



Order Number : GETEC-C1-10-227  
Test Report Number : GETEC-E3-10-116

FCC Part 15 subpart B  
Page 1 / 1

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## APPENDIX G : USER'S MANUAL

# OWNER'S MANUAL

## LED LCD TV / LCD TV / PLASMA TV

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

### LED LCD TV MODELS

42LV3700 42LV5500 32LW5700 47LW6500 42LK530  
47LV3700 47LV5500 42LW5700 55LW6500 47LK530  
55LV3700 55LV5500 47LW5700 65LW6500 55LK530  
42LV5400 42LW5600 55LW5700 47LW7700 42LK550  
47LV5400 47LW5600 55LW7700 47LK550  
55LV5400 55LW5600 47LW9500  
55LW9500

P/NO : SAC34134209 (1010-REV00)

### LCD TV MODELS PLASMA TV MODELS

50PZ950  
60PZ950  
50PZ950U  
60PZ950U

60LW9500

[www.lg.com](http://www.lg.com)

## LICENSES

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



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ABOUT DIVX VIDEO-ON-DEMAND: This DivX Certified® device must be registered in order to play purchased DivX Video-on-Demand (VOD) movies. To obtain your registration code, locate the DivX VOD section in your device setup menu. Go to [vod.divx.com](http://vod.divx.com) for more information on how to complete your registration.


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

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### NOTE

•  Plasma TV

•  LED LCD TV, LCD TV


# IMPORTANT SAFETY INSTRUCTIONS

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





**WARNING / CAUTION**

**RISK OF ELECTRIC SHOCK  
DO NOT OPEN**



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

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

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

**WARNING/CAUTION**

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

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

- Do not use this apparatus near water.



- Clean only with a dry cloth.



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



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



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



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



- Only use attachments/accessories specified by the manufacturer.



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



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



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



- Never touch this apparatus or antenna during a thunder or lightning storm.
- When mounting a TV on the wall, make sure not to install the TV by hanging the power and signal cables on the back of the TV.

- Do not allow an impact shock or any objects to fall into the product, and do not drop anything onto the screen.

- **CAUTION** concerning the Power Cord (Can differ by country):  
It is recommended that appliances be placed upon a dedicated circuit; that is, a single outlet circuit which powers only that appliance and has no additional outlets or branch circuits. Check the specification page of this owner's manual to be certain. Do not connect too many appliances to the same AC power outlet as this could result in fire or electric shock. Do not overload wall outlets. Overloaded wall outlets, loose or damaged wall outlets, extension cords, frayed power cords, or damaged or cracked wire insulation are dangerous. Any of these conditions could result in electric shock or fire. Periodically examine the cord of your appliance, and if its appearance indicates damage or deterioration, unplug it, discontinue use of the appliance, and have the cord replaced with an exact replacement part by an authorized service. Protect the power cord from physical or mechanical abuse, such as being twisted, kinked, pinched, closed in a door, or walked upon. Pay particular attention to plugs, wall outlets, and the point where the cord exits the appliance. Do not move the TV with the power cord plugged in. Do not use a damaged or loose power cord. Be sure do grasp the plug when unplugging the power cord. Do not pull on the power cord to unplug the TV.



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



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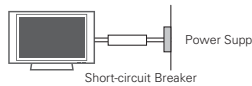
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- Do not expose to dripping or splashing and do not place objects filled with liquids, such as vases, cups, etc. on or over the apparatus (e.g. on shelves above the unit).



**Grounding**

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



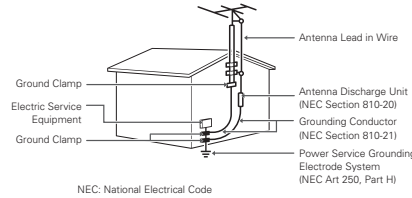
**DISCONNECTING DEVICE FROM THE MAIN POWER**

The power outlet must remain readily accessed in the event the device needs to be unplugged.

- As long as this unit is connected to the AC wall outlet, it is not disconnected from the AC power source even if the unit is turned off.
- Do not attempt to modify this product in any way without written authorization from LG Electronics. Unauthorized modification could void the user’s authority to operate this product.
- **ANTENNAS Outdoor antenna grounding** (Can differ by country):  
If an outdoor antenna is installed, follow the precautions below. An outdoor antenna system should not be located in the vicinity of overhead power lines or other electric light or power circuits, or where it can come in contact with such power lines or circuits as death or serious injury can occur. Be sure the antenna system is grounded so as to provide some protection against voltage surges and built-up static charges. Section 810 of

the National Electrical Code (NEC) in the U.S.A. provides information with respect to proper grounding of the mast and supporting structure, grounding of the lead-in wire to an antenna discharge unit, size of grounding conductors, location of antenna discharge unit, connection to grounding electrodes and requirements for the grounding electrode.

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



**Cleaning**

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

**Moving**

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

**Ventilation**

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

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



**Dot Defect**

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

**Generated Sound**

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

Electrical circuit humming/panel buzzing: A low level noise is generated from a high-speed switching circuit, which supplies a large amount of current to operate a product. It varies depending on the product. This generated sound does not affect the performance and reliability of the product.

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

- When viewing 3D imaging, watch the TV from an effective viewing angle and within the appropriate distance. If you exceed this viewing angle or distance, you may not be able to view the 3D imaging. Furthermore, the 3D imaging may not display if it is viewed while you are lying down.
- If you watch the 3D imaging too closely or for a long period of time, it may harm your eyesight.
- Watching the TV or playing video games that incorporate 3D imaging with the 3D glasses for a long period of time can cause drowsiness, headaches or fatigue to you and/or your eyes. If you have a headache, or otherwise feel fatigued or drowsy, stop watching the TV and take a rest.
- Pregnant woman, seniors, persons with heart problems or persons who experience frequent drowsiness should refrain from watching 3D TV.
- Some 3D imaging may cause you to duck or dodge the image displayed in the video. Therefore, it is best if you do not watch 3D TV near fragile objects or near any objects that can be knocked over easily.



- Please prevent children under the age of 5 from watching 3D TV. It may affect their vision development.
- Warning for photosensitization seizure: Some viewers may experience a seizure or epilepsy when exposed to certain factors, including flashing lights or images in TV or video games. If you or anybody from your family has a history of epilepsy or seizure, please consult with your doctor before watching 3D TV.  
Also certain symptoms can occur in unspecified conditions without any previous history. If you experience any of the following symptoms, immediately stop watching the 3D imaging and consult a doctor: dizziness or lightheadedness, visual transition or altered vision, visual or facial instability, such as eye or muscle twitching, unconscious action, convulsion, loss of conscience, confusion or disorientation, loss of directional sense, cramps, or nausea. Parents should monitor their children, including teenagers, for these symptoms as they may be more sensitive to the effects of watching 3D TV.  
Risk of photosensitization seizure can be reduced with the following actions.
- Take frequent breaks from watching 3D TV.
- For those who have vision that is different in each eye, they should watch the TV after taking vision correction measures.
- Watch the TV so that your eyes are on the same level as the 3D screen and refrain from sitting too closely to the TV.
- Do not watch the 3D imaging when tired or sick, and avoid watching the 3D imaging for a long period of time.
- Do not wear the 3D glasses for any other purpose than viewing 3D imaging on a 3D TV.
- Some viewers may feel disoriented after watching 3D TV. Therefore, after you watch 3D TV, take a moment to regain awareness of your situation before moving.



If the TV feels cold to the touch, there may be a small "flicker" when it is turned on. This is normal, there is nothing wrong with TV. Some minute dot defects may be visible on the screen, appearing as tiny red, green, or blue spots. However, they have no adverse effect on the TV's performance. Avoid touching the LCD screen or holding your finger(s) against it for long periods of time. Doing so may produce some temporary distortion effects on the screen.

**DISPOSAL (Only Hg lamp used LCD TV)**

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

**For USA and Canada**

**NOTE TO CABLE/TV INSTALLER**

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

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**TABLE OF CONTENTS**

**2 LICENSES**

- 45 - Using favorite channels
- 46 - Checking current program info
- 47 Using additional options
- 47 - Adjusting aspect ratio
- 48 - Changing AV modes
- 48 - Using the input list
- 49 Using the quick menu

**3 IMPORTANT SAFETY INSTRUCTIONS**

**8 TABLE OF CONTENTS**

**10 ASSEMBLING AND PREPARING**

- 10 Unpacking
- 13 Optional Extras
- 14 Parts and buttons
- 23 Lifting and moving the TV
- 23 Setting up the TV
- 23 - Attaching the stand
- 30 - Mounting on a table
- 32 - Mounting on a wall
- 33 - Tidying cables

**34 REMOTE CONTROL**

- 38 Magic Motion Remote Control Functions
- 39 - Registrating Magic Motion Remote Control
- 39 - How to use Magic Motion Remote Control
- 39 - Precautions to Take when Using the Magic Motion Remote Control

**40 WATCHING TV**

- 40 Connecting to an antenna or cable
- 40 - Connecting an antenna or basic cable
- 40 - Connecting a cable box
- 41 Turning the TV on for the first time
- 42 Watching TV
- 43 Accessing Home Menu
- 44 Managing channels
- 44 - Setting up channels

**50 ENTERTAINMENT**

- 50 Connecting the TV to a network
- 50 - Connecting the wired network
- 51 - Connecting the wireless network
- 52 - When a security code is already set
- 55 - Network Status
- 56 Premium card function
- 58 Yahoo! TV WIDGETS
- 62 TV Apps. card function
- 62 - Registration TV Apps.
- 63 - Sign in with your TV Apps. account
- 64 - Using TV Apps.
- 65 - Using My Apps.
- 66 My Media Card Function
- 66 - Connecting USB storage devices
- 67 - DLNA DMP (Digital Living Network Alliance, Digital Media Player)
- 70 - DLNA DMR (Digital Living Network Alliance, Digital Media Renderer)
- 71 - Browsing files
- 72 - Viewing videos
- 75 - DivX registration code
- 76 - Viewing photos
- 78 - Listening to music


**80 3D IMAGING (FOR 3D TV)**

- 80 3D Technology
- 81 - When using 3D Glasses
- 82 - 3D Imaging viewing range
- 82 Viewing 3D Imaging
- 83 - Setting 3D Imaging

**84 CUSTOMIZING TV SETTINGS**

- 84 Accessing SETUP Menu
- 85 Customizing Settings
- 85 - CHANNEL Settings
- 86 - PICTURE Settings
- 91 - AUDIO Settings
- 93 - TIME Settings
- 94 - LOCK Settings
- 96 - OPTION Settings
- 99 - NETWORK Settings
- 100 - CUSTOMER SUPPORT settings

**101 MAKING CONNECTIONS**

- 102 Connection overview
- 103 Connecting to a HD receiver, DVD, or VCR player
- 103 - HDMI connection
- 104 - DVI to HDMI connection
- 105 - Component connection
- 107 - Composite connection
- 108 Connecting to a PC
- 108 - HDMI connection
- 109 - DVI to HDMI connection
- 110 - RGB connection
- 111 Connecting to an audio system
- 111 - Digital optical audio connection
- 113 Connecting to a USB
- 113 Connecting to a Headphone 
- 114 Connecting to a equipment wirelessly
- 115 SIMPLINK connection
- 115 - Activating and Using the SIMPLINK menus

**116 MAINTENANCE**

- 116 Updating the TV firmware
- 117 Cleaning your TV
- 117 - Screen and frame

- 117 - Cabinet and stand
- 117 - Power cord
- 117 Preventing "Image burn" or "Burn-in" on your TV screen

**118 TROUBLESHOOTING**

**120 SPECIFICATIONS**

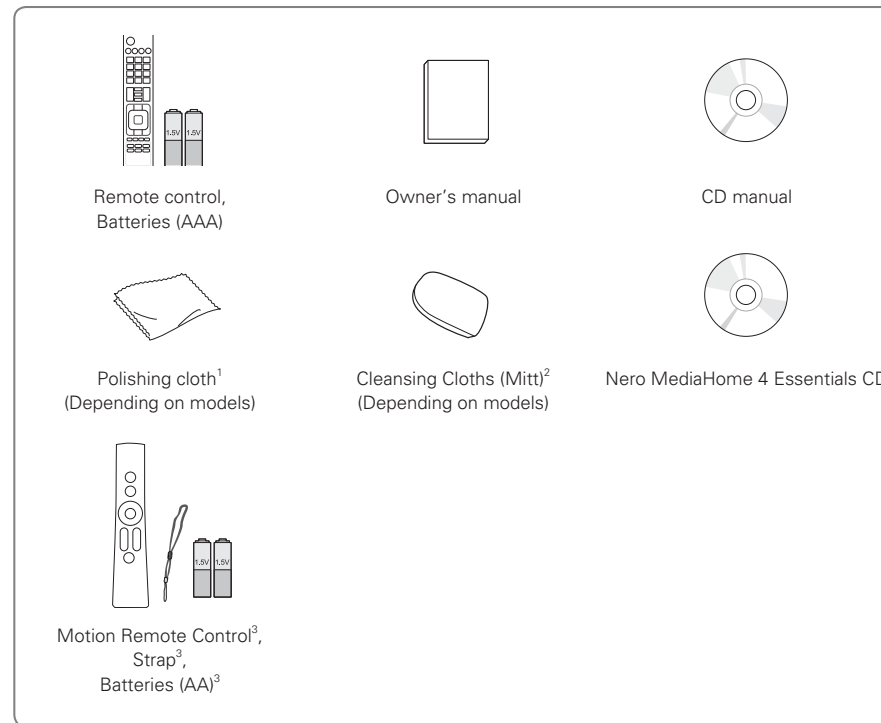
**128 IR CODES**

**130 EXTERNAL CONTROL DEVICE SETUP**

**ASSEMBLING AND PREPARING**

**Unpacking**

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



Remote control, Batteries (AAA)

Owner's manual

CD manual

Polishing cloth<sup>1</sup> (Depending on models)

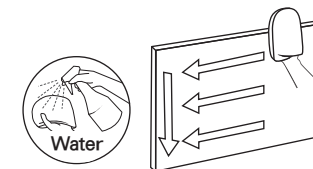
Cleansing Cloths (Mitt)<sup>2</sup> (Depending on models)

Nero MediaHome 4 Essentials CD

Motion Remote Control<sup>3</sup>, Strap<sup>3</sup>, Batteries (AA)<sup>3</sup>



- 1 Gently wipe the spots on the cabinet with the polishing cloth.
- 2 Wipe spots on the exterior only with the cleansing cloths. Do not wipe roughly when removing stains. Excessive pressure may cause scratches or discoloration. For cleaning front frame, please slowly wipe in one direction after spraying water 1-2 times on cleansing cloths. Please remove excessive moisture after cleaning. Excessive moisture may cause water stains on the frame.
- 3 Sold separately for 32LW5700, LK530, LK550 series



## Optional Extras

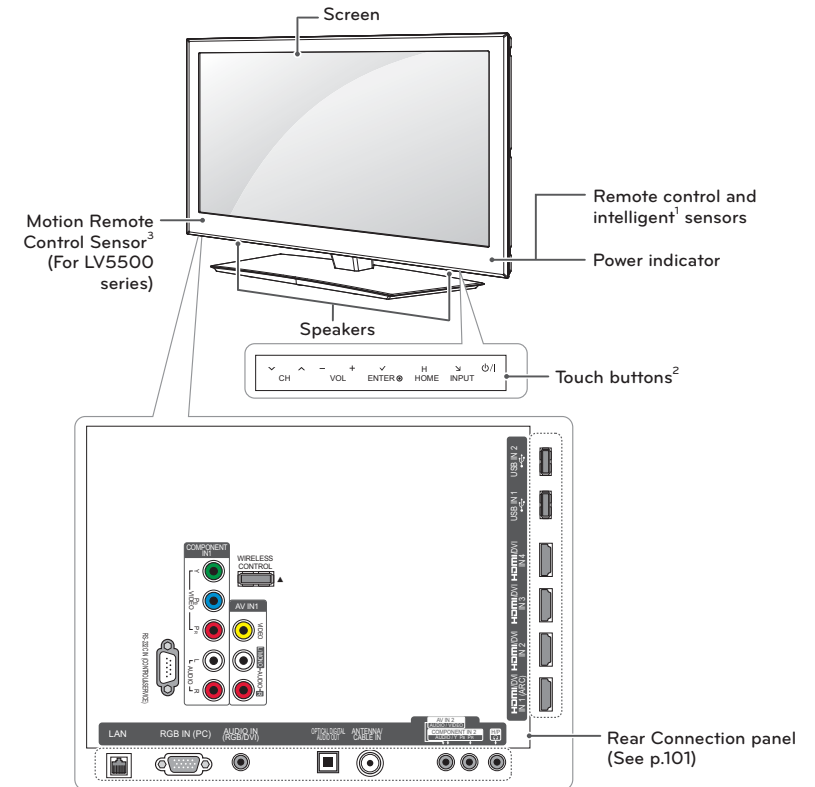
Optional extras can be changed or modified for quality improvement without any notification. Contact your dealer for buying these items. This device only works with compatible LG LED LCD TV, LCD TV, or Plasma TV.



- 1 Supports for LW7700, LW9500, LZ9700, PZ950 series
- 2 Unnecessary for LW9500 series
- 3 When using the VGA (D-sub 15 pin signal cable) PC connection, use the shielded signal interface cable with a ferrite core to maintain standards compliance for the product.

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## LV5400, LV5500 series



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Touch button <sup>2</sup>	Description
⏻ / I	Turns the power on or off.
INPUT	Changes the input source.
HOME	Accesses the Home menu, or saves your input and exits the menus.
ENTER ●	Selects the highlighted menu option or confirms an input
- VOL +	Adjusts the volume level.
↕ CH ^	Scrolls through the saved channels.

- 1 Intelligent sensor - Adjusts the image quality and brightness based on the surrounding environment.
- 2 All of the buttons are touch sensitive and can be operated through simple touch with your finger.
- 3 Motion Remote Control - Sold separately



### NOTE

- You can set the Power indicator to on or off by selecting **OPTION** in the Home menu.

## Turning the TV on for the first time

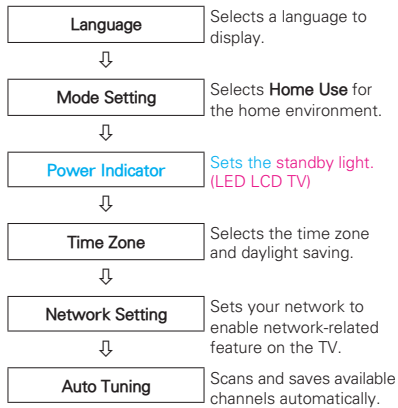
When you turn the TV on for the first time, the Initial setting screen appears. Select a language and customize the basic settings.

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

### NOTE

- You can also access **Initial Setting** by accessing **OPTION** in the Home menu - **SETUP**.

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



### NOTE

- To display images in the best quality for your home environment, select **Home Use**.
- **Store Demo** is suitable for the retail environment.
- If you select **Store Demo**, the previously customized settings will switch to the default settings of **Store Demo** in 5 minutes.
- **Power Indicator feature is disable in "Step2. Mode Setting - Store Demo."**

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

### NOTE

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

- 5 To turn the TV off, press **POWER**.

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## Watching TV

- 1 In Standby mode, press **POWER** to turn the TV on.
- 2 Press **INPUT** and select **TV**.
- 3 Control the TV using the following buttons while you are watching TV.

Button	Description
CH (^, v)	Scrolls through saved channels.
LIST	Selects a channel on the saved or recent watched channel list.
0 - 9	Selects a channel by entering numbers.
VOL (+, -)	Adjusts the volume level.
MUTE	Mutes all sounds.
AV MODE <sup>1</sup>	Selects an AV mode (See p.48).
●.MENU	Accesses the quick menus (See p.49).
FLASHBK	Alternates between the last two channels selected.
RATIO	Resizes an image (See p.47).
FREEZE (🛑)	Freezes the current frame while you are watching TV

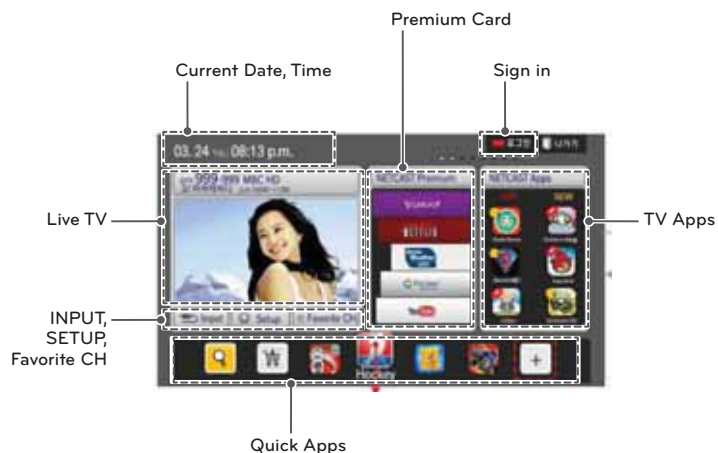
1 Each **AV mode** has the optimized image and sound settings. If you select **Off**, the image and sound settings will be restored to the previously customized settings.

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



## Accessing Home Menu

- 1 Press **HOME** to access the Home menu.
- 2 Press the Navigation buttons to scroll to one of the following menus and press **ENTER**.
- 3 Press the Navigation buttons to scroll to the setting or option you want and press **ENTER**.
- 4 When you are finished, press **EXIT**.



