next one.

USB Menu Control Buttons Controls USB menu.
(Photo List, Music List and Movie List).

Installing Batteries



- Open the battery compartment cover on the back side and install the batteries matching correct polarity (+with +,-with -)
- Install two 1.5 V AAA batteries. Don't mix old or used batteries with new ones.
- Close cover.
- To remove the batteries, perform the installation actions in reverse.

WATCHING TV / PROGRAMME CONTROL

TURNING ON THE TV

- When your TV is turned on, you will be able to use its features.

- 1 First, connect power cord correctly.
And switch the AC power control switch on the TV.
At this moment, the TV switches to standby mode.
 - In standby mode to turn TV on, press the **⏻ / I**, **INPUT** or **CH ^ v** button on the TV or press the **POWER**, **INPUT**, **CH ^ v** or **NUMBER (0~9)** button on the remote control.
- 2 Select the viewing source by using the **INPUT** button on the remote control.
 - This TV is programmed to remember which power state it was last set to, even if the power cord is out.
- 3 When finished using the TV, press the **POWER** button on the remote control. The TV reverts to standby mode.

! NOTE

- ▶ If you intend to be away on vacation, disconnect the power plug from the wall power outlet.
- ▶ If you do not complete the Initial setting, it will appear whenever the TV is switched on until the Initial setting procedure is completed.
- ▶ If the TV is unplugged once or turn off with the AC power control switch on the TV, reset the Clock function.

PROGRAMME SELECTION

- 1 Press the **CH ^ v** or **NUMBER** buttons to select a programme number.

VOLUME ADJUSTMENT

- 1 Press the **VOL(+ or -)** button to adjust the volume.
- 2 If you wish to switch the sound off, press the **MUTE** button.

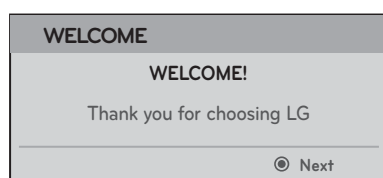
You can cancel this function by pressing the **MUTE**, **VOL(+ or -)** button.

INITIAL SETTING

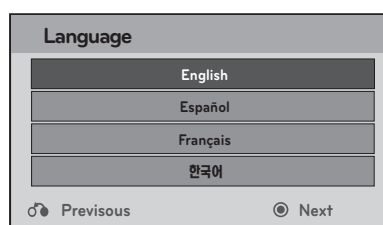
This Function guides the user to easily set the essential items for viewing the TV for the first time when purchasing the TV. It will be displayed on the screen when turning the TV on for the first time. It can also be activated from the user menus.

- Default selection is **"Home Use"**. We recommend setting the TV to **"Home Use"** mode for the best picture in your home environment.
- **"Store Demo"** Mode is only intended for use in retail environments. Customers can adjust the **"Picture" menu - Picture mode** manually while inspecting the TV, but the TV will automatically return to preset instore mode after 5 minutes.
- **"Store Demo"** Mode is an optimal setting for displaying at stores. "Store Demo" mode initializes the TV to set the image quality.
- You can also adjust **Initial Setting** in the **OPTION** menu.

Step1. Welcome

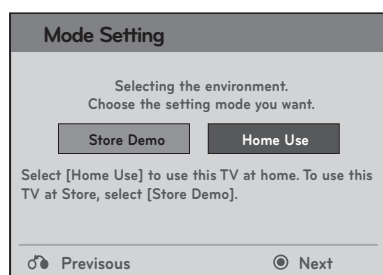


Step2. Selecting Language



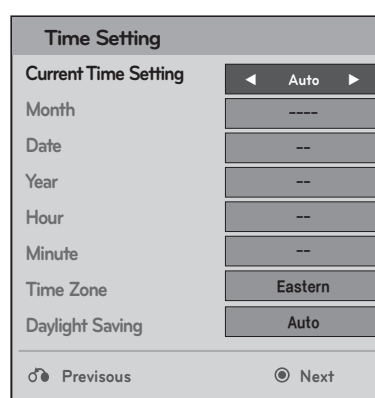
Select Menu Language.

Step3. Mode setting

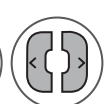


Select **Home Use**.

Step4. Time setting

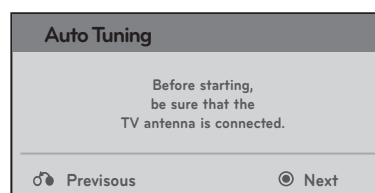


Select **Auto** or **Manual**.



Select desired time option.

Step3. Mode setting











Check your antenna connection and start **Auto Tuning**.

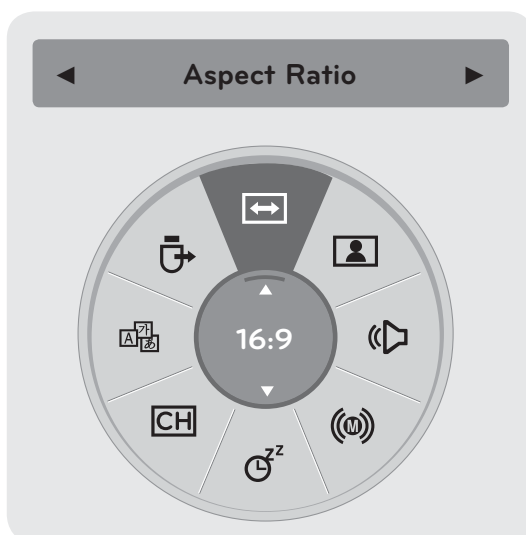
WATCHING TV / PROGRAMME CONTROL



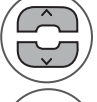


QUICK MENU

Your TV's OSD (On Screen Display) may differ slightly from that shown in this manual.

Q.Menu (Quick Menu) is a menu of features which users might use frequently.

-  **Aspect Ratio:** Selects your desired picture format. For Zoom Setting, select 14:9, Zoom and Cinema Zoom in Ratio Menu. After completing Zoom Setting, the display goes back to Q. Menu.
-  **Picture Mode:** Selects your desired Picture Mode.
-  **Sound Mode:** Selects the desired preset sound setting.
-  **Audio:** Selects the sound output.
-  **Sleep Timer:** Sets the sleep timer.
-  **Del/Add/Fav:** Select channel you want to add/delete or add the channel to the Favorite List.
-  **Caption:** Select on or off.
-  **USB Device:** Selects "Eject" in order to eject USB device.

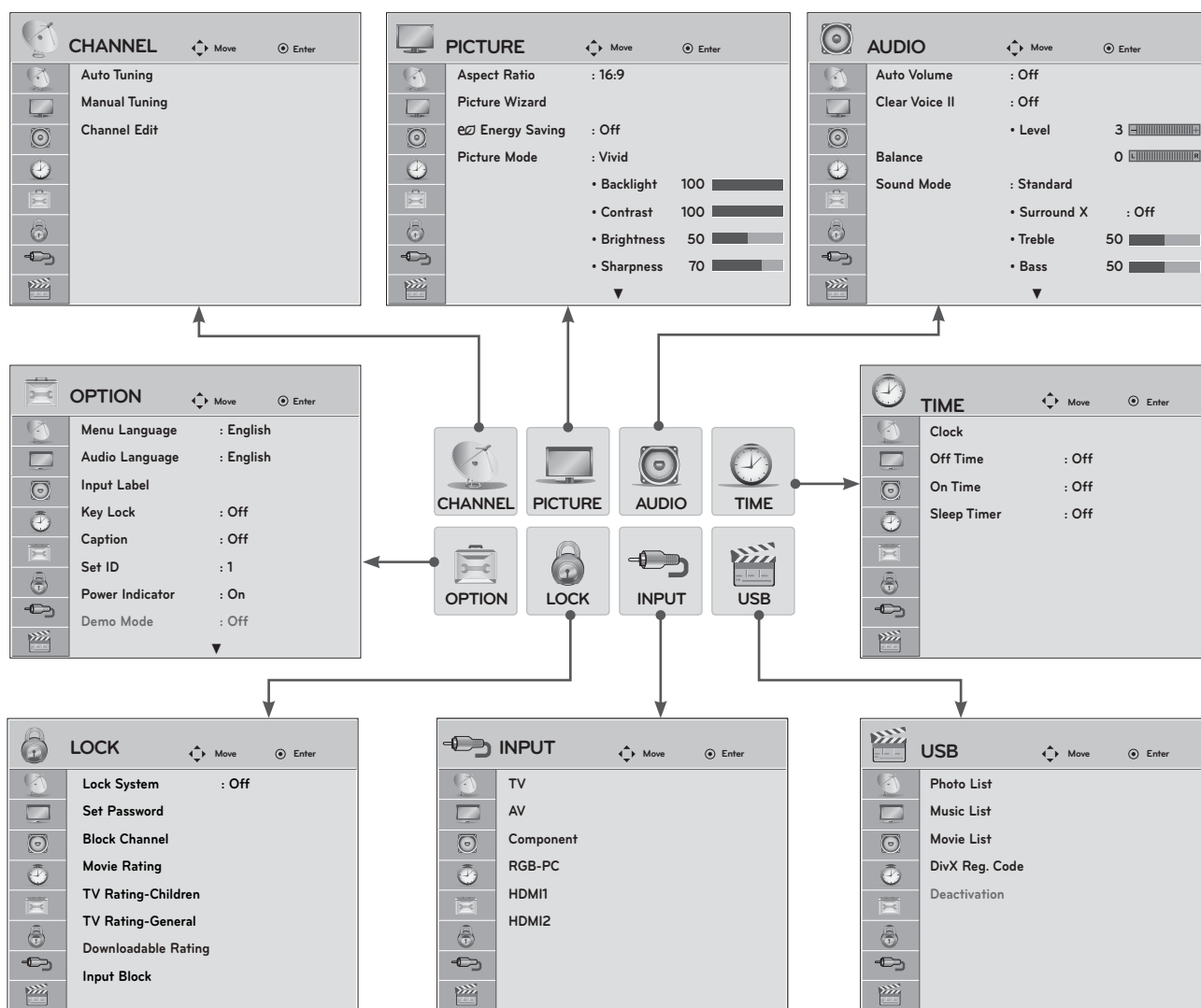







- 1   Display each menu.
- 2  Select your desired Source.
- 3  or  Return to TV viewing.

- Press the **BACK** button to move to the previous menu screen.

ON SCREEN MENUS SELECTION AND ADJUSTMENT

Your set's OSD (On Screen Display) may differ slightly from what is shown in this manual.



- 1   Display each menu.
- 2   Select a menu item.
- 3  Move to the pop up menu.

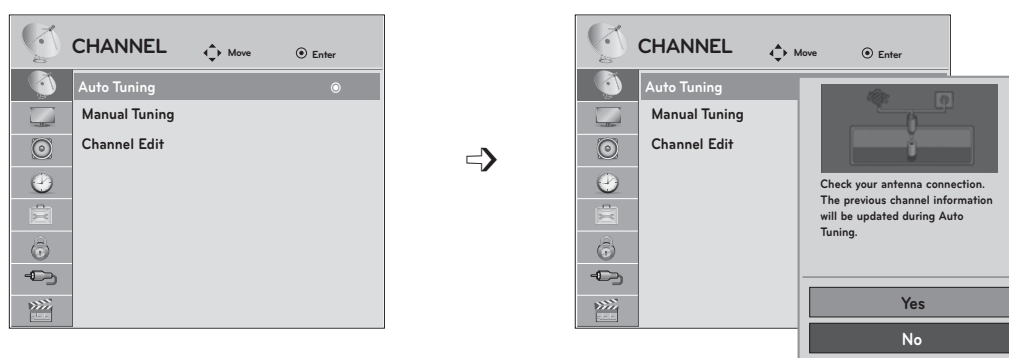
- Press the **MENU** or **EXIT** button to close the menu window.
- Press the **BACK** button to move to the previous menu screen.








WATCHING TV / PROGRAMME CONTROL

AUTO SCAN (AUTO TUNING)

Use this to automatically find and store all available channels.

Automatically finds all channels available through antenna or cable inputs, and stores them in memory on the channel list.



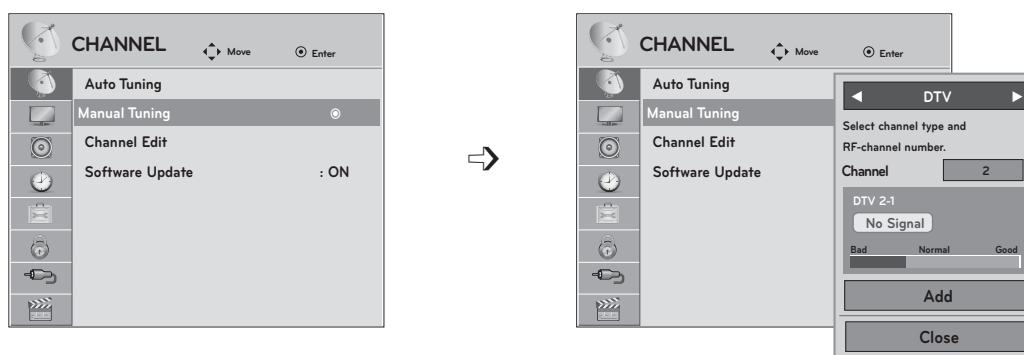
- 1   Select **CHANNEL**.
- 2   Select **Auto Tuning**.
- 3   Select **Yes**.
- 4  Run **Auto tuning**.












- The TV will ask for a password if parental control has been activated (Lock Menu). Use the password you set up in the Lock Menu to allow a channel search.
- When setting the **Auto Tuning** or **Manual Tuning**, the number of maximum channels you can store is 1,000. It is subject to change depending on the broadcasting signal environment.

- Press the **MENU** or **EXIT** button to close the menu window.
- Press the **BACK** button to move to the previous menu screen.

ADD/DELETE CHANNEL (MANUAL TUNING)

When selecting DTV or CADTV input signal in the **Manual Tuning** menu,, you can view the on-screen signal strength monitor to see the quality of the signal being received.



- 1   Select **CHANNEL**.
- 2   Select **Manual Tuning**.
- 3   Select **DTV, TV, CADTV** or **CATV**.
- 4   Select channel you want to add or delete.
- 5   Select **Add** or **Delete**.
- 6 

- The TV will ask for a password if parental control has been activated (LOCK Menu). Use the password you set up in the LOCK Menu to allow a channel search.
- When setting the Auto tuning or Manual tuning, the number of maximum channel you can store is 1000. It is subject to change depending on the broadcasting signal environment.

- Press the **MENU** or **EXIT** button to close the menu window.
- Press the **BACK** button to move to the previous menu screen.

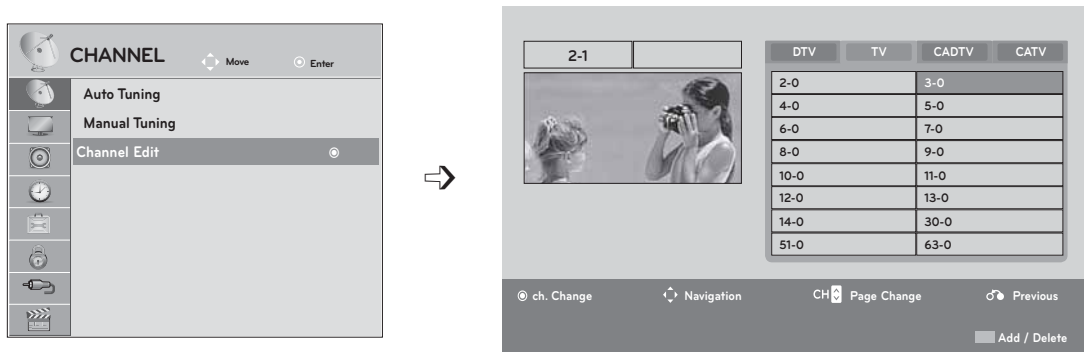
WATCHING TV / PROGRAMME CONTROL









CHANNEL EDITING

The channels in the Channel Edit List are displayed in black and the channels deleted from the Channel Edit List are displayed in blue.

When a channel number is deleted, it means that you will be unable to select it using **CH** $\wedge \vee$ button during TV viewing.

If you wish to select the deleted channel, directly enter the channel number with the **NUMBER** buttons or select it in the **Channel Edit** menu.



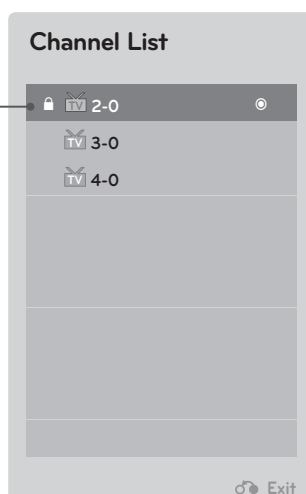
- 1   Select **CHANNEL**.
- 2   Select **Channel Edit**.
- 3   Select a channel.
- 4  Add or delete a channel.
- 5 

- Press the **MENU** or **EXIT** button to close the menu window.
- Press the **BACK** button to move to the previous menu screen.


CHANNEL LIST

You can check which channels are stored in the memory by displaying the channel label.



- This padlock is displayed when the channel is locked with parental control.





CHANNEL LIST

- 1  Display the **Channel List**.

Selecting a channel in the channel list

- 1  Select a channel.
- 2  Switch to the chosen channel number.

Paging through a channel list

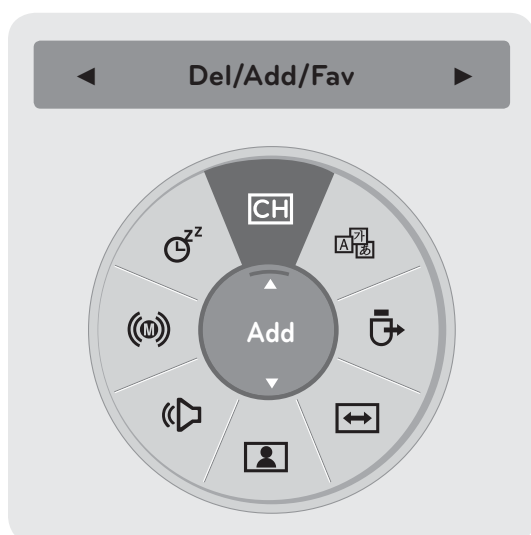
- 1  Turn the pages.
- 2  Return to TV viewing.







WATCHING TV / PROGRAMME CONTROL

FAVORITE CHANNEL SETUP

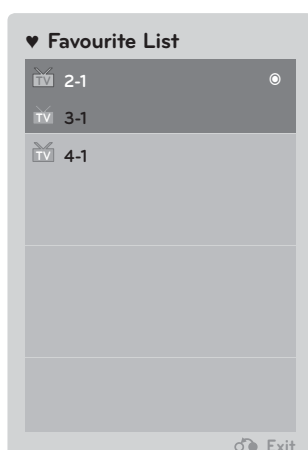
Favorite Channels are a convenient feature that lets you quickly select channels of your choice without waiting for the TV to select all the in-between channels.

To tune to a favorite channel, press the **FAV** (Favorite) button repeatedly.



- 1  or  Select your desired channel.
- 2   Select **Favourite**.
- 3  Select **Favourite**.
- 4  Return to TV viewing.



FAVORITE CHANNEL LIST





Displaying the favorite channel list

- 1  Display the **Favourite channel list**.

Selecting a channel in the favorite channel list



- 1  Select a channel.
- 2  Switch to the chosen channel number.

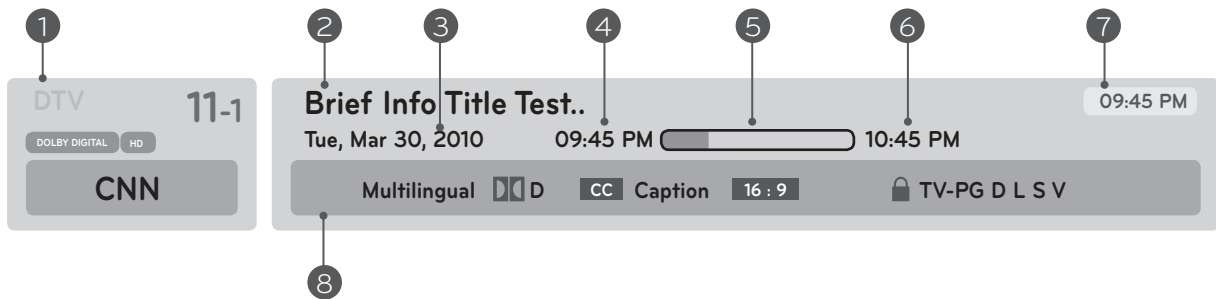
Paging through a favorite channel list

- 1  Turn the pages.
- 2  Return to TV viewing.












BRIEF INFORMATION

Brief Info shows the present screen information.

