

# OWNER'S MANUAL

\* Disclaimer

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

LY75\*\*

www.lg.com

# TABLE OF CONTENTS

#### LICENSES

#### 3 OPEN SOURCE SOFTWARE NOTICE

#### 4 INSTALLATION PROCEDURE

#### 4 ASSEMBLING AND PREPARING

- 4 Unpacking
- 7 Separate purchase
- 8 Parts and Button
- 9 Using the Joystick button
- 10 Lifting and Moving the TV
- 11 Setting up the TV
- 11 Attaching the Stand
- 11 Mounting on a table
- 13 Mounting on a wall
- 14 Tidying cables

#### 15 MAKING CONNECTIONS

- 15 Antenna Connection
- 16 HDMI Connection
- 17 DVI to HDMI connection
- 17 Audio Connection
- 17 Digital Optical Audio Connection
- 18 Speaker Output Setup
- 18 Network Setup
- 18 Wired network Connection
- 19 Component connection
- 20 RGB-PC connection
- 20 Headphone Connection
- 21 USB Connection

#### 22 REMOTE CONTROL

#### 23 MAINTENANCE

- 23 Cleaning your TV
- 23 Screen, frame, cabinet and stand
- 23 Power cord

#### 24 TROUBLESHOOTING

#### 25 SPECIFICATIONS

#### 28 IR CODES

#### 29 EXTERNAL CONTROL DEVICE SETUP

- 29 RS-232C Setup
- 29 Type of Connector: D-Sub 9-Pin Male
- 29 RS-232C Configurations
- 30 Communication Parameters
- 30 Command Reference List
- 31 Transmission / Receiving Protocol



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

# 

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

# 

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

3

# LICENSES

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



Manufactured under license from Dolby Laboratories. Dolby and the double-D symbol are trademarks of Dolby Laboratories.



The terms HDMI and HDMI High-Definition Multimedia Interface, and the HDMI logo are trademarks or registered trademarks of HDMI Licensing LLC in the United States and other countries.



ABOUT DIVX VIDEO: DivX<sup>®</sup> is a digital video format created by DivX, LLC, a subsidiary of Rovi Corporation. This is an official DivX Certified<sup>®</sup> device that has passed rigorous testing to verify that it plays DivX video. Visit *divx.com* for more information and software tools to convert your files into DivX videos.

ABOUT DIVX VIDEO-ON-DEMAND: This DivX Certified<sup>®</sup> 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* for more information on how to complete your registration.

"DivX Certified" to play  $\text{DivX}^{\circ}$  video up to HD 1080p, including premium content."

"DivX<sup>®</sup>, DivX Certified<sup>®</sup> and associated logos are trademarks of Rovi Corporation or its subsidiaries and are used under license."

"Covered by one or more of the following U.S. patents : 7,295,673; 7,460,668; 7,515,710; 7,519,274"



For DTS patents, see *http://patents.dts.com*. Manufactured under license from DTS Licensing Limited. DTS, the Symbol, & DTS and the Symbol together are registered trademarks, and DTS 2.0+Digital Out is a trademark of DTS, Inc. © DTS, Inc. All Rights Reserved.

## **OPEN SOURCE SOFTWARE NOTICE**

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

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

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

- Image shown may differ from your TV.
- Your TV's OSD (On Screen Display) may differ slightly from that shown in this manual.
- The available menus and options may differ from the input source or product model that you are using.
- New features may be added to this TV in the future.
- The TV can be placed in standby mode in order to reduce the power consumption. And the TV should be turned off if it will not be watched for some time, as this will reduce energy consumption.
- The energy consumed during use can be significantly reduced if the level of brightness of the picture is reduced, and this will reduce the overall running cost.

# INSTALLATION PROCEDURE

- 1 Open the package and make sure all the accessories are included.
- 2 Attach the stand to the TV set.
- 3 Connect an external device to the TV set.
- 4 Make sure the network connection is available. You can use the TV network functions only when the network connection is made.

# ASSEMBLING AND PREPARING

### Unpacking

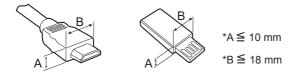
Check your product box for the following items. If there are any missing accessories, contact the local dealer where you purchased your product. The illustrations in this manual may differ from the actual product and item.

# 

- Do not use any unapproved items to ensure the safety and product life span.
- Any damages or injuries by using unapproved items are not covered by the manufacturer's warranty.
- Some models have a thin film attached on to the screen and this must not be removed.

# 

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







**Remote control, Batteries** (AAA) (See p. 22)







Isolator (Depending on model) (See p. 6)



Power cord (Depending on model)



**Cable Managements** 2EA (See p. 14)



Cable Holder (Depending on model) (See p. 14)



**Component Gender Cable** (Depending on model) (See p. 19)



Wall Mount Spacers 2EA (Only 42LY75\*\*) (See p. 14)



Stand Screws 4EA, M4 x L14 (Only 42/47/55LY75\*\*) (See p. 11)



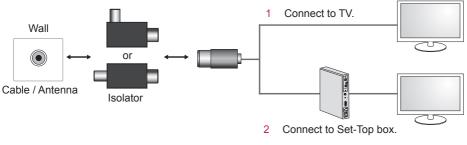
Stand Bases (See p. 11)



Stand Screws 4EA. M4 x L20 (Only 32LY75\*\*) (See p. 11)

#### • Antenna Isolator Installation Guide

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



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

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

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

### Separate purchase

Separate purchase items can be changed or modified for quality improvement without any notification. Contact your dealer to buy these items.