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## Managing channels

### Setting up channels

#### Storing channels

To store channels automatically,

- 1 Press **HOME** to access the Home menu.
- 2 Press the Navigation buttons to scroll to **SETUP** and press **ENTER**.
- 3 Press the Navigation buttons to scroll to **CHANNEL** and press **ENTER**.
- 4 Press the Navigation buttons to scroll to **Auto Tuning** and press **ENTER**.
- 5 Select **Start** to start automatic tuning. The TV scans and saves available channels automatically.

#### NOTE

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

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

To store channels manually,

- 1 Press **Home** to access the Home menu.
- 2 Press the Navigation buttons to scroll to **SETUP** and press **ENTER**.
- 3 Press the Navigation buttons to scroll **CHANNEL** and press **ENTER**.
- 4 Press the Navigation buttons to scroll to **Manual Tuning** and press **ENTER**.
- 5 Scroll through the channel types, and then add or delete channels.
- 6 When you are finished, press **EXIT**.  
When you return to the previous menu, press **BACK**.

#### NOTE

- If the TV scans a blocked channel, you will be prompted to enter your password to keep the channel scanned.
- You can store up to 500 channels. The number of channels that you can store differs depending on the broadcasting signal environment.
- The channels are stored in the order of DTV, TV, Cable DTV and Cable TV.

#### Editing your channel list

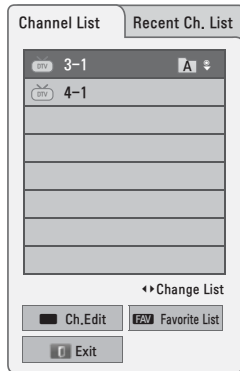
- 1 Press **HOME** to access the Home menu.
- 2 Press the Navigation buttons to scroll to **SETUP** and press **ENTER**.
- 3 Press the Navigation buttons to scroll to **CHANNEL** and press **ENTER**.
- 4 Press the Navigation buttons to scroll to **Channel Edit** and press **ENTER**.
- 5 Edit channels using the following buttons.

Button	Description	
▲	Highlight the channel type (DTV, TV, Cable DTV, Cable TV).	
▲, ▼, <, >	Scrolls through channel types or channels.	
ENTER	Edits channels.	
	Watch	Selects the highlighted channel to view.
	Set as Favorite	Registers or cancels the current channel in favorite channel list.
	Add/Delete	Adds or deletes a channel. The deleted channel displays in blue.
	Block	Blocks or unblocks a channel.
CH (▲, ▼)	Moves to the previous or next page.	
Red button	Selects your desired favorite channel group.	

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

Selecting a channel on the channel list

- 1 Press **LIST** to access the channel list.



Button	Description
<, >	Selects Channel list or Recent channel list.
^, v	Scrolls through channel.
ENTER	Selects the highlighted channel to view.
CH (^, v)	Moves to the previous or next page.
Red button	Edits Channel.
FAV	Sets up a favorite channel list.

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

**NOTE**

- If you select the blocked channel, you will be prompted to enter your password.

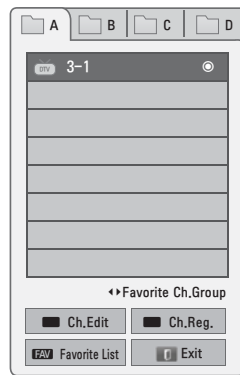
Using favorite channels

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

- 1 Select a channel to add to the favorite list.
- 2 Press **FAV**.

**NOTE**

- You can also access the input favorite list. by selecting **Favorite List** in the **Home** menu.

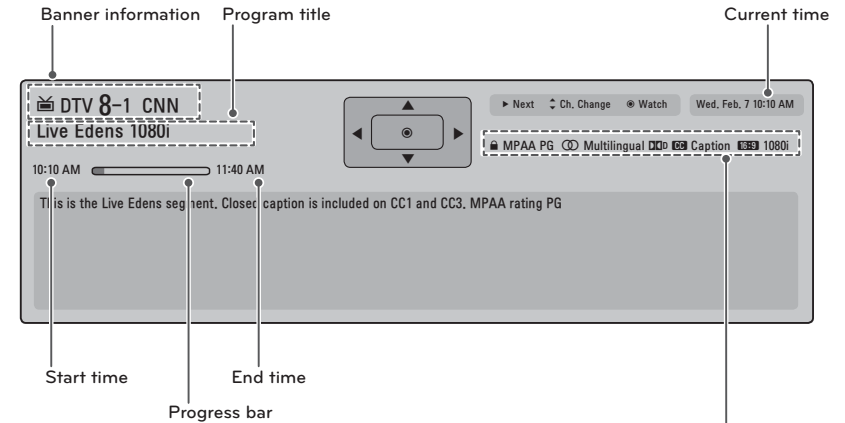


Button	Description
<, >	Selects a desired channel group.
CH (^, v)	Moves to the previous or next page
Red button	Moves to the Channel Edit.
Green button	Registers or cancels the selected channel.
FAV	Moves to the Channel List.

- 3 When you are finished, press **EXIT**.

Checking current program info

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



Icon	Description
Multilingual	The program contains two or more audio language services. You can select an audio language you want by using the quick menu.
Dolby Digital	The program contains a Dolby Digital audio signal in TV and HDMI input sources.
Dolby Digital Plus	The program contains a Dolby Digital Plus audio signal in TV and HDMI input sources.
Caption	The program contains one or more language caption services. You can select a closed caption you want by using the quick menu.
Aspect ratio	The original aspect ratio of the video is 4:3. The original aspect ratio of the video is 16:9 (wide).
Resolution	The video resolution is 720 x 480i. The video resolution is 720 x 480p. The video resolution is 1280 x 720p. The video resolution is 1920 x 1080i. The video resolution is 1920 x 1080p.
V-Chip	The program contains Lock information. Refer to the "TV Rating-General" (See p.95)

## Using additional options

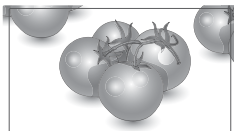
### Adjusting aspect ratio

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

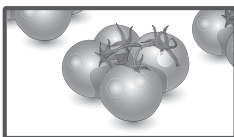
#### NOTE

- You can also change the image size by pressing **MENU** or accessing **Aspect Ratio** in the **PICTURE** menu.
- The available ratio varies depending on the input source.
  - The input sources: HDMI and RGB-PC support 4:3 and 16:9.
  - The input sources: HDMI-PC 1920 X 1080 supports all of the aspect ratios.

- 16:9:** Resizes images to fit the screen width.



- Just Scan:** Displays video images in the original size without disappearing parts at the edge of the image.

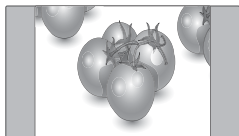


#### NOTE

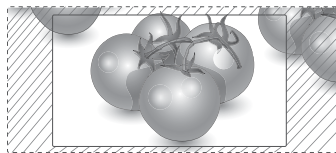
- If you select Just Scan, you may see image noises at the edge of the original signal.
- The input sources: DTV, CADTV, Component, HDMI-DTV, and DVI-DTV (720p/1080i/1080p) support Just Scan.

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

- 4:3:** Resizes images at the standard 4:3 without distortion.



- Cinema Zoom:** Enlarges an image in the cinemascope ratio, 2.35:1.
  - To change the ratio of the cinema zoom, press **<** or **>** and its range is from 1 to 16.
  - To move the zoom focus up or down, press **▲** or **▼**.



#### NOTE

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



## Changing AV modes

Each **AV mode** has the optimized image and sound settings.

Press **AV MODE** repeatedly to select an appropriate modes.

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

## Using the input list

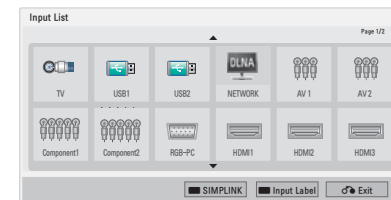
### Selecting an input source

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

#### NOTE

- You can also access the input source list by selecting **INPUT** in the **Home** menu.

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



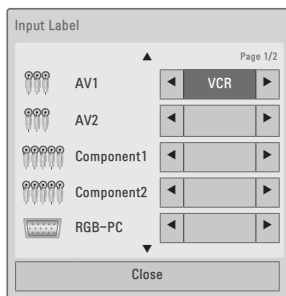
Input source	Description
TV	Watch TV over the air, cable, and digital cable broadcast.
USB	Use the movie, photo or music file.
NETWORK	Use it for DLNA.
AV	Watch the contents in a VCR or other external devices.
Component	Watch the contents in a DVD or other external devices, or through a digital set-top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

The connected input sources display in black and the disconnected input sources in grey.

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

### Adding an Input label

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



- 1 Press **INPUT** to access the input sources.
- 2 Press the Green button.
- 3 Press the Navigation buttons to scroll to one of the input sources.
- 4 Press the Navigation buttons to scroll to one of the input labels.
- 5 When you are finished, press **EXIT**.  
When you return to the previous menu, press **BACK**.

### Using the quick menu

Customize the frequently using menus.

- 1 Press **●**. **MENU** to access the quick menus.
- 2 Press the Navigation buttons to scroll through the following menus and press **ENTER**.

Menu	Description
<b>Aspect Ratio</b>	Changes the image size (16:9, Just Scan, Set By Program, 4:3, Cinema Zoom)
<b>Picture Mode</b>	Changes the image mode (Intelligent sensor, Vivid, Standard, APS <sup>1</sup> , Cinema, THX Cinema <sup>1</sup> , THX Bright Room <sup>1</sup> , Sport <sup>1</sup> , Game, Expert1, Expert2)
<b>Sound Mode</b>	Changes the sound mode (Standard, Music, Cinema, Sport, Game)
<b>Sleep Timer</b>	Sets the length of time until the TV to turns off.
<b>Caption</b>	Activates or deactivate the subtitles
<b>Multi Audio</b>	Changes the audio language (Digital signal)
<b>SAP</b>	Changes the MTS sound (Analog signal)
<b>Energy Saving</b>	Reduces the power consumption by adjusting the screen brightness. (Auto, Off, Minimum, Medium, Maximum, Screen Off)
<b>AV Mode</b>	Sets the optimized image and sound settings (Off, Cinema, Sport <sup>1</sup> , Game)
<b>Del/Add</b>	Edits the channels to <b>add or delete the channel</b> .
<b>USB Device</b>	<b>Eject a USB device.</b>

1 Depending on models

#### NOTE

- The available menus and options may differ from the input source that you are using.

- 3 Press the Navigation buttons to scroll to the option you want.
- 4 When you are finished, press **●**. **MENU**.

## ENTERTAINMENT

### Connecting the TV to a network

#### Connecting the wired network

Connect the TV and a local area network (LAN) via the LAN port as shown on the following illustration and set up the network settings.

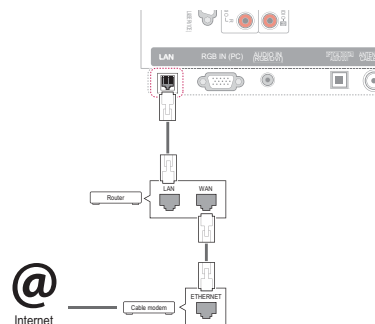
If wired and wireless networks are both available, wired is the preferred method.

After making a physical connection, a small number of home networks may require the TV network settings to be adjusted.

For detail information, contact your internet provider or router manual.

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#### CAUTION

- Do not connect a modular phone cable to the LAN port.
- Since there are various connection methods, please follow the specifications of your telecommunication carrier or internet service provider.
- After **connecting the LAN port**, use the **Premium or TV Apps menu**. For more information about Premium or TV App setup and troubleshooting, visit <http://lgknowledgebase.com>. Search for NetCast.?

To set up the network settings,

- 1 Press **HOME** to access the Home menu.
- 2 Press the Navigation buttons to scroll to **SETUP** and press **ENTER**.
- 3 Press the Navigation buttons to scroll to **NETWORK** and press **ENTER**.
- 4 Press the Navigation buttons to select **Network Setting** and press **ENTER**.
- 5 If **wired and wireless are simultaneously connected**, press the Navigation buttons to select **Wired** and press **ENTER**.
- 6 If you already set Network Setting, select **Resetting**. The new connection settings resets the current network settings.
- 7 Select **IP Auto Setting** or **IP Manual Setting**.
  - If selecting **IP Manual Setting**, press the Navigation and Number buttons. IP addresses will need to be input manually.
  - **IP Auto Setting**: Selects if there is a DHCP server on the local area network (LAN) via wired connection, the TV will automatically be allocated an IP address. If you're using a broadband router or broadband modem that has a DHCP (Dynamic Host Configuration Protocol) server function. The IP address will automatically be determined.
  - **IP Manual Setting**: Selects if there is no DHCP server on the network and you want to set the IP address manually.
- 8 When you are finished, press **EXIT**.

#### NOTE

- If you want to access the Internet directly on your TV, the broadband internet connection should always be on.
- If you cannot access the Internet, check the network conditions.
- When you use **Network Setting**, check the LAN cable or check if the DHCP in the router turns on.
- If you do not complete the network settings, the network may not work properly.

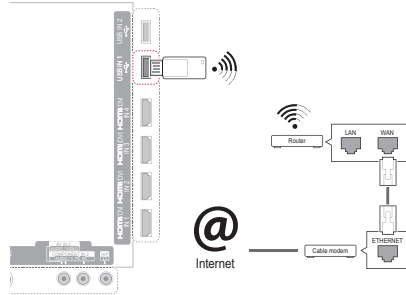
## Connecting the wireless network

The LG Wireless LAN for Broadband/DLNA Adaptor, which is sold separately, allows the TV to connect to a wireless lan network.

The network configuration and connection method may vary depending on the equipment in use and the network environment. Refer to the setup instructions supplied with your access point or wireless router for detailed connection steps and network settings.

Setting up the AP (Access Point) or the wireless router is required before connecting the TV to the network.

(Unnecessary this setup for LW9500 series)

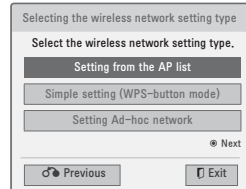


### NOTE

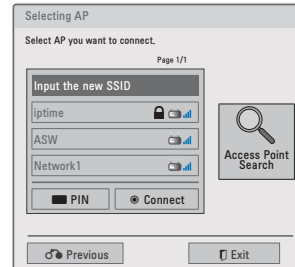
- For enjoying pictures, music, or video stored in the PC using the router, the use of wired port in the router is recommended.
- When the wireless port of the router is used, there may be restrictions for some functions.
- It is recommended that an Access Point (AP) is installed more than 1 m away from the TV. If the AP is installed closer than 1 m, the magic motion remote controller may not perform as expected due to frequency interference.

To set up the network settings,

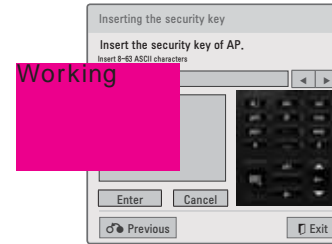
- 1 Press **HOME** to access the Home menu.
- 2 Press the Navigation buttons to scroll to **SETUP** and press **ENTER**.
- 3 Press the Navigation buttons to scroll to **NETWORK** and press **ENTER**.
- 4 Press the Navigation buttons to select **Network Setting** and press **ENTER**.
- 5 Press the Navigation buttons to select **Wireless** and press **ENTER**.
- 6 If you already set Network Setting, select **Resetting** and press **ENTER**.  
The new connection settings resets the current network settings.
- 7 Press the Navigation buttons to select **Setting from the AP list** and press **ENTER**.  
- Scan the all available AP (Access Point) or wireless routers within range and display them as a list.



- 8 Press the Navigation buttons to select an AP (Access Point) or wireless router on the list. (If your AP is locked, insert the security key of AP) and press **ENTER**.



- 9 Press the Number buttons to Input the security key of AP and press **ENTER**.



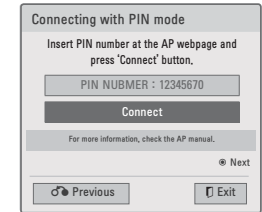
- 10 Repeat step 6-7 on "Connecting the wireless network".

## When a security code is already set

### PIN (Personal Identification Number)

If you want to connect the AP (Access Point) or router with PIN, use this feature.

- 1 Repeat step 1-7 on "Connecting the wireless network".
- 2 Press the Red button to connect the access point with **PIN** mode.
- 3 You can see the Network ID and Security Key on your TV screen.  
Enter the PIN number to your device.  
PIN number is the unique 8 digit number of the dongle.
- 4 Press **ENTER** to select **Connect**.



- 5 Repeat step 6-7 on "Connecting the wireless network".

### WPS (Wi-Fi Protected Setup)

If your access point or wireless router that supports PIN or WPS(Wi-Fi Protected Setup), it's available to use your access point or wireless router within 120 counts. You do not need to know the access point name (SSID: Service Set Identifier) and security code of your access point or wireless router.

- 1 Repeat step 1-7 on "Connecting the wireless network".
- 2 Press the Navigation buttons to select the **Simple setting (WPS-button mode)**.
- 3 Press **ENTER** to select **Connect**.
- 4 Repeat step 6-7 on "Connecting the wireless network".

**Ad-hoc Mode**

This is the method of communicating directly with the machine to communicate without AP.

This is the same as connecting two PCs with a cross cable.

- 1 Repeat step 1-5 on "Connecting the wireless network".
- 2 Press the Navigation buttons to select **Setting Ad-hoc network** and press **ENTER**.
- 3 Press the Navigation buttons to select **Enter** and press **ENTER**.
- 4 Press **ENTER** to select **Connect** to connect Ad-hoc network.
  - You can see the Network ID and Security Key on your TV screen.
  - Enter this Network ID and Security Key to your device.
  - If a network may not operate, change the setting information using the Red button.

**NOTE**

Example of the PC setting that supports a wireless network

- Find a wireless network device in your PC.
- Select LGTV10 that appears in the list. (Select the same name as the network ID that appears on your TV screen.)
- Type 1111111111 in the Inserting the security key dialog. (Type the security key that appears on your TV screen.)

- 5 Press the Navigation buttons to insert the IP address and press **ENTER**.

Option	Description
PC Setting	<ul style="list-style-type: none"> <li>• Internet Protocol(TCP/IP) of PC needs to be set manually.</li> <li>• IP address, Subnet Mask, and default Gateway can be set with your own discretion.</li> <li>• i.e) IP address: 192.168.0.1 / Subnet Mask: 255.255.255.0 / default Gateway: 192.168.0.10</li> </ul>
TV Setting	<ul style="list-style-type: none"> <li>• Verify IP address and gateway of PC.</li> <li>• Input Gateway address of PC to IP Address, and IP Address of PC to Gateway, and select Enter.</li> <li>• i.e) IP address: 192.168.0.10 / Subnet Mask: 255.255.255.0 / default Gateway: 192.168.0.1</li> </ul>

- 6 Press the Navigation buttons to select **Close** after Network setting is completed.
- 7 Press the **ENTER**.

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**Tips for Network setting**

- For more information about **NetCast** setup and troubleshooting, visit <http://gknowledgebase.com>. Search for **NetCast**.
- Use a standard LAN cable with this TV. Cat5 or better with a RJ45 connector.
- Many network connection problems during set up can often be fixed by re-setting the router or modem. After connecting the player to the home network, quickly power off and/or disconnect the power cable of the home network router or cable modem. Then power on and/or connect the power cable again.
- Depending on the internet service provider (ISP), the number of devices that can receive internet service may be limited by the applicable terms of service. For details, contact your ISP.
- LG is not responsible for any malfunction of the TV and/or the internet connection feature due to communication errors/malfunctions associated with your broadband internet connection, or other connected equipment.
- LG is not responsible for problems within your internet connection.
- Some content available through the network connection may not be compatible with the TV. If you have questions about such content, please contact the producer of the content.
- You may experience undesired results if the network connection speed does not meet the requirements of the content being accessed.
- Some internet connection operations may not be possible due to certain restrictions set by the Internet service provider (ISP) supplying your broadband Internet connection.
- Any fees charged by an ISP including, without limitation, connection charges are your responsibility.
- A 10 Base-T or 100 Base-TX LAN port is required for connection to this TV. If your internet service does not allow for such a connection, you will not be able to connect the TV.
- A DSL modem is required to use DSL service and a cable modem is required to use cable modem service. Depending on the access method of and subscriber agreement with your ISP, you may not be able to use the internet connection feature contained in this TV or you may be limited to the number of devices you can connect at the same time. (If your ISP limits sub-subscription to one device, this TV may not be allowed to connect when a PC is already connected.)
- The use of a "Router" may not be allowed or its usage may be limited depending on the policies and restrictions of your ISP. For details, contact your ISP directly.
- The wireless network operates at 2.4 GHz radio frequencies that are also used by other household devices such as cordless telephone, Bluetooth® devices, microwave oven, and can be affected by interference from them. It can be interrupted by the device using 5 GHz radio frequencies. It is same device with LG wireless media box, cordless telephone, other Wi-Fi device.
- It may decrease the service speed using Wireless network by surrounding wireless condition.
- Turn off all unused network equipment in your local home network. Some devices may generate network traffic.
- In some instances, placing the access point or wireless router higher up away from the floor may improve the reception.
- The reception quality over wireless depends on many factors such as type of the access point, distance between the TV and access point, and the location of the TV.
- When connecting internet through the wired/wireless sharing machine, it may interrupt the connection because of the use limitation and confirmation of service company.
- To connect wireless AP, an AP that supports the wireless connection is necessary, and the wireless connection function of the AP needs to be activated. Please enquire to the AP supplier for the possibility of AP wireless connections.
- Please verify the security settings of AP SSID for wireless AP connection, and enquire to the AP supplier for the AP SSID security settings.
- The TV can become slower or malfunction with wrong settings of network equipments (wired/wireless router, hub, etc). Please install correctly by referring to the manual of the equipment, and set the network.
- When AP is set to include 802.11 n, and if Encryption is designated as WEP(64/128bit) or WPA(TKIP/AES), the connection may not be possible. There may be different connection methods according to the AP manufacturers.

