: GETEC-C1-12-400 : GETEC-E3-12-150

APPENDIX G

: USER'S MANUAL

EUT Type: DLP PROJECTOR FCC ID.: BEJPA75UJE



Owner's Manual

DLP PROJECTOR

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

PA75U

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.



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

ABOUT DIVX VIDEO-ON-DEMAND: This DivX Certified® device must be registered in order to play 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 DivX® video up to HD 1080p, including premium content."

"DivX®, DivX Certified® 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"



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

This device meets the EMC requirements for home appliances (Class B) and is intended for home usage. This device can be used in all regions.

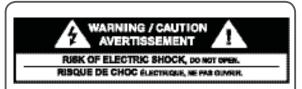


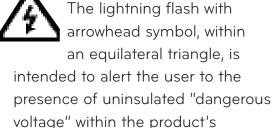
NOTE -

- Image shown may differ from your projector.
- Your projector's OSD (On Screen Display) may differ slightly from that shown in this manual.

SAFETY INSTRUCTIONS

Please take note of the safety instructions to prevent any potential accident or misuse of the projector.





enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.

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

WARNING/CAUTION

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

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

Indoor Installation

MARNING

- Do not place the projector in direct sunlight or near heat sources such as radiators, fires, stoves, etc.
 - This may cause a fire.
- Do not place flammable materials such as aerosols near the projector.
 - This may cause a fire.
- Do not allow your children to cling to or climb up to the projector.
 - The projector may fall down and cause personal injury or death.
- Do not place the projector directly on a carpet, rug or place where ventilation is restricted such as a book shelf or closet.
 - This may cause the projector's internal temperature to rise and cause a fire.
- Do not place the projector close to sources of steam or oil such as a humidifier or kitchen counter.
 - This may cause a fire hazard or an electric shock.
- Do not place the projector where it might be exposed to excessive dust.
 - This may cause a fire.

- Do not use the projector in a damp place such as a bathroom where it is likely to get wet.
 - This may cause a fire or an electric shock.
- Do not allow a tablecloth or curtain to block the vents.
 - This may cause the internal temperature of the projector to rise and cause a fire.
- The distance between the projector and the wall should be more than 30 cm for ventilation purposes.
 - Otherwise, this may cause the internal temperature of the projector to rise and cause a fire.

/ CAUTION

- When installing the projector on a table, be careful not to place it near the edge.
 - The projector may fall causing injury to persons or damage to the projector. Make sure that you use a stand suitable for the size of projector.
- Turn off the projector, disconnect the power supply and remove all connec tions before moving the projector.
 - A damaged cord may cause a fire or an electric shock.
- Do not install the projector on an unstable or vibrating surface such as a vibrating shelf or tilted surface.
 - It may fall and cause injury.
- Be careful not to tip the projector over when connecting external devices to the projector.
 - This may cause injury to persons or damage to the projector.

Power

WARNING

- The earth wire should be connected.
 - Inappropriate earth grounding may cause damage to the projector or an electric shock when there is an electrical surge.

If the projector must be installed at a place where earth grounding is not possible, purchase a circuit breaker and connect the projector to its wall outlet.

Do not ground the projector to the gas pipe, water pipe, lightning rod, or telephone line, etc.

- The power plug should be fully inserted into the wall outlet.
 - Unstable connection may cause a fire.
- Do not place heavy objects on the power cord or place the cord underneath the projector.
 - This may cause a fire or an electric shock.
- Never touch the power plug with a wet hand.
 - This may cause an electric shock.
- Do not connect too many devices to the same power extension.
 - Overheating may cause a fire.
- Remove dust or contaminants around power plug pins or wall outlets.
 - This may cause a fire.
- To turn off the main power, remove the power plug, which should be positioned so it is easy to access for operation.

A CAUTION

- Hold the plug firmly when unplugging.
 - A broken wire in the cord may cause a fire.
- Ensure the power cord or plug is not damaged, modified, severely bent, twisted, pulled, sandwiched or heated.
 Do not use a loose wall outlet.
 - This may cause a fire or an electric shock.
- Keep the power cord away from any heating devices.
 - The cord coating may melt and cause an electric shock.
- Place the projector where people will not trip over or tread on the power cord or plug to protect the power cord and plug from any damage.
 - This may cause a fire hazard or an electric shock.
- Do not turn the projector on or off by plugging in the power plug or unplugging it from the wall outlet.
 (Do not use the power plug as a switch.)
 - This may cause an electric shock or damage to the projector.
- Do not insert a conductor into the other side of the wall outlet while the power plug is inserted into the wall outlet.
 - In addition, do not touch the power plug immediately after it is disconnected from the wall outlet.
 - This may cause an electric shock.
- Use only the official power cord which is provided by LG Electronics, Inc. Do not use other power cords.
 - This may cause a fire or an electric shock.