These devices only work with certain models.

The model name or design may be changed depending on the upgrade of product functions, manufacturer's circumstances or policies.

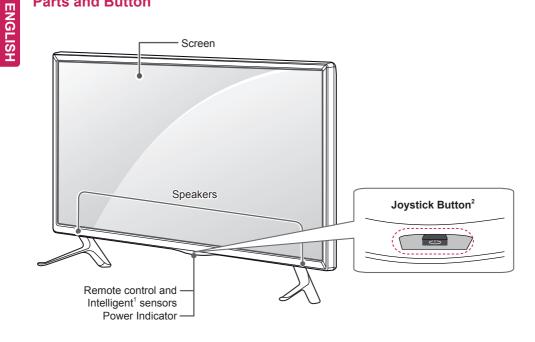
LG Audio Device

AN-MR300

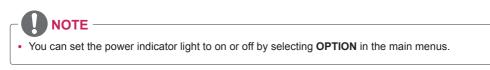
Magic remote

7

#### **Parts and Button**



- Intelligent sensor Adjusts the image quality and brightness based on the surrounding 1 environment.
- Joystick Button This button is located below the TV screen. 2



#### Using the Joystick button

You can simply operate the TV functions by pressing to turn On/Off or sliding your finger over joystick button moving up, down, left or right.

#### **Basic Functions**

	Power On	When the TV is turned off, place your finger on the joystick button and press it once and release it.
		When the TV is turned on, place your finger on the joystick button and press it once for a few seconds and release it.
	Volume Control	If you place your finger over the joystick button and move it left or right, you can adjust the volume level you want.
	Programmes Control	If you place your finger over the joystick button and move it up or down, you can scrolls through the saved programmes you want.

# 

• When your finger is over the joystick button and you are sliding finger forward/back, left or right, be careful not to press down to hard on joystick. If you press down hard on joystick button first then the adjustment of volume level and programme scroll action will not operate.

### Lifting and Moving the TV

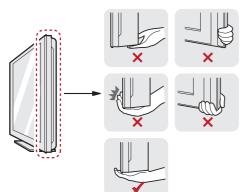
Please note the following advice to prevent the TV from being scratched or damaged and for safe transportation regardless of its type and size.

# 

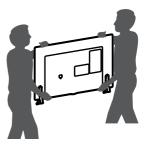
- Avoid touching the screen at all times, as this may result in damage to the screen.
- It is recommended to move the TV in the box or packing material that the TV originally came in.
- Before moving or lifting the TV, disconnect the power cord and all cables.
- When holding the TV, the screen should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



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



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



- When transporting the TV, do not expose the TV to jolts or excessive vibration.
- When transporting the TV, keep the TV upright, never turn the TV on its side or tilt towards the left or right.
- Do not apply excessive pressure to cause flexing /bending of frame chassis as it may damage screen.

# 

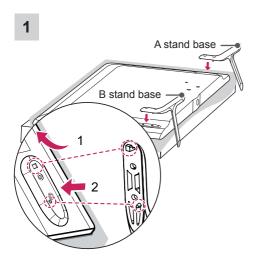
 When handling the TV, be careful not to damage the protruding joystick button.



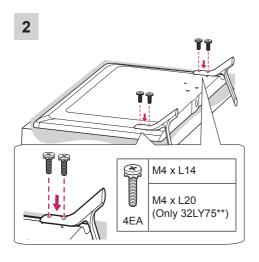
### Setting up the TV

Image shown may differ from your TV.

#### Attaching the Stand



- Attach the stand to the TV using the upper 1 mounting hole on the back of the TV.
- Attach the stand to the TV using the lower 2 connection on the back of the TV.



# CAUTION

- · When attaching the stand to the TV set, place the screen facing down on a cushioned table or flat surface to protect the screen from scratches
- Make sure that the screws are fastened completely. (If they are not fastened securely enough, the TV may tilt forward after being installed.)

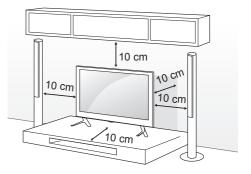
Do not use too much force and over tighten the screws: otherwise screw may be damaged and not tighten correctly.

NOTE

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

### Mounting on a table

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



Connect the power cord to a wall outlet. 2

# CAUTION

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

#### Using the Kensington security system

(This feature is not available for all models.)Image shown may differ from your TV.