## Network Status

- 1 Press **HOME** to access the Home menu.
- 2 Press the Navigation buttons to scroll to **SETUP** and press **ENTER**.
- 3 Press the Navigation buttons to scroll to **NETWORK** and press **ENTER**.
- 4 Press the Navigation buttons to select **Network Status**.
- 5 Press **ENTER** to check the network status.

Option	Description
Setting	Return to the network setting menu or wireless network setting type menu.
Test	Test the current network status after setting the network.
Close	Return to the previous menu.

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## Premium card function

LG's Premium technology allows you to access a variety of online services or contents directly on your TV. Your TV offers instant streaming of movies, TV shows, videos, and Widget-based services with Premium and the Internet connection.

Enjoy entertainment including not only entertainment content, but also up-to-the **minute news**, **weather updates**, photo management, and more by simply using the TV's remote control without a separate PC.

- 1 Press **Premium** to access the Premium option.
- 2 Press the Navigation buttons to scroll to the contents you want and press **ENTER**.



- 3 Enjoy Online service.

### CAUTION

- These services are provided by separate Content Provider.
- Please visit the content providers web site for specific information on their service (But, some content manual maybe not provide depending on Content Provider).
- Premium menu can differ by country.
- If a service requires you to log in, you must first sign up to the service website on your computer and then log into the service on the TV.
- Note that content may be updated automatically depending on the service provider, so the content layout or operation method may change without notice. Please refer to the help menu on the screen.
- All information, data, documents, communications, downloads, files, text, images, photographs, graphics, videos, webcasts, publications, tools, resources, software, code, programs, applets, widgets, applications, products and other content

("Content") and all services and offerings ("Services") provided or made available by or through any third party (each a "Service Provider") is the sole responsibility of the Service Provider from whom it originated.

- The availability of and access to Content and Services furnished by the Service Provider through the LGE Device are subject to change at any time, without prior notice, including, but not limited to the suspension, removal or cessation of all or any part of the Content or Services.
- Should you have any inquiry or problem related to the Content or Services, you may refer to the Service Provider's website for the most up-to-date information. LGE is neither responsible nor liable for customer service related to the Content and Services. Any question or request for service relating to the Content or Services should be made directly to the respective Content and Service Providers.
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### NOTE

- The videos list searched from the TV may different with the list searched from a web browser on PC.
- The playback of videos may be paused, stopped or buffering occurring often depending on your broadband speed.
- For service that requires log in, join the applicable service on the website using the PC and log in through the TV to enjoy various additional functionalities.
- For Plasma TV: If there is no user action 2 minutes following freezing image or video on screen, the screensaver will activate itself preventing fixed image remaining on screen.

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**Yahoo! TV WIDGETS****(Only for USA)**

You can enjoy the best of the Internet synthesized with the simplicity of your TV.

Yahoo! TV Widgets provide an integrated Internet TV experience powered by the Yahoo!® Connected TV platform.

You can monitor financial stocks, share photos with friends and family, track news and weather as well as much more all through the Yahoo! TV Widgets service on your TV.

Note that these services are provided via the Content Provider using the Yahoo! Widget Platform provided by Yahoo!. These services are dependent on the appropriate Content Provider. Please check each widgets page for the Terms of Service.

Also, if you have any questions or need assistance concerning the widgets which is not covered in this manual, please consult the web site listed on the About Page for each widget, or the Yahoo! help site <http://connectedtv.yahoo.com/help>.

**Using the Remote Control**

When Yahoo! TV Widgets are displayed, you can use the following remote control buttons.

Button	Operation
WIDGETS	Accesses the Yahoo! TV Widgets. Press it again to revert back to watching TV.
Navigation	Navigate and highlight the buttons in the Yahoo! TV Widgets user interface.
▲	Scroll up.
▼	Scroll down.
<	Scroll to the left.
>	Scroll to the right.
ENTER	Select the highlighted item.
MENU	Go to the TV Menu.
Red button	Close the open widget and return to watching TV.
Green button	Change the open widget's settings.
Yellow button	Add, move, or delete your snippets.
Blue button	Resize the video to fit onscreen, or to make it fullscreen.

**Getting Started Out of the Box**

Once your television is turned on and your connection is operational for the first time, the Yahoo! TV Widgets software guides you through its step-by-step on-screen wizard. These setup steps are designed to provide you with the information and settings you will need to begin using the Yahoo! TV Widgets user interface.

**Guided Setup**

Press **WIDGETS** to activate Yahoo! TV Widgets. On initial use of Yahoo! TV Widgets, the step-by-step wizard begins with the Welcome Screen.

- 1 Select Let's get started! and press **ENTER**. If you select Exit Setup now and press **ENTER**, this step will resume the next time you press **WIDGETS**.



- 2 Choose your country to allow the use of localized content. Press the Navigation buttons to scroll to your location. When you selected your country, press **ENTER**.





- 3 Accepting the Yahoo! Privacy Policy is required to use Yahoo! Widgets.  
Select **Ok, I accept** and press **ENTER**.



- 4 Accepting the Yahoo! Terms of Service is also required to use Yahoo! TV Widgets.  
Select **Ok, I accept** and press **ENTER**.



- 5 Enter your name to setup your profile.  
Press the Navigation buttons to scroll to letters to spell your name, and press **ENTER**.  
Select **Save this name** and press **ENTER** to create your profile.



- 6 Test your network connection. After setup is completed, a tutorial on how to use Yahoo! TV Widgets will come up.  
Select **Continue** and press **ENTER** to review the tutorial.  
Select **Exit setup** and press **ENTER** to start using Yahoo! Widgets now.



### What is a TV Widget?

A TV Widget is an Internet application designed to run on your TV.

### What is a Snippet?

A Snippet is a shortcut used to open a TV Widget. It is a dynamic bookmark to TV Widget content.

### Using Yahoo! TV Widgets

Press **WIDGETS** to activate Yahoo! TV Widgets.

- The horizontal list at the bottom of your TV screen is called “the dock”.
- The items in this list are called “snippets”.
- A snippet is a shortcut which opens a TV Widget.



Press the Navigation buttons to move between snippets.

- The initial selection is located in the leftmost region and highlighted in dark red.
- The dock scrolls selected snippets to the leftmost region.



Press **ENTER** to open the **Sidebar** when the TV Widget snippet is highlighted.

- The Home button including the main logo is at the top of the sidebar.

Press the Navigation buttons to scroll to a menu item you want.

- The currently focused button is the one highlighted in dark red.

Select the focused button and press **ENTER**.



The sidebar's bottom toolbar includes four color-coded buttons.



- Press Red button to close the sidebar and return to watching TV.
- Press Green button to change the widget's settings.
- Press Yellow button to add or delete a snippet.
- Press Blue button to resize the video to fit onscreen, or to make it full screen.

### Using the Profile Widget

The **Profile Widget** configures the user's profile.

- Multiple profiles can be set up for multiple users.
- Each profile maintains its own list of TV Widgets.
- The **Switch Profile** menu allows switching to a different user profile.
- The **Profile Settings** menu allows profile customization, profile PIN creation, and placing limits on the installation of widgets.
- The **System Settings** menu allows you to change your **Location**, **Repeat the Tutorial**, and **Restore Factory Settings**.
- **Restore Factory Settings** will erase all profiles and widgets installed by users, and restore the original configuration. (See also **NETCAST → Options → Reset Yahoo! Factory Settings**)
- The **Administrative Controls** menu allows you to set the **Screen Saver** timeout, create the **Owner PIN**, and **Create a Profile**.
- The **Sign in to Yahoo!** menu allows personalization of your experience using your Yahoo! ID.
- If you do not have a Yahoo! ID yet, please visit <http://www.yahoo.com> to create one.



## Using the Widget Gallery

The **Widget Gallery** allows you to browse and discover new TV Widgets.

- The featured TV Widgets are highlighted in the display case at the top of the sidebar.
- You can also browse available TV Widgets by category.
- To install a widget, select **Add Widget to My Profile** and press the **ENTER** button.
- The **Owner PIN** is needed to install widgets for profiles that have been protected through the **Limit Profile** indicator under **Profile Widget → Profile Settings**.
- Go to the **Profile Widget → Administrative Controls** menu to set or change the **Owner PIN**.



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## TV Apps. card function

You can download various applications from LG App Store and enjoy them on your TV.



Option	Description
1 Sign In	Sign in the premium service.
2 Exit	Returns to TV viewing.
3 TV Apps.	Moves to TV Apps.
4 Quick Apps.	Stores the most frequently used apps among all downloads. To change the list of Quick Apps, see "Using My Apps." on page 65.
5 My Apps.	Moves to My Apps.

## Registration TV Apps.

- 1 Press **Home** to access the Home menu.
- 2 Press **Red** button to register.  
- You can only register as a free member from your TV.
- 3 Create your ID and password.  
Press the Navigation buttons to select alphabet and number and select **OK**.



- 4 The registration is completed.

## Sign in with your TV Apps. account

To enjoy your TV Apps with your account, you need sign in with your TV Apps account.??

- 1 Press **Home** to access the Home menu.
- 2 Press **Red** button to sign in.  
It displays the keyboard menu for entering ID and password.  
- If you are not a member, press **Red** button again. You can only register as a free member from your TV.
- 3 Press the Navigation buttons to scroll to the alphabet or number and press **ENTER**.  
- Auto Sign In에 체크하면 TV를 켤 때마다 로그인하는 번거로움 없이 자동으로 로그인 상태가 유지됩니다.



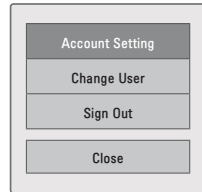
- 4 Enjoy TV Apps.  
You can enjoy Premium service, TV Apps, My Apps and much more.

### NOTE

- If you wish to become a paid member or change your information, please use your PC and visit <http://www.????>.
- You can download a paid app on up to five TV.

## ID Management

- 1 After sign in, press **Red** button again. A pop-up window will appear.
- 2 Press the Navigation buttons to scroll to the desired menu option and press **ENTER**.



- 3 Manage the ID by using following menu.

Option	Description
Account Setting	Checks basic information, apps you purchased and apps installed on your TV.
Change User	Deletes or changes your account.
Sign Out	

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## Using TV Apps.

- 1 Press **Home** to access the Home menu.
- 2 Sign in your TV.
- 3 Press the Navigation buttons to scroll to the TV Apps and press **ENTER**.
- 4 Edit the Apps by using following menu.



Option	Description
1 Live TV	Watches the current channel.
2 Advertisement	?
3	Available buttons on the remote control.
4 Apps Category	<ul style="list-style-type: none"> <li>• All: ?</li> <li>• Game: ?</li> <li>• Entertainment: ?</li> <li>• Life: ?</li> <li>• Education: ?</li> <li>• News: ?</li> </ul>
5 Apps Sorting	<ul style="list-style-type: none"> <li>• Hot: Most downloaded apps in the past 7 days</li> <li>• New: Most recently released apps</li> <li>• Top Paid: Most downloaded paid apps</li> <li>• ?</li> <li>• ABC: Alphabetical order</li> </ul>

## Purchasing and Installing Apps.

Log in first to purchase apps.

- 1 Press the Navigation buttons to select Apps you want and press **ENTER**.  
You can see the information of the App.
- 2 Press **Purchase** to buy a App.

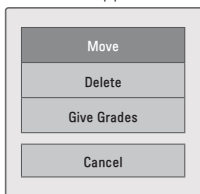


### Using My Apps.

- 1 Enter the TV Apps after sign in.
- 2 Press the Navigation buttons to scroll to **My Apps.** and press **ENTER.**



- 3 Press **Green** button to edit **My Apps.**  
A pop-up window will appear.



- 4 Edit the Apps by using following menu.

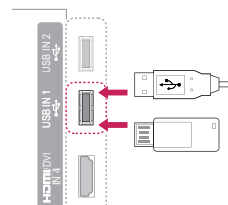
Option	Description
Move	
Delete	
Give Grades	

### My Media Card Function

#### Connecting USB storage devices

Connect USB storage devices such as a USB flash drive, external hard drive, or MP3 player to the TV and use multimedia features (See "Browsing files" on page 71).

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



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

- 1 Press **●.MENU** to access the quick menus.
- 2 Press the Navigation buttons to scroll to **USB Device** and press **ENTER.**
- 3 Disconnect the USB storage device only when the message says that it is safe to remove.



#### CAUTION

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

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#### Tips for using USB storage devices

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

## DLNA DMP (Digital Living Network Alliance, Digital Media Player)

This TV can display and play many types of movie, photo and music files from your DLNA server and has been certified by DLNA for photos.

The Digital Living Network Alliance (DLNA) is a cross-industry organization of consumer electronics, computing industry and mobile device companies. Digital Living provides consumers with easy sharing of digital media through a wired or wireless network in the home.

The DLNA certification logo makes it easy to find products that comply with the DLNA Interoperability Guidelines. This unit complies with DLNA Interoperability Guidelines v1.5. When a PC running DLNA server software or other DLNA compatible device is connected to this TV, some setting changes of software or other devices may be required. Please refer to the operating instructions for the software or device for more information.

Please refer to "My Media Card Function" for additional information on supported file types and other instructions.

### NOTE

- The supplied Nero MediaHome 4 Essentials CD-ROM is a customized software edition only for sharing files and folders to this TV.
- The supplied Nero MediaHome 4 Essentials software does not support following functions: Transcoding, Remote UI, TV control, Internet services and Apple iTunes
- This manual explains operations with the English version of Nero MediaHome 4 Essentials as examples. Follow the explanation referring to the actual operations of your language version.
- If there are too many folders and files in one folder, it may not operate properly.
- For the DLNA option, use the Nero MediaHome program that is provided with the TV. However, we cannot guarantee that third party program will work perfectly.
- You can select a channel while viewing the small preview channel list on your TV screen.
- Check your network settings when the DLNA option does not work properly.
- If there is an abnormal operation or an error occurs in Nero Media Home, the DLNA option may not work properly. In this case, exit Nero Media Home and restart the program. You can download the latest version of Nero Media Home by clicking the question mark at the bottom-left of the program.
- When the network is unstable, the device may be slower or may need to load during playback.
- When playing a video in DLNA mode, the Multi Audio and Closed Caption features are not supported.
- When selecting Full Screen in DLNA mode, the ratio of the outputted screen may differ from the original.
- When more than one TV is connected to a single server in DLNA mode, a file may not play properly, depending on the server performance.
- If the play time information is not provided by the server, it is displayed as "--:--:--."
- When using Movie List, DRM files in the DLNA server cannot be played.
- DLNA operation may not work properly according to the AP manufacturers.

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### Installing Nero MediaHome 4 Essentials

Nero MediaHome 4 Essentials is easy to use DLNA server software for Windows.

#### Requirement PC system before you install Nero MediaHome 4 Essentials

- Windows® XP (Service Pack 2 or higher), Windows Vista® (no Service Pack required), Windows® XP Media Center Edition 2005 (Service Pack 2 or higher), Windows Server® 2003
- Windows Vista® 64-bit edition (application runs in 32-bit mode)
- Hard drive space: 200 MB hard drive space for a typical installation of Nero MediaHome stand-alone
- 1.2 GHz Intel® Pentium® III or AMD Sempron™ 2200+ processors
- Memory: 256 MB RAM
- Graphics card with at least 32 MB video memory, minimum resolution of 800 x 600 pixels, and 16-bit color settings
- Windows® Internet Explorer® 6.0 or higher
- DirectX® 9.0c revision 30 (August 2006) or higher
- Network environment: 100 Mb Ethernet, WLAN (IEEE 802.11a/b/g/n)

- 1 Start up your computer, and insert the Nero MediaHome 4 Essentials CD-ROM into your computer's CD-ROM drive.  
An installation wizard will walk you through the quick and uncomplicated installation process.
- 2 Close all Microsoft Windows programs and exit any anti-virus software that may be running.
- 3 Insert the Nero MediaHome 4 Essentials CD-ROM into your computer's CD-ROM drive.
- 4 Click **Nero MediaHome 4 Essentials**. The installation is prepared and the installation wizard appears.
- 5 Click the **Next** button to display the serial number input screen. Click **Next** to go to the next step.
- 6 If you accept all conditions, click **I accept the License Conditions** check box and click **Next**. Installation is not possible without this agreement.

- 7 Click **Typical** and click **Next**. The installation process is started.
- 8 If you want to take part in the anonymous collection of data, select the check box and click the **Next** button.
- 9 Click the **Exit** button to complete the installation.

### Sharing files and folders

After installing Nero MediaHome, you must add folders you wish to share.

- 1 Double-click the Nero MediaHome 4 Essentials icon on the desktop.
- 2 Click Network icon on the left and define your network name in the Network name field. The Network name you enter will be recognized by your TV.
- 3 Click Shares icon on the left.
- 4 Click Local Folders tab on the Shared screen.
- 5 Click Add icon to open the Browse Folder window.
- 6 Select the folder containing the files you want to share. The selected folder is added to the list of shared folders.
- 7 Click Start Server icon to start the server.

### NOTE

- If the shared folders or files are not displayed on the TV, click the folder on the Local Folders tab and click **Rescan Folder** at the **More** button.
- Visit <http://www.nero.com> for more information and software tools.

**Playing back shared contents**

You can display and play movie, photo and music content stored on your computer or other DLNA media servers.

- 1 Press **HOME** to access the Home menu.
- 2 Press the Navigation buttons to scroll to **My Media** and press **ENTER**.
- 3 Press the Navigation buttons to scroll to the device you want and press **ENTER**.
- 4 Press the Navigation buttons to select **DLNA**. Depending on the media server, this TV may need to get the permission from the server. If you want to re-scan available media server, press blue color button.

**! NOTE**

- To play the file on the media server, the TV and the media server must be connected to the same access point.
- Because the compatibility and available playback functions on the My Media menu are tested on the bundle DLNA server (Nero MediaHome 4 Essentials) environment, file requirements and playback functions on the My Media may differ depending on media servers.
- The file requirements on this page are not always compatible. There may have some restrictions by file features and media server's ability.
- Even the files that are not supported can be displayed in photo thumbnail or music thumbnail.
- **Movie thumbnail is only supported when DLNA server supports a Movie thumbnail.**
- If there is an unplayable music file in the My Media menu, the TV will skip the file and play next file.
- The file information indicated on the screen may not always correct for music and movie files in My Media menu
- This TV only supports movie subtitle files supplied by Nero MediaHome 4.
- The subtitle file name and movie file name have to be the same and located at the same folder.
- If subtitle files have been added after a directory has been indexed already, the user has to remove and re-add the folder to the list of shares.
- The playback and operating quality of the My Media function may be affected by your home network condition.
- The files from removable media such as USB drive, DVD-drive etc. on your media server may not share properly.
- When playing the Media through DLNA connection, it does not support the DivX file play which is protected by DRM.
- **Up to 1000 including folders and files can be recognized.**
- If there are too many folders and files in one folder, it may not operate properly.
- **Files in a folder can be played only when they are of the same type.**

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**DLNA DMR (Digital Living Network Alliance, Digital Media Renderer)**

If the PC uses Windows 7, or a device (e.g. mobile phone) with the DLNA DMC certificate is connected to a network, you can play music, videos or photos etc. on the TV.

The DMR function only works properly when the TV and PC are configured to use the same network.

- 1 To play a file, select the file by using the "Remote Play" feature in Windows 7. To do this, right-click on the file you want to play.
  - Refer to the mobile phone's user manual to find out how to use it to play a file.
  - You can change the name of a connected TV by double-clicking the item you want to change in Control Panel > Network and Internet > View network computers and devices.
  - You cannot change the name of a TV while DMR media is playing. Change it when playback is stopped.
- 2 Press the **EXIT** button on the remote control to exit.
  - During play, only the volume, mute, exit and backwards buttons are available.

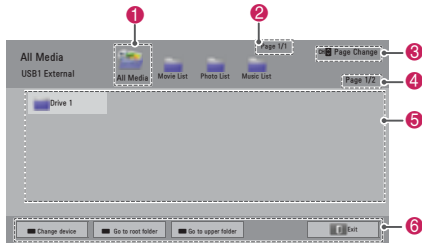
**! NOTE**

- **The DMR function may not work properly in a wireless network.**
- **The seek function of the DMC only works on video files.**
- **The DMR is not available when another function is operating (recording, playback or my media work etc.).**

## Browsing files

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

- 1 Press **HOME** to access the Home menu.
- 2 Press the Navigation buttons to scroll to **My Media** and press **ENTER**.
- 3 Press the Navigation buttons to scroll to the device you want and press **ENTER**.
- 4 Press Navigation buttons to scroll to **All Media**, **Movie List**, **Photo List**, or **Music List** and press **ENTER**.
  - **All Media**: Shows all files in the file list.
  - **Movie List**, **Photo List**, or **Music List**: Shows only one type of file in the file list.
- 5 Press Navigation buttons to select a folder or file you want.