- 1  Show the Brief Info on the screen.
- 2  Return to TV viewing



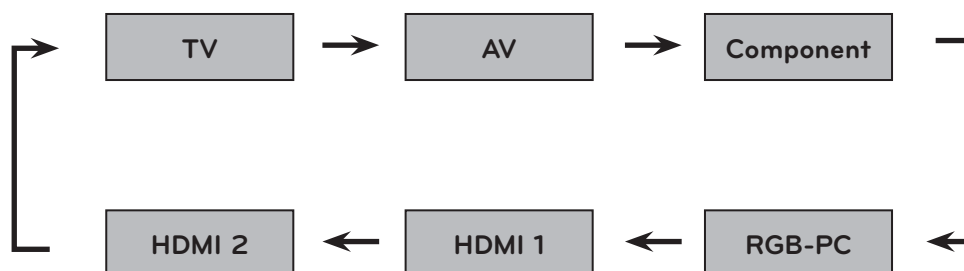
- 1 Banner information
- 2 Program title
- 3 Day, Month, Year
- 4 Program start time
- 5 Program progress bar
- 6 Program finish time
- 7 Present time

- 8  **Multilingual:** The program contains two or more audio services. Use the **Q.MENU** menu to select wanted Audio.
-  **Dolby Digital:** The program contains a Dolby Digital audio signal in TV, HDMI input source and DivX.
-  **Caption:** The program contains one or more caption services. Use the Q.MENU menu to select wanted Closed caption.
-  4:3
The original aspect ratio of the video is 4:3
 16:9
The original aspect ratio of the video is 16:9 (wide)
-  480i
The video resolution is 720x480i
 480p
The video resolution is 720x480p
 720p
The video resolution is 1280x720p
 1080i
The video resolution is 1920x1080i
 1080p
The video resolution is 1920x1080p
-  **V-Chip:** The program contains V-Chip information. Refer to the LOCK menu: A (Age), D (Dialogue), L (Language), S (Sex), V (Violence), FV (Fantasy Violence).

WATCHING TV / PROGRAMME CONTROL

INPUT LIST

TV, HDMI, AV, Component and **RGB** can be recognized by a detect pin and thus enabled only when an external device approves voltage.



Select the input source.

You can also select the desired input source in the **INPUT** menu.

- **TV:** Select it to watch over-the-air, cable and digital cable broadcasts.
- **AV:** Select it when watching the VCR or external equipment.
- **Component:** Select them to watch DVD or a Digital set-top box.
- **RGB-PC:** Select it to view PC input.
- **HDMI 1, HDMI 2:** Select them to watch high definition devices.

PICTURE CONTROL

PICTURE SIZE (ASPECT RATIO) CONTROL

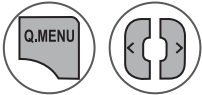
You can watch the screen in various picture formats: **16:9**, **Just Scan**, **Original**, **4:3**, **14:9**, **Zoom** and **Cinema Zoom**.

If a fixed image is displayed on the screen for a long time, that fixed image may become imprinted on the screen and remain visible.


You can adjust the enlarge proportion using **^** **v** button.

This function works in the following signal.

- 1



Select **Aspect Ratio**.
- 2



Select the desired picture format.

- You can also adjust **Aspect Ratio** in the **PICTURE** menu.
 - For Zoom Setting, select **14:9**, **Zoom** and **Cinema Zoom** in Ratio Menu. After completing Zoom Setting, the display goes back to Q.Menu.

• **16:9**

Adjust the picture horizontally, in a linear proportion to fill the entire screen.

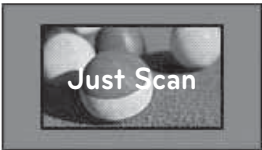


• **Just Scan**

Normally the edges of video signals are cropped 1-2%. Just Scan turns off this cropping and shows the complete video.

Notes: If there is noise on the edges of the original signal, it will be visible when Just Scan is activated.

Just Scan operates only in DTV/CADTV/Component/HDMI-DTV/DVI-DTV (720p/1080i/1080p) input source..

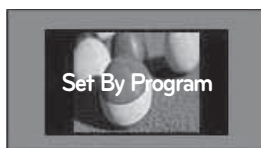


PICTURE CONTROL

• Set By Program

Selects the proper picture proportion to match the source's image.

(4:3 → 4:3)



4:3

(16:9 → 16:9)



Choose 4:3 when you want to view a picture with an original 4:3 aspect ratio.



• Zoom

Choose Zoom when you want to view the picture without any alteration. However, the top and bottom portions of the picture will be cropped.

- When adjusting in Q.MENU menu,
 - a. < or > button: Adjust proportion of Zoom.
 - b. ^ or v button: Move the image on the screen.

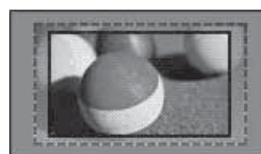


• Cinema Zoom 1

Choose Cinema Zoom when you want to enlarge the picture in correct proportion.

Note: When enlarging or reducing the picture, the image may become distorted.

- < or > button: Adjust proportion of Cinema Zoom. The adjustment range is 1-16.
- ^ or v button: Move the image on the screen.

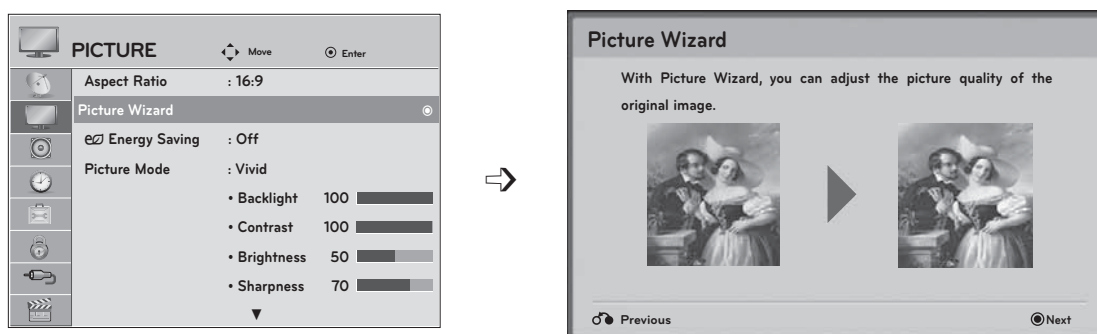













PICTURE WIZARD

This feature lets you adjust the picture quality of the original image.

Use this to calibrate the screen quality by adjusting the Black and White Level etc. You can calibrate the screen quality by easily following each step.

When you adjust the image to **Low**, **Recommended** or **High**, you can see the example of the changes you made.



- 1   Select **PICTURE**.
- 2    Select **Picture Wizard**.
- 3   Adjust **Black level, White level, Colour, Tint, Horizontal Sharpness, Vertical Sharpness, Colour Temperature, Dynamic Contrast, Colour Gain, Backlight**.
- 4    Select input source to apply the settings.
- 5 

- If you stop the setting before the final step, the changes will not be saved to the SET.
- Once the **Picture Wizard** sets the picture quality, **Energy Saving** is changed to **Off** automatically.

- Press the **MENU** or **EXIT** button to close the menu window.
- Press the **BACK** button to move to the previous menu screen.

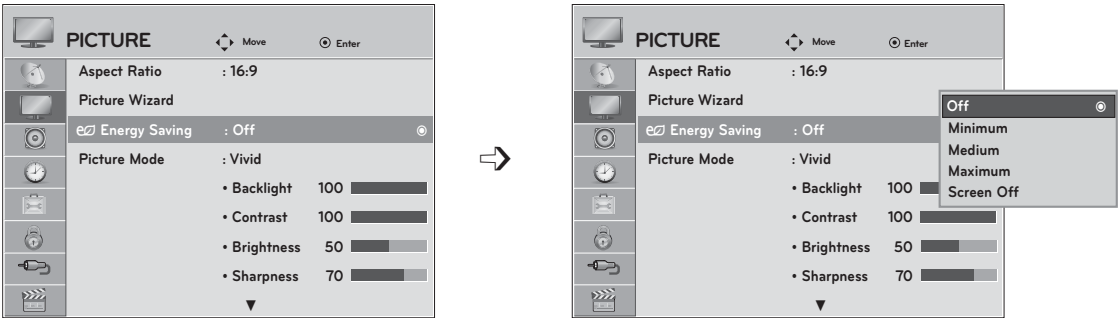
PICTURE CONTROL









ENERGY SAVING

It reduces the TV's power consumption by lowering the backlight level.

The default factory setting complies with the **Energy Star** requirements and is adjusted to the comfortable level to be viewed at home.

You can increase the brightness of your screen by adjusting the **Energy Saving** level or by setting the **Picture Mode**.



- 1   Select **PICTURE**.
- 2   Select ** Energy Saving**.
- 3   Select **Off, Minimum, Medium, Maximum** or **Screen Off**.
- 4 

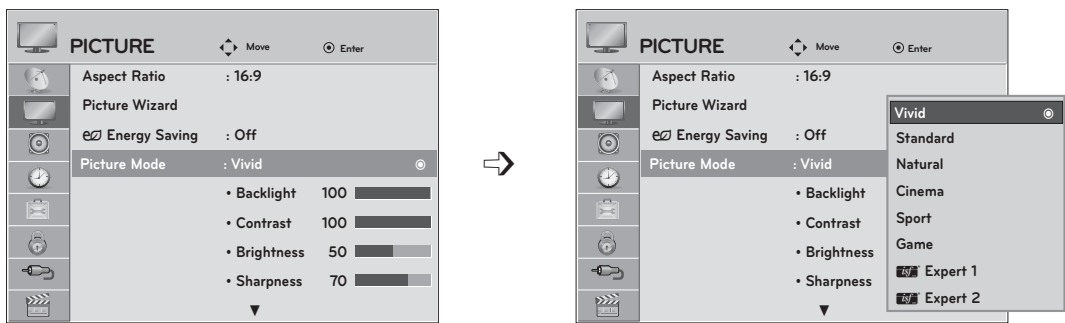
- Press the **MENU** or **EXIT** button to close the menu window.
- Press the **BACK** button to move to the previous menu screen.

- When selecting **Screen off**, the screen will turn off 3 seconds.
- If you adjust "**Energy Saving-Minimum, Medium, Maximum**", Backlight feature will not work.
- Press the **ENERGY SAVING** button repeatedly to select the appropriate Energy Saving setup.

PRESET PICTURE SETTINGS

Picture Mode-Preset

| | |
|-----------------|---|
| Vivid | This is the mode to maximize the effect of the video in the retail store. Strengthen the contrast, brightness, color and sharpness for vivid picture. |
| Standard | This is the mode to realize optimum viewing condition for the general user. |
| Natural | This is the mode to display the most natural screen status. |
| Cinema | This mode optimizes video for watching movies. |
| Sport | This is the video mode to emphasize dynamic video and primary color (e.g, white, uniform, grass, sky blue etc.) by realizing the optimal screen for sports. |
| Game | This is the mode to realize fast response speed in a fast gaming screen. |
| Expert | This is the mode to adjust the video in detail for video quality expert and general user. |



1. Select **PICTURE**.
2. Select **Picture Mode**.
3. Select **Vivid, Standard, Natural, Cinema, Sport** or **Game**
- 4.

- Press the **MENU** or **EXIT** button to close the menu window.
- Press the **BACK** button to move to the previous menu screen.

- **Picture Mode** adjusts the SET for the best picture appearance. Select the preset value in the **Picture Mode** menu based on the programme category.
- You can also adjust Picture Mode in the **Q. Menu**.

PICTURE CONTROL

MANUAL PICTURE ADJUSTMENT

Picture Mode-User option

Backlight

To control the brightness of the screen, adjust the brightness of LCD panel.
Adjusting the backlight when setting the brightness of the set is recommended.

Contrast

Adjusts the signal level between black and white in the picture. You may use Contrast when the bright part of the picture is saturated.

Brightness

Adjusts the base level of the signal in the picture.

Sharpness

Adjusts the level of crispness in the edges between the light and dark areas of the picture.
The lower the level, the softer the image.

Colour

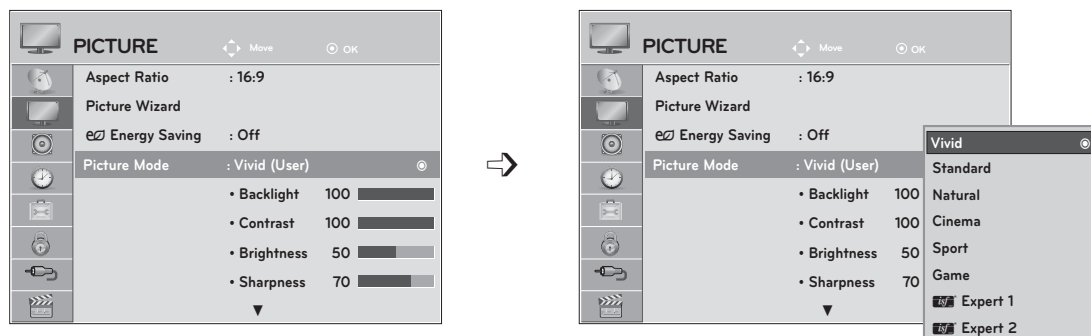
Adjusts intensity of all colours.

Tint

Adjusts the balance between red and green levels.

Colour Temperature

Set to warm to enhance hotter colours such as red, or set to cool to make picture bluish.



- 1 Select **PICTURE**.
- 2 Select **Picture Mode**.
- 3 Select **Vivid, Standard, Natural, Cinema, Sport** or **Game**
- 4 Select **Backlight, Contrast, Brightness, Sharpness, Colour, Tint** or **Colour Temperature**.
- 5 Make appropriate adjustments.
- 6

- Press the **MENU** or **EXIT** button to close the menu window.
- Press the **BACK** button to move to the previous menu screen.

! NOTE

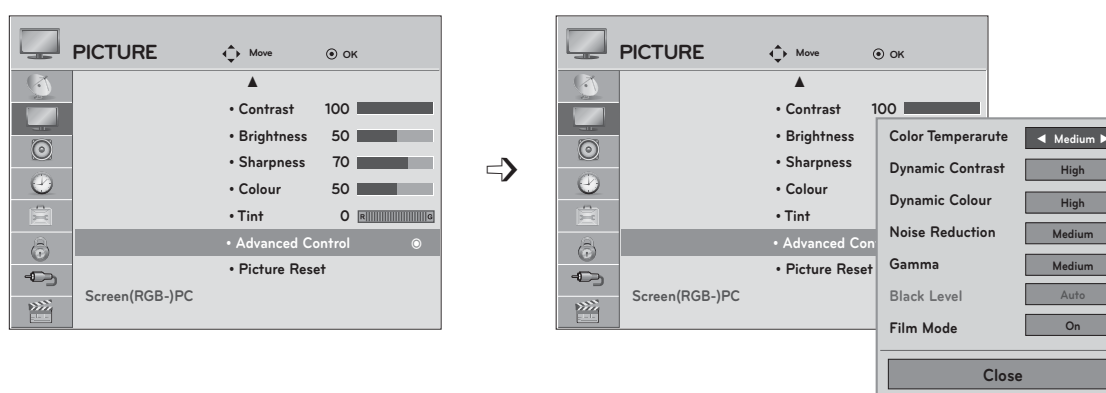
- ▶ You cannot adjust colour and tint in the RGB-PC / HDMI-PC mode.
- ▶ When the **Expert 1/2** is selected, you can select **Backlight, Contrast, Brightness, H Sharpness, V Sharpness, Colour** or **Tint**.








PICTURE IMPROVEMENT TECHNOLOGY

You can calibrate the screen for each Picture Mode or set the video value according to the special video screen.

You can set the video value differently for each input.

To reset to the factory default screen after making adjustments to each video mode, execute the **"Picture Reset"** function for each **Picture Mode**.



- 1   Select **PICTURE**.
- 2   Select **Advanced Control**.
- 3   Select your desired options.
- 4  Make appropriate adjustments.

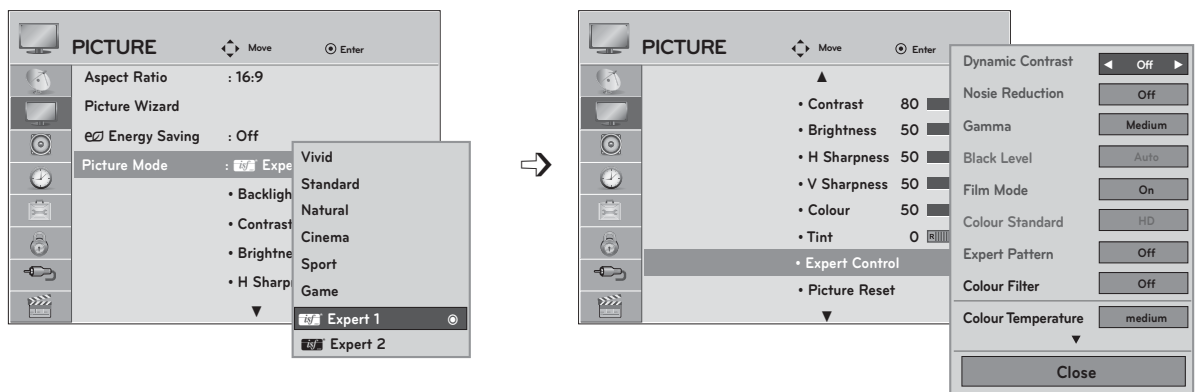
- Press the **MENU** or **EXIT** button to close the menu window.
- Press the **BACK** button to move to the previous menu screen.






PICTURE CONTROL

EXPERT PICTURE CONTROL

By segmenting categories, **Expert 1** and **Expert 2** provide more categories which users can set as they see fit, offering the optimal picture quality for users.

This may also be used to help a professional optimize the SET performance using specific videos.



- 1   Select **PICTURE**.
- 2   Select **Picture Mode**.
- 3   Select **Expert 1** or **Expert 2**.
- 4   Select **Expert Control**.
- 5   Select your desired Source.
- 6  Make appropriate adjustments.

- Press the **MENU** or **EXIT** button to close the menu window.
- Press the **BACK** button to move to the previous menu screen.

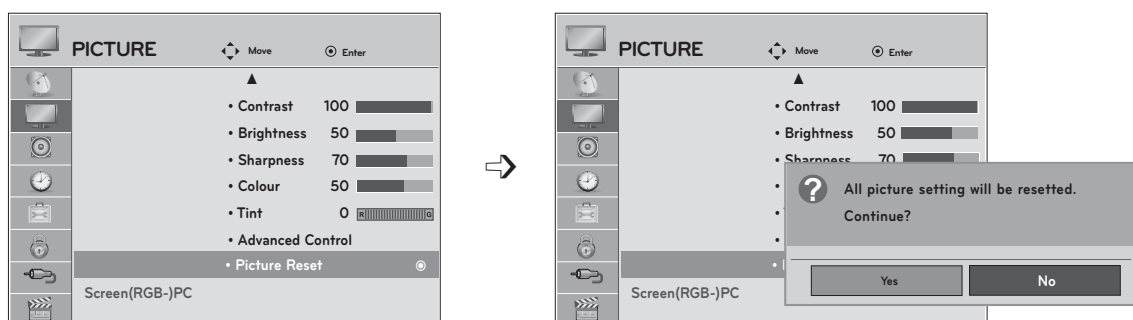
| | |
|-------------------|---|
| Color Temperature | <ul style="list-style-type: none"> ■ Set to warm to enhance hotter colors such as red, or set to cool to enhance cooler colors such as blue. |
| Dynamic Contrast | <ul style="list-style-type: none"> ■ Adjusts the contrast to keep it at the best level according to the brightness of the screen. The picture is improved by making bright parts brighter and dark parts darker. |
| Dynamic Color | <ul style="list-style-type: none"> ■ Adjusts screen colors so that they look livelier, richer and clearer. This feature enhances hue, saturation and luminance so that red, blue, green and white look more vivid. |
| Noise Reduction | <ul style="list-style-type: none"> ■ Reduces screen noise without compromising video quality. |
| Gamma | <ul style="list-style-type: none"> • Low: Make dark and middle gray level area of the picture brighter. • Medium: Express original picture levels. • High: Make dark and middle gray level area of the picture darker. ■ You can adjust brightness of dark area and middle gray level area of the picture. |
| Black Level | <ul style="list-style-type: none"> • Low: The reflection of the screen gets darker. • Medium: The reflection of the screen gets brighter. ■ Set black level of the screen to proper level. ■ This function enables to select 'Low' or 'High' in the following mode: AV (NTSC-M), HDMI or Component. Otherwise, 'Black level' is set to 'Auto'. |
| Film Mode | <ul style="list-style-type: none"> ■ Makes video clips recorded in film look more natural by eliminating judder effect. ■ DVD and Blu-ray movies are filmed at 24 frames per second (fps). 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. |
| Color Standard | <ul style="list-style-type: none"> ■ Convert the color of a different video to HD color. |
| Color Filter | <ul style="list-style-type: none"> ■ This is the function to filter the specific colors of the video. You can use the RGB filter to set color saturation and hue accurately. |
| Expert Pattern | <ul style="list-style-type: none"> ■ This is the pattern necessary for expert adjustment. ■ This function is enabled in "Picture Mode - Expert" when you watch DTV. |








PICTURE CONTROL

| | |
|-------------------------|--|
| White Balance | <ul style="list-style-type: none">■ This is the function to adjust the overall color of the screen to the feeling you want.<ul style="list-style-type: none">a. Method : 2 Points<ul style="list-style-type: none">- Pattern: Inner, Outer- Red/Green/Blue Contrast, Red/Green/Blue Brightness: The adjustment range is -50 - +50.b. Method : 10 Point IRE<ul style="list-style-type: none">- Pattern: Inner, Outer- 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.- 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.- Red/Green/Blue: The adjustment range is -50 - +50. |
| Color Management System | <ul style="list-style-type: none">■ 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/Mgt/Yellow).<p>Color difference may not be distinctive even when you make the adjustments for the general video.</p><p>Adjusts Red/Green/Blue/Yellow/Cyan, Magenta.</p><ul style="list-style-type: none">- Red/Green/Blue/Yellow/Cyan, Magenta Color: The adjustment range is -30 - +30.- Red/Green/Blue/Yellow/Cyan, Magenta Tint: The adjustment range is -30 - +30.- This feature is disable in RGB-PC and HDMI-PC mode. |

PICTURE RESET

Settings of the selected picture modes BACK to the default factory settings.