When in Use

WARNING

- Do not place anything containing liquid, such as a vase, flowerpot, cup, cosmetics, chemicals, decorations or candles, etc., on top of the projector.
 - Possible fire, electric shock, or falling may cause physical injury.
- In the event that there is a big impact to the projector or the cabinet is damaged, switch it off, unplug it from the wall outlet and contact an authorized service center.
 - Otherwise, this may cause a fire or an electric shock.
- Do not insert pieces of metal such as coins, hairpins or metal debris, nor flammable materials such as paper or matches into the projector.
 - This may cause a fire or an electric shock.
- In the event that liquid or a foreign object falls into the projector, please switch it off and unplug it from the wall outlet and contact an LG Electronics Service Center.
 - Otherwise, this may cause a fire or an electric shock.
- When replacing a battery of the remote control, make sure a child does not swallow the battery. Keep the battery out of reach of children.
 - In the case of a battery being swallowed by a child, please consult a doctor immediately.
- Do not remove any covers except for the lens cap. There is a high risk of electric shock.
- Do not look directly into the lens

- when the projector is in use. The strong light may damage your eyes.
- When the lamp is on or has just been turned off, avoid touching the air vent or lamp because these will be very hot.
- If there is a gas leak, do not touch the wall outlet. Open the window for ventilation.
 - A spark may cause a fire or burn.
- Never touch the projector or power cord during thunder or lightning.
 - This may cause an electric shock.
- Do not use the projector near an electronic device which generates a strong magnetic field.
- Store the vinyl envelope used to pack the projector in a safe place away from children.
 - It could cause suffocation if used improperly.
- Do not use 3D glasses if you do not watch 3D.
- Do not keep your hand on the projector for a long time when it is running.
- When you play a game by connecting a game console to a projector, it is recommended that you maintain a distance of more than four times the diagonal length of the screen.
- Make sure that the length of connecting cable is long enough.
 Otherwise, the product may fall causing personal injury or damage to the product.

A CAUTION

- Do not place a heavy object on the projector.
 - It may fall down and cause physical injury.
- Be careful to prevent the lens from heavy impact during transportation.
- Do not touch the lens.
 The lens may be damaged.
- Do not use any sharp tools on the projector such as a knife or hammer, because this may damage the casing.
- In the event that no image appears on the screen, switch the projector off, unplug it from the wall outlet and contact an authorized service center.
 - Otherwise, this may cause a fire or an electric shock.
- Do not drop an object onto the projector or apply heavy pressure to it.
 - This may cause injury to persons or damage to the projector.
- The distance between your eyes and the screen must be around 5 -7 times the diagonal length of the screen.
 - If you watch the screen at a close distance for a long time, your eye sight may become worse.

Cleaning

M WARNING

- Do not spray the projector with water when cleaning. Do not allow water to go into the projector or do not allow it to get wet.
 - This may cause a fire or an electric shock.
- When there is smoke or a strange smell coming out from the projector or a foreign object falls into the projector, please switch it off and unplug it from the power outlet and contact an LG Electronics Service Center.
 - If not, this may cause a fire or an electric shock.
- Use an air spray or soft cloth or cotton swab moistened with a lens cleaning chemical or alcohol to remove dust or stains on the front projection lens.

A CAUTION

- Contact your seller or the Service
 Center once a year to clean the internal parts of the projector.
 - If you do not clean the contaminated interior of the projector for a long time, there may be a fire or damage to the projector.
- When cleaning plastic parts such as the projector case, unplug the power first and wipe with a soft cloth. Do not spray with water or wipe with a wet cloth. When cleaning the plastic parts, such as the projector case, do not use cleanser, automobile or industrial shiner, abrasive or wax, benzene, alcohol, etc., which can damage the product.
 - This can cause fire, electric shock or product damage (deformation, corrosion and damage).