No.	Description
1	Shows all media folder.
2	Current page number/total number of pages of folder.
3	Moves to the previous or next page.
4	Current page number/total number of pages of contents.
5	Files info or thumbnail.
6	Available buttons on the remote control.

### Thumbnail information

Type	Abnormal files	Non-supported files
Movie		
Photo		
Music		

### Tips for using USB storage devices

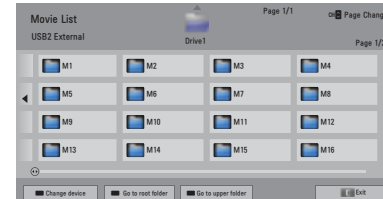
Type	Supported File Formats													
Video	<ul style="list-style-type: none"> <li>• MPG, MPEG, DAT, TS, TRP, TP, VOD, MP4, MOV, MKV, DivX, AVI, Motion JPEG (AVI, MP4, MKV), ASF, WMV, FLV</li> <li>• Resolution: under 1920 pixel (width) x 1080 pixel (height)</li> <li>• Frame Rate: under 30 frame/sec (1920 x 1080), under 60 frame/sec (1280 x 720)</li> <li>• Max bitrate of playable movie file: 20 Mbps (Mega bit per second)</li> <li>• Bit rate of audio format: within 32 kbps to 320 kbps (MP3)</li> <li>• Supported subtitle format: *.smi, *.srt, *.sub (MicroDVD, SubViewer 1.0/2.0), *.ass, *.ssa, *.txt (TMPPlayer), *.psb (PowerDivX)</li> </ul>													
Photo	<ul style="list-style-type: none"> <li>• JPG, MPO (For 3D TV)</li> <li>• Available size Baseline: 64 pixel (W) x 64 pixel (H) - 15360 pixel (W) x 8640 pixel (H) Progressive: 64 pixel (W) x 64 pixel (H) - 1920 pixel (W) x 1440 pixel (H) * Do not use the progressive option when saving JPG files on your PC.</li> <li>• It may take some time to open high-resolution images in full screen.</li> </ul>													
For 3D TV														
	<table border="1"> <thead> <tr> <th>File Extensions</th> <th>Item</th> <th>Profile</th> </tr> </thead> <tbody> <tr> <td rowspan="2">2D jpeg jpg jpe</td> <td>Supproted file format</td> <td> <ul style="list-style-type: none"> <li>• SOF0: baseline</li> <li>• SOF1: Extend Sequential</li> <li>• SOF2: Progressive</li> </ul> </td> </tr> <tr> <td>Photo size</td> <td> <ul style="list-style-type: none"> <li>• Min: 64 x 64</li> <li>• Max - Normal Type: 15360 (W) x 8640 (H)</li> <li>• Progressive Type: 1920 (W) x 1440 (H)</li> </ul> </td> </tr> <tr> <td rowspan="2">3D mpo</td> <td>Supproted file format</td> <td>• mpo</td> </tr> <tr> <td>Photo size</td> <td> <ul style="list-style-type: none"> <li>• 4:3 size: 3,648 x 2,736</li> <li>• 2,592 x 1,944</li> <li>• 2,048 x 1,536</li> <li>• 3:2 size: 3,648 x 2,432</li> </ul> </td> </tr> </tbody> </table>	File Extensions	Item	Profile	2D jpeg jpg jpe	Supproted file format	<ul style="list-style-type: none"> <li>• SOF0: baseline</li> <li>• SOF1: Extend Sequential</li> <li>• SOF2: Progressive</li> </ul>	Photo size	<ul style="list-style-type: none"> <li>• Min: 64 x 64</li> <li>• Max - Normal Type: 15360 (W) x 8640 (H)</li> <li>• Progressive Type: 1920 (W) x 1440 (H)</li> </ul>	3D mpo	Supproted file format	• mpo	Photo size	<ul style="list-style-type: none"> <li>• 4:3 size: 3,648 x 2,736</li> <li>• 2,592 x 1,944</li> <li>• 2,048 x 1,536</li> <li>• 3:2 size: 3,648 x 2,432</li> </ul>
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Music	<ul style="list-style-type: none"> <li>• MP3</li> <li>• Bit rate range 32 Kbps - 320 Kbps</li> <li>• Sampling rate (Sampling Frequency) MPEG1 layer 3: 32 kHz, 44.1 kHz, 48 kHz</li> <li>• MPEG2 layer 3: 16 kHz, 22.05 kHz, 24 kHz</li> <li>• * A copy-protected file will not play.</li> </ul>													



## Viewing videos

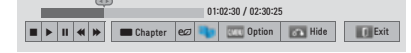
Play video files on the TV. Your TV can display video files from a USB storage device.

- 1 Press **HOME** to access the Home menu.
- 2 Press the Navigation buttons to scroll to **My Media** and press **ENTER**.
- 3 Press the Navigation buttons to scroll to **Movie List** and press **ENTER**.
- 4 Press Navigation buttons to select a folder or file you want and press **ENTER**.
- 5 Play a movie by using the following menus/buttons.



Button	Description
Navigation button	Scrolls the file.
<b>ENTER</b>	Plays the highlighted file.
<b>CH</b> (⏪, ⏩)	Moves to the previous or next page.
Red button	Change device: Changes to a different input.
Green button	Go to root folder.
Yellow button	Go to upper folder.

- 7 Control playback by using the following buttons.



Button	Description
■	Stops the playback.
▶	Plays a video.
⏸	Pauses or resumes the playback
◀	Scans backward in a file
▶	Scans forward in a file
⏪ and ⏩	Plays videos in slow motion
Red button and < or >	Selects the frame directly. The entire file is divided into 10 frames. Frames may not be displayed depending on the file.
<b>ENERGY SAVING</b>	Increases or decreases the brightness of your screen.
●.MENU	Shows the Option menu (See p.74).
<b>3D</b>	Views the 3D imaging.
<b>AV MODE</b>	Select the desired source
<b>BACK</b>	Hides the menu on screen. To see the menu again, press <b>ENTER</b> button to display.
<b>EXIT</b>	Moves to the previous menu screen.

**Tips for playing video files**

- Some user-created subtitles may not work properly.
- Subtitles may not display some special characters or HTML tags.
- Subtitles in the non-supported languages are unavailable.
- The time information in an external subtitle file should be arranged in ascending order to play.
- The screen may suffer from temporary interruptions such as image stoppage or faster playback when you change the audio language.
- If you play a damaged video file, the video file may not be played correctly or some player functions may not be unavailable.
- The TV may not properly play the video files produced with certain encoders.
- If the recorded file does not have video or audio, either video or audio is not outputted
- If the TV plays the recorded file without video or audio, either video or audio is not outputted.
- The TV may not smoothly play the video files with a resolution higher than the supported resolution for each frame.
- The TV may not properly play the video files not included on the specified type and format.
- The TV may not play the files encoded with GMC (Global Motion Compensation) or quarter-pel motion estimation.
- The TV supports the only files saved in ASCII code in subtitles.
- The maximum number of characters displayed on each subtitle line is 250 (Korean), 500 (English), and 500 (Numbers).
- The TV supports the only 10,000 sync blocks within the subtitle file.
- The TV supports the H.264 codec up to the profile level 4.1.
- The TV does not support DTS audio codec.
- The TV cannot play a video file whose size is larger than 30 GB.
- If you play a video file through the USB connection that does not support the high speed, the video player may not work properly.
- The TV supports a USB storage device whose version is lower than 2.0. However,

the USB storage device may not work properly in the movie list.

- The video file and its subtitle should be in the same folder and the name of the video file and subtitle should be identical.
- You can adjust the image by using E and A. But you cannot customize image options of each mode.
- The TV may not play the video files in the supported file format depending on the encoded condition.
- The TV will not play the video files that has a damaged index or no index.



**Q.MENU options for movie list**

- 1 Press **●**. **MENU**.  
A pop-up window will appear.
- 2 Press the Navigation buttons to scroll to movie list option and press **ENTER**.
- 3 Press the Navigation buttons to scroll to one of the following options and press **ENTER**.

**Set Video Play.**

Option	Description	
Picture Size	Selects your desired picture format for videos. <ul style="list-style-type: none"> <li>• <b>Full Mode:</b> Files are played in full screen mode regardless of the aspect ratio of video.</li> <li>• <b>Original Mode:</b> Files are played according to the aspect ratio of video.</li> </ul>	
Audio Language	Changes the Language Group of the audio for video files. Files with a single audio track cannot be selected.	
Subtitle Language	The subtitles can be turned on or off.	
Language	Activated for SMI subtitles and can select the language within the subtitle.	
Code Page	Subtitle font selection. When set to default, contents are displayed in the language set in "Option - Language - Menu Language."	
	Subtitle Language Group	Supported Language
	Latin1	English, Spanish, French
	Korean	English, Korean
Sync	When the video is not synchronized with the captions, it can be adjusted by 0.5 second.	
Position	Move the location of the subtitles.	
Size	Changes the subtitle font size.	
Repeat	Turn on/off repeat function of movie playback. When turned on, the file within the folder will be played back repeatedly. When turned off, if the next file name is similar to the previous file, it can be played sequentially.	

**! NOTE**

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

**Set Video.**

Control the menu option (Refer to "PICTURE Settings" on page 86).

**Set Audio.**

Control the menu option (Refer to "AUDIO Settings" on page 91).

**Set DivX PLUS HD**

Option	Description
Title	
Edition	
Authorized Chapter	

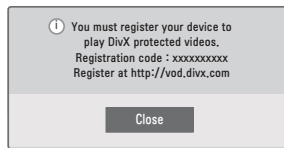


## DivX registration code

### Registering the DivX code

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

- 1 Press **MENU** to access the Home menu.
- 2 Press the Navigation buttons to scroll to **SETUP** and press **ENTER**.
- 3 Press the Navigation buttons to scroll to **My Media Setting (DivX/DLNA)** and press **ENTER**.
- 4 Press the Navigation buttons to scroll to **DivX VOD Registration** and press **ENTER**.
- 5 View the registration code of your TV.



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

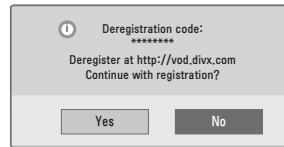
### NOTE

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

### Deactivating the DivX feature

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

- 1 Press **MENU** to access the Home menu.
- 2 Press the Navigation buttons to scroll to **SETUP** and press **ENTER**.
- 3 Press the Navigation buttons to scroll to **My Media Setting (DivX/DLNA)** and press **ENTER**.
- 4 Press the Navigation buttons to scroll to **DivX Deactivation** and press **ENTER**.
- 5 Select **Yes** to confirm.



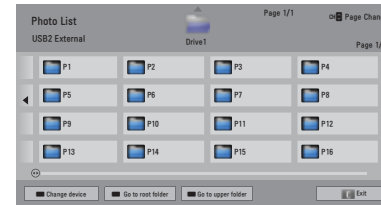
- 6 When you are finished, press **EXIT**.



## Viewing photos

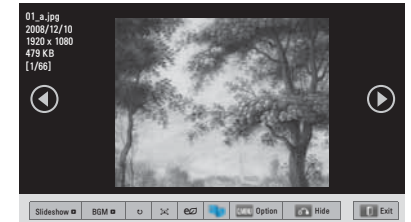
View image files saved in a USB storage device. The displays on the screen may differ from the model.

- 1 Press **HOME** to access the Home menu.
- 2 Press the Navigation buttons to scroll to **My Media** and press **ENTER**.
- 3 Press the Navigation buttons to scroll to **Photo List** and press **ENTER**.
- 4 Press Navigation buttons to select a folder or file you want and press **ENTER**.
- 5 View a photo by using the following menus/ buttons.



Button	Description
Navigation button	Scrolls the file.
<b>ENTER</b>	Views the highlighted file.
<b>CH (▲, ▼)</b>	Moves to the previous or next page.
Red button	Change device: Changes to a different input.
Green button	Go to root folder.
Yellow button	Go to upper folder.

- 7 Use the following options while viewing photos.



Option	Description
<b>Slideshow</b>	<ul style="list-style-type: none"> <li>• Starts or stops a slideshow.</li> <li>• All photos saved in the current folder display during a slideshow.</li> <li>• To set a slideshow speed, select Option.</li> </ul>
<b>BGM (Background Music)</b>	<ul style="list-style-type: none"> <li>• Turns the background music on or off. To set the background music folder, select Option.</li> </ul> <p><b>NOTE</b></p> <ul style="list-style-type: none"> <li>• You can't change or set-up the BGM while viewing the *.mpo file (3D camera file).</li> </ul>
<b>⌚ (Rotate)</b>	<p>Rotates photos clockwise (90°, 180°, 270°, 360°).</p> <p><b>NOTE</b></p> <ul style="list-style-type: none"> <li>• The supported photo size is limited. You cannot rotate a photo if the resolution of the rotated width is larger than the supported resolution size.</li> </ul>
<b>⌕ (Full/Original)</b>	Views the photo in full mode or original mode.
<b>⚡ (ENERGY SAVING)</b>	Increases or decreases the brightness of your screen
<b>3D</b>	Views the 3D imaging.
<b>Option</b>	Shows the Option menu (See p.77).
<b>Hide</b>	Hides the option window. To display the options, press <b>ENTER</b> .
<b>Exit</b>	Moves to the previous menu screen.



**NOTE**

- Option values changed in Photo List do not affect Movie List and Music List.
- Option values changed in Photo List or Music List are changed likewise in Photo List and Music List, but not Movie List.

**Q.MENU options for photo list**

- 1 Press **MENU**.  
A pop-up window will appear.
- 2 Press the Navigation buttons to scroll to photo list option and press **ENTER**.
- 3 Press the Navigation buttons to scroll to one of the following options and press **ENTER**.

**Set Photo View.**

Option	Description
Slide Speed	Selects a slideshow speed (Fast, Medium, Slow).
BGM	Selects a music folder for the background music. Select Repeat or Random option.



- You cannot change the music folder while the background music is playing.



**NOTE**

- You cannot select the Option in 3D imaging mode. (Only 3D models)

**Set Video.**

Control the menu option (Refer to "PICTURE Settings" on page 86).

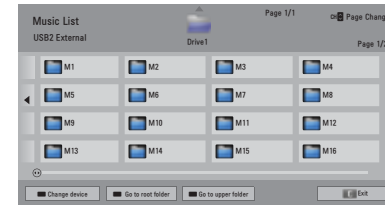
**Set Audio.**

Control the menu option (Refer to "AUDIO Settings" on page 91).



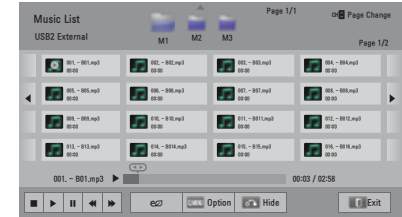
**Listening to music**

- 1 Press **HOME** to access the Home menu.
- 2 Press the Navigation buttons to scroll to **My Media** and press **ENTER**.
- 3 Press the Navigation buttons to scroll to **Music List** and press **ENTER**.
- 4 Press Navigation buttons to select a folder or file you want and press **ENTER**.
- 5 Play music by using the following menus/ buttons.



Button	Description
Navigation button	Scrolls the file.
<b>ENTER</b>	Plays the highlighted file.
<b>CH</b> (⏮, ⏭)	Moves to the previous or next page.
Red button	Change device: Changes to a different input.
Green button	Go to root folder.
Yellow button	Go to upper folder.
Blue button	Open music player. It is enabled during palyng a music.

- 7 Control playback by using the following buttons.



Button	Description
■	Stops playback.
▶	Plays a music file.
⏮	Pauses or resumes playback.
⏭	Skips to the next file.
⏪	Skips to the previous file.
< or >	Indicates a cursor
<b>(ENERGY SAVING)</b>	Increases or decreases the brightness of your screen.
<b>MENU</b>	Shows the Option menu (See p.78).
<b>BACK</b>	Hides the option window. To display the options, press <b>ENTER</b> .
<b>EXIT</b>	Moves to the previous menu screen.

**Q.MENU options for music list**

- 1 Press **MENU**.  
A pop-up window will appear.
- 2 Press the Navigation buttons to scroll to music list option and press **ENTER**.
- 3 Press the Navigation buttons to scroll to one of the following options and press **ENTER**.



**NOTE**

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

**Set Audio Play.**

Select Repeat or Random option.

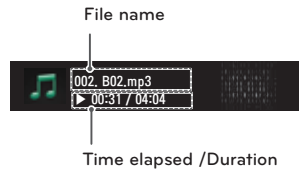
**Set Audio.**

Control the menu option (Refer to "AUDIO Settings" on page 91).

**NOTE**

- A copy-protected file will not play.
- If the TV is not in use for some time during playback, the information box as a screensaver will appear to prevent image burn.

To return to the Music list screen, press **ENTER**.



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## 3D IMAGING (FOR 3D TV)

### 3D Technology

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

**WARNING**

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

family has a history of epilepsy or seizure, please consult with your doctor before watching 3D TV.

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

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

**NOTE**

(For LW7700, LW9500, LZ9700, PZ950 series)

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

**When using 3D Glasses**

**CAUTION**

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

ENGLISH

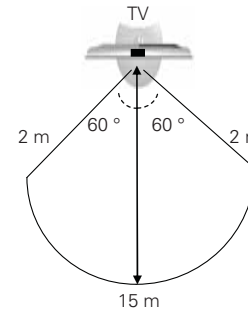
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**3D Imaging viewing range**

(For LW7700, LW9500, LZ9700, PZ950 series)

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

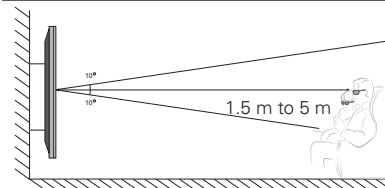
Viewing Distance	Viewing Angle
2 m - 15 m (6.5 ft - 49.2 ft)	120 ° (When the viewing distance is 2 m (6.5 ft))



(For LW56, LW57, LW65 series)

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

Viewing Distance	Viewing Angle
1.5 m - 5 m (? ft - ? ft)	Top/Bottom 10 °



**Viewing 3D Imaging**

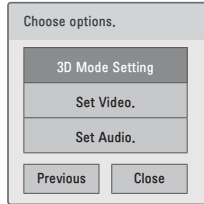
- 1 Play the video produced in 3D.
- 2 Press **3D** to watch 3D imaging.
- 3 Wear the 3D glasses.
- 4 Press the Navigation buttons to scroll the **OK** and press **ENTER**.
- 5 Press the Navigation buttons to select the shape and press **ENTER**.

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

- 6 Press **3D** button to **2D Off** or **3D Off**.

## Setting 3D Imaging

- 1 Press the **3D SETTING** while viewing 3D imaging.  
A pop-up window will appear.
- 2 Press the Navigation buttons to scroll to one of the following options and press **ENTER**.



### 3D Mode Setting

Option	Description
Image View Mode	
3D Picture Size (  )	Cuts off the outer edges of the picture and stretch it to fit the full screen in 3D mode.
3D Image Type (  )	?
3D Effects	Adjusts the distance between the object and the background in the picture to enhance the 3D effect in 2D to 3D mode.
3D Viewpoint	Brings the picture (including both the object and background images) to the front or back to enhance the 3D effect in 3D mode.
3D Picture Balance (  )	Adjusts the color and brightness difference between the right and left sides of the picture in 3D mode.
3D Optimization (  )	입체영상에서 카메라 특성 혹은 제작 단계에서 L, R의 영상이 밝기, 색 등이 차이가 나는 경우가 있는데 이를 보정하는 기능입니다. Adjusts the brightness and the contrast difference between the left and the right sides of the 3D image, which is caused during recording or due to certain features of the camera.

### Set Video.

Control the menu option (Refer to "PICTURE Settings" on page 86).

### Set Audio.

Control the menu option (Refer to "AUDIO Settings" on page 91).



#### CAUTION

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



#### NOTE

- \* If viewing 3D imaging, "Power indicator" is turned off automatically.
- You can only choose "Standard or Cinema" with the AV MODE button on the remote control. AV MODE is set as Standard while playing in 3D.
- Energy Saving is disabled while playing in 3D.

ENGLISH

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## CUSTOMIZING TV SETTINGS

### Accessing SETUP Menu

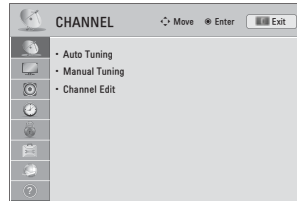
- 1 Press **HOME** to access the Home menu.
- 2 Press the Navigation buttons to select the **SETUP** menu and press **ENTER**.
- 3 Press the Navigation buttons to scroll to one of the following menus and press **ENTER**.
- 4 Press the Navigation buttons to scroll to the setting or option you want and press **ENTER**.
- 5 When you are finished, press **EXIT**.

Menu		Description
	CHANNEL	Sets up and edit channels.
	PICTURE	Adjusts the image size, quality, or effect.
	AUDIO	Adjusts the sound quality, effect, or volume level.
	TIME	Sets the time, date, or Timer feature.
	LOCK	Locks or unlocks channels and programs.
	OPTON	Customizes the general settings.
	NETWORK	Sets up the network setting.
	CUSTOMER SUPPORT	Checks the customer information.