- 1   Select **Picture**.
- 2   Select **Picture Reset**.
- 3   Select **Yes** or **No**.
- 4 

- Press the **MENU** or **EXIT** button to close the menu window.
- Press the **BACK** button to move to the previous menu screen.

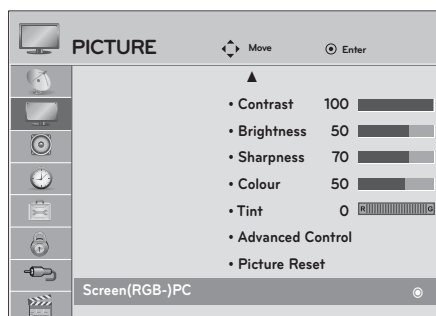
PICTURE CONTROL

SCREEN SETUP FOR PC MODE

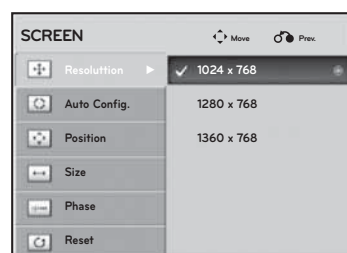
Selecting Resolution

To view a normal picture, match the resolution of RGB mode and selection of PC mode.

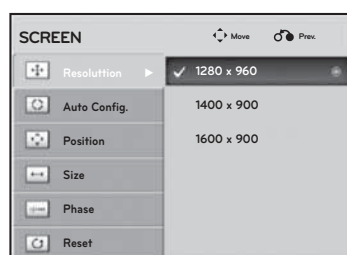
This function works in the following mode: RGB[PC] mode.



<Vertical resolution : 768>



<Vertical resolution : 900>



- 1 Select **Picture**.
- 2 Select **Screen**.
- 3 Select **Resolution**.
- 4 Select the desired resolution.
- 5

- Press the **MENU** or **EXIT** button to close the menu window.
- Press the **BACK** button to move to the previous menu screen.

Auto Configure (RGB [PC] mode only)

Automatically adjusts picture position and minimizes image instability. After adjustment, if the image is still not correct, your set is functioning properly but needs further adjustment.

Auto configure

This function is for automatic adjustment of the screen position, clock, and phase. The displayed image will be unstable for a few seconds while the auto configuration is in progress.

1. Using OSD



- 1 Select **PICTURE**.
- 2 Select **Screen**.
- 3 Select **Auto Config.**
- 4 Select **Yes**.

- If the position of the image is still not correct, try Auto adjustment again.
- If picture needs to be adjusted again after Auto adjustment in RGB (PC), you can adjust the Position, Size or Phase.

- 5 Run **Auto Config.**

- Press the **MENU** or **EXIT** button to close the menu window.
- Press the **BACK** button to move to the previous menu screen.

2. Using Auto Config. (Remocon)

This function is available for RGB signals only.

<M2080DF>

- 1 Press **Auto Config.**

Auto in progress

<1600 x 900 Resolution>



Auto in progress
For optimal display
change resolution 1600 x 900

<Others Resolution>

<M2280DF, M2380DF>

- 1 Press **Auto Config.**

Auto in progress

<1920 x 1080 Resolution>



Auto in progress
For optimal display
change resolution 1920 x 1080

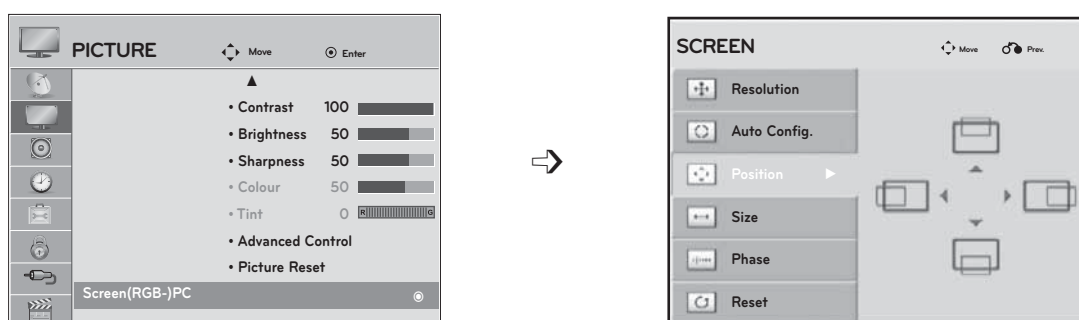
<Others Resolution>











PICTURE CONTROL

Adjustment for screen Position, Size, Phase

If the picture is not clear after auto adjustment and especially if characters are still trembling, adjust the picture phase manually.

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



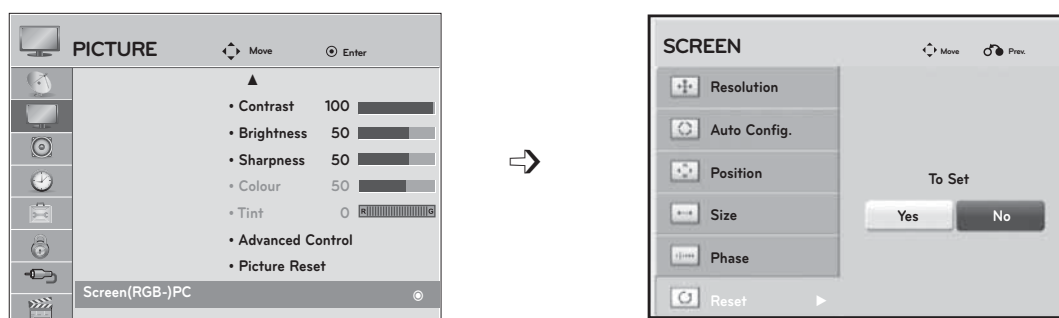
- 1   Select **PICTURE**.
- 2   Select **Screen**.
- 3   Select **Position, Size or Phase**.
- 4    Make appropriate adjustments.
- 5 










- Press the **MENU** or **EXIT** button to close the menu window.
- Press the **BACK** button to move to the previous menu screen.

Screen Reset

Returns **Position**, **Size** and **Phase** to the factory default settings.

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



- 1   Select **PICTURE**.
- 2   Select **Screen**.
- 3   Select **Reset**.
- 4   Select **Yes**.
- 5  Run **Reset**.

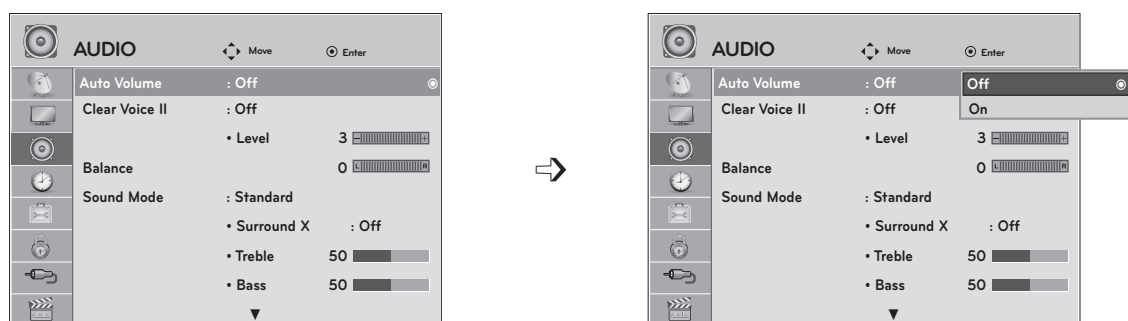
- Press the **MENU** or **EXIT** button to close the menu window.
- Press the **BACK** button to move to the previous menu screen.








SOUND CONTROL

AUTO VOLUME LEVELER (AUTO VOLUME)

Auto Volume makes sure that the volume level remains consistent whether you are watching a commercial or a regular TV program.

Because each broadcasting station has its own signal conditions, volume adjustment may be needed every time the channel is changed. This feature allows users to enjoy stable volume levels by making automatic adjustments for each program.

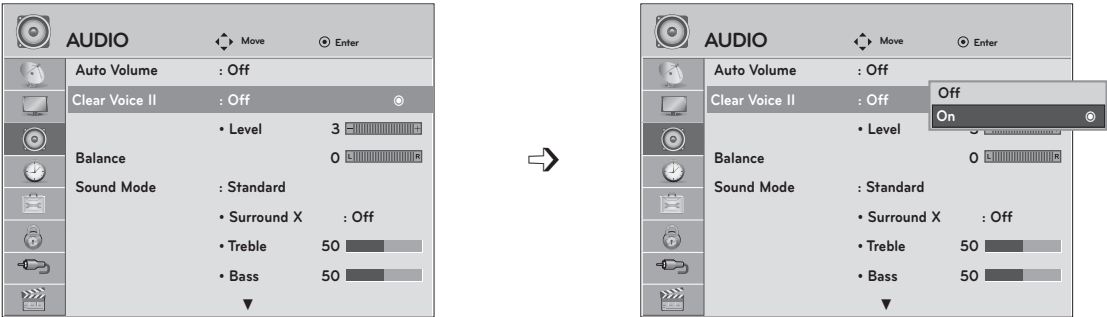








- 1   Select **AUDIO**.
- 2   Select **Auto Volume**.
- 3   Select **On** or **Off**.
- 4 

- Press the **MENU** or **EXIT** button to close the menu window.
- Press the **BACK** button to move to the previous menu screen.

CLEAR VOICE II

By differentiating the human sound range from others, it improves the sound quality of voices.



- 1   Select **AUDIO**.
- 2   Select **Auto Volume**.
- 3   Select **On** or **Off**.

- If you select "On" for **Clear Voice II**, **Surround X** feature will not work.
- Select levels from '-6' to '+6'.

Adjustment for Clear Voice Level With selecting On

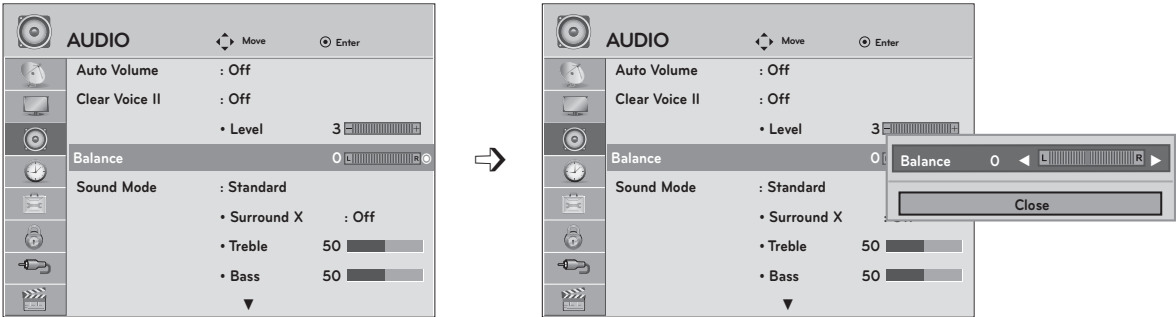
- 4   Select **Level**.
- 5   Make appropriate adjustments.







- Press the **MENU** or **EXIT** button to close the menu window.
- Press the **BACK** button to move to the previous menu screen.

SOUND CONTROL

BALANCE

Adjust the left/right sound of speaker to suit your taste and room situations.



- 1   Select **AUDIO**.
- 2   Select **Balance**.
- 3   Make appropriate adjustments.

- Press the **MENU** or **EXIT** button to close the menu window.
- Press the **BACK** button to move to the previous menu screen.

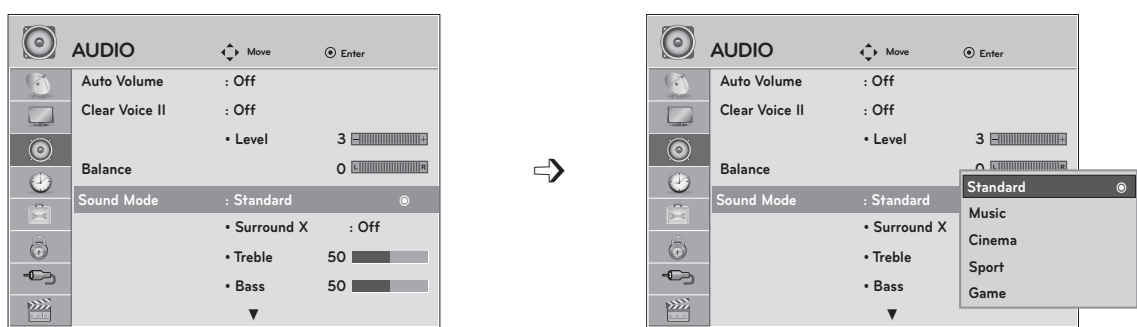
PRESET SOUND SETTINGS (SOUND MODE)

You can select your preferred sound setting; **Standard**, **Music**, **Cinema**, **Sport** or **Game** and you can also adjust the **Treble**, **Bass**.

Sound Mode lets you enjoy the best sound without any Special adjustment as the TV sets the appropriate sound options based on the programme content.

Standard, **Music**, **Cinema**, **Sport** and **Game** are preset for optimum sound quality at the factory.

- Standard** Offers standard-quality sound.
- Music** Optimizes sound for listening to music.
- Cinema** Optimizes sound for watching movies.
- Sport** Optimizes sound for watching sports events.
- Game** Optimizes sound for playing games.



- 1 Select **AUDIO**.
- 2 Select **Sound Mode**.
- 3 Select **Standard**, **Music**, **Cinema**, **Sport** or **Game**.
- 4

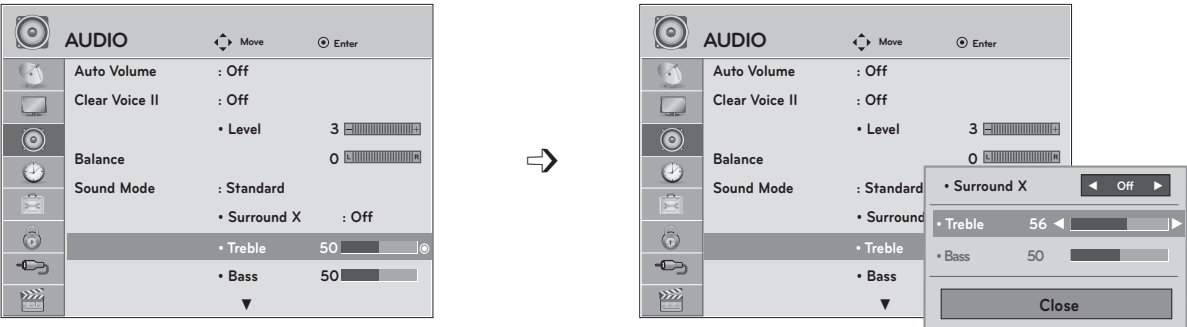
• You can also adjust **Sound Mode** in the **Q Menu**.

- Press the **MENU** or **EXIT** button to close the menu window.
- Press the **BACK** button to move to the previous menu screen.

SOUND CONTROL

PRESET SOUND SETTINGS-USER MODE

Adjust the sound to suit your taste and room situations.



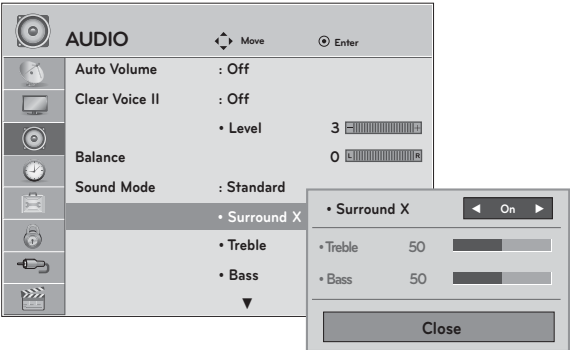
- 1 Select **AUDIO**.
- 2 Select **Sound Mode**.
- 3 Select **Standard, Music, Cinema, Sport** or **Game**.
- 4 Select **Treble** or **Bass**.
- 5 Set the desired sound level.

Surround X

Select this option to sound realistic.

Enhance sound depth and darity by maximizing Surround effect.

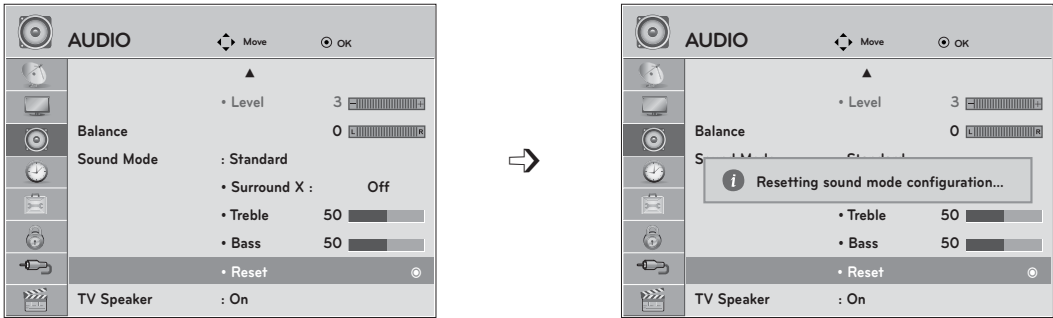
- 1 Select **AUDIO**.
- 2 Select **Surround X**.
- 3 Select **On** or **off**
- 4








- Press the **MENU** or **EXIT** button to close the menu window.
- Press the **BACK** button to move to the previous menu screen.

AUDIO RESET

Settings of the selected Sound Mode return to the default factory settings.



- 1   Select **AUDIO**.
- 2   Select **Reset**.
- 3  Initialize the adjusted value.

- Press the **MENU** or **EXIT** button to close the menu window.
- Press the **BACK** button to move to the previous menu screen.

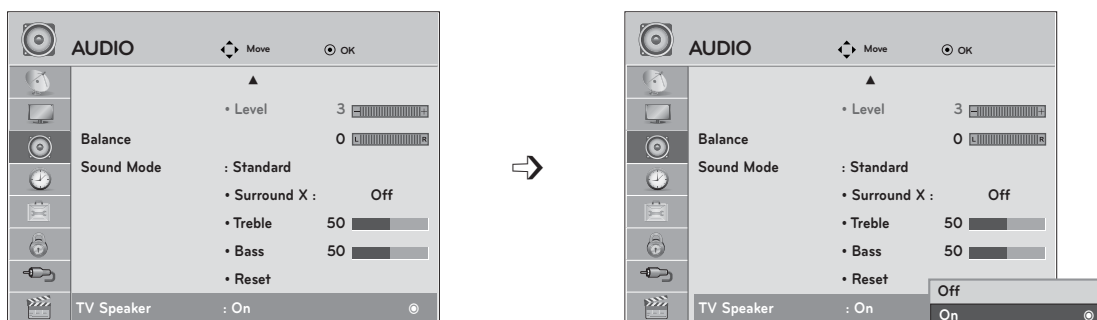
SOUND CONTROL







TV SPEAKERS ON / OFF SETUP

You can adjust the TV internal speaker status.

In **AV, COMPONENT, RGB** and **HDMI 1** with **HDMI to DVI** cable, the TV speaker can be operational even when there is no video signal.

If you wish to use an external Hi-Fi system, turn off the TV's internal speakers.

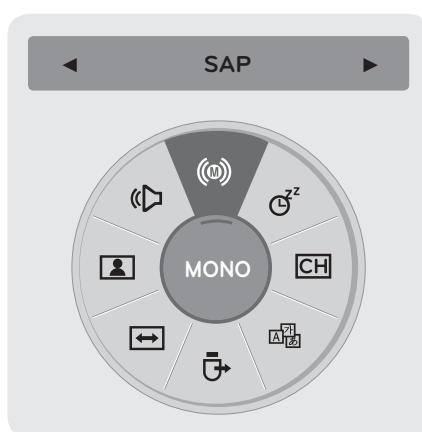


- 1   Select **AUDIO**.
- 2   Select **TV Speaker**.
- 3   Select **On** or **Off**.
- 4 






- Press the **MENU** or **EXIT** button to close the menu window.
- Press the **BACK** button to move to the previous menu screen.