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

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

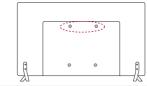


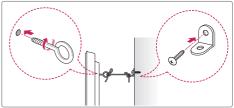
### WARNING

- If a television is not positioned in a sufficiently stable location, it can be potentially hazardous due to falling. Many injuries, particularly to children, can be avoided by taking simple precautions such as:
  - » Using cabinets or stands recommended by the manufacturer of the television.
  - » Only using furniture that can safely support the television.
  - » Ensuring the television is not overhanging the edge of the supporting furniture.
  - » Not placing the television on tall furniture (for example, cupboards or bookcases) without anchoring both the furniture and the television to a suitable support.
  - » Not standing the televisions on cloth or other materials placed between the television and supporting furniture.
  - » Educating children about the dangers of climbing on furniture to reach the television or its controls.

#### Securing the TV to a wall

(This feature is not available for all models.)





- Insert and tighten the eye-bolts, or TV brackets and bolts on the back of the TV.
  - If there are bolts inserted at the eyebolts position, remove the bolts first.
- 2 Mount the wall brackets with the bolts to the wall.

Match the location of the wall bracket and the eye-bolts on the rear of the TV.

 Connect the eye-bolts and wall brackets tightly with a sturdy rope.
 Make sure to keep the rope horizontal with the flat surface.

# 

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

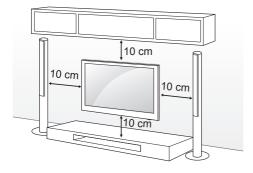
# 

- Use a platform or cabinet that is strong and large enough to support the TV securely.
- Brackets, bolts and ropes are not provided. You can obtain additional accessories from your local dealer.

### Mounting on a wall

Attach an optional wall mount bracket at the rear of the TV carefully and install the wall mount bracket on a solid wall perpendicular to the floor. When you attach the TV to other building materials, please contact qualified personnel. LG recommends that wall mounting be performed by a qualified professional installer. We recommend the use of LG's wall mount bracket.

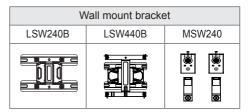
When you do not use LG's wall mount bracket, please use a wall mount bracket where the device is adequately secured to the wall with enough space to allow connectivity to external devices.

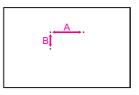


Make sure to use screws and wall mount bracket that meet the VESA standard. Standard dimensions for the wall mount kits are described in the following table.

#### Separate purchase (Wall Mounting Bracket)

Model	32LY75**	42/47/55LY75**
VESA (A x B)	200 x 200	400 x 400
Standard screw	M6	M6
Number of screws	4	4
Wall mount bracket	LSW240B MSW240	LSW440B MSW240

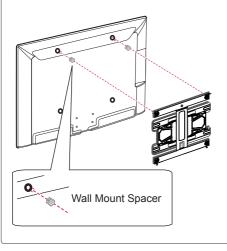




# 

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

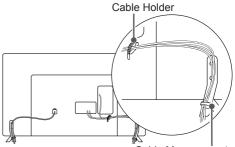
- Use the screws that are listed on the VESA standard screw specifications.
- The wall mount kit includes an installation manual and necessary parts.
- The wall mount bracket is not provided. You can obtain additional accessories from your local dealer.
- The length of screws may differ depending on the wall mount. Make sure to use the proper length.
- For more information, refer to the manual supplied with the wall mount.
- When attaching a wall mounting bracket to the TV, insert the wall mount spacers into the TV wall mount holes to adjust the vertical angle of the TV. (Only 42LY75\*\*)



### **Tidying cables**

Image shown may differ from your TV.

- 1 Gather and bind the cables with the cable holder.
- 2 Fix the Cable Management firmly to the TV.



Cable Management

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

# MAKING CONNECTIONS

This section on **MAKING CONNECTIONS** mainly uses diagrams for the 42LY75\*\* models.

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

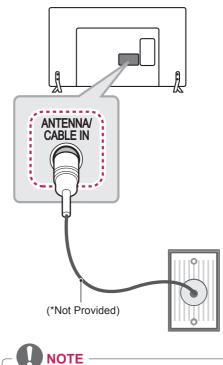
Available external devices are: HD receivers, DVD players, VCRs, audio systems, USB storage devices, PC, gaming devices, and other external devices.

# 

- The external device connection may differ from the model.
- Connect external devices to the TV regardless of the order of the TV port.
- 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 on recording, refer to the manual provided with the connected device.
- Refer to the external equipment's manual for operating instructions.
- If you connect a gaming device to the TV, use the cable supplied with the gaming device.
- 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.
- In PC mode, some resolution settings may not work properly depending on the graphics card.
- USB storage device is recognizable.

### **Antenna Connection**

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

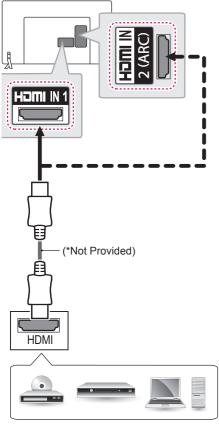


 Use a signal splitter to use more than 2 TVs.

- If the image quality is poor, install a signal amplifier properly to improve the image quality.
- If the image quality is poor with an antenna connected, try to realign the antenna in the correct direction.
- An antenna cable and converter are not supplied.
- Supported DTV Audio: MPEG, Dolby Digital, Dolby Digital Plus, HE-AAC

### **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. Choose any HDMI input port to connect. It does not matter which port you use.