## Customizing Settings

### CHANNEL Settings

- 1 Press **HOME** to access the Home menu.
- 2 Press the Navigation buttons to scroll to **SETUP** and press **ENTER**.
- 3 Press the Navigation buttons to scroll to **CHANNEL** and press **ENTER**.
- 4 Press the Navigation buttons to scroll to the setting or option you want and press **ENTER**.  
- To return to the previous level, press **BACK**.
- 5 When you are finished, press **EXIT**.



The available channel settings are described in the following.

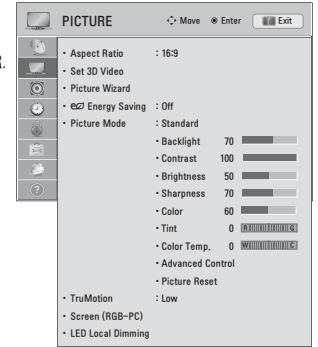
Setting	Description
<b>Auto Tuning</b>	Tunes and stores all available channels through antennas or cable inputs (See p.44).
<b>Manual Tuning</b>	Tunes and stores the channels you want manually (See p.44).
<b>Channel Edit</b>	Adds or deletes channels on the channel (See p.44).

ENGLISH

ENGLISH

### PICTURE Settings

- 1 Press **HOME** to access the Home menu.
- 2 Press the Navigation buttons to scroll to **SETUP** and press **ENTER**.
- 3 Press the Navigation buttons to scroll to **PICTURE** and press **ENTER**.
- 4 Press the Navigation buttons to scroll to the setting or option you want and press **ENTER**.  
- To return to the previous level, press **BACK**.
- 5 When you are finished, press **EXIT**.



The available picture settings are described in the following.

Setting	Description
<b>Aspect Ratio</b>	Changes the image size to view images at its optimal size (See p.47).
<b>Picture Wizard (LCD)</b>	Adjusts the image quality and calibrates the screen The customized options will be saved as <b>Expert1</b> in the <b>Picture Mode</b> .  <div style="border: 1px solid black; padding: 5px;"> <p><b>NOTE</b></p> <ul style="list-style-type: none"> <li>• If you use <b>Picture Wizard</b>, the <b>Energy Saving</b> feature will turn off automatically.</li> <li>• To reset changes made by <b>Picture Wizard</b>, operate <b>Picture Reset</b> when <b>Picture Mode</b> is on <b>Expert1</b>.</li> </ul> </div>
<b>Set 3D Video (For 3D TV)</b>	Sets the 3D imaging option (See p.83).
<b>Energy Saving</b>	Reduces the power consumption by adjusting the screen brightness.  <div style="border: 1px solid black; padding: 5px;"> <p><b>NOTE</b></p> <ul style="list-style-type: none"> <li>• When selecting <b>Auto</b> or <b>Maximum</b>, <b>Backlight</b> will not work (LCD).</li> </ul> </div>
<b>Option</b>	
<b>Auto (LCD)</b>	The backlight is adjusted automatically corresponding to the surroundings when selecting <b>Auto</b> using the <b>Intelligent sensor</b> feature.
<b>Intelligent sensor (LCD)</b>	The most suitable picture is automatically adjusted corresponding to the surroundings.
<b>Off</b>	Select if this feature is not necessary.
<b>Minimum/ Medium/Maximum</b>	Selects the brightness level.
<b>Screen off (LCD)</b>	The screen turns off in 3 seconds.

Setting	Description
<b>Picture Mode</b>	Selects one of the preset image or customizes options in each mode for the best TV screen performance. You are also able to customize advanced options of each mode. The available preset picture modes vary depending on the TV.
<b>Mode (Depending on models)</b>	
Intelligent Sensor	Sets the TV to adjust the image settings, such as contrast, brightness, sharpness, color, or tint, automatically corresponding to the surrounding environments.
Vivid	Adjusts the video image for the retail environment by enhancing the contrast, brightness, color, and sharpness.
Standard	Adjusts the image for the normal environment.
APS	This is the mode to maximize reducing the power consumption without hurting the picture quality.
Cinema	Optimizes the video image for a cinematic look to enjoy movies as if you are in a movie theater.
THX Cinema	Provides the experience of watching a movie at home. The user will be able enjoy the best level of satisfactory screen quality in any movie without any separate adjustments. THX Cinema express the optimal screen quality when it is darkest. When selecting it, Aspect ratio changes to Just scan.
THX Bright Room	Optimizes TV viewing in Bright Room. When selecting it, Aspect ratio changes to Just scan.
Sport	Optimizes the video image for high and dynamic actions by emphasizing primary colors such as white, grass, or sky blue.
Game	Optimizes the video image for a fast gaming screen such as PCs or games.
Expert	Adjusts the detailed video image settings for video experts as well as general viewers.
<div style="border: 1px solid black; padding: 5px;"> <p><b>NOTE</b></p> <ul style="list-style-type: none"> <li>If you select <b>Intelligent Sensor</b>, the option of the Energy saving feature will switch to <b>Auto</b> automatically (LCD).</li> </ul> </div>	
<b>TruMotion (LCD)</b>	Advance video technology that provides clearer, smoother images, even during fast action scenes creating a more stable structure for a crisper picture. TruMotion works with all inputs except PC mode. If you enable "TruMotion", noise may appear on the screen. If this occurs, set "TruMotion" to "Off". If you select "Picture Mode-Game", set "TruMotion" to "Off".
<b>Mode</b>	
High	Provides smoother picture movement.
Low	Provides smooth picture movement. Use this setting for standard use.
Off	Turn off TruMotion operation.
User	De-Judder: Adjusts noise of the screen. De-Blur: Adjusts after-image of the screen.

ENGLISH




ENGLISH

Setting	Description
<b>SCREEN (RGB-PC)</b>	Customizes the PC display options.
<b>Option</b>	
Resolution	Selects a proper resolution when your PC uses 1024 X 768, 1280 X 768, or 1360 X 768 resolution.
Auto Configure	Sets the TV to optimize the options automatically for the TV display.
Position	Locates the image at the proper position.
Size	Adjusts the image size.
Phase	Eliminates horizontal streaking.
Reset	Restores the options to the default setting.
<b>LED Local Dimming (Depending on models)</b>	After analyzing the signal of the input video by areas of the screen, it adjusts the backlight to improve the contrast ratio.

**Basic Image Options**



Setting	Description
<b>Backlight (LCD)</b>	Adjusts the brightness of the screen by controlling the LCD backlight. If you decrease the brightness level, the screen becomes darker and the power consumption will be reduced without any video signal loss. <div style="border: 1px solid black; padding: 5px; margin-top: 10px;"> <p><b>NOTE</b></p> <ul style="list-style-type: none"> <li>If you use the "Energy saving - Off, Minimum, Medium", Backlight will be available.</li> </ul> </div>
<b>Contrast</b>	Increases or decreases the gradient of the video signal. You may use Contrast when the bright part of the picture is saturated.
<b>Brightness</b>	Adjusts the base level of the signal in the picture.
<b>Sharpness</b>	Adjusts the level of crispness in the edges between the light and dark areas of the picture. The lower the level, the softer the image.
<b>Color</b>	Adjusts intensity of all colors.
<b>Tint</b>	Adjusts the balance between red and green levels.
<b>Color Temp.</b>	Set to warm to enhance hotter colors such as red, or set to cool to enhance cooler colors such as blue.
<b>Advanced Control or Expert Control</b>	Customizes the advanced options.
<b>Picture Reset</b>	Restores the options of each mode to the factory default.

Advanced Image Options (Depending on models)

Setting	Description
Dynamic Contrast	Adjusts the contrast to keep it at the best level according to the brightness of the screen. The picture is improved by making bright parts brighter and dark parts darker.
Dynamic Color	Adjusts screen colors so that they look livelier, richer and clearer. This feature enhances hue, saturation and luminance so that red, blue and green white look more vivid.
Skin Color	It detects the skin area of video and adjusts it to express a natural skin color.
Noise Reduction	Reduces screen noise without compromising video quality.
MPEG Noise Reduction	Removes noise caused by compressing video.
Super Resolution	Provides a crystal-clear picture by improving the details in an area that has a blurry or unclear picture.
Gamma	You can adjust brightness of dark area and middle gray level area of the picture. <ul style="list-style-type: none"> <li>» Low: Make the dark and middle gray level areas brighter.</li> <li>» Medium: Express the original picture level.</li> <li>» High: Make the dark and middle gray level area darker.</li> </ul>
Black Level	Sets black level of the screen to proper level. This function is available in the following modes: AV (NTSC-M), HDMI or Component. <ul style="list-style-type: none"> <li>» Low: The reflection of the screen gets darker.</li> <li>» High: The reflection of the screen gets brighter.</li> </ul>
Clear White	Make the white area of screen brighter and more white.
Eye Care	Adjusts the brightness of the screen to prevent the screen from being too bright. Dims extremely bright pictures. This feature is enabled in "Picture Mode-Standard, Game".
Real Cinema or Film Mode	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. This function can also work when TruMotion is off.
Color Gamut	<p><b>Advanced Control (  )</b></p> <ul style="list-style-type: none"> <li>» Maximizes the utilization of color to increase color quality.</li> <li>» <b>Standard:</b> Displays standard set of colors.</li> <li>» <b>Wide:</b> Increase number of colors used.</li> </ul> <p><b>Expert Control (   )</b></p> <p>Displays color domain of the signal.</p> <ul style="list-style-type: none"> <li>» <b>Standard:</b> Displays standard set of colors.</li> <li>» <b>Wide:</b> Increase number of colors used.</li> <li>» <b>EBU:</b> Mode to display EBU standard color area.</li> <li>» <b>SMPTE:</b> Mode to display SMPTE standard color area.</li> <li>» <b>BT709:</b> Mode to display BT709 standard color area.</li> </ul>
Edge Enhancer	Shows clearer and distinctive yet natural edges of the video.
xvYCC	This produces richer colors. This feature represents rich colors as much as a conventional video signal. This function is enabled in "Picture mode - Cinema, Expert" when xvYCC signal is inputted through HDMI.
Color Filter	This is the function to filter the specific colors of the video. You can use the RGB filter to set color saturation and hue accurately.
Expert Pattern	This is the pattern used for expert adjustment. This function is enabled in "Picture Mode - Expert" when you watch DTV.

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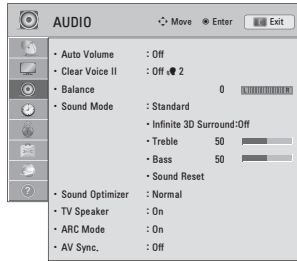
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Setting	Description
Color Temperature	<p>Adjusts the overall color of the screen by changing the white baseline.</p> <p>a. Gamma : Select 1.9, 2.2, 2.4</p> <p> a. Gamma : Select 1.9, 2.2, 2.4                      b. Method : 2 Points                      • Pattern: Inner, Outer                      • Red/Green/Blue Contrast, Red/Green/Blue Brightness                      c. Method : 20 Point IRE                      • IRE (Institute of Radio Engineers) is the unit to display the size of the video signal and can be set among 0, 5, 10, 15 - 100 Plasma TV. You can adjust Red, Green or Blue according to each setting.                      • Red/Green/Blue: The adjustment range is -50 - +50.                      d. Apply to all inputs</p> <p> a. Gamma : Select 1.9, 2.2, 2.4                      b. Method : 2 Points                      • Pattern: Inner, Outer                      • Red/Green/Blue Contrast, Red/Green/Blue Brightness                      c. Method : 10 Point IRE                      • 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.                      d. Apply to all inputs</p>
Color Management System	<p>As the tool used by the experts to make adjustments by using the test patterns, this does not affect other colors but can be used to selectively adjust the 6 color areas (Red/Green/Blue/Cyan/Magenta/Yellow).</p> <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"> <li>» Red/Green/Blue/Yellow/Cyan/Magenta Color: The adjustment range is -30 - +30.</li> <li>» Red/Green/Blue/Yellow/Cyan/Magenta Tint: The adjustment range is -30 - +30.</li> <li>» This feature is disable in RGB-PC and HDMI-PC mode.</li> </ul>



## AUDIO Settings

- 1 Press **HOME** to access the Home menu.
- 2 Press the Navigation buttons to scroll to **SETUP** and press **ENTER**.
- 3 Press the Navigation buttons to scroll to **AUDIO** and press **ENTER**.
- 4 Press the Navigation buttons to scroll to the setting or option you want and press **ENTER**.  
- To return to the previous level, press **BACK**.
- 5 When you are finished, press **EXIT**.



The available audio settings are described in the following.

Setting	Description																						
<b>Auto Volume</b>	Activates the Auto Volume feature to keep the volume level consistent whenever you change channels. The volume level may not be consistent due to different signal conditions of broadcasting stations.																						
<b>Clear Voice II</b>	Sets whether to enhance human voice clarity. You can adjust the level of clarity when you set this feature on.  <div style="border: 1px solid black; padding: 5px;"> <p><b>NOTE</b></p> <ul style="list-style-type: none"> <li>• If the Clear voice II feature is on, <b>Infinite 3D Surround</b> will not be activated.</li> </ul> </div>																						
<b>Balance</b>	Adjust balance between the left and right speakers according to your room environment.																						
<b>Sound Mode</b>	Selects one of the preset sound modes or customizes options in each mode. <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th colspan="2">Mode</th> </tr> </thead> <tbody> <tr> <td>Standard</td> <td>Select when you want standard-quality sound.</td> </tr> <tr> <td>Music</td> <td>Select when you listen to music.</td> </tr> <tr> <td>Cinema</td> <td>Select when you watch movies.</td> </tr> <tr> <td>Sport</td> <td>Select when you watch sports events.</td> </tr> <tr> <td>Game</td> <td>Select when you play games.</td> </tr> </tbody> </table> <div style="border: 1px solid black; padding: 5px;"> <p><b>NOTE</b></p> <ul style="list-style-type: none"> <li>• If sound quality or volume is not at the level you want, it is recommended to use a separate home theater system or amplifier to cope with different user environments.</li> <li>• If the Clear Voice II feature is on, <b>Infinite 3D Surround</b> will not be activated.</li> </ul> </div> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th colspan="2">Option</th> </tr> </thead> <tbody> <tr> <td><b>Infinite 3D Surround</b></td> <td>Patents LG proprietary sound processing technology that strives immersive 5.1 surround sound with just two front speakers.</td> </tr> <tr> <td>Treble</td> <td>Controls the dominant sounds in the output. When you turn up the treble, it will increase the output to the higher frequency range.</td> </tr> <tr> <td>Bass</td> <td>Controls the softer sounds in the output. When you turn up the bass, it will increase the output to the lower frequency range.</td> </tr> <tr> <td>Sound Reset</td> <td>Resets the sound mode to the default setting.</td> </tr> </tbody> </table>	Mode		Standard	Select when you want standard-quality sound.	Music	Select when you listen to music.	Cinema	Select when you watch movies.	Sport	Select when you watch sports events.	Game	Select when you play games.	Option		<b>Infinite 3D Surround</b>	Patents LG proprietary sound processing technology that strives immersive 5.1 surround sound with just two front speakers.	Treble	Controls the dominant sounds in the output. When you turn up the treble, it will increase the output to the higher frequency range.	Bass	Controls the softer sounds in the output. When you turn up the bass, it will increase the output to the lower frequency range.	Sound Reset	Resets the sound mode to the default setting.
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Sound Reset	Resets the sound mode to the default setting.																						

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Setting	Description								
<b>Sound Optimizer</b>	<p>Optimizes the sound depending on the environment in which the TV is installed.</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th colspan="2">Option</th> </tr> </thead> <tbody> <tr> <td>Normal</td> <td>Normal sound mode.</td> </tr> <tr> <td>Wall Mount Type</td> <td>Optimized sound mode for a wall-mounted TV.</td> </tr> <tr> <td>Stand type</td> <td>Optimized sound mode for a stand-type TV.</td> </tr> </tbody> </table>	Option		Normal	Normal sound mode.	Wall Mount Type	Optimized sound mode for a wall-mounted TV.	Stand type	Optimized sound mode for a stand-type TV.
Option									
Normal	Normal sound mode.								
Wall Mount Type	Optimized sound mode for a wall-mounted TV.								
Stand type	Optimized sound mode for a stand-type TV.								
<b>TV Speaker</b>	Turns on the internal speaker of the TV when using an external Hi-Fi system. You can use the TV speaker as an audio output device even if there is no video input.								
<b>ARC Mode (Audio Return Channel)</b>	<p>When using an external audio device with the ARC (Audio Return Channel) feature, optical SPDIF can be output using only a High Speed HDMI cable without an additional optical cable, and SIMPLINK can be enabled.</p> <div style="border: 1px solid black; padding: 5px;"> <p><b>NOTE</b></p> <ul style="list-style-type: none"> <li>• Some HDMI cables may not support this mode. (A High Speed HDMI cable is recommended.)</li> <li>• The ARC mode only works for HDMI 1</li> <li>• Activates the SIMPLINK feature to use this feature.</li> </ul> </div> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th colspan="2">Option</th> </tr> </thead> <tbody> <tr> <td>On</td> <td>연결된 ARC 장비가 켜져있으면 SIMPLINK 연결 후 자동으로 ARC 장비의 스피커로 전환됩니다.</td> </tr> <tr> <td>Off</td> <td>연결된 ARC 장비가 켜져있고 SIMPLINK 연결하더라도 자동으로 ARC 장비의 스피커로 전환되지 않습니다.</td> </tr> </tbody> </table>	Option		On	연결된 ARC 장비가 켜져있으면 SIMPLINK 연결 후 자동으로 ARC 장비의 스피커로 전환됩니다.	Off	연결된 ARC 장비가 켜져있고 SIMPLINK 연결하더라도 자동으로 ARC 장비의 스피커로 전환되지 않습니다.		
Option									
On	연결된 ARC 장비가 켜져있으면 SIMPLINK 연결 후 자동으로 ARC 장비의 스피커로 전환됩니다.								
Off	연결된 ARC 장비가 켜져있고 SIMPLINK 연결하더라도 자동으로 ARC 장비의 스피커로 전환되지 않습니다.								
<b>AV Sync.</b>	<p>If the video and sound are not synced, you can adjust it manually.</p> <ul style="list-style-type: none"> <li>» (-) setting : Make audio output faster than the default.</li> <li>» (+) setting : Make audio output slower than the default.</li> </ul> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th colspan="2">Option</th> </tr> </thead> <tbody> <tr> <td>AV Sync.</td> <td>Adjusts the sync between the TV speaker and SPDIF.</td> </tr> <tr> <td>TV Speaker</td> <td>Adjusts the sync of the sound from the TV's internal speaker.</td> </tr> <tr> <td>SPDIF (Sony Philips Digital InterFace)</td> <td>Adjusts the sync of the sound from an external speaker connected to the digital audio output port.</td> </tr> </tbody> </table>	Option		AV Sync.	Adjusts the sync between the TV speaker and SPDIF.	TV Speaker	Adjusts the sync of the sound from the TV's internal speaker.	SPDIF (Sony Philips Digital InterFace)	Adjusts the sync of the sound from an external speaker connected to the digital audio output port.
Option									
AV Sync.	Adjusts the sync between the TV speaker and SPDIF.								
TV Speaker	Adjusts the sync of the sound from the TV's internal speaker.								
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## TIME Settings

- 1 Press **HOME** to access the Home menu.
- 2 Press the Navigation buttons to scroll to **SETUP** and press **ENTER**.
- 3 Press the Navigation buttons to scroll to **TIME** and press **ENTER**.
- 4 Press the Navigation buttons to scroll to the setting or option you want and press **ENTER**.  
- To return to the previous level, press **BACK**.
- 5 When you are finished, press **EXIT**.



The available time settings are described in the following.

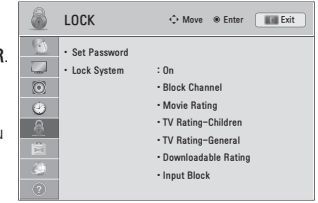
Setting	Description
<b>Clock</b>	Sets the time, date, time zone, and daylight-saving time feature. The time will be set automatically according to a digital channel signal which includes time information provided by the broadcasting station. If not, set the time and date manually.
<b>Off Time/On Time</b>	Sets the time to turn on or off the TV automatically. To use this function, you should set the current time and date in advance. <div style="border: 1px solid black; padding: 5px; margin-top: 10px;"> <p><b>NOTE</b></p> <ul style="list-style-type: none"> <li>• If you do not press any button within 2 hours after the TV turns on by the On Time feature, the TV enters the Standby mode automatically.</li> <li>• If you set both Off time and On time features to the same time, the Off time feature overrides the On time feature.</li> </ul> </div>
<b>Sleep Timer</b>	Sets the length of time until the TV to turns off. When you turn the TV off and turn it on again, the Sleep timer feature will be set to off.

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## LOCK Settings

- 1 Press **HOME** to access the Home menu.
- 2 Press the Navigation buttons to scroll to **SETUP** and press **ENTER**.
- 3 Press the Navigation buttons to scroll to **LOCK** and press **ENTER**.
- 4 Press the Navigation buttons to scroll to the setting or option you want and press **ENTER**.  
- To return to the previous level, press **BACK**.
- 5 When you are finished, press **EXIT**.



The available lock settings are described in the following.