OTHERS

▲ WARNING

- Only a qualified technician can disassemble or modify the projector. For inspection, adjustment, or repair, contact your seller or the Service Center.
 - Otherwise, this may cause a fire or an electric shock.
- Dispose of the used battery properly.
 - Otherwise, this may result in explosion or fire.
- The correct method of disposal may vary depending on your country or region. Dispose of the battery pack according to the appropriate instructions.
- Do not throw or disassemble the battery.
 - -Otherwise, this may result in fire or explosion due to damage to the battery.
- Always use batteries approved and certified by LG Electronics.
 - Otherwise, this may result in fire or explosion.
- Store the battery away from metallic objects, such as keys and paper clips.
- Excess current may cause a rapid increase in temperature, resulting in fire or burns.
- Do not store the battery near any heat source, such as a heater.
 - This may result in fire or damage the product.
- Do not store it at temperatures higher than 60 °C or in high humidity.

- Keep the battery out of reach of children.
 - This may result in personal injury or damage to the product.
- Make sure that the battery is installed correctly.
- Incorrect battery replacement may cause fire.

A CAUTION

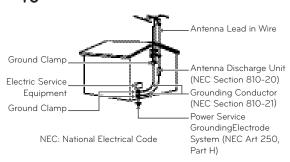
- Unplug the power cord if the projector is not used for a long period.
 - Accumulated dust may cause overheating, an electric shock from corroded insulation and a fire from an electrical surge.
- Only use the specified type of battery.
 - Otherwise, this may cause an electric shock caused by overheating and leakage.

ANTENNA

Outdoor Antenna Grounding

 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



FCC NOTICE

Warning - Class B

(b) For a Class B Digital device or peripheral, the instructions furnished the user shall include the following or similar statement, placed in a prominent location in the text of the manual:

NOTE: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and 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.
 Any changes or modifications in construction of this device which are not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

Disposal of your old appliance



- 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 through designated collection facilities appointed by your government or your 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.

Disposal of waste batteries/accumulators



- 1. When this crossed-out wheeled bin symbol is attached to batteries/accumulators of Your product it means they are covered by European Directive 2006/66/EC.
- 2. This symbol may be combined with chemical symbols for mercury(Hg), cadmium(Cd) or lead(Pb) if the battery Contains more that 0.0005 % of mercury, 0.002 % of cadmium or 0.004 % of lead.
- 3. All batteries/accumulators should be disposed separately from the municipal waste stream via designated collection facilities appointed by the government or the local authorities.
- 4. The correct disposal of Your old batteries/ accumulators will help to prevent potential negative consequences for the environment, animal and human health.
- 5. For more detailed information about disposal of Your old batteries/accumulators, please contact Your city office, waste disposal service or the shop where You purchased the product.

For USA

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.

Contents

LICENSES	2	ENTERTAINMENT	28
		MY MEDIA	28
SAFETY INSTRUCTIONS	3	- Connecting USB Storage Device	es 28:
		- MOVIE LIST	30
PREPARATION	13	- PHOTO LIST	36
Accessories	13	- MUSIC LIST	38
Optional Extras	14	- FILE LIST	40
Parts and Components	15	25 FUNCTION	40
Installation	16	3D FUNCTION	42
- Installation Precautions	16	Before Watching 3D	42
- Projection Distance per Screen	Size	- While Watching 3D	42
	17	Requirements for Watching 3D Ima	ages
- How to Install the Projector Usi	ng a		44
Tripod	18	 To Use DLP-LINK (DLP-Ready) 	Туре
- Kensington Security System	18	Glasses	46
		Watching 3D Images	46
REMOTE CONTROL	19	CUCTOMIZING SETTINGS	47
	0.1	CUSTOMIZING SETTINGS	47
USING THE PROJECTOR	21	SETUP Menu	47
Connecting to an Antenna or Cable	e 21	PICTURE Settings	48
- Connecting an Antenna or Bas	ic	AUDIO Settings	51
Cable	21	CHANNEL Settings	52
- Connecting a Cable Box	21	TIME Settings	53
Watching Projector	22	LOCK Settings	54
- Turning on the Projector	22	OPTION Settings	56
- Focus and Position of the Scree	en	MAKING CONNECTIONS	59
lmage	22		
- Watching Projector	22	Connecting to an HD Receiver, DVI	D, or
Managing Channels	23	VCR Player	60
- Setting Up Channels	23	- HDMI Connection	60
Using Additional Options	25	Connecting to a PC	60
- Adjusting Aspect Ratio	25	- RGB Connection	60
- Using the Keystone		Connecting to the AV INPUT	61
Function	26	- Component Connection	62
- Using the Input List	26	Connecting to Headphones	62
- Blank Function	27		
Using the Quick Menu	27		