DVD / Blu-Ray / HD Cable Box / HD STB / PC

# 

- It is recommended to use the TV with the HDMI connection for the best image quality.
- Use the latest High Speed HDMI<sup>™</sup> Cable with CEC (Customer Electronics Control) function.
- High Speed HDMI<sup>™</sup> Cables are tested to carry an HD signal up to 1080p and higher.
- Supported HDMI Audio format : Dolby Digital, PCM (Up to 192 kHz, 32 kHz/44.1 kHz/48 kHz/88 kHz/96 kHz/176 kHz/192 kHz)

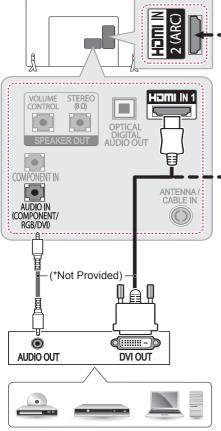
» DTS not supported.

#### ARC (Audio Return Channel)

- An external audio device that supports SIMPLINK and ARC must be connected using HDMI IN 2 (ARC) port.
- When connected with a high-speed HDMI cable, the external audio device that supports ARC outputs optical SPDIF without additional optical audio cable and supports the SIMPLINK function.

### **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. To transmit an audio signal, connect an audio cable.



DVD / Blu-Ray / HD Cable Box / HD STB / PC

# NOTE

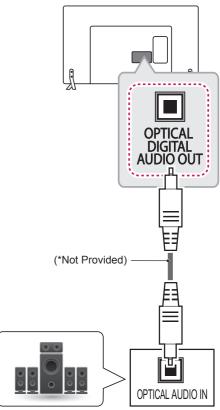
- Depending on the graphics card, DOS mode may not work if a HDMI to DVI Cable is in use.
- When using the HDMI/DVI cable, only Single link is supported.

### Audio Connection

You may use an optional external audio system instead of the built-in speaker.

### **Digital Optical Audio Connection**

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



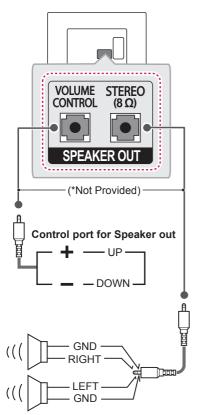
Digital Audio System

# 

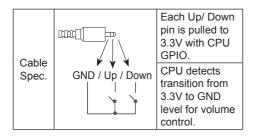
- Do not look into the optical output port. Looking at the laser beam may damage your vision.
- Audio with ACP (Audio Copy Protection) function may block digital audio output.

### **Speaker Output Setup**

Connect the external speaker to the SPEAKER OUT jack on the TV.



#### Method of Volume control port

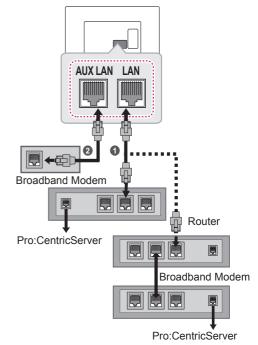


### **Network Setup**

#### Wired network Connection

• Image shown may differ from your TV.

This TV can be connected to a Pro:Centric server via the LAN port. After making the physical connection, the TV needs to be set up for network communication. Connect the LAN port of the Modem or Router from Pro:Centric server to the LAN port on the TV.



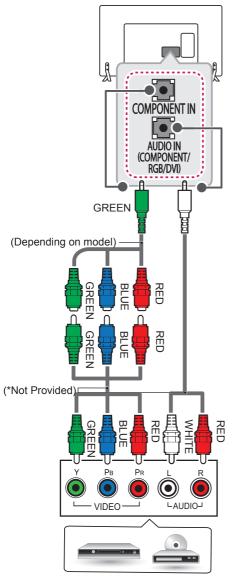
 Connect the LAN port of the Modem or Router to the LAN port on the TV.
 Connect the LAN port of the PC to the AUX LAN port on the TV.

# 

- 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.

### **Component Connection**

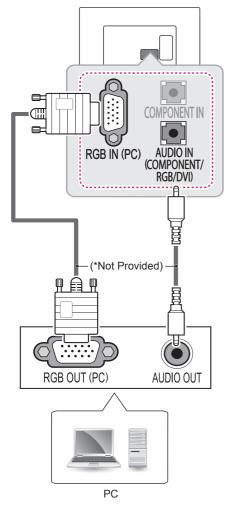
Transmits the analogue video and audio signals from an external device to the TV. Connect the external device and the TV with the component cable as shown.



• If cables are not installed correctly, it could cause this image to display in black and white or with distorted colours.

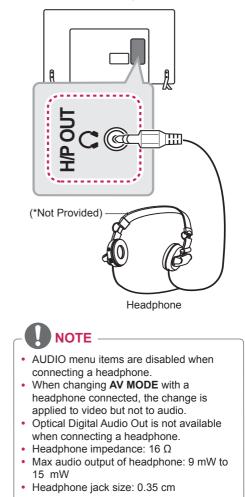
### **RGB-PC Connection**

Transmits the video signal from PC to the TV. To transmit an audio signal, connect an audio cable.