Setting	Description														
<b>Set Password</b>	Changes the 4-digit password. The default PIN is "0 0 0 0". If you forget your password, press "0-3-2-5" on the remote control.														
<b>Lock System</b>	Activates or deactivates the lock system.														
<b>Block Channel</b>	Blocks the channels that contain inappropriate contents for children. The channels can be selected but the screen blank and the audio is muted. To watch a locked channel, enter the password.														
<b>Movie Rating</b>	Blocks the movies that are only broadcasted on the TV and contain inappropriate contents, based on the Motion Picture Association of America (MPAA) rating. <table border="1" style="width: 100%; margin-top: 5px;"> <thead> <tr> <th colspan="2">Rating</th> </tr> </thead> <tbody> <tr> <td>G</td> <td>General audiences – All ages admitted</td> </tr> <tr> <td>PG</td> <td>Parental guidance suggested – Some material may not be suitable for children</td> </tr> <tr> <td>PG-13</td> <td>Parents strongly cautioned – Some material may be inappropriate for children under 13</td> </tr> <tr> <td>R</td> <td>Restricted – Under 17 requires accompanying parent or adult guardian</td> </tr> <tr> <td>NC-17</td> <td>No one 17 and under admitted.</td> </tr> <tr> <td>X</td> <td>Adults only</td> </tr> </tbody> </table>	Rating		G	General audiences – All ages admitted	PG	Parental guidance suggested – Some material may not be suitable for children	PG-13	Parents strongly cautioned – Some material may be inappropriate for children under 13	R	Restricted – Under 17 requires accompanying parent or adult guardian	NC-17	No one 17 and under admitted.	X	Adults only
Rating															
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PG-13	Parents strongly cautioned – Some material may be inappropriate for children under 13														
R	Restricted – Under 17 requires accompanying parent or adult guardian														
NC-17	No one 17 and under admitted.														
X	Adults only														
<b>TV Rating-Children (For USA)</b>	Blocks the children's TV programs that parents do not want their children to watch. To block other TV programs, you should set the TV Rating-General feature. <table border="1" style="width: 100%; margin-top: 5px;"> <thead> <tr> <th colspan="2">Rating</th> </tr> </thead> <tbody> <tr> <td>Age</td> <td>TV-Y (All children, including children from ages 2-6) TV-Y7 (Directed to older children, suitable for children age 6 and above)</td> </tr> <tr> <td>Fantasy Violence</td> <td>TY-Y7 (Directed to older children – Fantasy violence, suitable for children age 6 and above, containing more intense or combative fantasy violence)</td> </tr> </tbody> </table>	Rating		Age	TV-Y (All children, including children from ages 2-6) TV-Y7 (Directed to older children, suitable for children age 6 and above)	Fantasy Violence	TY-Y7 (Directed to older children – Fantasy violence, suitable for children age 6 and above, containing more intense or combative fantasy violence)								
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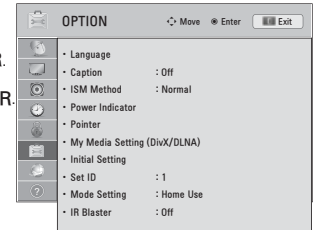
Setting	Description	
<b>TV Rating-General (For USA)</b>	Selecting Canadian English rating system.	
	<b>Rating</b>	
	Age	TV-G (General audience, suitable for all ages) TV-PG (Parental guidance suggested, containing material that are unsuitable for younger children) TV-14 (Parents strongly cautioned, containing material that are unsuitable for children age 14 and under) TV-MA (Mature audience only, unsuitable for children age under 17)
	Dialog (suggestive dialogue)	TV-PG or TV-14
	Language (coarse language)	TV-PG, TV-14, or TV-MA
	Sex (sexual situation)	TV-PG, TV-14, or TV-MA
	Violence	TV-PG, TV-14, or TV-MA
<b>TV Rating-English (For Canada)</b>	Selecting Canadian English rating system.	
	<b>Rating</b>	
	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	
<b>TV Rating-French (For Canada)</b>	Selecting Canadian French rating system.	
	<b>Rating</b>	
	E	Exempt
	G	General
	8ans+	General-Not convenient for little children
	13ans+	Not convenient for children of 13 years and younger
	16ans+	Not convenient for children of 16 years and younger
	18ans+	This programs is only for adults
	Blocking Off	Permits all programs
<b>Downloadable Rating</b>	This function operates only when TV has received Region5 Rating data. The name of the rating option may differ.	
	 <b>NOTE</b> • This feature is available only for digital channels.	
<b>Input Block</b>	Block the input sources.	

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ENGLISH


### OPTION Settings

- 1 Press **HOME** to access the Home menu.
- 2 Press the Navigation buttons to scroll to **SETUP** and press **ENTER**.
- 3 Press the Navigation buttons to scroll to **OPTION** and press **ENTER**.
- 4 Press the Navigation buttons to scroll to the setting or option you want and press **ENTER**.  
- To return to the previous level, press **BACK**.
- 5 When you are finished, press **EXIT**.



The available general settings are described in the following.

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

Setting	Description				
<b>ISM Method</b> 	Prevents image sticking or removes a ghost image. A frozen still picture displayed on the screen for prolonged periods can result in a ghost image.  <div style="border: 1px solid black; padding: 5px;"> <p><b>NOTE</b></p> <ul style="list-style-type: none"> <li>An excessive ghosted image may be impossible to clear entirely with <b>White Wash</b>. To return to normal viewing, press the any button.</li> </ul> </div>				
	<b>Mode</b>				
	<table border="1"> <tr> <td>Normal</td> <td>Sets it if image sticking is never a problem.</td> </tr> </table>	Normal	Sets it if image sticking is never a problem.		
	Normal	Sets it if image sticking is never a problem.			
	<table border="1"> <tr> <td>Orbiter</td> <td>Avoids a ghost image on the screen. The image will move every 2 minutes to help prevent ghost images. However, it is best not to allow any fixed image to remain on the screen.</td> </tr> </table>	Orbiter	Avoids a ghost image on the screen. The image will move every 2 minutes to help prevent ghost images. However, it is best not to allow any fixed image to remain on the screen.		
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<table border="1"> <tr> <td>Color Wash</td> <td>Removes a ghost image on the screen. The color block with the screen moved a little and the white pattern are alternately displayed. It is difficult to see the after image on all colors. Once it has been corrected it will not be visible in any color.</td> </tr> <tr> <td>White Wash</td> <td>Removes a ghost image on the screen. Use sparingly. Watch the TV normally for a while before using this feature to see if the ghost image disappears on its own.</td> </tr> </table>	Color Wash	Removes a ghost image on the screen. The color block with the screen moved a little and the white pattern are alternately displayed. It is difficult to see the after image on all colors. Once it has been corrected it will not be visible in any color.	White Wash	Removes a ghost image on the screen. Use sparingly. Watch the TV normally for a while before using this feature to see if the ghost image disappears on its own.	
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White Wash	Removes a ghost image on the screen. Use sparingly. Watch the TV normally for a while before using this feature to see if the ghost image disappears on its own.				
<b>Pointer</b> (Depending on models)	Sets the pointer option of the Motion remote control. <b>Option</b>				
	<table border="1"> <tr> <td>Speed</td> <td>Changes the pointer speed.</td> </tr> </table>	Speed	Changes the pointer speed.		
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	<table border="1"> <tr> <td>Shape</td> <td>Selects the pointer shape.</td> </tr> </table>	Shape	Selects the pointer shape.		
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<b>My Media Setting (DivX/ DLNA)</b>	Sets the DivX and DLNA option. <b>Option</b>				
	<table border="1"> <tr> <td>DivX Reg.Code</td> <td>Registers your TV to play DivX protected videos (See p.75).</td> </tr> <tr> <td>Deactivation</td> <td>Deactivates your TV (See p.75).</td> </tr> </table>	DivX Reg.Code	Registers your TV to play DivX protected videos (See p.75).	Deactivation	Deactivates your TV (See p.75).
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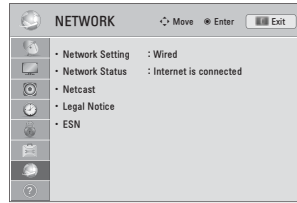
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Setting	Description						
<b>Initial Setting</b>	Resets the TV to factory default and erases all stored channels. Customizes the TV settings to suit your preference. The initial setup screen will appear when you turn on the TV for the first time.  <div style="border: 1px solid black; padding: 5px;"> <p><b>NOTE</b></p> <ul style="list-style-type: none"> <li>When selecting "Lock System - On" in the LOCK menu, the message to enter the password appears.</li> <li>If you forget your password, press "0-3-2-5" on the remote control.</li> </ul> </div>						
	<b>Setting</b>						
	<table border="1"> <tr> <td>Language</td> <td>Selects a desired language.</td> </tr> </table>	Language	Selects a desired language.				
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	<table border="1"> <tr> <td>Mode Setting</td> <td>                     Selects <b>Home Use</b> for the home environment.                      Selects <b>Store Demo</b> for the retail environment.                      Selects <b>Demo Mode</b> to set to show special features of the TV. You can cancel the demo mode by pressing any buttons except the Volume and Mute buttons.   <div style="border: 1px solid black; padding: 5px;"> <p><b>NOTE</b></p> <ul style="list-style-type: none"> <li>When selecting <b>Store Demo</b>, <b>Demo Mode</b> will be activated.</li> </ul> </div> </td> </tr> </table>	Mode Setting	Selects <b>Home Use</b> for the home environment. Selects <b>Store Demo</b> for the retail environment. Selects <b>Demo Mode</b> to set to show special features of the TV. You can cancel the demo mode by pressing any buttons except the Volume and Mute buttons.  <div style="border: 1px solid black; padding: 5px;"> <p><b>NOTE</b></p> <ul style="list-style-type: none"> <li>When selecting <b>Store Demo</b>, <b>Demo Mode</b> will be activated.</li> </ul> </div>				
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	<table border="1"> <tr> <td>Power Indicator (LED LCD TV)</td> <td>Sets the power indicator.</td> </tr> </table>	Power Indicator (LED LCD TV)	Sets the power indicator.				
	Power Indicator (LED LCD TV)	Sets the power indicator.					
	<table border="1"> <tr> <td>Time Zone</td> <td>Sets the time zone and daylight saving.</td> </tr> </table>	Time Zone	Sets the time zone and daylight saving.				
	Time Zone	Sets the time zone and daylight saving.					
<table border="1"> <tr> <td>Auto Tuning</td> <td>Scans and saves available channels automatically.</td> </tr> </table>	Auto Tuning	Scans and saves available channels automatically.					
Auto Tuning	Scans and saves available channels automatically.						
<table border="1"> <tr> <td>Set ID</td> <td>Adds an ID to the connected devices.</td> </tr> </table>	Set ID	Adds an ID to the connected devices.					
Set ID	Adds an ID to the connected devices.						
<b>Mode Setting</b>	Default selection is "Home Use". We recommend setting the TV to "Home Use" mode for the best picture in your home environment. <b>Option</b>						
	<table border="1"> <tr> <td>Home Use</td> <td>Selects it for the home environment.</td> </tr> <tr> <td>Store Demo</td> <td>Selects it for the retail environment.</td> </tr> <tr> <td>Demo Mode</td> <td>Sets to show special features of the TV. You can cancel the demo mode by pressing any buttons except the Volume and Mute buttons.</td> </tr> </table>	Home Use	Selects it for the home environment.	Store Demo	Selects it for the retail environment.	Demo Mode	Sets to show special features of the TV. You can cancel the demo mode by pressing any buttons except the Volume and Mute buttons.
	Home Use	Selects it for the home environment.					
	Store Demo	Selects it for the retail environment.					
Demo Mode	Sets to show special features of the TV. You can cancel the demo mode by pressing any buttons except the Volume and Mute buttons.						
<table border="1"> <tr> <td>IR Blaster</td> <td>Adjusts when connecting Wireless media box (sold separate). For further information, refer to the optional "Wireless media box" manual for operating instructions.</td> </tr> </table>	IR Blaster	Adjusts when connecting Wireless media box (sold separate). For further information, refer to the optional "Wireless media box" manual for operating instructions.					
IR Blaster	Adjusts when connecting Wireless media box (sold separate). For further information, refer to the optional "Wireless media box" manual for operating instructions.						

## NETWORK Settings

- 1 Press **HOME** to access the Home menu.
- 2 Press the Navigation buttons to scroll to **SETUP** and press **ENTER**.
- 3 Press the Navigation buttons to scroll to **NETWORK** and press **ENTER**.
- 4 Press the Navigation buttons to scroll to the setting or option you want and press **ENTER**.  
- To return to the previous level, press **BACK**.
- 5 When you are finished, press **EXIT**.



The available general settings are described in the following.

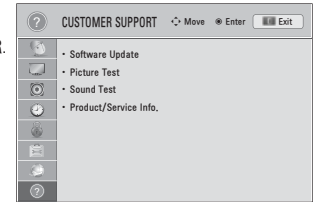
Setting	Description
<b>Network Setting</b>	Configure the network settings (See p.50).
<b>Network Status</b>	Display the network status (See p.55).
<b>Netcast</b>	<a href="#">Stream movies, TV shows and video, or get up to the minute news, stock information or weather updates directly to your TV.</a>
<b>Legal Notice</b>	Display the Legal notice (See p.57).
<b>ESN</b>	View the supplied Netflix Electronic Serial Number (ESN)

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## CUSTOMER SUPPORT settings

- 1 Press **HOME** to access the Home menu.
- 2 Press the Navigation buttons to scroll to **SETUP** and press **ENTER**.
- 3 Press the Navigation buttons to scroll to **CUSTOMER SUPPORT** and press **ENTER**.
- 4 Press the Navigation buttons to scroll to the setting or option you want and press **ENTER**.  
- To return to the previous level, press **BACK**.
- 5 When you are finished, press **EXIT**.



The available general settings are described in the following.

Setting	Description
<b>Software Update</b>	Update the TV with the latest firmware.
<b>Picture Test</b>	<a href="#">Executes picture or built-in melody sound tests.</a>
<b>Sound Test</b>	<ul style="list-style-type: none"> <li>» <a href="#">If this test has an error, select Yes. You can see the product or service information.</a></li> <li>» <a href="#">If this test has no errors, check the connection status of external devices and refer to the manual of external devices.</a></li> </ul>
<b>Product/Service Info.</b>	<a href="#">Shows the product or service information.</a> <a href="#">Customer Service Center can differ by country.</a>

## MAKING CONNECTIONS

Connect various external devices to the TV and switch input modes to select an external device. For more information of external device's connection, refer to the manual provided with each device.

Available external devices are: HD receivers, DVD players, VCRs, audio systems, USB storage devices, PC, camcorders or cameras, gaming devices, and other external devices.

**NOTE**

- If you record a TV program on a DVD recorder or VCR, make sure to connect the TV signal input cable to the TV through a DVD recorder or VCR. For more information of recording, refer to the manual provided with the connected device.
- The external device connection may differ from the model.
- Connect external devices to the TV regardless of the order of the TV port.

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

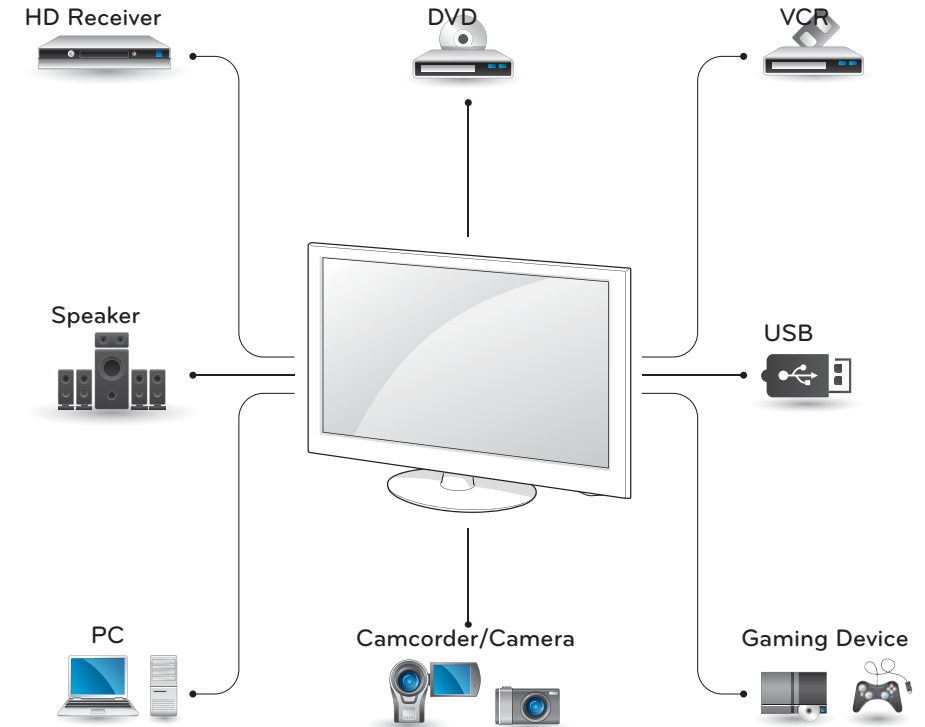
Connection type	Video		Audio	
	Digital	Analog	Digital	Analog
HDMI (highly recommended)	○	-	○	-
DVI	○	-	-	-
Component	-	○	-	-
Composite	-	○	-	-
RGB	-	○	-	-
Optical audio	-	-	○	-

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## Connection overview

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

- 1 Find an external device you want to connect to your TV as shown on the following illustration.
- 2 Check the connection type of the external device.
- 3 Go to the appropriate illustration and check the connection details.



- HDMI – See p.108
- DVI – See p.109
- Component – See p.105
- Composite – See p.107
- RGB – See p.110
- Memory storage – See p.113
- Memory card reader – See p.113
- Digital – See p.111

**NOTE**

- If you connect a gaming device to the TV, use the cable supplied with the gaming device.
- Refer to the external equipment's manual for operating instructions.

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

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

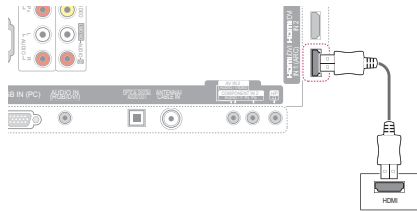
### HDMI connection

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

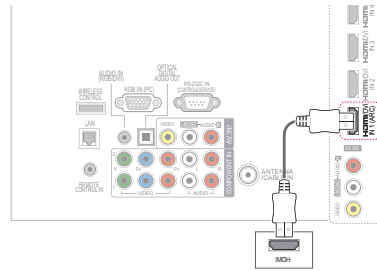
#### NOTE

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

42/47/55LV5500



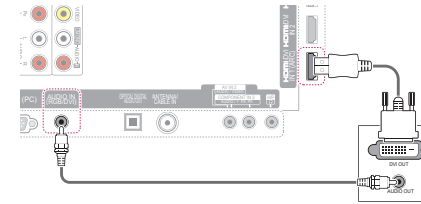
50/60PZ950



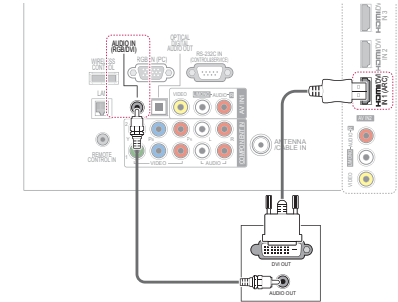
## DVI to HDMI connection

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

42/47/55LV5500



50/60PZ950



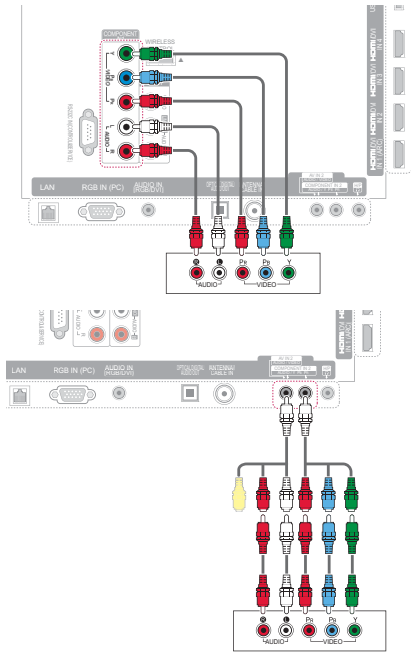
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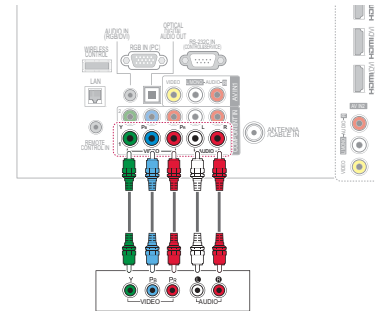
### Component connection

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

42/47/55LV5500



50/60PZ950



**NOTE**

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

ENGLISH

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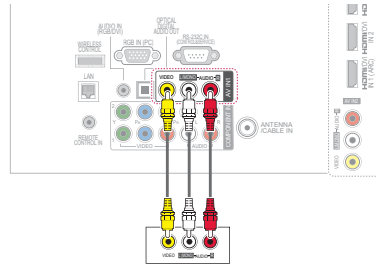
### Composite connection

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

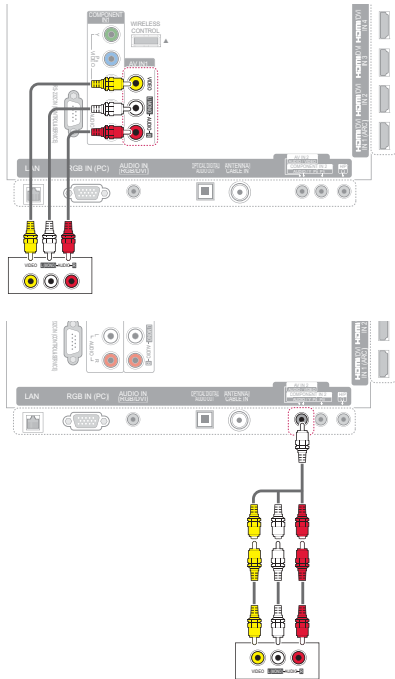
**NOTE**

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

50/60PZ950



42/47/55LV5500



### Connecting to a PC

This TV set supports the Plug & Play\* feature.