STEREO/SAP BROADCAST SETUP






On analog signals, this TV can receive MTS stereo programs and any SAP (Secondary Audio Program) that accompanies the stereo program if the station transmits an additional sound signal. Mono sound is automatically used if the broadcast is only in Mono.



Analog TV

- 1   Select **SAP**.
- 2  Select **Mono, Stereo, or SAP**.
- 3  or  Return to TV viewing.

Digital TV

- 1   Select **Multi Audio**.
- 2  Select **Mono, Stereo, or SAP**.
- 3  or  Return to TV viewing.

TIME SETTING

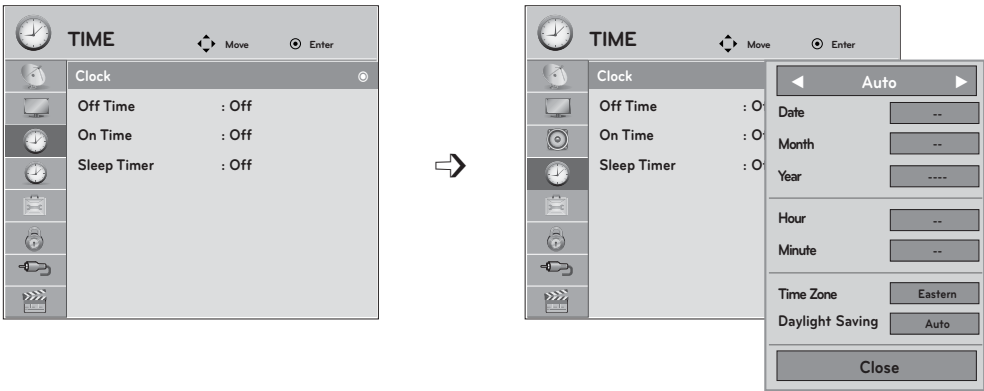
CLOCK SETUP











Auto Clock Setup

The time is set automatically from a digital channel signal.

The digital channel signal includes information for the current time provided by the broadcasting station.

Set the clock manually if the current time is set incorrectly by the auto clock function.



- 1   Select **TIME**.
- 2   Select **Clock**.
- 3   Select **Auto**.
- 4   Select your viewing area time zone.
 - U.S.A: **Eastern, Central, Mountain, Pacific, Alaska, or Hawaii.**
 - Canada: **Eastern, Central, Mountain, Pacific, New F. land, or Atlantic.**
- 5   Select **Auto, Off, or On** (depending on whether or not your viewing area observes Daylight Saving time).

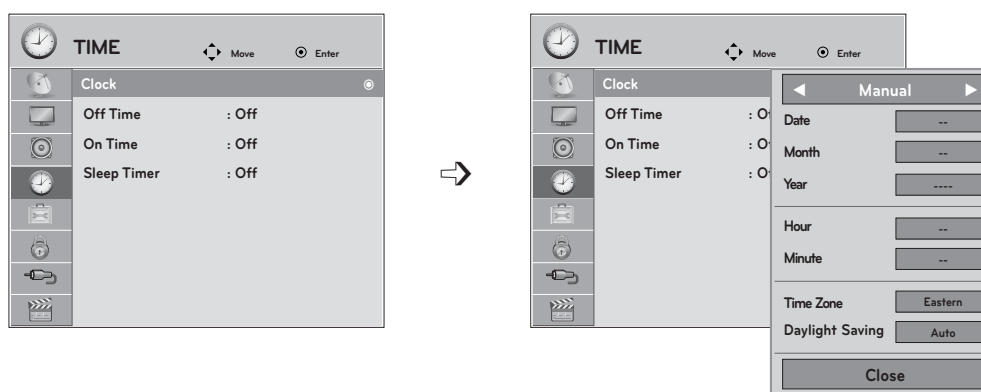
- Press the **MENU** or **EXIT** button to close the menu window.
- Press the **BACK** button to move to the previous menu screen.

• If this TV is unplugged once or turn off with the AC power control switch on the TV, reset the **Clock** function.

Manual Clock Setup

If the current time setting is wrong, reset the clock manually.

If this TV is unplugged once or turn off with the AC power control switch on the SET, reset the **Clock** function.



- 1 Select **Time**.
- 2 Select **Clock**.
- 3 Select **Manual**.
- 4 Select the Year, Month, Date, Hour, or Minutes option.
- 5 Set the Year, Month, Date, Hour, or Minutes option.

- Press the **MENU** or **EXIT** button to close the menu window.
- Press the **BACK** button to move to the previous menu screen.

TIME SETTING

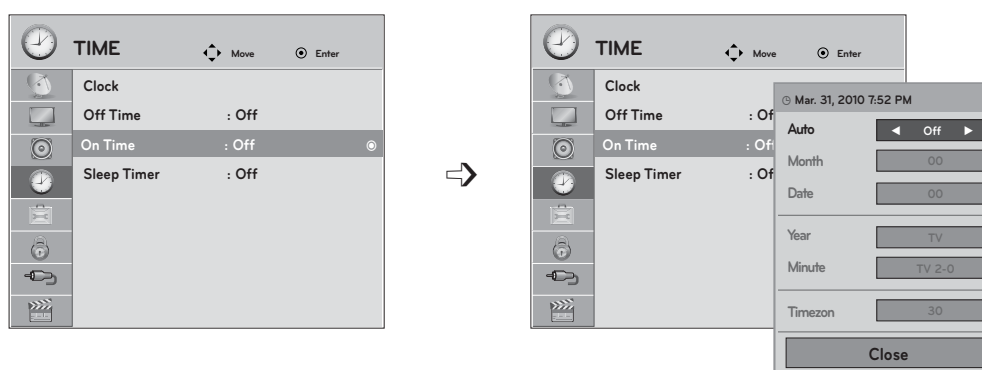
AUTO ON/OFF TIME SETTING










This function operates only if the current time has been set.

The **Off Time** function overrides the **On Time** function if they are both set to the same time.








The TV must be in standby mode for the **On Time** to work.

If you do not press any button within 2 hours after the SET turns on with the **On Time** function, the SET will automatically revert to standby mode.



- 1   Select **Time**.
- 2   Select **Off Time** or **On Time**.
- 3   Select **Repeat**.
- 4  Select **Off, Once, Daily, Mon ~ Fri, Mon ~ Sat, Sat ~ Sun** or **Sun**.
- 5   Set the **hour** or **Minute..**

- To cancel **On/Off Time** function, select **Off**.
- For On Time function only

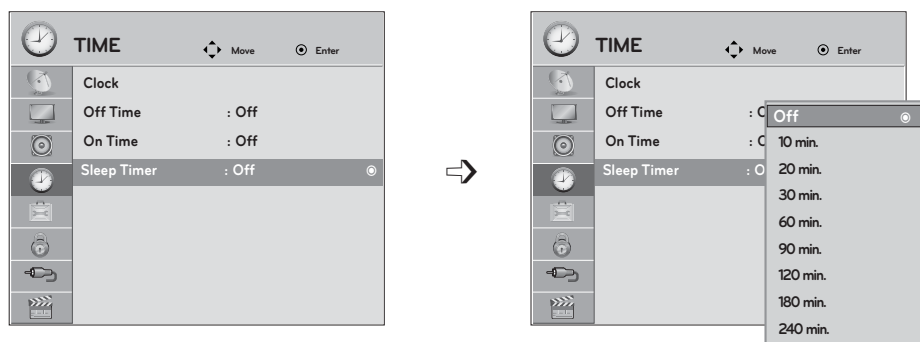
- 1   Select **Input**.
- 2  Select the desired input source.
- 3   When Selecting SET: set the channel at turn-on.
- 4   Adjust to sound level at turn-on.





- Press the **MENU** or **EXIT** button to close the menu window.
- Press the **BACK** button to move to the previous menu screen.

SLEEP TIMER SETTING

The Sleep Timer turns the TV off at the preset time.

Note that this setting is cleared when the SET is turned off.



- 1   Select **TIME**.
- 2   Select **Sleep Timer**.
- 3   Make appropriate adjustments.
- 4 

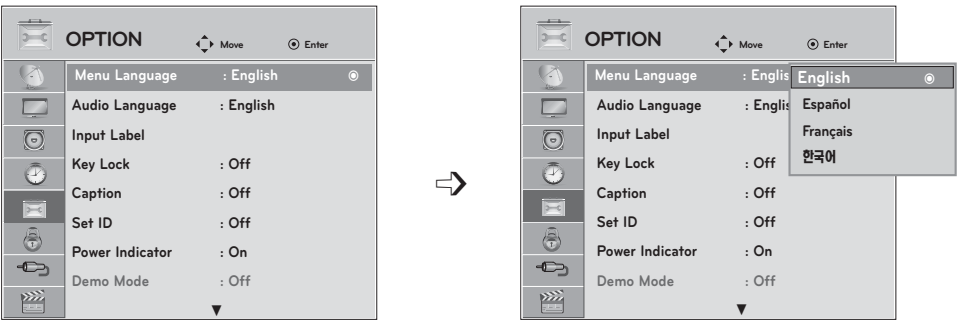
- To cancel the **Sleep Timer**, select **Off**.
- You can also adjust **Sleep Timer** in the **Q.MENU**.
- Press the **SLEEP** button repeatedly to select the number of minutes.








- Press the **MENU** or **EXIT** button to close the menu window.
- Press the **BACK** button to move to the previous menu screen.

OPTION SETTING

ON-SCREEN MENUS LANGUAGE SELECTION

The menus can be shown on the screen in the selected language.

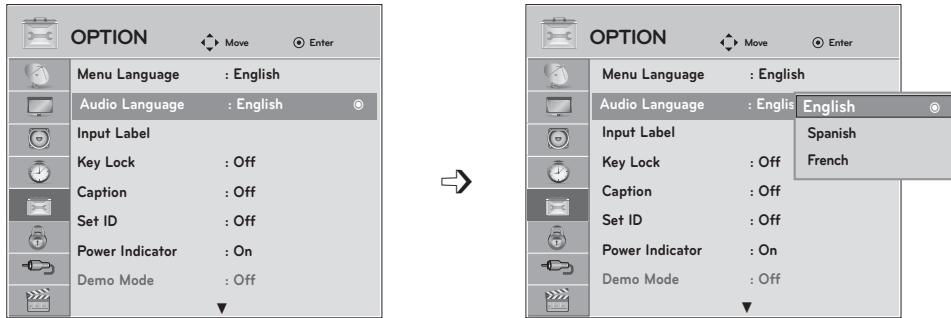









-   Select **OPTION**.
-   Select **Menu Language**.
-   Select your desired language.
From this point on, the on-screen menus will be shown in the selected language.
- 

- Press the **MENU** or **EXIT** button to close the menu window.
- Press the **BACK** button to move to the previous menu screen.

AUDIO LANGUAGE

Other languages may be available if a digital signal is provided by the broadcasting station.
This feature operates only in DTV/CADTV mode.



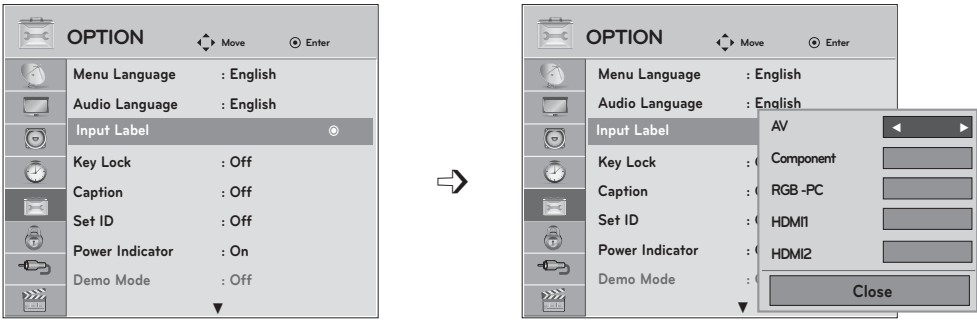
- 1   Select **OPTION**.
- 2   Select **Audio Language..**
- 3   Select your desired language.
- 4 

- Press the **MENU** or **EXIT** button to close the menu window.
- Press the **BACK** button to move to the previous menu screen.

OPTION SETTING

INPUT LABEL

You can set a label for each input source when it's not in use.



With using OPTION menu

- 1 Select **OPTION**.
- 2 Select **Input Label**.
- 3 Select the source.
- 4 Select the label.
- 5

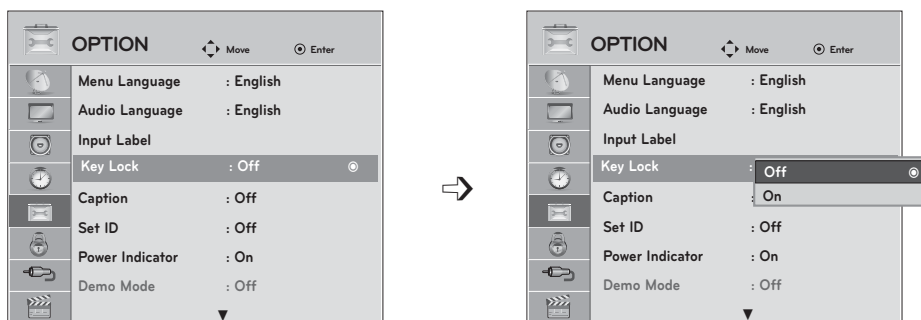
With using INPUT button








- 1 Select the source.
- 2 Select **Input Label**.
- 3

- Press the **MENU** or **EXIT** button to close the menu window.
- Press the **BACK** button to move to the previous menu screen.

KEY LOCK

This feature can be used to prevent unauthorized viewing by locking out the front panel controls. This TV is programmed to remember which option it was last set to even if you turn the SET off.



- 1   Select **OPTION**.
- 2   Select **Key Lock**.
- 3   Select **On** or **Off**.
- 4 

- Press the **MENU** or **EXIT** button to close the menu window.
- Press the **BACK** button to move to the previous menu screen.

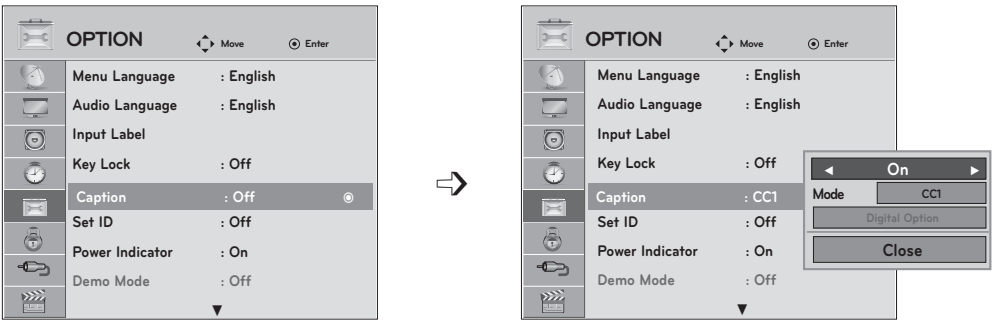
- In **Key Lock 'On'**, if the TV is turned off, press the **⏻ / I**, **INPUT, CH** (\wedge or \vee) button on the TV or **POWER, INPUT, CH** (\wedge or \vee) or **NUMBER** buttons on the remote control.
- With the **Key Lock On**, the display '**▲ Key Lock On**' appears on the screen if any button on the front panel is pressed while viewing the TV.

OPTION SETTING

CAPTION MODE

Analog Broadcasting System Captions

Captions are provided to help the hearing impaired watch TV. Select a caption mode for displaying captioning information if provided on a program. Analog caption displays information at any position on the screen and is usually the program's dialog. Caption/Text, if provided by the broadcaster, would be available for both digital and analog channels on the Antenna/Cable. This TV is programmed to memorize the caption/text mode which was last set when you turned the power off. This function is only available when **Caption Mode** is set **On**.



- 1 Select **OPTION**.
- 2 Select **Caption**.
- 3 Select **On**.
- 4 Select **CC1-4** or **Text1-4..**
- 5

- Press the **MENU** or **EXIT** button to close the menu window.
- Press the **BACK** button to move to the previous menu screen.

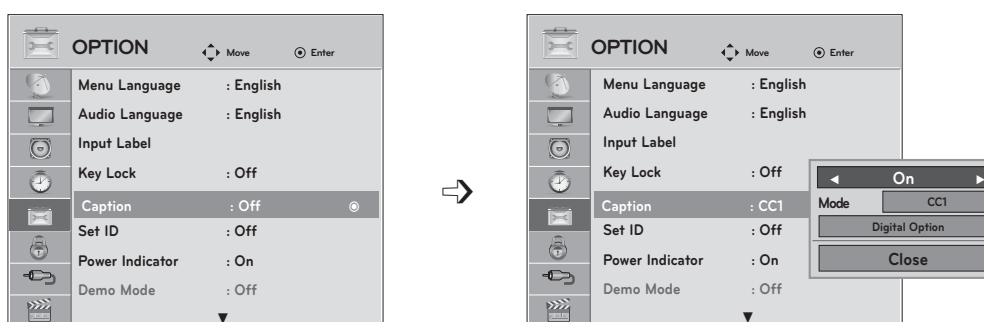
- When selecting **Off**, Sub-menus for Analog, DTV, and Digital Option become disabled.
- **CAPTION**: The term for the words that scroll across the bottom of the TV screen; usually the audio portion of the program provided for the hearing impaired.
- **TEXT**: The term for the words that appear in a large black frame and almost cover the entire screen; usually messages provided by the broadcaster.










Digital Broadcasting System Captions

Choose the language you want the DTV/CADTV Captions to appear in.

Other Languages can be chosen for digital sources only if they are included on the program.

This function is only available when **Caption Mode** is set **On**.



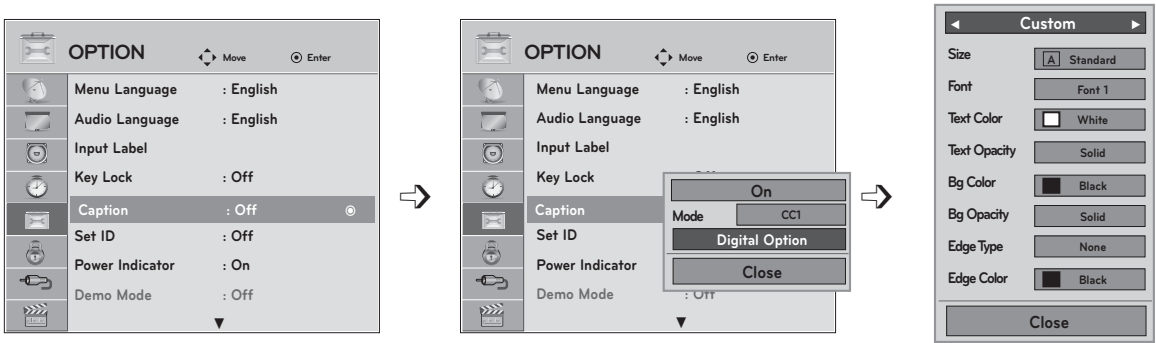
- 1   Select **OPTION**.
- 2   Select **Caption**.
- 3   Select **On**.
- 4   Select **CC1-4, Text1-4, or Service1 - 6**.
- 5 

- Press the **MENU** or **EXIT** button to close the menu window.
- Press the **BACK** button to move to the previous menu screen.



OPTION SETTING

Caption Option



Customize the DTV/CADTV captions that appear on your screen.
 This function is only available when **Caption Mode** is set **On**.





- 1



Select **OPTION**.
- 2

Select **Caption**.
- 3






Select **On**.
- 4






Select **Digital Option**.

- 5

Select **Custom**.
- 6

Customize the Size, Font, etc., to your preference. A preview icon is provided at the bottom of the screen, use it to see the caption language.

- Press the **MENU** or **EXIT** button to close the menu window.
- Press the **BACK** button to move to the previous menu screen.

- **Size:** Set the word size.
- **Font:** Select a typeface for the text.
- **Text Color:** Choose a color for the text.
- **Text Opacity:** Specify the opacity for the text color.
- **Bg (Background) Color:** Select a background color.
- **Bg (Background) Opacity:** Select the opacity for the background color.
- **Edge Type:** Select an edge type.
- **Edge Color:** Select a color for the edges.

POWER INDICATOR

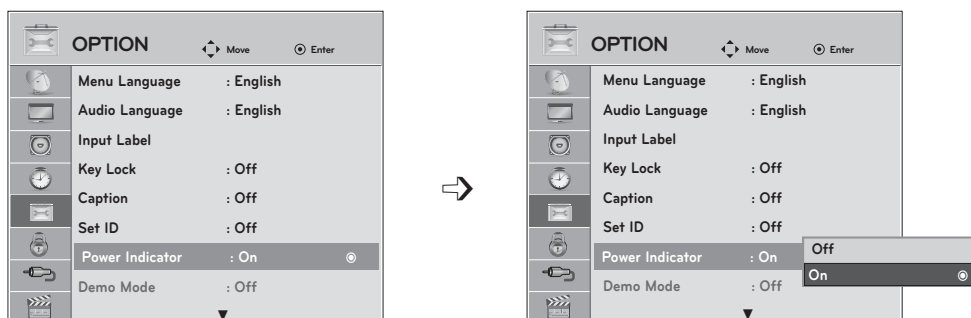
Adjust the power/standby indicator light on the front of the SET.