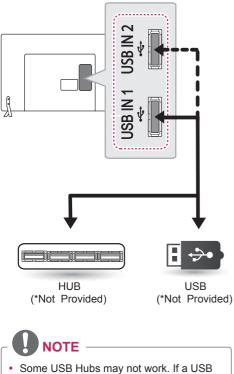
### **Headphone Connection**

Transmits the headphone signal from the TV to an external device. Connect the external device and the TV with the headphone as shown.



### **USB** Connection

Connect a USB storage device such as s USB flash memory, external hard drive or a USB memory card reader to the TV and access the SmartShare menu to use various multimedia files.



 Some USB Hubs may not work. If a USB device connected using a USB Hub is not detected, connect it to the USB port on the TV directly.

# **REMOTE CONTROL**

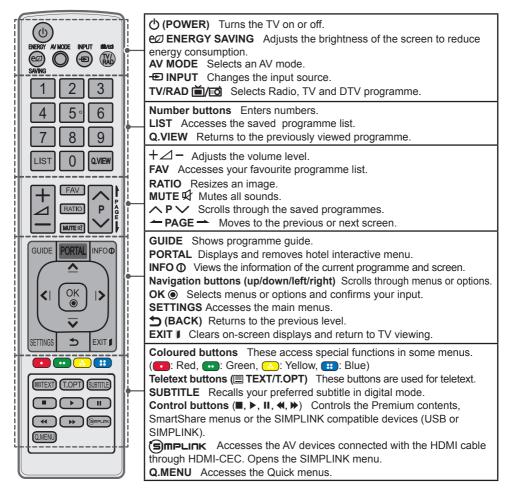
This item is not included for all models.

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



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

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



# MAINTENANCE

### **Cleaning your TV**

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

### 

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

#### Screen, frame, cabinet and stand

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



- Avoid touching the screen at all times, as this may result in damage to the screen.
- Do not push, rub, or hit the screen surface with your fingernail or a sharp object, as this may result in scratches and image distortions.
- · Do not use any chemicals as this may damage the product.
- Do not spray liquid onto the surface. If water enters the TV, it may result in fire, electric shock, or malfunction.

#### Power cord

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

# TROUBLESHOOTING

The software version can be updated for improvement in performance.Customer needs to ensure the compatibility of customer's equipment with LGE software. If needed, please consult with LGE and upload revised software version according to the guidance provided by LGE.

Problem	Solution	
Cannot control the TV with the remote control.	<ul> <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> </ul>	
No image display and no sound is produced.	<ul> <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>	
The TV turns off suddenly.	<ul> <li>Check the power control settings. The power supply may be interrupted.</li> <li>Check if the Sleep Timer or Off Time feature is activated in the TIME settings.</li> </ul>	
When connecting to the PC (RGB / HDMI / HDMI-DVI), 'No signal' or 'Invalid Format' is displayed.	<ul> <li>Turn the TV off/on using the remote control.</li> <li>Reconnect the RGB / HDMI / HDMI-DVI cable.</li> <li>Restart the PC with the TV on.</li> </ul>	

# **SPECIFICATIONS**

	Wireless LAN module(TWFM-B006D) specification		
Standard IEEE802.11a/b/g/n			
Example         2400 to 2483.5 MHz           Frequency Range         5150 to 5250 MHz           5725 to 5850 MHz (for Non EU)			
B02.11a: 11 dBm           802.11b: 14 dBm           802.11b: 14 dBm           802.11g: 10.5 dBm           802.11n - 2.4GHz: 11 dBm           802.11n - 5GHz: 12.5 dBm			

adjust the operating frequency and this product is set for the regional frequency table.

• This device should be installed and operated with minimum distance 20 cm between the device and your body. And this phrase is for the general statement for consideration of user environment.

€0197

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

	MODELS	32LY75**	42LY75**	
MODELS		32LY750H-TA	42LY750H-TA	
Dimensions With stand (mm)		732 x 481 x 207	961 x 612 x 218	
(W x H x D)	Without stand (mm)	732 x 431 x 55.5	961 x 567 x 55.5	
Weight	With stand (mm)	6.2	9.5	
vveigni	Without stand (mm)	6.0	9.2	
Power requirement		AC 100-240 V~ 50 / 60 Hz	AC 100-240 V~ 50 / 60 Hz	
MODELS		47LY75**	55LY75**	
•	WODELS	47LY750H-TA	55LY750H-TA	
Dimensions	With stand (mm)	1073 x 676 x 247	1243 x 772 x 247	
(W x H x D) Without stand (mm)		1073 x 629 x 55.8	1243 x 725 x 56.8	
Woight	With stand (mm)	12.7	17.7	
Weight	Without stand (mm)	12.3	17.3	
Power requirement		AC 100-240 V~ 50 / 60 Hz AC 100-240 V~ 50 / 6		

Environment condition	Operating Temperature	0 °C to 40 °C
	Operating Humidity	Less than 80 %
	Storage Temperature	-20 °C to 60 °C
	Storage Humidity	Less than 85 %