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

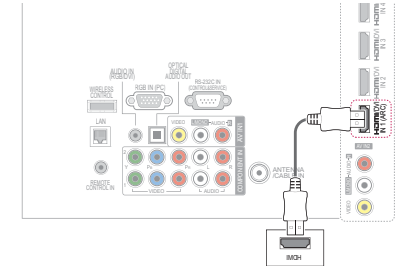
Connect the TV according to your PC by referring to the following table.

	HDMI (highly recommended)	RGB
Video	O (Digital)	O (Analog)
Audio	O (Digital)	X

**NOTE**

- It is recommended to use the TV set with the HDMI connection for the best image quality.

50/60PZ950



**NOTE**

- It is recommended to use the Monitor set with the 1920X1080@60Hz mode for the best image quality.

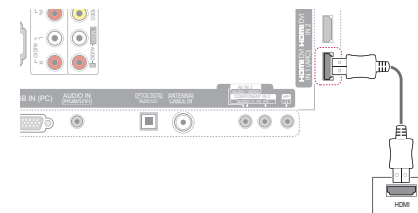
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### HDMI connection

Transmits the digital video and audio signals from your PC to the TV. Connect the PC and the TV with the HDMI cable as shown in the following illustrations.

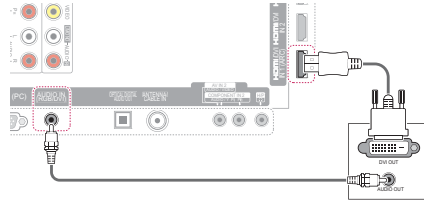
42/47/55LV5500



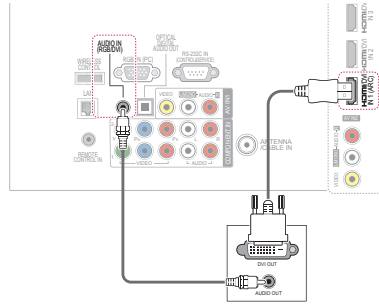
### DVI to HDMI connection

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

42/47/55LV5500



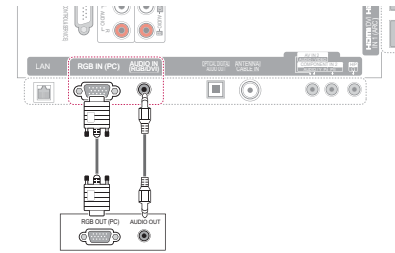
50/60PZ950



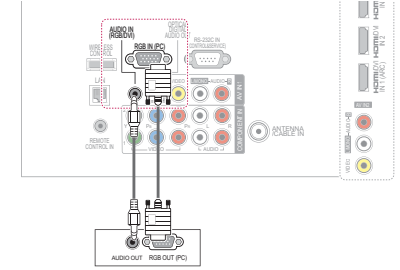
### RGB connection

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

42/47/55LV5500



50/60PZ950



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**NOTE**

- It is recommended to use the 1920 X 1080 @ 60 HZ video mode, set as the default preset, for the best image quality. If you use the TV in other video modes, afterimages or distorted images may appear on the screen.
- Depending on the graphics card, DOS mode may not work if a HDMI to DVI Cable is in use.
- In PC mode, there may be noise associated with the resolution, vertical pattern, contrast or brightness. If noise is present, change the PC output to another resolution, change the refresh rate to another rate or adjust the brightness and contrast on the PICTURE menu until the picture is clear.
- The synchronization input form for Horizontal and Vertical frequencies is separate.
- Depending on the graphics card, some resolution settings may not allow the image to be positioned on the screen properly.
- If you experience overscan issues when using HDMI-PC 1920x1080, change aspect ratio to Just scan.
- When selecting HDMI-PC, set the "Input Label - PC" in the OPTION menu.

## Connecting to an audio system

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

**NOTE**

- If you use an optional external audio device instead of the built-in speaker, set the TV speaker feature to off (See p.92).

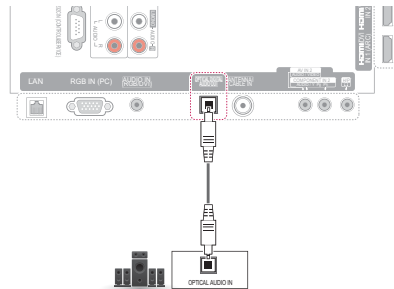
### Digital optical audio connection

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

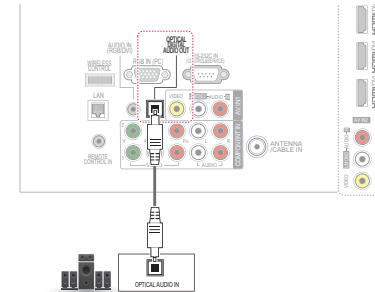
**NOTE**

- Do not look into the optical output port. Looking at the laser beam may damage your vision.
- Audio with ACP (Audio Copy Protection) function may block digital audio output.

42/47/55LV5500



50/60PZ950



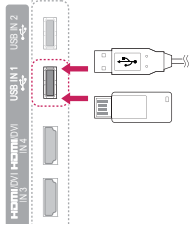
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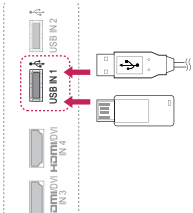
## Connecting to a USB

Connect a USB storage device such as a USB flash memory, external hard drive, MP3 player or a USB memory card reader to the TV and access the My media menu to use various multimedia files. See "Connecting USB storage devices" on page 66 and see "Browsing files" on page 71.

42/47/55LV5500



50/60PZ950

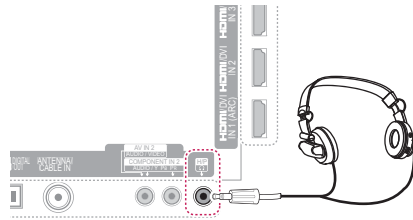


## Connecting to a Headphone



Listen to the sound through a headphone.

42/47/55LV5500



**NOTE**

- AUDIO menu options are disabled when connecting a headphone.
- When changing AV MODE with a headphone connected, the change is applied to video but not to audio.
- Optical Digital Audio Out is not available when connecting a headphone.
- Headphone impedance: 16 Ω
- Max audio output: 10 mW to 15 mW
- Headphone jack size: 0.32 cm (1/8 inch)

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## Connecting to a equipment wirelessly

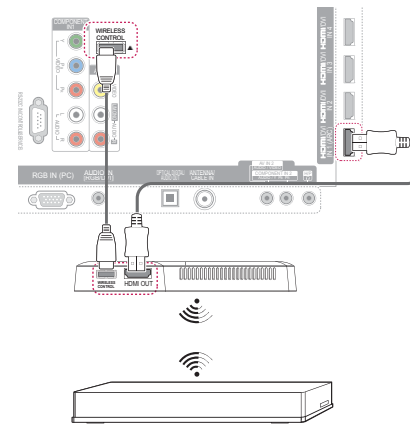
(Unnecessary for 47/55/60LW9500 and 42/47/55LK530, and 42/47/55LK550)

LG TVs with a Wireless Control port support the LG Wireless Media Box, which is sold separately. When you connect the wireless ready dongle (included with the media box) to the TV, external devices can be connected to the LG Wireless Media Box and video and audio will be sent to the TV wirelessly.

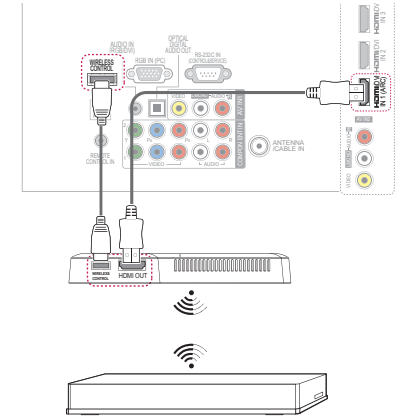
**NOTE**

- When using the external device connected to the Wireless Media Box, some functions of the TV menu may not work.

42/47/55LV5500



50/60PZ950



## SIMPLINK connection

Use the TV remote control to play and control the AV device connected with the HDMI cable through HDMI-CEC. *This TV may work with the devices that support HDMI-CEC, but only devices with the SIMPLINK logo are fully supported.*

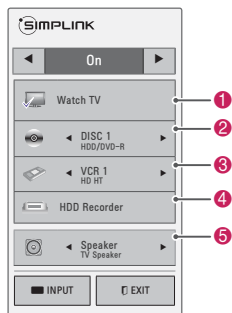
Connect one end of the HDMI cable to the HDMI/DVI IN or HDMI IN terminal on the rear of the TV and the other end to the SIMPLINK device.

### NOTE

- If the connected device does not support HDMI-CEC, the SIMPLINK feature is unavailable.
- To operate SIMPLINK, you should use an High Speed HDMI cable with the CEC (Consumer Electronics Control) function.
- HDMI-CEC 기능이 있는 타사기기와 함께 사용시 정상적으로 동작되지 않을 수 있습니다.

## Activating and Using the SIMPLINK menus

- 1 Press **SIMPINK** to access the SIMPLINK menus.
- 2 Press the Navigation buttons to scroll to **On**.
- 3 Press the Navigation buttons to scroll to one of the devices and press **ENTER**.



No.	Description
1	Displays the previously viewed TV channel.
2	Plays discs. When multiple discs are available, the title of the disc appears at the bottom of the screen.
3	Controls the connected VCR.
4	HDD recordings playback: Controls the recording stored in HDD.
5	Audio out to home theater speaker or Audio out to TV: Changes the audio output between Home theater speaker and TV speaker.

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

### NOTE

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

ENGLISH

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## MAINTENANCE

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

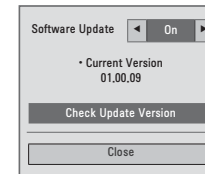
### Updating the TV firmware

Download and install the latest firmware by connecting to the firmware update server to enhance or change the product function, or add new features.

The firmware update may not work properly depending on the Internet environment. If so, you may obtain the latest firmware update from the authorized LG Electronics service center.

To check the current firmware version or update the firmware,

- 1 Press **HOME** to access the Home menu.
- 2 Press the Navigation buttons to scroll to **SETUP** and press **ENTER**.
- 3 Press the Navigation buttons to scroll to **CUSTOMER SUPPORT** and press **ENTER**.
- 4 Press the Navigation buttons to scroll to **Software Update** and press **ENTER**. The current firmware version displays.
- 5 Select **Check Update Version** to check a new firmware version manually.



If selecting **Software Update - On**, the TV finds a new firmware through the NSU\* and the update pop-up window will appear on the screen.

\* NSU (Network Software Update): If the TV is connected to the internet, the TV finds a new firmware uploaded on the LG server.

### NOTE

- While you are updating the firmware, disconnect the LAN cable, turn the TV off, or unplug the power cord.
- Premium service is disabled while the software is being updated through NSU.

- 6 When the update is complete, the TV will automatically restart in 5 seconds. You may need to reset some **CHANNEL**, **PICTURE**, or **AUDIO** menus.

### NOTE

- You cannot downgrade back to an older firmware version.
- The period of time for the firmware update may be different depending on the firmware size or network condition.

## Cleaning your TV

### CAUTION

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

## Screen and frame

To remove dust or light dirt, wipe the surface with a dry, clean, and soft cloth.

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

### CAUTION

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

## Cabinet and stand

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

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

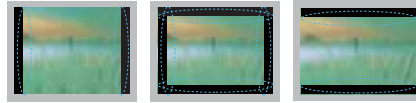
### CAUTION

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

## Power cord

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

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



- If a fixed image displays on the TV screen for a long period of time, it will be imprinted and become a permanent disfigurement on the screen. This is "image burn" or "burn-in" and not covered by the warranty.
- If the aspect ratio of the TV is set to 4:3 for a long period of time, image burn may occur on the letterboxed area of the screen.
- Avoid displaying a fixed image on the TV screen for a long period of time (2 or more hours for LCD, 1 or more hours for the Plasma TV) to prevent image burn.

ENGLISH

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# TROUBLESHOOTING

## General

Problem	Resolution
Cannot control the TV with the remote control.	<ul style="list-style-type: none"> <li>• Check the remote control sensor on the product and try again.</li> <li>• Check if there is any obstacle between the product and the remote control.</li> <li>• Check if the batteries are still working and properly installed (⊕ to ⊕, ⊖ to ⊖).</li> <li>• Check if the appropriate input mode such as TV or VCR is set for using the remote control.</li> </ul>
No image display and no sound is produced.	<ul style="list-style-type: none"> <li>• Check if the product is turned on.</li> <li>• Check if the power cord is connected to a wall outlet.</li> <li>• Check if there is a problem in the wall outlet by connecting other products.</li> </ul>
Image appears slowly when the TV turns on.	<ul style="list-style-type: none"> <li>• The image is muted during the product startup process. This is normal. If the image does not appear in a few minutes, unplug the TV for 30 seconds and try again. If the image still does not appear, contact the authorized service center in your local area.</li> </ul>
Cannot connect external devices.	<ul style="list-style-type: none"> <li>• Refer to the "Connection overview" (See p.102) and connect an external device.</li> </ul>
The TV turns off suddenly.	<ul style="list-style-type: none"> <li>• Check the power control settings. The power supply may be interrupted.</li> <li>• Check if the Auto sleep feature is activated in the Time settings. Refer to the "Sleep Timer" (See p.87).</li> <li>• If there is no signal while the TV is on, the TV will turn off automatically after 15 minutes of inactivity.</li> </ul>

## Audio

Problem	Resolution
No sound is produced while images are displaying.	<ul style="list-style-type: none"> <li>• Press <b>VOL +</b> or <b>-</b> button.</li> <li>• Check if the sound is muted by pressing <b>MUTE</b>.</li> <li>• Scroll to other channels. There may a problem with the broadcast.</li> <li>• Check if the audio cables are connected properly.</li> <li>• Check if the TV Speaker feature is activated in the Sound menu.</li> </ul>
One of the speakers produce noises or does not produce sound.	<ul style="list-style-type: none"> <li>• A change in ambient humidity or temperature may result in an unusual noise when the product turns on or off.</li> <li>• There is no problem with your product.</li> </ul>

## Video

Problem	Resolution
An image displays in black and white or the color quality is poor.	<ul style="list-style-type: none"> <li>Adjust the color setting in the Picture menu (See p.80).</li> <li>Keep a sufficient distance between this product and other electronic products.</li> <li>Scroll to other channels. There may a problem with the broadcast.</li> </ul>
Horizontal or vertical bars appears or images blur	<ul style="list-style-type: none"> <li>Check if there are local interferences such as an electrical appliance or power tool.</li> </ul>
Lines or streaks appear on images	<ul style="list-style-type: none"> <li>Check the antenna or aim the antenna to the proper direction.</li> </ul>
Afterimages (ghosts) appear when the product turns off	<ul style="list-style-type: none"> <li>Pixels may have been damaged from a fixed image displayed for a long time (image burn). Use a screen saver to prevent the pixel damage on the screen.</li> </ul>
The power is on but the screen appears extremely dark.	<ul style="list-style-type: none"> <li>Adjust the brightness and contrast in the Picture menu (See p.86).</li> </ul>
"No Signal" appears on the screen.	<ul style="list-style-type: none"> <li>Check if the signal cable is connected between the TV and products properly.</li> <li>Check the selected input source by pressing <b>INPUT</b>.</li> </ul>
Black spots appear on the screen.	<ul style="list-style-type: none"> <li>Several pixels in red, green, white, or black may appear on the screen that can attribute to the characteristics of the LCD panel. This is normal.</li> </ul>
The display offset is wrong.	<ul style="list-style-type: none"> <li>Adjust the position setting in the Picture menu (See p.80).</li> <li>Check if the video card resolution and frequency are supported by the product. If the frequency is out of range, set to the recommended resolution using the display settings on the external device.</li> </ul>
Thin lines appear in the background of the screen.	<ul style="list-style-type: none"> <li>Check the video cable connections.</li> </ul>
Horizontal noises appear or characters blur.	<ul style="list-style-type: none"> <li>Adjust the Phase setting in the Picture menu. Refer to the "SCREEN (RGB-PC)" (See p.82).</li> </ul>
The reception on some channels is poor	<ul style="list-style-type: none"> <li>Scroll to other channels. There may a problem with the broadcast.</li> <li>The station signal may be weak. Aim the antenna to the proper direction.</li> <li>Check if there are local interferences such as an electrical appliance or power tool.</li> </ul>

## Movie

Problem	Resolution
The file does not appear on the Movie List.	<ul style="list-style-type: none"> <li>Check whether the extension is supported.</li> </ul>
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"> <li>Check whether the file is playing normally on a PC. (Check whether the file is damaged.)</li> <li>Check whether the resolution is supported.</li> <li>Check whether the video/audio codec is supported.</li> <li>Check whether the frame rate is supported.</li> </ul>
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"> <li>Check whether the file is playing normally on a PC. (Check whether the file is damaged.)</li> <li>Check whether the audio codec is supported.</li> <li>Check whether the bit rate is supported.</li> <li>Check whether the sample rate is supported.</li> </ul>
Subtitle is not working.	<ul style="list-style-type: none"> <li>Check whether the file is playing normally on a PC. (Check whether the file is damaged.)</li> <li>Check whether the video file and subtitle file name are the same.</li> <li>Check whether the video file and subtitle file are located in the same folder.</li> <li>Check whether the subtitle file is supported.</li> <li>Check whether the language is supported. (When you open the subtitle file in Memo Pad, you can check the language of the subtitle file.)</li> </ul>

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## SPECIFICATIONS

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

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

MODELS	50PZ950 (50PZ950-UA)		60PZ950 (60PZ950-UA)	
	50PZ950U (50PZ950U-UA)		60PZ950U (60PZ950U-UA)	
Dimensions (W x H x D)	With stand	1175.2 x 787.6 x 317.2 mm		
	Without stand	1175.2 x 720.6 x 49.6 mm		
Weight	With stand	31.8 kg		
	Without stand	28.2 kg		
Power requirement	AC 100 - 240V ~ 50 / 60 Hz			

MODELS	42LV3700 (42LV3700-UD)	47LV3700 (47LV3700-UD)	55LV3700 (55LV3700-UD)
Dimensions (W x H x D)	With stand		
	Without stand		
Weight	With stand		
	Without stand		
Power requirement	AC100-240V - 50/60Hz		

MODELS	42LV5400 (42LV5400-UA)	47LV5400 (47LV5400-UA)	55LV5400 (55LV5400-UA)
Dimensions (W x H x D)	With stand		
	Without stand		
Weight	With stand		
	Without stand		
Power requirement	AC100-240V - 50/60Hz		

MODELS		42LV5500 (42LV5500-UA)	47LV5500 (47LV5500-UA)	55LV5500 (55LV5500-UA)
Dimensions (W x H x D)	With stand	1011.6 mm x 683.3 mm x 254.9 mm	1121.4 x 742.8 x 255.0 mm	1298.2 mm x 848.9 mm x 341.0 mm
	Without stand	1011.6mm x 616.8 mm x 29.9 mm	1121.4 x 677.8 x 29.9 mm	1298.2 mm x 778.4 mm x 29.9 mm
Weight	With stand	15.5 kg	21.45 kg	27.8 kg
	Without stand	13.2 kg	2.85 kg	22.9 kg
Power requirement		AC100-240V - 50/60Hz		

MODELS		42LW5600 (42LW5600-UA)	47LW5600 (47LW5600-UA)	55LW5600 (55LW5600-UA)
Dimensions (W x H x D)	With stand	1005.0 mm x 256.3 mm x 688.0 mm	1115.0 mm x 750.0 mm x 256.3 mm	1293.0 mm x 851.0 mm x 338.0 mm
	Without stand	1005.0 mm x 621.0 mm x 29.9 mm	1115.0 mm x 683.0 mm x 29.9 mm	1293.0 mm x 785.0 mm x 29.9 mm
Weight	With stand	15.2 kg	20.7 kg	26.3 kg
	Without stand	13.0 kg	18.5 kg	22.0 kg
Power requirement		AC100-240V - 50/60Hz		

MODELS		32LW5700 (32LW5700-UA)	42LW5700 (42LW5700-UA)
Dimensions (W x H x D)	With stand		999.2 mm x 681.2 mm x 255.0 mm
	Without stand		999.2 mm x 622.6 mm x 30.9 mm
Weight	With stand		17.0 kg
	Without stand		14.4 kg
Power requirement		AC100-240V - 50/60Hz	