Power indicator On

- Normal Mode: Blue LED On.
- Off Mode: LED Off

Power indicator Off

- Normal Mode: Blue LED Off.
- Off Mode: LED Off



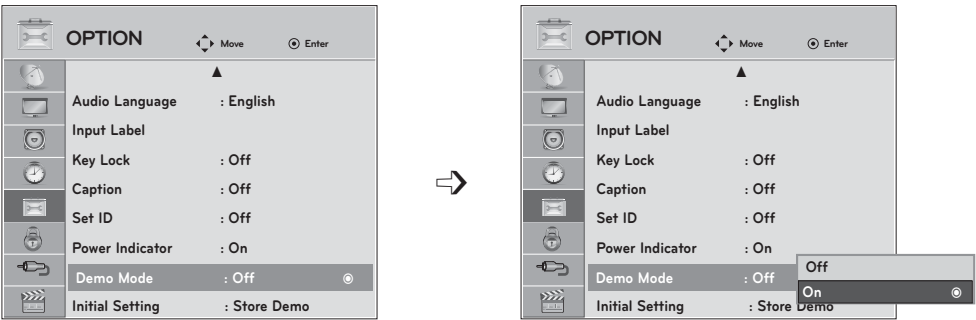
- 1   Select **OPTION**.
- 2   Select **Power Indicator**.
- 3   Select **On** or **Off**.
- 4 








- Press the **MENU** or **EXIT** button to close the menu window.
- Press the **BACK** button to move to the previous menu screen.

OPTION SETTING

DEMO MODE

Displays a slide show to explain the various feature of this SET.



-
-   Select **OPTION**.
 -   Select **Demo Mode**.
 -   Select **On** to show the various feature of the TV.
 -  Return to TV viewing.
After a while, **Demo Mode** starts.
If you want to stop the demo, press any button (Except VOL +, - and MUTE button).

- Press the **MENU** or **EXIT** button to close the menu window.
- Press the **BACK** button to move to the previous menu screen.

• This feature is disabled in "Initial Setting - Home Use".

PARENTAL CONTROL / RATINGS

Parental Control can be used to block specific channels, ratings and other viewing sources.

The Parental Control Function (V-Chip) is used to block program viewing based on the ratings sent by the broadcasting station. The default setting is to allow all programs to be viewed. Viewing can be blocked by choosing the type of the program and the categories. It is also possible to block all program viewing for a time period. To use this function, the following must be done :

1. Set ratings and categories to be blocked.
2. Specify a password
3. Enable the lock

V-Chip rating and categories

Rating guidelines are provided by broadcasting stations. Most television programs and television movies can be blocked by TV Rating and/or Individual Categories. Movies that have been shown at the theaters or direct-to-video movies use the Movie Rating System (MPAA) only.

Ratings for Television programs including made-for-TV movies:

- TV-G (General audience)
- TV-PG (Parental guidance suggested)
- TV-14 (Parents strongly cautioned)
- TV-MA (Mature audience only)
- TV-Y (All children)
- TV-Y7 (Children 7 years older)





SET PASSWORD & LOCK SYSTEM

Setting up Your Password

Set up blocking schemes to block specific channels, ratings, and external viewing sources.

A password is required to gain access to this menu.



1.    Select **LOCK**.
2.  Input the password.

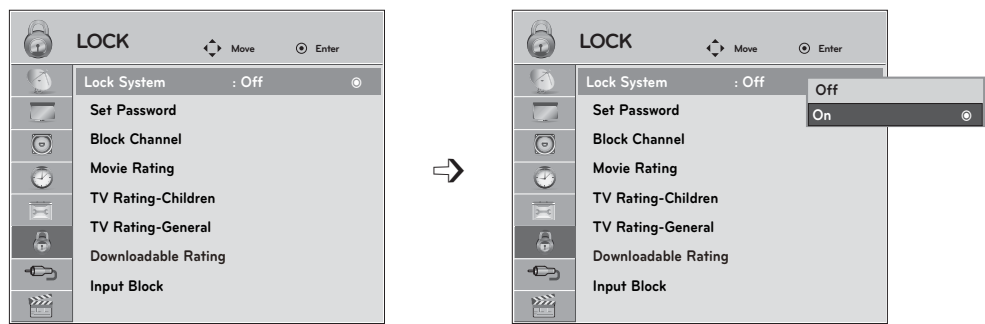
- Enter the password as requested.
- The SET is setup with the initial password "0-0-0-0".

- Press the **MENU** or **EXIT** button to close the menu window.
- Press the **BACK** button to move to the previous menu screen.

PARENTAL CONTROL / RATINGS

Lock System

Enables or disables the blocking scheme you set up previously.



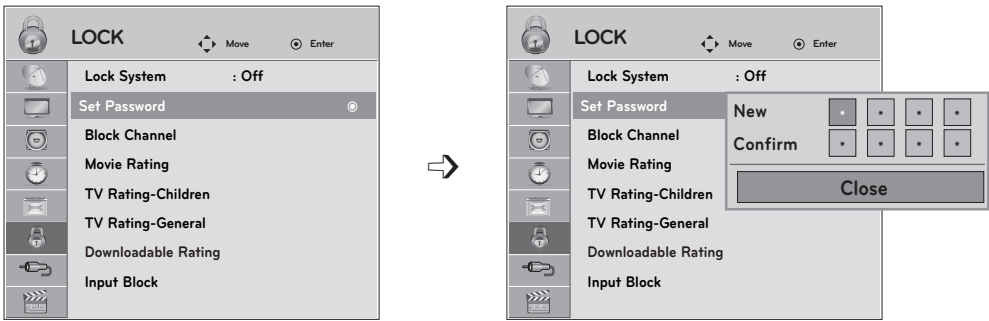
- 1 Select **LOCK**.
- 2 Input the password.
- 3 Select **Lock System**.
- 4 Select **Lock System**.
- 5








- When you select **On**, the Lock System is enable.

- Press the **MENU** or **EXIT** button to close the menu window.
- Press the **BACK** button to move to the previous menu screen.

Set Password

Change the password by inputting a new password twice.



- 1    Select **LOCK**.
- 2  Input the password.
- 3  Select **Set Password**.
- 4   Choose any 4 digits for your new password.
As soon as the 4 digits are entered, re-enter the same 4 digits on the **Confirm**.

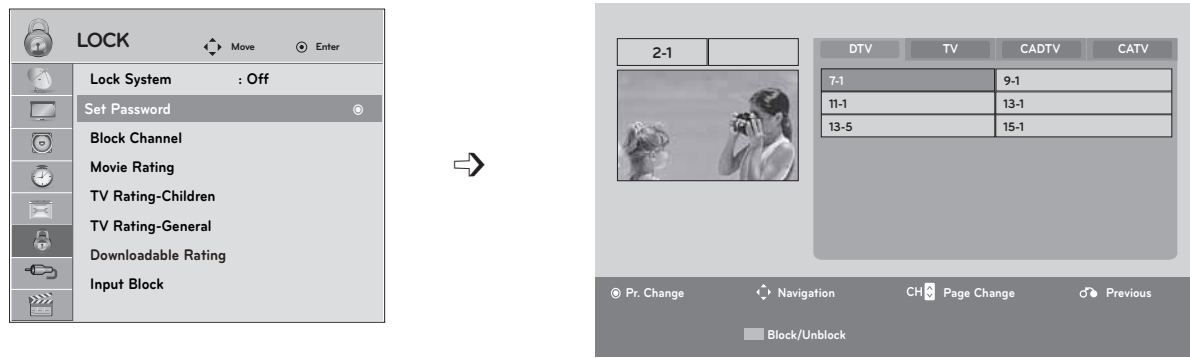
- When you select **On**, the Lock System is enable.









- Press the **MENU** or **EXIT** button to close the menu window.
- Press the **BACK** button to move to the previous menu screen.

PARENTAL CONTROL / RATINGS

CHANNEL BLOCKING

Blocks any channels that you do not want to watch or that you do not want your children to watch.



- 1    Select **LOCK**.
- 2  Input the password.
- 3  Select **Select Block Channel**.
- 4   Select a channel to block or unblock.
- 5  Block or unblock a channel.

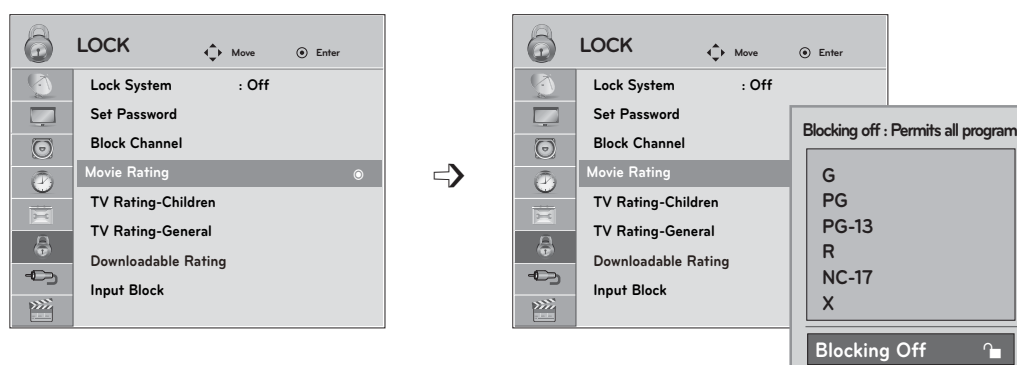
• If a channel is locked, enter the password to unlock it temporarily.









- Press the **MENU** or **EXIT** button to close the menu window.
- Press the **BACK** button to move to the previous menu screen.

MOVIE & TV RATING

Movie Rating (MPAA) - For USA

Blocks movies according to the movie ratings limits specified, so children cannot view certain movies. You can set the ratings limit by blocking out all the movies with the ratings above a specified level. Keep in mind that the movie ratings limit only applies to movies shown on TV, not TV programs, such as soap operas.



- 1    Select **LOCK**.
- 2  Input the password.
- 3  Select **Movie Rating**.
- 4   Select **G, PG, PG-13, R, NC-17, X, or Blocking Off**.
- 5 

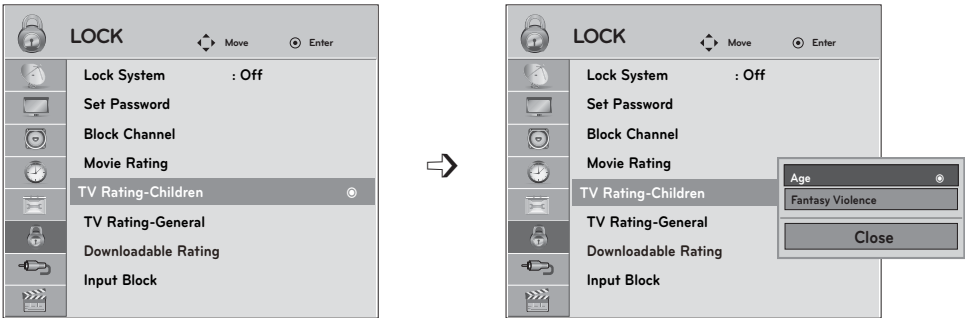
- Press the **MENU** or **EXIT** button to close the menu window.
- Press the **BACK** button to move to the previous menu screen.

- **G** (General audience)
- **PG** (Parental guidance suggested)
- **PG-13** (Parents strongly cautioned)
- **R** (Restricted)
- **NC-17** (No one 17 and under admitted)
- **X** (Adult only)
- **Blocking Off** (Permits all programs)
- If you set **PG-13**: **G** and **PG** movies will be available, **PG-13, R, NC-17** and **X** will be blocked.
- If a Movie Rating is locked, enter the password to unlock it temporarily.

PARENTAL CONTROL / RATINGS

TV Rating Children - For USA

Prevents children from watching certain children's TV programs, according to the ratings limit set. The children rating does not apply to other TV programs. Unless you block certain TV programs intended for mature audiences in the TV Rating - sub menu, your children can view those programs.



1 Select **LOCK**.

2 Input the password.

3 Select **TV Rating-Children**.

4 Select **Age** or **Fantasy Violence**.

5 Select block options.

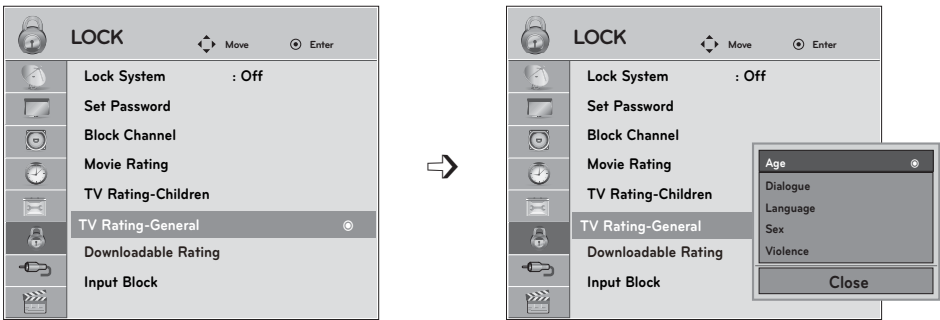
6











- Age (applies to TV-Y, TV-Y7)
- Fantasy Violence (applies to TV-Y7)

- Press the **MENU** or **EXIT** button to close the menu window.
- Press the **BACK** button to move to the previous menu screen.

TV Rating General - For USA

Based on the ratings, blocks certain TV programs that you and your family do not want to view.



-    Select **LOCK**.
-  Input the password.
-  Select **TV Rating-General**.
-   Select **Age, Dialogue, Language, Sex** or **Violence**.
-   Select block options.
- 

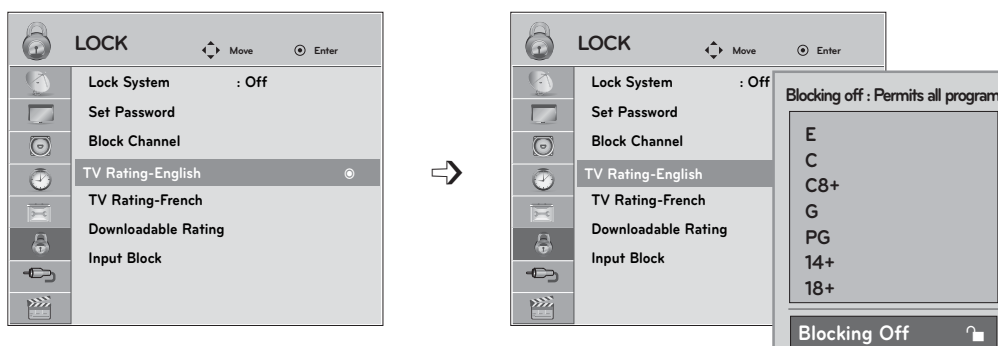
- Age (applies to TV-G,TV-PG,TV-14,TVMA).
- Dialogue-sexual dialogue (applies to TV-PG,TV-14).
- Language-adult language (applies to TV-PG, TV-14, TV-MA).
- Sex-sexual situations (applies to TV-PG, TV-14, TV-MA).
- Violence (applies to TV-PG, TV-14, TVMA).









- Press the **MENU** or **EXIT** button to close the menu window.
- Press the **BACK** button to move to the previous menu screen.

PARENTAL CONTROL / RATINGS

TV Rating English - For CANADA

Selecting Canadian English rating system.



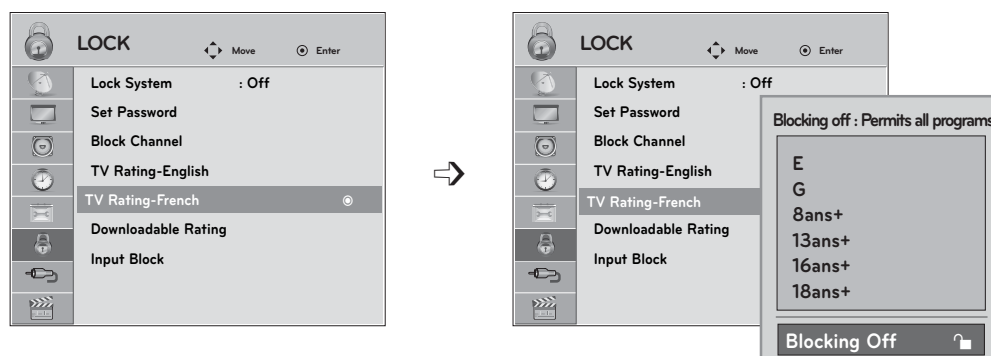
- 1    Select **LOCK**.
- 2  Input the password.
- 3  Select **TV Rating-English**.
- 4   Select **E, C, C8+, G, PG, 14+, 18+, or Blocking Off**.
- 5 









- Press the **MENU** or **EXIT** button to close the menu window.
- Press the **BACK** button to move to the previous menu screen.

- If **TV Rating-English** or **TV Rating-French** is locked, enter the password to unlock it temporarily.
- **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.



- 1    Select **LOCK**.
- 2  Input the password.
- 3  Select **TV Rating-English**.
- 4   Select **E, C, C8+, G, PG, 14+, 18+, or Blocking Off**.
- 5 

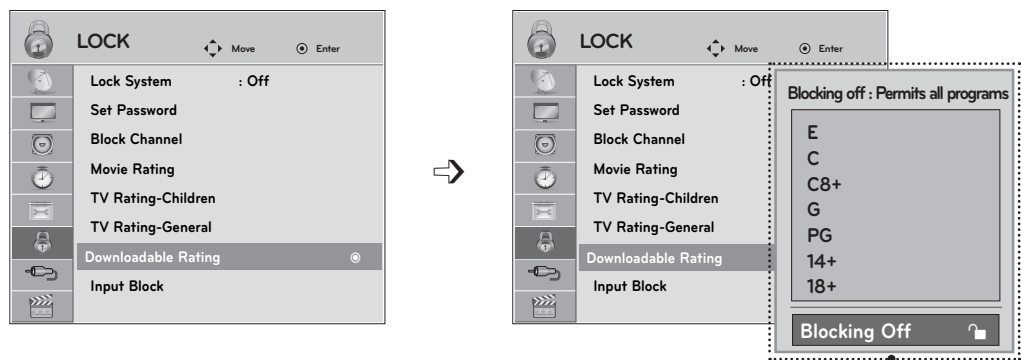
- Press the **MENU** or **EXIT** button to close the menu window.
- Press the **BACK** button to move to the previous menu screen.

- If **TV Rating-English** or **TV Rating-French** is locked, enter the password to unlock it temporarily.
- **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)

PARENTAL CONTROL / RATINGS

DOWNLOADABLE RATING

This function is available only for digital channels.
This function operates only when TV has received Region5 Rating data.



• Based on rating table, your TV's OSD (On Screen Display) may differ slightly from what is shown in this manual.

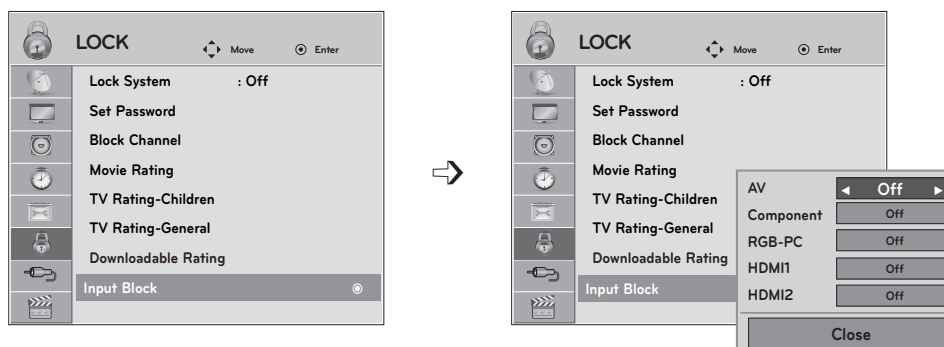
- 1 Select **LOCK**.
- 2 Input the password.
- 3 Select **Downloadable Rating**.
- 4 Select **Downloadable Rating** option.
- 5 Select desired option and block it.
- 6










• If a Downloadable Rating is locked, enter the password to unlock it temporarily.

- Press the **MENU** or **EXIT** button to close the menu window.
- Press the **BACK** button to move to the previous menu screen.

EXTERNAL INPUT BLOCKING

Enables you to block an input.



- 1    Select **LOCK**.
- 2  Input the password.
- 3  Select **Input Block**.
- 4   Select input source.
- 5  Select **On** or **Off**.
- 6 

- Press the **MENU** or **EXIT** button to close the menu window.
- Press the **BACK** button to move to the previous menu screen.

TO USE A USB DEVICE

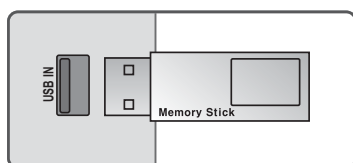
ENTRY MODES

When you connect a USB device, this pop up menu is displayed automatically.


When the Pop Up menu does not appear, you can select **Photo List**, **Music List** or **Movie List** in the USB menu.