	Digital TV Analogue TV (Depend on Country) (Depend on Country)		
Television System	DVB-T	PAL B/B, PAL B/G, PAL D/K, PAL- SECAM B/G, SECAM D/K NTSC-M	
Programme Coverage	VHF, UHF VHF, UHF, CATV		
Maximum number of storable programmes	DVB-T& Analogue TV : 1,500		
External Antenna Impedance	75 Ω		

#### HDMI/DVI-DTV Supported Mode

Resolution	Horizontal Frequency (kHz)	Vertical Frequency (Hz)
720 x 480	31.469 31.5	59.94 60
720 x 576	31.25 15.625	50 50
1280 x 720	37.500 44.96 45	50 59.94 60
1920 x 1080	33.72 33.75 28.125 26.97 27 33.716 33.75 56.250 67.43 67.5	59.94 60 50.00 23.97 24 29.976 30.00 50 59.94 60

### RGB-PC, HDMI/DVI-PC Supported Mode

	L La vier a ved a L	Mantha al
	Horizontal	Vertical
Resolution	Frequency	Frequency
	(kHz)	(Hz)
640 x 350	31.468	70.09
720 x 400	31.469	70.08
640 x 480	31.469	59.94
800 x 600	37.879	60.31
1024 x 768	48.363	60.00
1152 x 864	54.348	60.053
1280 x 1024	63.981	60.020
1360 x 768	47.712	60.015
1920 x 1080	67.5	60

### Component port connecting information

-			1	
Component ports on the TV		Y	Ρ <sub>B</sub>	PR
		Y	PB	PR
Video output po	rts	Y	B-Y	R-Y
on DVD playe	r	Y	Cb	Cr
		Y	Pb	Pr
Signal	Component			
480i/576i		0		
480p/576p	0			
720p/1080i		0		
1080p	(5	0 Hz / (	O 60 Hz or	ıly)

# **IR CODES**

• This feature is not available for all models.

Code (Hexa)	Function	Note	Code (Hexa)	Function	Note
08	ப் (POWER)	Remote control Button (Power On/Off)	07	<	Remote control Button
95	ENERGY SAVING	Remote control Button	06	>	Remote control Button
30	AV MODE	Remote control Button	44	OK	Remote control Button
0B	INPUT	Remote control Button	43	SETTINGS	Remote control Button
F0	TV/RAD	Remote control Button	28	5	Remote control Button
10-19	Number Key 0-9	Remote control Button	5B	EXIT	Remote control Button
53	LIST	Remote control Button	72	RED	Remote control Button
1A	Q.VIEW	Remote control Button	71	GREEN	Remote control Button
02	⊿ +	Remote control Button	63	YELLOW	Remote control Button
03	⊿ -	Remote control Button	61	BLUE	Remote control Button
1E	FAV	Remote control Button	20	TEXT	Remote control Button
79	RATIO	Remote control Button	21	T.OPT (T.Option)	Remote control Button
09	MUTE	Remote control Button	39	SUBTITLE	Remote control Button
00	P ^ / PAGE ^	Remote control Button	B1		Remote control Button
01	P 🗸 / PAGE 🗸	Remote control Button	B0	►	Remote control Button
AB	GUIDE	Remote control Button	BA	11	Remote control Button
0C	PORTAL	Remote control Button	8E	••	Remote control Button
AA	INFO	Remote control Button	8F	••	Remote control Button
40	^	Remote control Button	7E	SIMPLINK	Remote control Button
41	~	Remote control Button	45	Q.MENU	Remote control Button

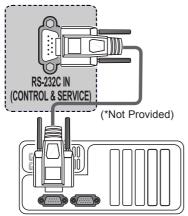
# **EXTERNAL CONTROL DEVICE SETUP**

### **RS-232C Setup**

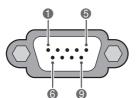
Connect the RS-232C (serial port) input jack to an external control device (such as a computer or an A/V control system) to control the product's functions externally.

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

 Note : RS-232C connection cables are not supplied with the product.

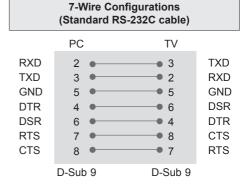


### Type of Connector: D-Sub 9-Pin Male



No.	Pin name
1	3.5V
2	RXD (Receive data)
3	TXD (Transmit data)
4	IR OUT from TV
5	GND
6	No Connection
7	No Connection (5V available in some models)
8	No Connection
9	No Connection (12V available in some models)

### **RS-232C** Configurations



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

### Set ID

Set ID number. "Real Data Mapping".

- 1 Press SETTINGS or HOME to access the main menus.
- 2 Press the Navigation buttons to scroll to **OPTION** and press **OK**.
- 3 Press the Navigation buttons to scroll to Set ID and press OK.
- 4 Scroll left or right to select a set ID number and select **Close**. The adjustment range is 1-99.
- 5 When you are finished, press **EXIT**.

### **Communication Parameters**

- Baud rate: 9600 bps (UART)
- Data length: 8 bits
- Parity : None

- Stop bit: 1 bit
- Communication code: ASCII code
- Use a crossed (reverse) cable.