MODELS		47LW5700 (47LW5700-UA)	55LW5700 (55LW5700-UA)
Dimensions (W x H x D)	With stand	1109.2 mm x 743.7 mm x 255.0 mm	1286.2 mm x 847.7 mm x 34.1 mm
	Without stand	1109.2 mm x 684.0 mm x 30.9 mm	1286.2 mm x 784.4 mm x 30.9 mm
Weight	With stand	20.2 kg	27.8 kg
	Without stand	17.4 kg	22.9 kg
Power requirement		AC100-240V - 50/60Hz	

RGB (PC), HDMI (PC) supported mode

Resolution	Horizontal Frequency (kHz)	Vertical Frequency (Hz)
640x350	31.468	70.09
720x400	31.469	70.08
640x480	31.469	59.94
800x600	37.879	60.31
1024x768	48.363	60.00
1280x768 (RGB-PC)	47.776	59.87
1360x768	47.712	60.015
1280x1024	63.981	60.02
1920x1080 (RGB-PC)	66.587	59.934
1920x1080 (HDMI-PC)	67.50	60.00

HDMI (DTV) supported mode

Resolution	Horizontal Frequency (kHz)	Vertical Frequency (Hz)
720x480p	31.47	59.94
	31.50	60.00
1280x720p	44.96	59.94
	45.00	60.00
1920x1080i	33.72	59.94
	33.75	60.00
1920x1080p	26.97	23.976
	27.00	24.00
	33.71	29.97
	33.75	30.00
	67.432	59.939
	67.50	60.00

Component supported mode

Resolution	Horizontal Frequency (kHz)	Vertical Frequency (Hz)
720x480i	15.73	59.94
	15.73	60.00
720x480p	31.47	59.94
	31.50	60.00
1280x720p	44.96	59.94
	45.00	60.00
1920x1080i	33.72	59.94
	33.75	60.00
1920x1080p	26.97	23.976
	27.000	24.000
	33.71	29.97
	33.75	30.000
	67.432	59.94
	67.500	60.00

Component port connecting information

Component ports on the TV	Y	P <sub>B</sub>	P <sub>R</sub>
---------------------------	---	----------------	----------------

Video output ports on DVD player	Y	P <sub>B</sub>	P <sub>R</sub>
	Y	B-Y	R-Y
	Y	C <sub>b</sub>	C <sub>r</sub>
	Y	P <sub>b</sub>	P <sub>r</sub>

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Video supported mode

File Extensions	Audio/Video	Codec	Profile/Level Support	Explanation
.asf .wmv	Video	VC-1 Advanced Profile	Advanced Profile@Level 3 (e.g. 720p60, 1080i60, 1080p30)	Only streams compliant to SMPTE 421M VC-1 standard are supported.
		VC-1 Simple and Main Profiles	Simple Profile@Medium Level (e.g. CIF, QVGA) Main Profile@High Level (e.g. 1080p30)	
	Audio	WMA Standard		
		WMA 9 Professional		
.divx .avi	Video	DivX3.11 DivX4 DivX5 DivX6 XViD	Advanced Simple Profile (e.g. 720p/1080i)	Global motion compensation or quarterpel motion estimation does not supported. Streams using this syntax are not supported.
		H.264 / AVC	Main Profile@ Level 4.1 High Profile@ Level 4.1 (e.g. 720p60, 1080i60, 1080p30)	
	Audio	MPEG-1 Layer I, II MPEG-1 Layer III (MP3) Dolby Digital		
.mp4 .m4v	Video	H.264 / AVC	Main Profile@ Level 4.1 High Profile@ Level 4.1 (e.g. 720p60, 1080i60, 1080p30)	Global motion compensation or quarterpel motion estimation does not supported. Streams using this syntax are not supported.
		MPEG-4 Part 2	Advanced Simple Profile (e.g. 720p/1080i)	
	Audio	AAC	AAC-LC and HE-AAC	
.mkv	Video	H.264 / AVC	Main Profile@ Level 4.1 High Profile@ Level 4.1 (e.g. 720p60, 1080i60, 1080p30)	Most of the MKV content available is encoded by the open source x264 codec.
	Audio	AAC Dolby Digital	AAC-LC and HE-AAC	
.ts .trp .tp	Video	H.264 / AVC	Main Profile@ Level 4.1 High Profile@ Level 4.1 (e.g. 720p60, 1080i60, 1080p30)	Only streams compliant to SMPTE 421M VC-1 standard are supported.
		MPEG-2	Main Profile@High Level (e.g. 720p60, 1080i60)	
	VC-1	Simple Profile@Medium Level (e.g. CIF, QVGA) Main Profile@High Level (e.g. 1080p30) Advanced Profile@Level3 (e.g. 720p60, 1080i60, 1080p30)		
	Audio	MPEG-1 Layer I, II MPEG-1 Layer III (MP3) Dolby Digital		
		AAC	AAC-LC and HE-AAC	
.vob	Video	MPEG-1		
		MPEG-2	Main Profile@High Level (e.g. 720p60, 1080i60)	
	Audio	Dolby Digital MPEG-1 Layer I, II DVD-LPCM		
.mpg	Video	MPEG-1	Main Profile@High Level (e.g. 720p60, 1080i60)	Only streams compliant configured properly for TS, PS or ES
	Audio	MPEG-1 Layer I, II		

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3D supported formats

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

Wireless LAN for Broadband/DLNA Adaptor SPEC (For LW9500 series)

This device only works with compatible LG LED LCD TV or LCD TV.

Standard	IEEE802.11a/b/g/n
Frequency Range	2402 to 2483 MHz 5150 to 5250 MHz 5725 to 5850 MHz
Modulation	CCK / OFDM / MIMO
Output Power (Typical)	802.11a: 14 dBm 802.11b: 17 dBm 802.11g: 14 dBm 802.11n: 13 dBm
Data rate	802.11a/g: 54 Mbps 802.11b: 11 Mbps 802.11n: 300 Mbps
Antenna Gain (Typical)	2402 to 2483 MHz: 1.17 dBi 5150 to 5250 MHz: 4.67 dBi 5725 to 5850 MHz: 3.30 dBi
Occupied bandwidth	802.11a/b/g: HT20 802.11n: HT20/40

Because band channel used by the country could be different, the user can not change or adjust the operating frequency and this product is set for the regional frequency table.

- FCC ID of Wi-Fi module inside TV  
FCC ID: BEJWN8522D1



RF module (BM-LDS201) specification

For TV By using a 2.4 GHz bandwidth radio frequency(RF).

- Output: 1 dBm or lower
- Maximum Communication Distance: 10 m (30 ft) in an open space
- Bandwidth: 2.4 GHz (2.4035 GHz - 2.4783 GHz)
- Transfer Rate: 250 kbps
- FCC ID of RF module inside TV  
FCC ID: BEJLDS201



## IR CODES

(Depending on models)

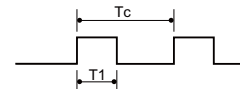
### How to Connect

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

### Remote Control IR Codes

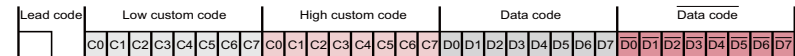
#### Output waveform

Single pulse, modulated with 37.917kHz signal at 455kHz

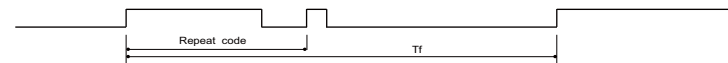


#### Frame configuration

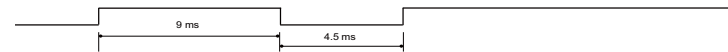
1st frame



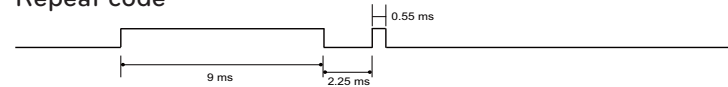
Repeat frame



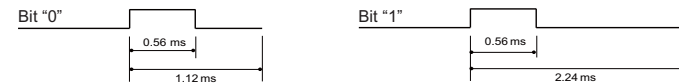
#### Lead code



#### Repeat code

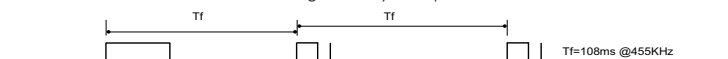


#### Bit description



#### Frame interval: Tf

The waveform is transmitted as long as a key is depressed.



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Code (Hexa)	Function	Note	Code (Hexa)	Function	Note
08	POWER	Remote control Button (Power On/Off)	0F	TV	Remote control Button
			DC	3D	Remote control Button
45	Q.MENU	Remote control Button	5B	EXIT	Remote control Button
43	Home	Remote control Button	D6	TV	Discrete IR Code (TV Input Selection)
0B	INPUT	Remote control Button			
0F	Number Key 0-9	Remote control Button	C4	POWER ON	Discrete IR Code (Only Power Off)
11	- (Dash)/LIST	Remote control Button			
12	FLASHBK	Remote control Button	C5	POWER OFF	Discrete IR Code (Only Power Off)
13	MUTE/DELETE	Remote control Button			
14	VOL +	Remote control Button	5A	AV1	Discrete IR Code (AV1 Input Selection)
15	VOL -	Remote control Button			
16	CH ▲	Remote control Button	D0	AV2	Discrete IR Code (AV2 Input Selection)
17	CH ▼	Remote control Button			
18	FAV/MARK	Remote control Button	BF	COMPONENT1	Discrete IR Code (Component1 Input Selection)
19	▲	Remote control Button			
4C	▼	Remote control Button	D4	COMPONENT2	Discrete IR Code (Component2 Input Selection)
10	<	Remote control Button			
1A	>	Remote control Button	D5	RGB-PC	Discrete IR Code (RGB-PC Input Selection)
44	ENTER	Remote control Button			
28	BACK	Remote control Button	CE	HDMI1	Discrete IR Code (HDMI1 Input Selection)
79	RATIO	Remote control Button			
BA 	FREEZE	Remote control Button	CC	HDMI2	Discrete IR Code (HDMI2 Input Selection)
95	ENERGY SAVING	Remote control Button			
7E	SIMPLINK	Remote control Button	E9	HDMI3	Discrete IR Code (HDMI3 Input Selection)
AA	INFO	Remote control Button			
30	AV MODE	Remote control Button	DA	HDMI4	Discrete IR Code (HDMI4 Input Selection)
72	RED	Remote control Button			
71	GREEN	Remote control Button	76	Ratio 4:3	Discrete IR Code (Only 4:3 Mode)
63	YELLOW	Remote control Button			
61	BLUE	Remote control Button	77	Ratio 16:9	Discrete IR Code (Only 16:9 Mode)
B1	■	Remote control Button			
B0	▶	Remote control Button	AF	Ratio Zoom	Discrete IR Code (Only Zoom Mode)
BA	▬	Remote control Button			
8E	▶▶	Remote control Button			
8F	◀◀	Remote control Button			

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## EXTERNAL CONTROL DEVICE SETUP

### RS-232C Setup

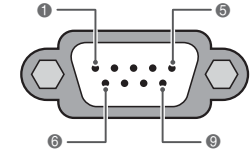
Connect the RS-232C (serial port) input jack to an external control device (such as a computer or an AV control system) to control the product's functions externally.

Connect the serial port of the control device to the RS-232C jack on the product back panel.

**NOTE**

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

### Type of connector; D-Sub 9-Pin Male

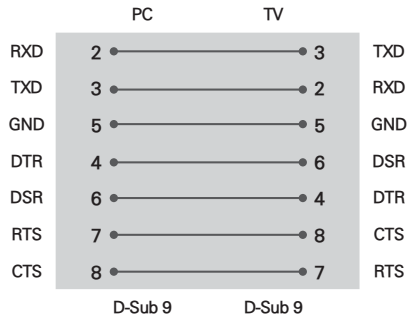


RS-232C IN (CONTROL & SERVICE)

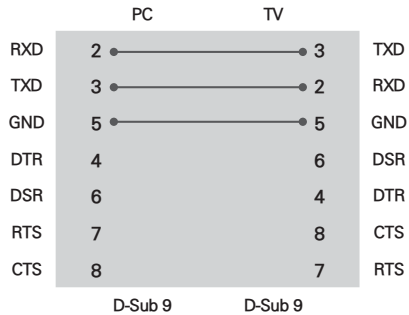
No.	Pin name
1	No connection
2	RXD (Receive data)
3	TXD (Transmit data)
4	DTR (DTE side ready)
5	GND
6	DSR (DCE side ready)
7	RTS (Ready to send)
8	CTS (Clear to send)
9	No Connection

## RS-232C configurations

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

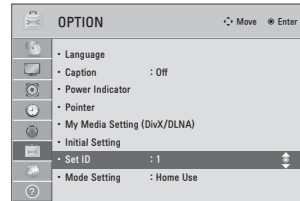


3-Wire Configurations(Not standard)



### Set ID

Set ID number.



- 1 Press **HOME** to access the Home menu.
- 2 Press the Navigation buttons to scroll to **SETUP** and press **ENTER**.
- 3 Press the Navigation buttons to scroll to **OPTION** and press **ENTER**.
- 4 Press the Navigation buttons to scroll to **Set ID** and press **ENTER**.
- 5 Scroll left or right to select a set ID number and select **CLOSE**. The adjustment range is 1-99.
- 6 When you are finished, press **EXIT**.

\*Real data mapping  
0 : 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

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## Communication Parameters

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

## Command reference list

	COMMAND1	COMMAND2	DATA (Hexadecimal)		COMMAND1	COMMAND2	DATA (Hexadecimal)
01. Power	k	a	00 - 01	14. Treble	k	r	00 - 64
02. Input Select	x	b	(See p.134)	15. Bass	k	s	00 - 64
03. Aspect Ratio	k	c	(See p.134)	16. Balance	k	t	00 - 64
04. Screen Mute	k	d	00 - 01	17. Color Temperature	x	u	00 - 64
05. Volume Mute	k	e	00 - 01	18. Energy Saving	j	q	(See p.135)
06. Volume Control	k	f	00 - 64	19. Auto Configuration	j	u	(See p.135)
07. Contrast	k	g	00 - 64	21. Channel Add/Del	m	b	00 - 01
08. Brightness	k	h	00 - 64	22. Key	m	c	(See p.136)
09. Color	k	i	00 - 64	23. Backlight	m	g	00 - 64
10. Tint	k	j	00 - 64				
11. Sharpness	k	k	00 - 64				
12. OSD Select	k	l	00 - 01				
13. Remote Control Lock Mode	k	m	00 - 01				

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

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

## Transmission / Receiving protocol

### Transmission

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

[Command 1] : First command to control the set.(j, k, m or x)

[Command 2] : Second command to control the set.

[Set ID] : You can adjust the set ID to choose desired set ID number in Option menu. Adjustment range is 1~ 99. When selecting Set ID '0', every connected the set is controlled. Set ID is indicated as decimal (1~ 99) on menu and as Hexa decimal (0x0~ 0x63) on transmission /receiving protocol.

[DATA] : To transmit the command data.

Transmit the 'FF' data to read status of command.

[Cr] : Carriage Return

ASCII code '0x0D'

[ ] : ASCII code 'space (0x20)'

\* In this model, set will not send the status during the standby mode.

### OK Acknowledgement

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

The set transmits ACK (acknowledgement) based on this format when receiving normal data. At this time, if the data is data read mode, it indicates present status data. If the data is data write mode, it returns the data of the PC computer.

\* In this model, set will not send the status during the standby mode.

\* Data Format

[Command 2] : Use as command.

[Set ID] : Use the small character, if set ID is 10, it will send the '0', 'a'.

[DATA] : Use the small character, if data is 0 x ab, it will send the 'a', 'b'.

[OK] : Use the large character.

### Error Acknowledgement

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

The set transmits ACK (acknowledgement) based on this format when receiving abnormal data from non-viable functions or communication errors.

Data1: Illegal Code

Data2: Not supported function

Data3: Wait more time

\* In this model, set will not send the status during the standby mode.

\* Data Format

[Command 2] : Use as command.

[Set ID] : Use the small character, if set ID is 10, it will send the '0', 'a'.

[DATA] : Use the small character, if data is 0 x ab, it will send the 'a', 'b'.

[NG] : Use the large character

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

To control Power On/Off of the set.

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

Data 00: Power Off      Data 01: Power On

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

\* In a like manner, if other functions transmit 'FF' data based on this format, Acknowledgement data feedback presents status about each function.

\* Note: In this model, set will send the Acknowledge after power on processing completion.

There might be a time delay between command and acknowledge.

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

To select input source for set.

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

Data 00: DTV (Antenna)

Data 10: Analog (Antenna) Data 11: Analog (Cable)

Data 20: AV or AV1      Data 21: AV2

Data 40: Component

Data 60: RGB-PC      Data 90: HDMI1

Data 91: HDMI2      Data 92: HDMI3

Data 93: HDMI4

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

\* Use the feature depending on your model.

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

To adjust the screen format.

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

Data 01: 4:3      Data 09: Just scan

Data 02: 16:9      Data 10: Cinema Zoom 1

Data 05: Zoom 2      :

Data 06: Set by program      Data 1F: Cinema Zoom16

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

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

To select screen mute on/off.

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

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

Mute off

Data 01: Screen mute on (Picture off)

Data 10: Video-out Mute on

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

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

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

To control volume mute on/off.

You can also adjust mute using the MUTE button on remote control.

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

Data 00: Volume mute on (Volume off)

Data 01: Volume mute off (Volume on)

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

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

To adjust volume.

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

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

Data Min: 00 ~ Max: 64 (\*transmit by Hexadecimal code)

\*Refer to "Real data mapping".

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

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

To adjust screen contrast.

You can also adjust contrast in the PICTURE menu.

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

Data Min: 00 ~ Max: 64 (\*transmit by Hexadecimal code)

\*Refer to "Real data mapping".

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

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

To adjust screen brightness.

You can also adjust brightness in the PICTURE menu.

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

Data Min: 00 ~ Max: 64 (\*transmit by Hexadecimal code)

\*Refer to "Real data mapping".

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

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

To adjust screen color.

You can also adjust color in the PICTURE menu.

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

Data Min: 00 ~ Max: 64 (\*transmit by Hexadecimal code)

\*Refer to "Real data mapping".

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

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

To adjust screen tint.

You can also adjust tint in the PICTURE menu.

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

Data Red: 00 ~ Green: 64 (\*transmit by Hexadecimal code)

\*Refer to "Real data mapping".

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

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

To adjust screen sharpness.

You can also adjust sharpness in the PICTURE menu.

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

Data Min: 00 ~ Max: 64 (\*transmit by Hexadecimal code)

\*Refer to "Real data mapping".

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

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

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

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

Data 00: OSD off      Data 01: OSD on

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

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

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

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

Data 00: Lock off      Data 01: Lock on

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

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

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

To adjust treble.

You can also adjust treble in the AUDIO menu.

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

Data Min: 00 ~ Max: 64 (\*transmit by Hexadecimal code)

\*Refer to "Real data mapping".

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

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

To adjust bass.

You can also adjust bass in the AUDIO menu.

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

Data Min: 00 ~ Max: 64 (\*transmit by Hexadecimal code)

\*Refer to "Real data mapping".

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

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

To adjust balance.

You can also adjust balance in the AUDIO menu.

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

Data Min: 00 ~ Max: 64 (\*transmit by Hexadecimal code)

\*Refer to "Real data mapping".

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

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

To adjust color temperature.

You can also adjust color temperature in the PICTURE menu.

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

Data Min: 00 ~ Max: 64 (\*transmit by Hexadecimal code)

\*Refer to "Real data mapping".

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

**18. 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 - Auto (depending on models)

05: 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.

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

The 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 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

**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 key code.

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

See page 101.

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

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

**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]

ENGLISH

ENGLISH

ENGLISH



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

MODEL \_\_\_\_\_

SERIAL \_\_\_\_\_

## ■■■ 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](mailto: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](http://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 afvalmonitoren 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.

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LG 전자는 기업 개선 정책의 하나로 지구 환경 문제를 채택함으로써 보다 나은 환경을 만들어 나가기 위한 비전과 정책을 수립했습니다. 본사의 친환경 정책에 대한 자세한 정보를 보시려면 아래의 웹 사이트를 방문하십시오.

[http://www.lge.co.kr/cckr/about/environ/purity\\_02.jsp](http://www.lge.co.kr/cckr/about/environ/purity_02.jsp)

∴EPA (EPA applied model only)

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



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

∴NOM MARK (Mexico only)



## ■■■ 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

#### Vanhonjen 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, renovationselskab 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/ΕΟΚ.
2. Η απόρριψη όλων των ηλεκτρικών και ηλεκτρονικών προϊόντων πρέπει να γίνεται χωριστά από τα γενικά οικιακά απορρίμματα μέσω καθορισμένων εγκαταστάσεων συλλογής απορριμμάτων, οι οποίες έχουν δημιουργηθεί είτε από την κυβέρνηση ή από τις τοπικές αρχές.
3. Η σωστή απόρριψη της παλιάς σας συσκευής θα βοηθήσει στην αποτροπή πιθανών αρνητικών συνπειών ως προς το περιβάλλον και την υγεία του ανθρώπου.
4. Για πιο λεπτομερείς πληροφορίες σχετικά με την απόρριψη της παλιάς σας συσκευής, επικοινωνήστε με το αρμόδιο τοπικό γραφείο, υπηρεσία διάθεσης οικιακών απορριμμάτων ή το 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.



## Regulatory Information cont.

### 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 prekrizhene 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, keresek 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 kohalikus 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 apkārtējo vidi 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 ant prekės reiškia, 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.