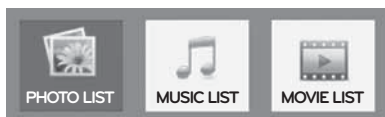
On a USB device, you can not add a new folder or delete an existing folder.

-
- 1 Connect the USB device to the USB IN jack on the back of the SET.



- This SET Supports on JPG, MP3 and HD Divx.

- 2  Select **PHOTO LIST**, **MUSIC LIST** or **MOVIE LIST**



- 3 

When removing the USB device

Select the USB Device menu before removing the USB device.

- 1   Select **USB Device**.

- 2  Select **Eject**.

Precautions when using the USB device

- ▶ Only a USB storage device is recognizable.
- ▶ If the USB storage device is connected through a USB hub, the device is not recognizable.
- ▶ A USB storage device using an automatic recognition program may not be recognized.
- ▶ A USB storage device which uses its own driver may not be recognized.
- ▶ The recognition speed of a USB storage device may depend on each device.
- ▶ In case of a card reader, up to four memory cards are concurrently recognizable.
- ▶ Please do not turn off the TV or unplug the USB device when the connected USB storage device is working. When such device is suddenly separated or unplugged, the stored files or the USB storage device may be damaged.
- ▶ Only use a USB storage device which has normal music, image or movie files.
- ▶ Please connect power to a USB storage device (over 0.5A) which requires an external power supply. If not, the device may not be recognized.
- ▶ Please connect a USB storage device with cable is offered by USB maker. If connected with cable is not offered by USB maker or an excessively long cable, the device may not be recognized.
- ▶ Some USB storage devices may not be supported or operate properly.
- ▶ File alignment method of USB storage device is similar to Window XP and filename can recognize up to 100 English characters.
- ▶ Please backup important files because data on the USB device may be damaged. Data management is the consumer's responsibility and as a result, the manufacturer does not cover data damage.
- ▶ Please use only a USB storage device which was formatted as a FAT32, NTFS file system provided with the Windows operating system. In case of a storage device formatted as a different utility programme which is not supported by Windows, it may not be recognized.
- ▶ Data in a USB storage device cannot be deleted in the NTFS file system.
- ▶ If your USB memory device has multiple partitions, or if you use a USB multi-card reader, you can use up to 4 partitions or USB memory devices.
- ▶ The recommended capacity is 1TB or less for a USB external hard disk and 32GB or less for USB memory.
- ▶ Any device with more than the recommended capacity may not work properly.
- ▶ If a USB external hard disk with a "Energy Saving" function does not work, turn the hard disk off and on again to make it work properly. Refer to the user manual of the application USB external hard disk.
- ▶ When using a USB HDD via the USB extending cable, connect a support electric power source.

TO USE A USB DEVICE

PHOTO LIST

You can only view .JPG files from USB storage devices.

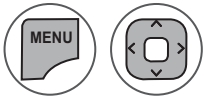
The On-Screen Display on your model may be slightly different.

Supported photo file: *.JPG

- You can play JPG files only.
- Only baseline scan is supported among JPG.
- Available JPG size: 64 pixel (width) x 64 pixel (height) - 15360 pixel (width) x 8640 pixel (height)


Screen Components

1



Select **USB**.

2



Select **Photo List**.

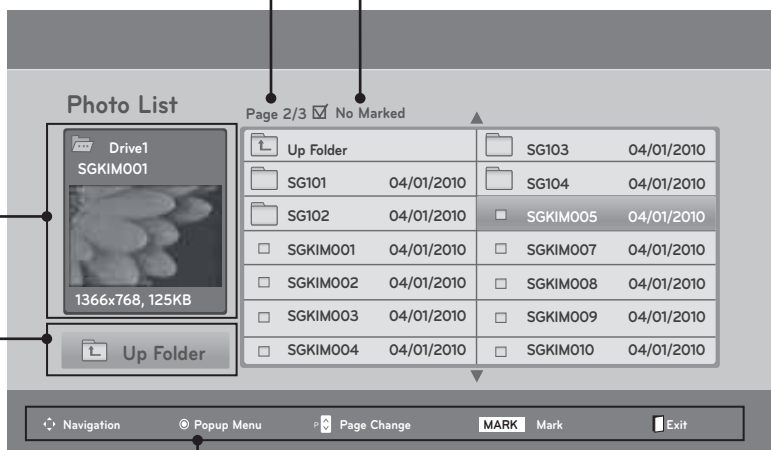
1 Moves to upper level folder.

2 Preview: Display the thumbnail/ folder name of the photo in the selected folder.

3 Current page/Total pages.

4 Total number of marked photos.

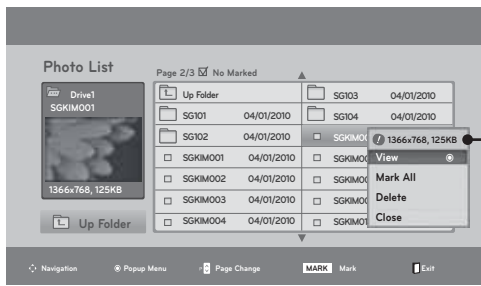
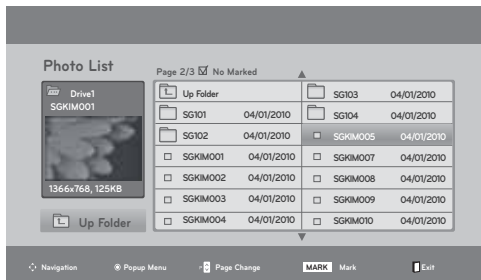
5 Corresponding buttons on the remote control.



The screenshot shows the 'Photo List' interface. On the left, a preview area shows a thumbnail of a folder named 'Drive1 SGKIM001' with dimensions '1366x768, 125KB'. Below it is a button labeled 'Up Folder'. On the right, a table lists folders and files. At the bottom, a navigation bar contains icons for 'Navigation', 'Popup Menu', 'Page Change', 'MARK', and 'Exit'.







| Page 2/3 | | No Marked | |
|-----------------------------------|------------|--|------------|
| Up Folder | | SG103 | 04/01/2010 |
| SG101 | 04/01/2010 | SG104 | 04/01/2010 |
| SG102 | 04/01/2010 | <input checked="" type="checkbox"/> SGKIM005 | 04/01/2010 |
| <input type="checkbox"/> SGKIM001 | 04/01/2010 | <input type="checkbox"/> SGKIM007 | 04/01/2010 |
| <input type="checkbox"/> SGKIM002 | 04/01/2010 | <input type="checkbox"/> SGKIM008 | 04/01/2010 |
| <input type="checkbox"/> SGKIM003 | 04/01/2010 | <input type="checkbox"/> SGKIM009 | 04/01/2010 |
| <input type="checkbox"/> SGKIM004 | 04/01/2010 | <input type="checkbox"/> SGKIM010 | 04/01/2010 |

Photo Selection and PopUp Menu



When you select a file (not folder), this PopUp menu is displayed.

- ▶ **View:** Display the selected item.
- ▶ **Mark All:** Mark all photos on the screen.
- ▶ **Unmark All:** Deselect all marked photos.
- ▶ **Delete** or **Delete Marked:** Delete the selected photo item.
- ▶ **Close:** Close the pop-up menu.

- 1  Select the target folder or drive.
- 2   Select the desired photos.
- 3  Show the **PopUp** menu.
- 4   Select the desired **PopUp** menu.

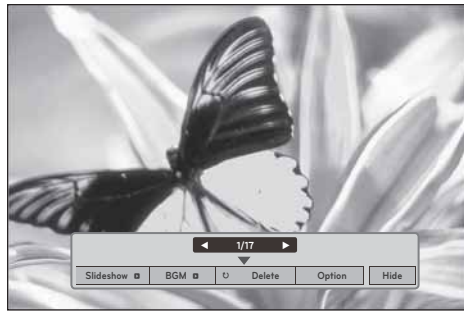
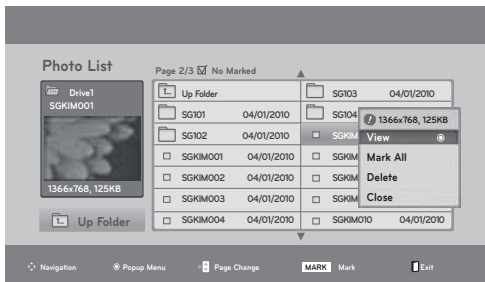
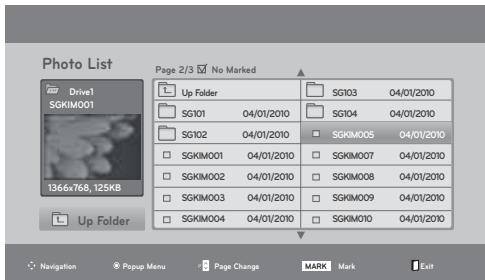
- Use the **CH** ^ v button to navigation in the photo page.
- Use the **MARK** button to mark or unmark a photo. When one or more photos are marked, ou can view individual photos or a slide show of the marked photos. If no photos are marked, you can view all pho-tos individually or all photos in the folder in a slide show.

- Press the **BACK** button to move to the previous menu screen.

TO USE A USB DEVICE







Full Screen Menu

You can change the Photo List view so that it fills the screen. More operations are available in full screen mode.



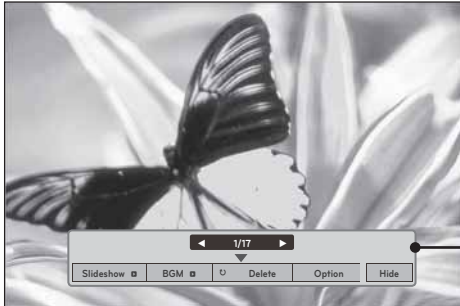
The aspect ratio of a photo may change the size of the photo displayed on the screen in full size.

Press the **BACK** button to move to the previous menu screen.

- 1  Select the target folder or drive.
- 2   Select the desired photos.
- 3  Show the **PopUp** menu.
- 4  Select **View**.
- 5  The selected photo is displayed in full size.

- Use the **CH** ^ v button to navigation in the photo page.

- Press the **BACK** button to move to the previous menu screen.



6



Select the **Slideshow** , **BGM**,
⌛(Rotate), **Delete** , **Option** or
Hide.

- Use <> button to select the previous or next photo.
- Use ^ v < > button to select and control the menu on the full-sized screen.

► **Slideshow** : Selected photos are displayed during the slide show. If no photo is selected, all photos in the current folder are displayed during slide show.

- Set the time interval of the slide show in **Option**.

► **BGM**: Listen to music while viewing photos in full size..

- Set the BGM device and album in **Option**.

► **⌛ (Rotate)**: Rotate photos.

- Rotates the photo 90°, 180°, 270°, 360° clockwise.

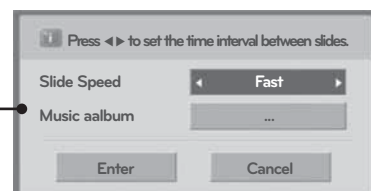
► **Delete**: Delete photos.

► **Option**: Set values for **Slide Speed** and **Music Album**.

- Use ^ v < > button and **ENTER** button to set values. Then go to **Enter** and press **ENTER** to save the settings.
- You cannot change **Music Album** while **BGM** is **playing**.

► **Hide**: Hide the menu on the full-sized screen.

- To see the menu again on the full-sized screen, press **ENTER** button to display.



TO USE A USB DEVICE

MUSIC LIST

You can use the Music List menu to play MP3 files from a USB storage device.

This TV cannot play back copy-protected files.

The On-Screen Display on your model may be slightly different.

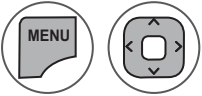
Supported music file: *.MP3

Bit rate range 32 kbps ~ 320 kbps

- Sampling rate MPEG1 Layer3 : 32kHz, 44.1kHz, 48kHz
- Sampling rate MPEG2 Layer3 : 16kHz, 22.05kHz, 24kHz
- Sampling rate MPEG2.5 Layer3 : 8kHz, 11.025kHz, 12kHz


Screen Components

1



Select **USB**.

2



Select **Music List**.


① Moves to upper level folder.

② Preview: If any album jacket for the file exists, this jacket is displayed.

③ Current page/Total pages

④ Total number of marked musics

⑤ Corresponding buttons on the remote control



① points to the 'Up Folder' button in the preview area.

② points to the music preview area.

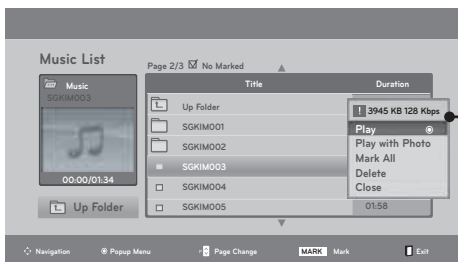
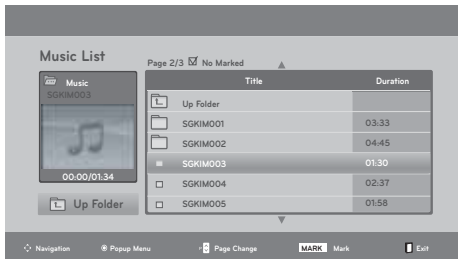
③ points to the 'Page 2/3' indicator.

④ points to the 'No Marked' indicator.







⑤ points to the 'MARK' button in the bottom bar.

Music Selection and PopUp Menu

As shown, up to 6 music titles are listed per page.



- **Play** (During stop): Play the selected music titles.
Once a song finishes playing, the next selected one will be played. When there are no selected files to play, the next one in the current folder will be played. If you go to a different folder and press the **ENTER** button, the current song in playback will stop.
- **Play Marked**: Play the selected files. Once a file finishes playing, the next selected one will be played automatically.
- **Stop Play** (During playback): Stop the playing files.
- **Play with Photo**: Start playing the selected files and then move to the Photo List.
- **Mark All**: Mark all files in the folder.
- **Unmark All**: Deselect all marked files.
- **Delete** or **Delete Marked**: Delete the selected files.
- **Close**: Close the **PopUp** menu.

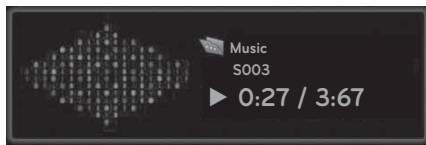
- 1  Select the target folder or drive.
- 2   Select the desired musics.
- 3  Show the **PopUp** menu.
- 4   Select the desired **PopUp** menu.

- Use the **CH** ^ v button to navigate up/down in the music page.
- Use the **MARK** button to mark or unmark a music file. If no music is marked, all the music in the folder will be played in sequence. When one or more music files are marked, the marked music files will be played in sequence. If you want to listen to only one song repeatedly, just mark that one file and play.

- Press the **BACK** button to move to the previous menu screen.

TO USE A USB DEVICE

- The play information box (as shown below) will automatically move across the screen when there is no user input to prevent a fixed image remaining on the screen for a extended period of time.



! NOTE

- ▶ When music is playing, 🎵 is displayed in front of the music play time.
- ▶ A damaged or corrupted music file that does not play displays 00:00 as the play time.
- ▶ A music downloaded from a paid service with copyright protection does not start but displays inappropriate information in playtime.
- ▶ If you press **ENTER**, **■** or **BACK** buttons, screen saver is stopped..

MOVIE LIST

The movie list is activated once a USB drive is detected. It is used when playing movie files on SET.

Displays the movies in the USB folder and supports play.

Allows playback of all movies in the folder but you can not delete the movies.

Editing such as delete and add is not allowed. It is a movie list that displays folder information and DivX file.

Movie(*.dat/*.mpg/*.mpeg/*.ts/*.trp/*.tp/*.vob/*.mp4/*.mkv/*.avi/*.divx) supporting file.
Bit rate: within 32 ~ 320kbps(MP3)

| Video Format | Video Decoder | Audio Codec |
|--|--|--|
| DivX3.11, DivX4.12, DivX5.x, DivX6, Xvid1.00, Xvid1.01, Xvid1.02, Xvid1.03, Xvid 1.10-beta-1/beta-2, Mpeg-1, Mpeg-2, Mpeg-4, H.264/AVC | Dolby Digital, AAC, Mpeg, MP3, LPCM, HEAAC | *.smi/*.srt/*.sub(MicroDVD, SubViewer1.0/2.0)/*.ass/*.ssa/*.txt(TMPlayer)/*.psb(PowerDivx) |

| Extension name | Video Decoder | Audio Codec | Resolution |
|----------------|--|--|--|
| mpg, mpeg, vob | MPEG1, MPEG2 | Dolby Digital, MPEG, MP3, LPCM | 1920 x 1080P @ 25 / 30P, 1280 x 720P @ 50 / 60P |
| dat | MPEG1 | Dolby Digital, MPEG, MP3, LPCM | |
| ts,trp,tp | MPEG2, H.264/AVC | Dolby Digital, AAC, MPEG | |
| mp4 | MPEG4 SP, MPEG4 ASP, 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-beta 1, Xvid 1.10-beta 2, H.264/AVC | Dolby Digital, HEAAC, AAC, MPEG, MP3, LPCM | |
| avi | MPEG 2, MPEG 4 SP, MPEG4 ASP, Divx 3.11, Divx 4, Divx 5, Divx 6 Xvid 1.00, Xvid 1.01, Xvid 1.02, Xvid 1.03, Xvid 1.10-beta 1 Xvid 1.10-beta 2, H.264/AVC | Dolby Digital, HEAAC, AAC, MPEG, MP3, LPCM | |
| mkv | H.264/AVC, MPEG 1, MPEG 2, MPEG 4 SP , MPEG4, ASP | Dolby Digital, HEAAC, AAC, MPEG, MP3, LPCM | |
| divx | MPEG 2, MPEG 4 SP, MPEG4 ASP, Divx 3.11, Divx 4, Divx 5, Divx 6 Xvid 1.00, Xvid 1.01, Xvid 1.02, Xvid 1.03, Xvid 1.10-beta 1 Xvid 1.10-beta 2, H.264/AVC | Dolby Digital, HEAAC, AAC, MPEG,MP3, LPCM | |


TO USE A USB DEVICE

Precautions when playing the movie

- ▶ Some user-created subtitles may not work properly.
- ▶ Some special characters are not supported in subtitles.
- ▶ HTML tags are not supported in subtitles.
- ▶ Subtitles in languages other than the supported languages are not available.
- ▶ Time information in an external subtitle file should be arranged in ascending order to be played.
- ▶ The screen may suffer temporary interruptions (image stoppage, faster playback, etc.) when the audio language is changed.
- ▶ A damaged video file may not play correctly, or some player functions may not be usable.
- ▶ Video files produced with some encoders may not play correctly.
- ▶ If the video and audio structure of recorded file is not interleaved, either video or audio is outputted.
- ▶ HD videos with a maximum of 1920 x 1080 @ 25 / 30P or 1280 x 720 @ 50 / 60 P are supported, depending on the frame rate.
- ▶ Videos with resolutions higher than 1920 X 1080 @ 25 / 30 P or 1280 x 720 @ 50 / 60P may not work properly depending on the frame rate.
- ▶ Video files other than the specified types and formats may not work properly.
- ▶ The video file encoded by the GMC (Global Motion Compensation) is not supported.
- ▶ Only the files saved in ASCII CODE is supported in subtitles.
- ▶ Only 250 Korean characters, 500 alphabets and 500 numbers are supported for each line of the subtitle.
- ▶ Only 10,000 of sync blocks can be supported within the subtitle file.
- ▶ Max bitrate of playable movie file is 20Mbps.
- ▶ We do not guarantee smooth playback of profiles encoded level 4.1 or higher in H.264/AVC.
- ▶ DTS Audio codec is not supported.
- ▶ A video file more than 30GB in file size is not supported for playback.
- ▶ Playing a video via a USB connection that doesn't support high speed may not work properly.
- ▶ USB storage devices below USB 2.0 are supported as well. But they may not work properly in the movie list.
- ▶ The video file and the subtitle file must be located in the same folder.
- ▶ The name of the video file and the subtitle file must be the same to view the subtitles normally.


Screen Components

- 1



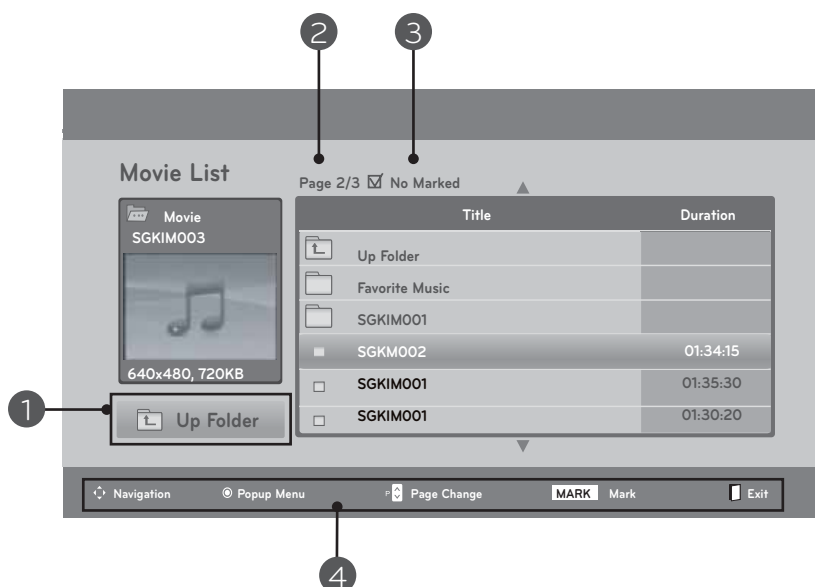
Select **USB**.