### **Command Reference List**

(Depending on Model)

	COM- MAND1	COM- MAND2	DATA (Hexa- decimal)		COM- MAND1	COM- MAND2	DATA (Hexa- decimal)
01. Power	k	а	00 to 01	12. Remote Control Lock Mode	k	m	00 to 01
02. Aspect Ratio	k	с	(See p. 32)	13. Balance	k	t	00 to 64
03. Screen Mute	k	d	(See p. 32)	14. Colour Temperature	х	u	00 to 64
04. Volume Mute	k	е	00 to 01	15. Energy Saving	j	q	00 to 05
05. Volume Control	k	f	00 to 64	16. Auto Configure	j	u	01
06. Contrast	k	g	00 to 64	17. Equalize	j	v	(See p. 34)
07. Brightness	k	h	00 to 64	18. Tune Command	m	а	(See p. 34)
08. Colour	k	i	00 to 64	19. Programme Add/Skip	m	b	00 to 01
09. Tint	k	j	00 to 64	20. Key	m	с	(See p. 35)
10. Sharpness	k	k	00 to 32	21. Control Back Light	m	g	00 to 64
11. OSD Select	k	I	00 to 01	22. Input select (Main)	x	b	(See p. 35)

### NOTE

• During USB operations such as DivX 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 TV. (j, k, m or x)
- [Command 2] : Second command to control the TV.
- [Set ID] : You can adjust the set ID to choose desired monitor ID number in option menu. Adjustment range is 1 to 99. When selecting Set ID '0', every connected set is controlled.
  - \* Set ID is indicated as decimal (1 to 99) on menu and as Hexa decimal (0x0 to 0x63) on transmission/receiving protocol.
- [DATA] : To transmit command data. Transmit 'FF' data to read status of command.
- [Cr] : Carriage Return ASCII code '0x0D'
- [ ] : ASCII code 'space (0x20)'

#### **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.

#### **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.

Data 00 : Illegal Code

- 01. Power (Command: k a)
- ► To control Power On/Off of the set.

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

Data 00 : Power Off 01 : Power On

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

- To Show TV is Power On/Off.
   Transmission [k][a][ ][Set ID][ ][FF][Cr]
   Ack [a][ ][Set ID][ ][OK/NG][Data][x]
- \* Similarly, if other functions transmit '0xFF' data based on this format, Acknowledgement data feed back presents status about each function.
- \* OK Ack., Error Ack. and other message may display on the screen when TV is power On.
- 02. Aspect Ratio (Command: k c) (Main Picture Size)
- To adjust the screen format. (Main picture format) You can also adjust the screen format using the Aspect Ratio n the Q.MENU. or PICTURE menu.

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

 
 Data 01 : Normal screen (4:3)
 07 : 14:9 09 : Just Scan

 02 : Wide screen (16:9)
 0B : Full Wide 10 to 1F : Cinema Zoom 1 to 16

 04 : Zoom 06 : Original
 1 to 16

#### Ack [c][ ][Set ID][ ][OK/NG][Data][x]

- \* Using the PC input, you select either 16:9 or 4:3 screen aspect ratio.
- In DTV/HDMI (1080i 50 Hz / 60 Hz, 720p 50Hz / 60 Hz, 1080p 24 Hz / 30 Hz / 50 Hz / 60 Hz), Component( 720p, 1080i, 1080p 50 Hz / 60 Hz) mode, Just Scan is available.
- \* Full Wide is supported only for Digital, Analogue, AV.

- 03. 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 mute off 01 : Screen mute on (Picture off)
  - 10 : Video mute on

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

- \* In case of video mute on only, TV will display On Screen Display(OSD). But, in case of Screen mute on, TV will not display OSD.
- 04. 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) 01 : Volume mute off (Volume on)

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

- 05. 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 to Max : 64

\* Refer to 'Real data mapping'. See p. 35.

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

- 06. 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 to Max : 64

\* Refer to 'Real data mapping'. See p. 35.
 Ack [g][ ][Set ID][ ][OK/NG][Data][x]

- 07. 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 to Max : 64

- \* Refer to 'Real data mapping'. See p. 35.
   Ack [h][ ][Set ID][ ][OK/NG][Data][x]
- 08. Colour (Command: k i)
- To adjust the screen Colour. You can also adjust colour in the PICTURE menu.

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

Data Min : 00 to Max : 64

\* Refer to 'Real data mapping'. See p. 35.

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

- 09. Tint (Command: k j)
- To adjust the screen tint. You can also adjust tint in the PICTURE menu.

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

Data Red : 00 to Green : 64

- \* Refer to 'Real data mapping'. See p. 35. Ack [j] [Set ID] [OK/NG][Data][x]
- 10. Sharpness (Command: k k)
- ► To adjust the screen sharpness. You can also adjust sharpness in the PICTURE menu.

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

Data Min : 00 to Max : 32

\* Refer to 'Real data mapping'. See p. 35.

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

- 11. OSD Select (Command: k I)
- To select OSD (On Screen Display) on/off when controlling remotely.