2

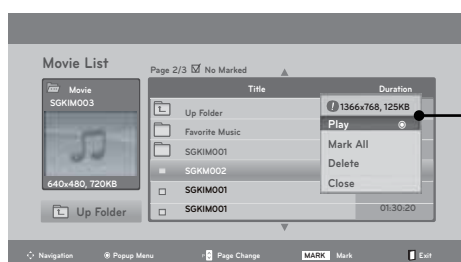
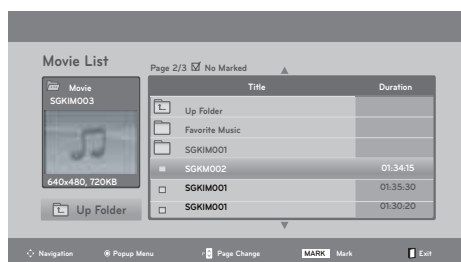


Select **Movie List**.







- 1 Moves to upper level folder
- 2 Current page/Total pages
- 3 Total number of marked movie
- 4 Corresponding buttons on the remote control



Movie Selection and PopUp Menu



- ▶ **Play:** Play the selected file. DivX play is executed while the screen changes.
- ▶ **Play Marked:** Play the selected files. Once a movie finishes playing, the next selected one will be played automatically.
- ▶ **Mark All:** Mark all files in the folder.
- ▶ **Unmark All:** Deselect all marked files.
- ▶ **Delete** or **Delete Marked**(FAT32 file system only): Delete the selected file.
- ▶ **Close:** Close the **PopUp** menu.

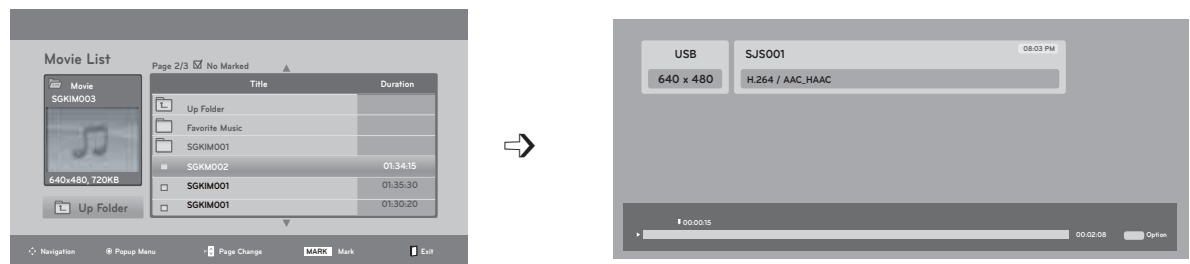
- 1  Select the target folder or drive.
- 2   Select the desired movies.
- 3  Show the **PopUp** menu.
- 4   Select the desired **PopUp** menu.

- Use the **CH** ^ v button to navigation in the movie page.
- Use the **MARK** button to mark or unmark a movie file. When one or more movie files are marked, the marked movie files will be played in sequence.

- Press the **BACK** button to move to the previous menu screen.

TO USE A USB DEVICE

Option Menu Selection

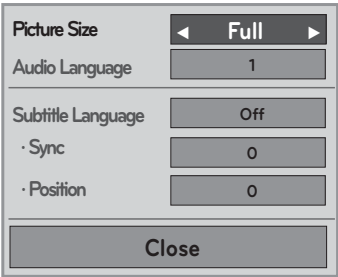





Using the remote control

You can adjust various method during movie play.

| | |
|--|---|
| | <p>When playing, repeatedly, press the REW(◀◀) button to speed up ◀◀(x2) → ◀◀◀(x4) → ◀◀◀◀(x8) → ◀◀◀◀◀(x16) → ◀◀◀◀◀◀(x32) . repeatedly, press the FF(▶▶) button to speed up ▶▶(x2)→ ▶▶▶(x4)→ ▶▶▶▶(x8) → ▶▶▶▶▶(x16) → ▶▶▶▶▶▶(x32).</p> <p>■ Pressing these buttons repeatedly increases the fast forward/reverse speed.</p> |
| | <p>■ During playback, press the Pause(II) button and a still screen will be displayed.</p> |
| | <p>■ When using the < or > buttons during playback a cursor indicating the position can be viewed on the screen.</p> |
| | <p>Press the Play(▶) button to return to normal playback.</p> |

DivX Audio Language & Subtitle Language



- 1  When DivX is playing, the above menu is displayed.
- 2  Select **Picture Size**, **Audio Language**, **Subtitle Language**, **Sync** or **Position**.
- 3  Select the desired option.

- Press the **BACK** button to move to the previous menu screen.

| Subtitle Language Group | Supported Language |
|-------------------------|--------------------------|
| Latin1 | English, Spanish, French |
| Korean | English, Korean |

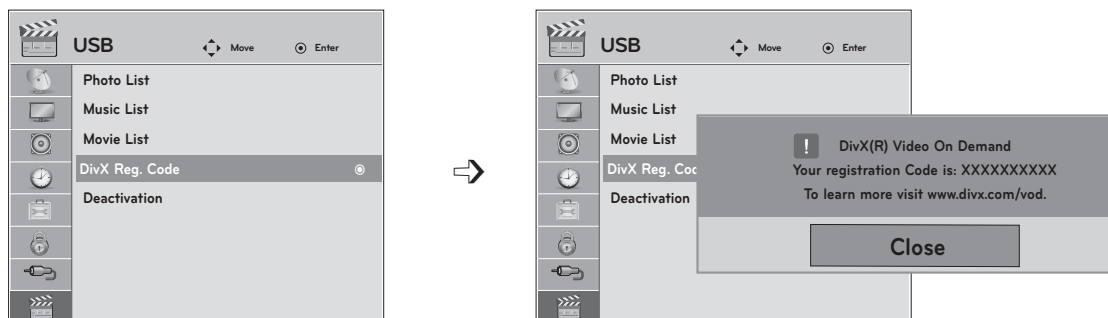
- ▶ **Picture Size:** Select the Full screen or Original size.
- ▶ **Audio Language:** Select the language. But, the file with only one audio can not be selected.
- ▶ **Subtitle Language:** The subtitle can be turned on or off. If there are two or more subtitles, you can select one of them.
 - **Sync:** When the video is not synchronized with the caption, it can be adjusted by the unit of 0.5 second.
 - **Position:** Move the location of the subtitle.






TO USE A USB DEVICE

DIVX REGISTRATION CODE

Confirm the DivX registration code number of the SET. Using the registration number, movies can be rented or purchased at www.divx.com/vod.

With a DivX registration code from another SET, playback of rented or purchased DivX file is not allowed. (Only DivX files matched with the registration code of the purchased SET are playable.)



- 1   Select **USB**.
- 2   Select **DivX Reg. Code**.
- 3  Display **DivX Reg. Code**.

- Press the **MENU** or EXIT button to close the menu window.
- Press the **BACK** button to move to the previous menu screen.



ABOUT DIVX VIDEO: DivX® is a digital video format created by DivX, Inc. This is an official DivX Certified device that plays DivX video. Visit www.divx.com for more information and software tools to convert your files into DivX video.

ABOUT DIVX VIDEO-ON-DEMAND: This DivX Certified® device must be registered in order to play DivX Video-on-Demand (VOD) content. To generate the registration code, locate the DivX VOD section in the device setup menu. Go to vod.divx.com with this code to complete the registration process and learn more about DivX VOD.

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

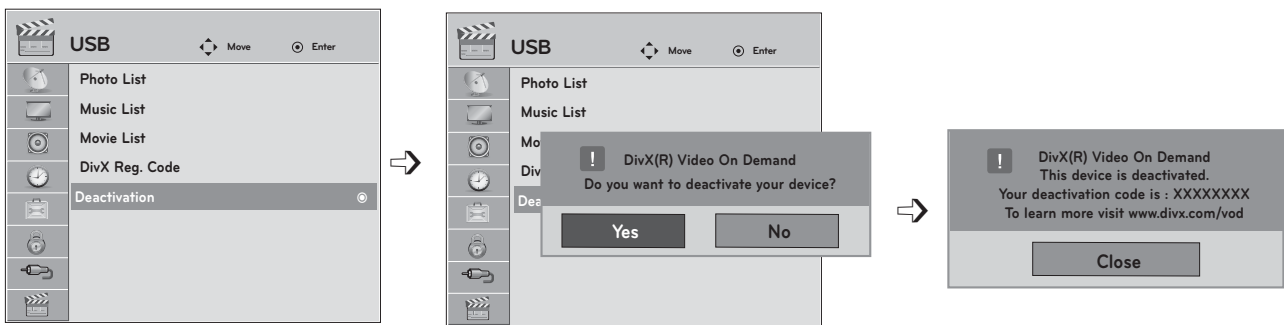
"Pat. 7,295,673; 7,460,688; 7,519,274"









! NOTE

- ▶ When loading, some buttons may not work.
- ▶ If you use the DivX registration code of another device, the rented or purchased DivX file cannot be played. Therefore always use the DivX registration code assigned to this product.
- ▶ The video or audio of a file converted based on a standard other than the DivX codec standard may be corrupted or unable to be played.

DEACTIVATION

Delete the existing authentication information to receive a new DivX user authentication for SET.
Once this function is executed, a DivX user authentication is required again to see DivX DRM files.



- 1   Select **USB**.
- 2   Select **Deactivation**.
- 3    Select **Yes**.
- 4  Select **Close**.

- Press the **MENU** or **EXIT** button to close the menu window.
- Press the **BACK** button to move to the previous menu screen.

APPENDIX

TROUBLESHOOTING

| Abnormal Operation | |
|---|---|
| The remote control doesn't work | <ul style="list-style-type: none">■ Check to see if there is any object between the product and the remote control causing obstruction. Ensure you are pointing the remote control directly at the SET.■ Ensure that the batteries are installed with correct polarity (+ to +, - to -).■ Ensure that the correct remote operating mode is set: TV, VCR etc.■ Install new batteries. |
| TV turns off suddenly | <ul style="list-style-type: none">■ Is the sleep timer set?■ Check the power control settings. Power interrupted.■ If there is no signal, the SET turns off automatically in 15 minutes. |
| Video Problems | |
| No picture & No sound | <ul style="list-style-type: none">■ Check whether the product is turned on.■ Try another channel. The problem may be with the broadcast.■ Is the power cord inserted into wall power outlet?■ Check your antenna direction and/or location.■ Test the wall power outlet, plug another product's power cord into the outlet where the product's power cord was plugged in. |
| Picture appears slowly after switching on | <ul style="list-style-type: none">■ This is normal, the image is muted during the product startup process. Please contact your service center, if the picture has not appeared after five minutes. |
| No or poor color or poor picture | <ul style="list-style-type: none">■ Adjust Color in menu option.■ Keep a sufficient distance between the product and the VCR.■ Try another channel. The problem may be with the broadcast.■ Are the video cables installed properly?■ Activate any function to restore the brightness of the picture. |
| Horizontal/vertical bars or picture shaking | <ul style="list-style-type: none">■ Check for local interference such as an electrical appliance or power tool. |
| Poor reception on some channels | <ul style="list-style-type: none">■ Station or cable product experiencing problems, tune to another station.■ Station signal is weak, reorient antenna to receive weaker station.■ Check for sources of possible interference. |
| Lines or streaks in pictures | <ul style="list-style-type: none">■ Check antenna (Change the direction of the antenna). |
| No picture when connecting HDMI | <ul style="list-style-type: none">■ If an HDMI cable doesn't support High Speed HDMI, it can cause flickers or no screen display. In this case use the latest cables that support High Speed HDMI. |

Audio Problems

| | |
|---------------------------------------|---|
| No output from one of the speakers | ■ Adjust Balance in menu option. |
| Unusual sound from inside the product | ■ A change in ambient humidity or temperature may result in an unusual noise when the product is turned on or off and does not indicate a fault with the product. |
| No sound when connecting HDMI/USB | ■ Check High Speed HDMI cable. ■ Check USB cable over version 2.0. ■ Use normal MP3 file. |

PC Mode Problems

| | |
|--|---|
| The signal is out of range | ■ Adjust resolution, horizontal frequency, or vertical frequency on the PC. ■ Check the input source. |
| Vertical bar or stripe on background & Horizontal Noise & Incorrect position | ■ Activate the Auto configure feature or adjust size, phase, or H/V position. (Option) |
| Screen color is unstable or single color | ■ The signal from the PC (Video card) is out of the vertical or horizontal frequency range of the product. Adjust the frequency range by referring to the Specifications in this user's guide. |
| When connecting the HDMI cable to the PC, there is no audio. | ■ Check the manual for the video card in the PC to see if it supports HDMI audio and how to set it up properly. |

APPENDIX

| Movie List Problems | |
|--|--|
| The file does not appear on the Movie List. | <ul style="list-style-type: none"> ■ Check whether the file extension is supported. |
| Message is displayed saying "This file is invalid" or the audio is working normally but the video is not working normally. | <ul style="list-style-type: none"> ■ Check whether the file is playing normally on a PC. (Check whether the file is damaged.) ■ Check whether the resolution is supported. ■ Check whether the video/audio codec is supported. ■ Check whether the frame rate is supported. |
| Message is displayed saying "Unsupported Audio" or the video is working normally but the audio is not working normally. | <ul style="list-style-type: none"> ■ Check whether the file is playing normally on a PC. (Check whether the file is damaged.) ■ Check whether the audio codec is supported. ■ Check whether the bit rate is supported. ■ Check whether the sample rate is supported. |
| Subtitle is not working. | <ul style="list-style-type: none"> ■ Check whether the file is playing normally on a PC. (Check whether the file is damaged.) ■ Check whether the video file and subtitle file name are the same. ■ Check whether the video file and subtitle file are located in the same folder. ■ Check whether the subtitle file is supported. ■ Check whether the language is supported. (When you open the subtitle file on a PC, you can check the language of the subtitle file.) |

MAINTENANCE

Early malfunctions can be prevented. Careful and regular cleaning can extend the amount of time you can enjoy your new set

Caution: Be sure to turn the power off and unplug the power cord before you begin any cleaning.

Cleaning the Screen

- 1 Here's a great way to keep the dust off your screen for a while. Wet a soft cloth in a mixture of luke-warm water and a little fabric softener or dish washing detergent. Wring the cloth until it's almost dry, and then use it to wipe the screen.
- 2 Make sure the excess water is off the screen, and then let it air-dry before you turn on your SET.

Cleaning the Cabinet

- To remove dirt or dust, wipe the cabinet with a soft, dry, lint-free cloth.
- Please be sure not to use a wet cloth.

Extended Absence

WARNING

- If you expect to leave your SET dormant for a long time (such as a vacation), it's a good idea to unplug the power cord to protect against possible damage from lightning or power surges.

APPENDIX

PRODUCT SPECIFICATIONS

<M2080DF>

| | | |
|---|------------------------|---|
| LCD Panel | Screen Type | 508.5 mm Wide (20.0 inch) TFT (Thin Film Transistor) LCD (Liquid Crystal Display) Panel Visible diagonal size: 508.5 mm |
| | Pixel Pitch | 0.2766 mm (H) x 0.2766 mm (V) |
| Video Signal | Max. Resolution | 1600 x 900 @ 60 Hz |
| | Recommended Resolution | 1600 x 900 @ 60 Hz |
| | Horizontal Frequency | 30 kHz to 83 kHz |
| | Vertical Frequency | 56 Hz to 75 Hz |
| | Synchronization Type | Separate Sync, Digital |
| Input Connector | | TV, D-Sub Analog, PC Audio In, component, HDMI*2, CVBS |
| Power | Rated Voltage | 19 V $\overline{\text{---}}$ 2.0 A |
| | Power Consumption | On Mode : 27 W Off Mode \leq 1 W |
| AC/DC Adapter | | Manufacturer: LITE-ON, Model PA-1650-68 |
| Tilt | Tilt Range | -5° to 10° |
| Dimensions (Width x Height x Depth) Weight | | 476.4 mm x 387.8 mm x 193.9 mm (18.75 inch x 15.26 inch x 7.63 inch) 3.7 kg (8.16 lb) |
| Environmental conditions | Operating Temperature | 10 °C to 35 °C |
| | Operating Humidity | 20 % to 80 % |
| | Storage Temperature | -10 °C to 60 °C |
| | Storage Humidity | 5 % to 90 % |

- The specifications shown above may be changed without prior notice for quality improvement.


<M2280DF>

| | | |
|---|------------------------|--|
| LCD Panel | Screen Type | 546.86 mm Wide (21.53 inch) TFT (Thin Film Transistor) LCD (Liquid Crystal Display) Panel Visible diagonal size: 546.86 mm |
| | Pixel Pitch | 0.248 mm (H) x 0.248 mm (V) |
| Video Signal | Max. Resolution | 1920 x 1080 @ 60 Hz |
| | Recommended Resolution | 1920 x 1080 @ 60 Hz |
| | Horizontal Frequency | 30 kHz to 83 kHz |
| | Vertical Frequency | 56 Hz to 75 Hz |
| | Synchronization Type | Separate Sync, Digital |
| Input Connector | | TV, D-Sub Analog, PC Audio In, component, HDMI*2, CVBS |
| Power | Rated Voltage | 19 V \pm 2.2 A |
| | Power Consumption | On Mode : 30 W Off Mode \leq 1 W |
| AC/DC Adapter | | Manufacturer: LITE-ON, Model PA-1650-68 |
| Tilt | Tilt Range | -5° to 10° |
| Dimensions (Width x Height x Depth) Weight | | 509.6 mm x 407.3 mm x 193.9 mm (20.06 inch x 16.03 inch x 7.63 inch) 3.9 kg (8.6 lb) |
| Environmental conditions | Operating Temperature | 10 °C to 35 °C |
| | Operating Humidity | 20 % to 80 % |
| | Storage Temperature | -10 °C to 60 °C |
| | Storage Humidity | 5 % to 90 % |

■ The specifications shown above may be changed without prior notice for quality improvement.

APPENDIX

<M2380DF>

| | | |
|-------------------------------------|------------------------|---|
| LCD Panel | Screen Type | 584.2 mm Wide (23 inch) TFT (Thin Film Transistor) LCD (Liquid Crystal Display) Panel Visible diagonal size: 584.2 mm |
| | Pixel Pitch | 0.265 mm (H) x 0.265 mm (V) |
| Video Signal | Max. Resolution | 1920 x 1080 @ 60 Hz |
| | Recommended Resolution | 1920 x 1080 @ 60 Hz |
| | Horizontal Frequency | 30 kHz to 83 kHz |
| | Vertical Frequency | 56 Hz to 75 Hz |
| | Synchronization Type | Separate Sync, Digital |
| Input Connector | | TV, D-Sub Analog, PC Audio In, component, HDMI*2, CVBS |
| Power | Rated Voltage | 19 V  2.4 A |
| | Power Consumption | On Mode : 33 W Off Mode ≤ 1 W |
| AC/DC Adapter | | Manufacturer: LITE-ON, Model PA-1650-68 |
| Tilt | Tilt Range | -5° to 10° |
| Dimensions (Width x Height x Depth) | | 547 mm x 427.9 mm x 193.9 mm (21.53 inch x 16.85 inch x 7.6 inch) |
| Weight | | 4.4 kg (9.7 lb) |
| Environmental conditions | Operating Temperature | 10 °C to 35 °C |
| | Operating Humidity | 20 % to 80 % |
| | Storage Temperature | -10 °C to 60 °C |
| | Storage Humidity | 5 % to 90 % |

■ The specifications shown above may be changed without prior notice for quality improvement.

PROGRAMMING THE REMOTE CONTROL

The remote is a multi-brand or universal remote. It can be programmed to operate most remote-controllable devices of other manufacturers.

Note that the remote may not control all models of other brands.

Cleaning the Screen

1 Test your remote control.

To find out whether your remote control can operate the component without programming, turn on the component such as a VCR and press the corresponding mode button (such as a DVD or VCR) on the remote control, while pointing at the component. Test the POWER and CH $\wedge \vee$ buttons to see if the component responds properly. If not, the remote requires programming to operate the device.

2 Turn on the component to be programmed, then press the corresponding mode button (such as a DVD or VCR) on the remote control. The remote control button of desired device is lighted.

3 Press the MENU and MUTE buttons simultaneously, the remote control is ready to be programmed for the code.

4 Enter a code number using the number buttons on the remote control. Programming code numbers for the corresponding component can be found on the following pages. Again, if the code is correct, the device will turn off.

5 Press the MENU button to store the code.

6 Test the remote control functions to see if the component responds properly. If not, repeat from step 2.

PROGRAMMING CODE

DVD

| Brand | Codes | Brand | Codes | Brand | Codes |
|---------------|-----------------|-----------|---------|----------|-------------|
| APEX DIGITAL | 022 | NAD | 023 | SONY | 007 |
| DENON | 020 014 | ONKYO | 008 017 | THOMPSON | 005 006 |
| GE | 005 006 | PANASONIC | 003 009 | TOSHIBA | 019 008 |
| HARMAN KARDON | 027 | PHILIPS | 013 | YAMAHA | 009 018 |
| JVC | 012 | PIONEER | 004 026 | ZENITH | 010 016 025 |
| LG | 001 010 016 025 | PROCEED | 021 | | |
| MAGNAVOX | 013 | PROSCAN | 005 006 | | |
| MARANTZ | 024 | RCA | 005 006 | | |
| MITSUBISHI | 002 | SAMSUNG | 011 015 | | |

APPENDIX

VCR

| Brand | Codes | Brand | Codes | Brand | Codes |
|----------------|-----------------|------------|-----------------|----------------|-----------------|
| AIWA | 034 | MAGNAVOX | 031 033 034 041 | SAMSUNG | 032 040 102 104 |
| AKAI | 016 043 046 124 | | 067 068 | | 105 107 109 112 |
| | 125 146 | MARANTZ | 012 031 033 067 | | 113 115 120 122 |
| AMPRO | 072 | | 069 | | 125 |
| ANAM | 031 033 103 | MARTA | 101 | SANSUI | 022 043 048 135 |
| AUDIO DYNAMICS | 012 023 039 043 | MATSUI | 027 030 | SANYO | 003 007 010 014 |
| BROKSONIC | 035 037 129 | MEI | 031 033 | | 102 134 |
| CANON | 028 031 033 | MEMOREX | 003 010 014 031 | SCOTT | 017 037 112 129 |
| CAPEHART | 108 | | 033 034 053 072 | | 131 |
| CRAIG | 003 040 135 | | 101 102 134 139 | SEARS | 003 008 009 010 |
| CURTIS MATHES | 031 033 041 | MGA | 045 046 059 | | 013 014 017 020 |
| DAEWOO | 005 007 010 064 | MINOLTA | 013 020 | | 031 042 073 081 |
| | 065 108 110 111 | MITSUBISHI | 013 020 045 046 | | 101 |
| | 112 116 117 119 | | 049 051 059 061 | SHARP | 031 054 149 |
| DAYTRON | 108 | | 151 | SHINTOM | 024 |
| DBX | 012 023 039 043 | MTC | 034 040 | SONY | 003 009 031 052 |
| DYNATECH | 034 053 | MULTITECH | 024 034 | | 056 057 058 076 |
| ELECTROHOME | 059 | NEC | 012 023 039 043 | | 077 078 149 |
| EMERSON | 006 017 025 027 | | 048 | SOUNDESIGN | 034 |
| | 029 031 034 035 | NORDMENDE | 043 | STS | 013 |
| | 036 037 046 101 | OPTONICA | 053 054 | SYLVANIA | 031 033 034 059 |
| | 129 131 138 153 | PANASONIC | 066 070 074 083 | | 067 |
| FISHER | 003 008 009 010 | | 133 140 145 | SYMPHONIC | 034 |
| FUNAI | 034 | PENTAX | 013 020 031 033 | TANDY | 010 034 |
| GE | 031 033 063 072 | | 063 | TATUNG | 039 043 |
| | 107 109 144 147 | PHILCO | 031 034 067 | TEAC | 034 039 043 |
| GO VIDEO | 132 136 | PHILIPS | 031 033 034 054 | TECHNICS | 031 033 070 |
| HARMANKARDON | 012 045 | | 067 071 101 | TEKNIKA | 019 031 033 034 |
| HITACHI | 004 018 026 034 | PILOT | 101 | | 101 |
| | 043 063 137 150 | PIONEER | 013 021 048 | THOMAS | 034 |
| INSTANTREPLAY | 031 033 | PORTLAND | 108 | TMK | 006 |
| JCL | 031 033 | PULSAR | 072 | TOSHIBA | 008 013 042 047 |
| JCPENNY | 012 013 015 033 | QUARTZ | 011 014 | | 059 082 112 131 |
| | 040 066 101 | QUASAR | 033 066 075 145 | TOTEVISION | 040 101 |
| JENSEN | 043 | | | UNITECH | 040 |
| JVC | 012 031 033 043 | RCA | 013 020 033 034 | VECTORRESEARCH | 012 |
| | 048 050 055 060 | | 040 041 062 063 | VICTOR | 048 |
| | 130 150 152 | | 107 109 140 144 | VIDEO CONCEPTS | 012 034 046 |
| KENWOOD | 014 034 039 043 | | 145 147 | VIDEOSONIC | 040 |
| | 047 048 | REALISTIC | 003 008 010 014 | WARDS | 003 013 017 024 |
| LG (GOLDSTAR) | 001 012 013 020 | | 031 033 034 040 | | 031 033 034 040 |
| | 101 106 114 123 | | 053 054 101 | | 053 054 131 |
| LLOYD | 034 | RICO | 058 | YAMAHA | 012 034 039 043 |
| LXI | 003 009 013 014 | RUNCO | 148 | ZENITH | 034 048 056 |
| | 017 034 101 106 | SALORA | 014 | | 058 072 080 101 |
| MAGIN | 040 | | | | |

IR CODES

• This feature is not available for all models.

| Code (Hexa) | Function | Note |
|-------------|------------------|---------------------------|
| 95 | Energy Saving | R/C BUTTON |
| 08 | POWER | R/C BUTTON (POWER ON/OFF) |
| 50 | TV / PC | R/C BUTTON |
| 0B | INPUT | R/C BUTTON |
| 79 | RATIO | R/C BUTTON |
| F0 | Auto Config | R/C BUTTON |
| 45 | Q.MENU | R/C BUTTON |
| 43 | MENU | R/C BUTTON |
| AB | INFO ⓘ | R/C BUTTON |
| 40 | Up (^) | R/C BUTTON |
| 41 | Down (v) | R/C BUTTON |
| 07 | Left (<) | R/C BUTTON |
| 06 | Right (>) | R/C BUTTON |
| 44 | Enter(●) | R/C BUTTON |
| 28 | BACK | R/C BUTTON |
| 5B | EXIT | R/C BUTTON |
| 02 | Vol (+) | R/C BUTTON |
| 03 | Vol (-) | R/C BUTTON |
| 1E | FAV (MARK) | R/C BUTTON |
| 09 | MUTE | R/C BUTTON |
| 00 | CH (^) | R/C BUTTON |
| 01 | CH (v) | R/C BUTTON |
| 10 to 19 | Number Key 0 ~ 9 | R/C BUTTON |
| 53 | LIST | R/C BUTTON |
| 1A | FLASHBK | R/C BUTTON |
| 72 | RED Key | R/C BUTTON |
| 71 | GREEN Key | R/C BUTTON |
| 63 | YELLOW Key | R/C BUTTON |
| 61 | BLUE Key | R/C BUTTON |
| B1 | ■ | R/C BUTTON |
| B0 | ▶ | R/C BUTTON |
| BA | II | R/C BUTTON |
| 8F | ◀◀ | R/C BUTTON |
| 8E | ▶▶ | R/C BUTTON |

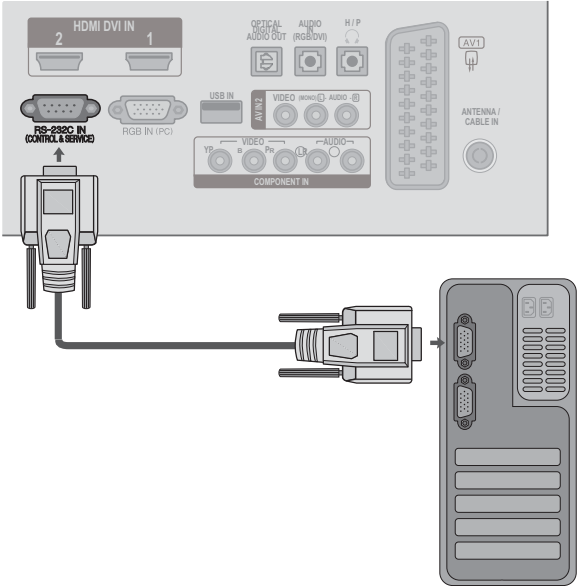
APPENDIX

EXTERNAL CONTROL THROUGH RS-232C

RS-232C Setup

The RS-232C port allows you connect the RS-232C input jack to an external control device (such as a computer or an A/V control system) to control the TV's functions externally.

- 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.



Type of Connector; D-Sub 9-Pin Male

| 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 |

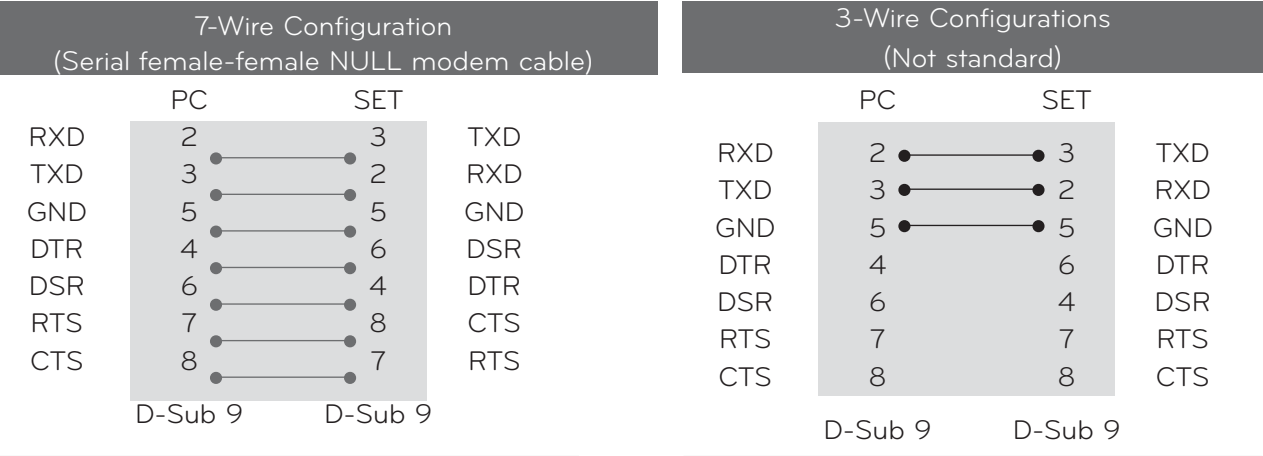
A diagram of a D-Sub 9-pin male connector. The pins are numbered 1 through 9. Pin 1 is at the top left, pin 5 is at the top right, pin 6 is at the bottom left, and pin 9 is at the bottom right. The connector has a shielded body with a central pin and two side pins.

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.

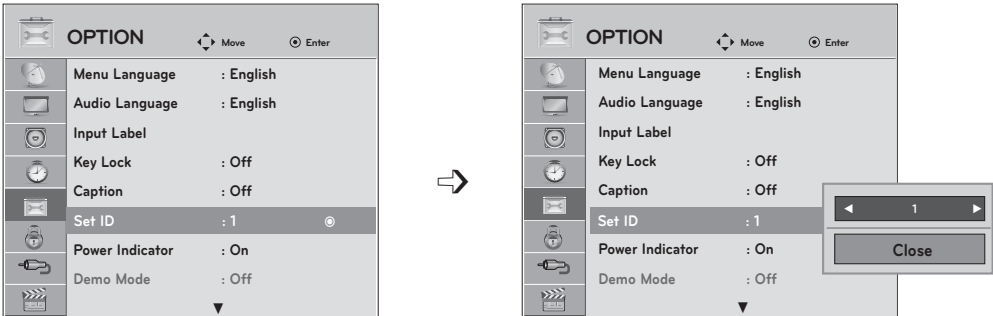
RS-232C Configurations

Either cable below can be used.



Set ID

Use this function to specify a SET ID number.
Refer to 'Real Data Mapping'.



- 1

MENU

Select **OPTION**.
- 2

OK

Select **Set ID**.
- 3

OK

Adjust Set ID to choose the desired TV ID number.
The adjustment range of SET ID is 1 to 99.

| * Real data mapping | |
|---------------------|---------------------|
| 1 | Step 0 |
| ⋮ | |
| A | Step 10 (Set ID 10) |
| ⋮ | |
| F | Step 15 (Set ID 15) |
| 10 | Step 16 (Set ID 16) |
| ⋮ | |
| 63 | Step 99 (SET ID 99) |
| 64 | Step 100 |

- Press the **MENU** or **EXIT** button to close the menu window.
- Press the **BACK** button to move to the previous menu screen.

APPENDIX

Command Reference List

| | COMMAND 1 | COMMAND 2 | DATA (Hexadecimal) | | COMMAND 1 | COMMAND 2 | DATA (Hexadecimal) |
|---------------------------------|--------------|--------------|-----------------------|------------------------|--------------|--------------|-----------------------|
| 01. Power | k | a | 00 to 01 | 14. Treble | k | r | 00 to 64 |
| 02. Input Select | x | b | (▶ p.119) | 15. Bass | k | s | 00 to 64 |
| 03. Aspect Ratio | k | c | (▶ p.119) | 16. Balance | k | t | 00 to 64 |
| 04. Screen Mute | k | d | 00 to 01 | 17. Color Temperature | k | u | 00 to 02 |
| 05. Volume Mute | k | e | 00 to 01 | 18. Auto Configuration | j | u | (▶ p.120) |
| 06. Volume Control | k | f | 00 to 64 | 20. Channel Add/Del | m | b | 00 to 01 |
| 07. Contrast | k | g | 00 to 64 | 21. Key | m | c | (▶ p.121) |
| 08. Brightness | k | h | 00 to 64 | 22. Backlight | m | g | 00 to 64 |
| 09. Color | k | i | 00 to 64 | | | | |
| 10. Tint | k | j | 00 to 64 | | | | |
| 11. Sharpness | k | k | 00 to 64 | | | | |
| 12. OSD Select | k | l | 00 to 01 | | | | |
| 13. Remote Control Lock Mode | k | m | 00 to 01 | | | | |

| | COMMAND 1 | COMMAND 2 | DATA00 (Hexadecimal) | DATA01 (Hexadecimal) | DATA03 (Hexadecimal) | DATA04 (Hexadecimal) | DATA05 (Hexadecimal) | DATA06 (Hexadecimal) |
|--------------------|--------------|--------------|--------------------------|-------------------------|-------------------------|-------------------------|-------------------------|-------------------------|
| 19. Channel Tuning | m | a | physical program high | major program low | major low | minor high | minor low | attribute |

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 TV ID number in Setup menu. Adjustment range is 1~ 99. When selecting Set ID '0', every connected the TV 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, TV will not send the status during the standby mode.

OK Acknowledgement

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

The TV 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, TV 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 TV 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, TV 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 TV.

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 feed-back presents status about each function.

* Note: In this model, TV 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 TV.

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 Data 40: Component

Data 60: RGB-PC Data 90: HDMI1

Data 91: HDMI2

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

03. Aspect Ratio (Command: k c)

To adjust the screen format.

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

Data 01: 4:3 09: Just scan

02: 16:9 10: Cinema Zoom1

04: Zoom ⋮

06: Set by program 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'. See page 117.

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'. See page 118.

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'. See page 117.

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'. See page 117.

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'. See page 117.

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

APPENDIX

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'. See page 117.

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

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 TV, 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'. See page 117.

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'. See page 117.

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'. See page 117.

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

17. Color Temperature (Command: k u)

To adjust color temperature.

You can also adjust color temperature in the PICTURE menu.

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

Data 00: Medium 01: Cool 02: Warm

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

18. Energy Saving (Command: j q)

To control the energy saving function.

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

Data 00: Energy saving - off

01: Energy saving - Minimum

02: Energy saving - Medium

03: Energy saving - Maximum

04: Energy saving - Screen off

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

19. 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]

20. 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.

Data5:

| 7 | Main/Sub Picture | 6 | Two/One Part Channe | 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 table above lists the binary code which must be converted to Hexadecimal before sending. For example: 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

```
Acknowledgement[a][ ][Set ID][ ][OK][Data00]
[Data01] [Data02][Data03][Data04][x][a][ ][Set
ID][ ][NG][Data00][x]
```

21. 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]

22. Key (Command: m c)

To send IR remote control code.

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

See page 118..

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.

23. Backlight (Command: m g)

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]



Make sure to read the Safety Precautions before using the product.
Keep the Owner's Manual (CD) in an accessible place for future reference.
The model and serial number of the SET is located on the back and one side of the SET.
Record it below should you ever need service.

MODEL _____

SERIAL _____

■■■ Regulatory Information cont.

:: 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.

Compliance 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.

■ ■ ■ Regulatory Information cont.

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

■■■ Regulatory Information cont.

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

■ ■ ■ Regulatory Information cont.

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 de l'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>

■■■ Regulatory Information cont.

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>

Espanol

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

■■■ Regulatory Information cont.

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 ontplooiën 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 monitoren.

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.

Regulatory Information cont.

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.

본사는 보다 활발한 환경 보존 활동과 더불어 환경 친화적 제품 개발에 주력해 왔습니다.

또한 제품에 포함되는 환경 위해 요소를 최소화하는 데에도 노력을 기울이지 않고 있습니다. LG 전자 모니터의 경우 카드를 전혀 사용하지 않는 것에서도 이러한 노력을 알 수 있습니다.

재활용 정보

본 모니터에는 환경에 위해를 주는 부품이 포함되어 있을 수도 있습니다. 따라서 사용이 끝난 모니터는 재활용하는 것이 좋습니다.

폐모니터는 모두 환경 친화적 방식으로 처리됩니다. 현재 세계적으로 운영되고 있는 회수 및 재활용 시스템에는

여러 가지가 있습니다. 대부분의 부품의 경우 재사용 또는 재활용되지만 환경 위해 물질과 중금속은 환경 친화적 방법으로 처리됩니다.

본사의 재활용 프로그램에 대한 자세한 정보는 각 지역의 LG 공급업체나 LG 기업 대표부에 문의하시기 바랍니다.

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/ckr/about/environment/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).



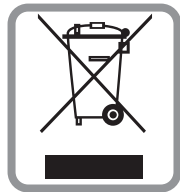
As an ENERGY STAR Partner LGE U. S. A., Inc. has determined that this product meets the ENERGY STAR guidelines for energy efficiency.

::NOM MARK (Mexico only)



■ ■ ■ Regulatory Information cont.

:: 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 fås 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.

Regulatory Information cont.

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 σύμβολο ενός διαγραμμένου κάλαθου απορριμμάτων, τότε το προϊόν καλύπτεται από την Ευρωπαϊκή Οδηγία 2002/96/EOK.
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 συνεπειών 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 μαγαζί 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 afixado a um produto, significa que o produto é abrangido 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 informações 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, znamená 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. Správnu likvidáciu starých zariadení pomôžete predchádzať potenciálnym negatívnym následkom pre prostredie a ľudské zdravie.
4. Podrobnejšie informácie o likvidácii starých zariadení 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 kontejneru v přeškrtnutém poli, znamená to, že na výrobek se vztahuje směrnice Evropské unie číslo 2002/96/EC.
2. Všechny 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 prekrizene 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 odlagališta koja je odredila vlada ili lokalne vlasti.
3. Pravilno odlaganje starog proizvoda sprečiti će potencijalne 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, kereses 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 begyűjteni, a kormány vagy az önkormányzatok által kijelölt begyűjtő eszközök használatával.
3. Régi eszközeinek megfelelő ártalmatlanítása segíthet megelőzni 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 dyrektywą 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 utylizacji starych urządzeń, należy skontaktować się z władzami lokalnymi, przedsiębiorstwem zajmującym się utylizacją odpadów lub sklepem, w którym produkt został kupiony.

■ ■ ■ Regulatory Information cont.

■ ■ Estonian

Kasutuskõlbmatu seadme käitlemise kord

1. Kui seade on märgistatud selle elektri- ja elektroonikaseadmete 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 omavalitsuselt, prügifirmalt või kaupluselt, kust seadme ostsite.

■ ■ Latvian

Vecās elektroierīces nodošana

1. Ja uz produkta ir simbols ar pārsvītrotu atkritumu 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 pasargāsi apkārtni un cilvēku veselību no iespējami nelabvēlīgajām sekām, kādas varētu rasties, ierīcēm sadaloties nepiemērotā vietā.
4. Lai gūtu plašāku informāciju par veco ierīču utilizēšanas iespējām, sazinieties ar pilsētas pašvaldību, atkritumu savākšanas saimniecību vai veikalu, kurā ierīci iegādājāties.

■ ■ Lithuanian

Senos įrangos atliekų tvarkymas

1. Užbrauktas konteinerio simbolis priverčia atkreipti dėmesį, kad įrangą saugo Europos direktyva 2002/96/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 sistemą, 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, kurioje pirkote įrangą.