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

Data 00 : OSD off 01 : OSD on

Ack [I][ ][Set ID][ ][OK/NG][Data][x]

- 12. Remote control lock mode (Command: k m)
- To lock the front panel controls on the monitor and remote control.

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

Data 00 : Lock off 01 : Lock on

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

- \* If you are not using the remote control, use this mode. When main power is on/off, external control lock is released.
- \* In the standby mode, if key lock is on, TV will not turn on by power on key of IR & Local Key.
- 13. 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 to Max : 64

\* Refer to 'Real data mapping'. See p. 35.

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

- 14. Colour Temperature (Command: x u)
- To adjust colour temperature. You can also adjust Colour Temperature in the PICTURE menu.

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

Data Min : 00 to Max : 64

\* Refer to 'Real data mapping'. See p. 35.
 Ack [u][ ][Set ID][ ][OK/NG][Data][x]

► To reduce the power consumption of the TV. You can also adjust Energy Saving in PICTURE menu.

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

	wer Fund		0		Level			Description	
7	6	5	4		3	2	1	0	
0	0	0	0	Low Power	0	0	0	0	Off
0	0	0	0	Low Power	0	0	0	1	Minimum
0	0	0	0	Low Power	0	0	1	0	Medium
0	0	0	0	Low Power	0	0	1	1	Maximum
0	0	0	0	Low Power	0	1	0	1	Screen Off
0	0	0	0	Low Power	0	1	0	0	Auto

 'Auto' is available in TV that supports 'Intelligent Sensor'.

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

- 16. Auto Configure (Command: j u)
- To adjust picture position and minimize image shaking automatically. It works only in RGB (PC) mode.

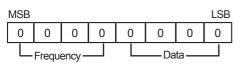
Transmission [j][u][ ][Set ID][ ][Data][Cr]

Data 01 : To set

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

- 17. Equalizer (Command : j v)
- To adjust equalize.

#### Transmission [j][v][ ][Set ID][ ][Data][Cr]



7	6	5	Frequency	4	3	2	1	0	Step
0	0	0	1st Band	0	0	0	0	0	0(decimal)
0	0	1	2nd Band	0	0	0	0	1	1(decimal)
0	1	0	3rd Band						
0	1	1	4th Band	0	0	0	1	1	19(decimal)
1	0	0	5th Band	0	0	1	0	1	20(decimal)

#### Ack [v][ ][Set ID][ ][OK/NG][Data][x]

- 18. Tune Command (Command: m a)
- Select channel to following physical number.
   Transmission [m][a][ ][Set ID][ ][Data 00][ ]
   [Data 01][ ][Data 02][Cr]
- Data 00 : High channel data
- Data 01 : Low channel data
- ex. No. 47 -> 00 2F (2FH) No. 394 -> 01 8A (18AH), DTV No. 0 -> Don't care
- Data02 : [Antena] 0x00 : Analog Main 0x10 : DTV Main 0x20 : Radio

[Cable] 0x80 : Analog Main 0x90 : DTV Main 0xA0 : Radio

Channel data range

Analogue - Min: 00 to Max: 63 (0 to 99) Digital - Min: 00 to Max: 3E7 (0 to 999)

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

Data Min: 00 to Max: 7DH

- 19. Programme Add/Skip (Command: m b)
- ► To set skip status for the current Programme.

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

Data 00 : Skip 01 : Add

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

- 20. Key (Command: m c)
- ► To send IR remote key code.

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

Data Key code - See p. 28.

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

- 21. Control Backlight (Command: m g)
- ► To control the backlight. Transmission [m][g][ ][Set ID][ ][Data][Cr]
- Data Min : 00 to Max : 64

#### Ack [g][ ][Set ID][ ][OK/NG][Data][x]

- 22. Input select (Command: x b) (Main Picture Input)
- To select input source for main picture.
   Transmission [x][b][ ][Set ID][ ][Data][Cr]
- Data Structure

MSB							LSB
0	0	0	0	0	0	0	0
L	Externa	al Inpu	t		Input N	lumber	

	Extern	al Input	Data	
0	0	0	0	DTV
0	0	0	1	Analogue
0	0	1	0	AV
0	1	0	0	Component
0	1	1	0	RGB
0	1	1	1	
1	0	0	0	HDMI
1	0	0	1	וואוסט
1	0	1	0	

	Input N	lumber	Data	
0	0	0	0	Input1
0	0	0	1	Input2
0	0	1	0	Input3
0	0	1	1	Input4

#### Ack [b][ ][Set ID][ ][OK/NG][Data][x]

*	Real d	ata mapping
	00:	Step 0
	:	
	A :	Step 10 (Set ID 10)
	:	
	F :	Step 15 (Set ID 15)
	10 :	Step 16 (Set ID 16)
	÷	
	64 :	Step 100
	:	
	6E :	Step 110
	÷	
	73 :	Step 115
	74 :	Step 116
	÷	
	CF :	Step 199
	÷	
	FE :	Step 254
	FF :	Step 255



Record the model number and serial number of the TV.

Refer to the label on the back cover and quote this information to your dealer when requiring any service.

MODEL

SERIAL

(Only DTV)