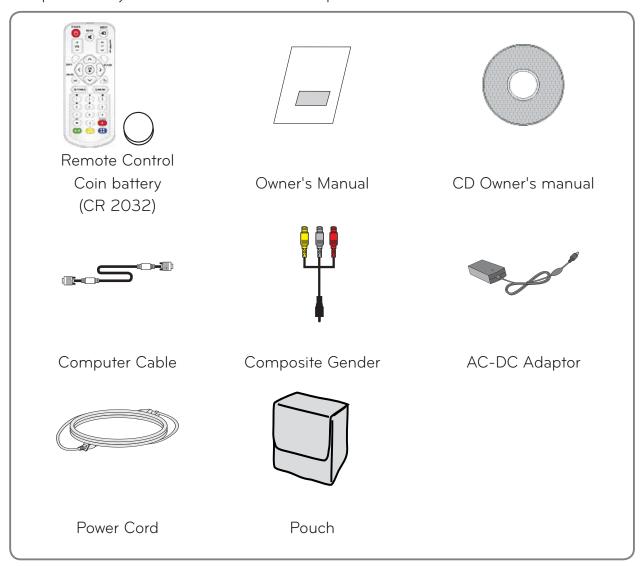
MAINTENANCE	63	
Cleaning the Projector	63	
- Cleaning the Lens	63	
- Cleaning the Projector Case	63	
SPECIFICATIONS	64	

PREPARATION

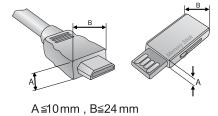
Accessories

Check enclosed accessories.

The picture may be different from an actual product.



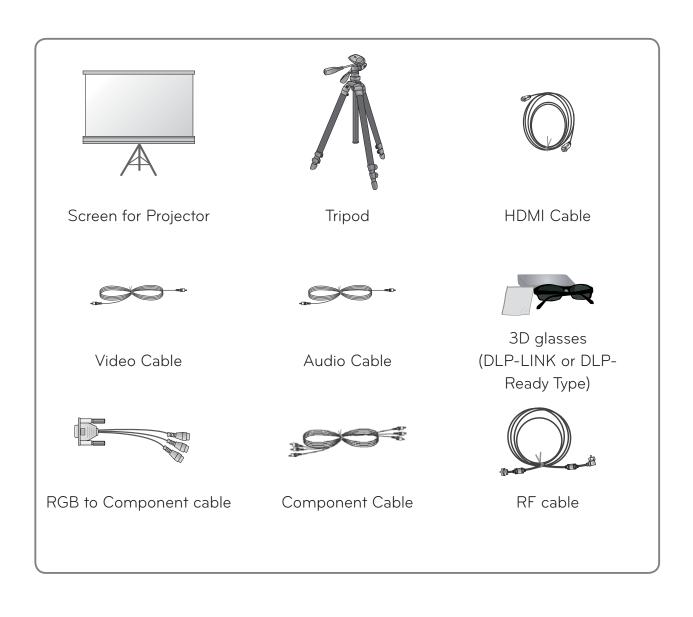
 When connecting a cable to the HDMI or USB port, it may not be connected properly if the size of jack to the USB/HDMI port is too big. Use a standard sized jack.



Optional Extras

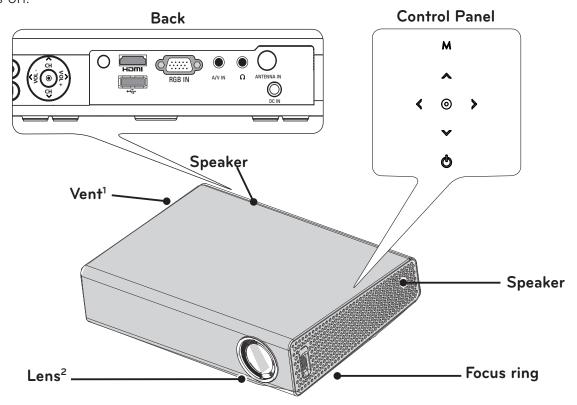
To purchase optional extras, visit an electronics store or online shopping site or contact the retail store where you purchased the product.

Without prior notice, optional extras are subject to change in order to improve the performance of the product, and new accessories may be added.



Parts and Components

* The projector is manufactured using high-precision technology. You may, however, see tiny black dots and/or bright colored dots (red, blue or green) that continuously appear on the projector screen. This is a normal result of the manufacturing process and does not indicate a malfunction. When powered on, the LED of the control panel turns on.



Button	Description	
(Power)	Turns the projector on or off.	
M (Menu)	Selects or closes menus.	
, , <, >	Sets the function or moves the cursor.	
⊚ (OK)	Checks present mode and saves function changes.	

- 1 Due to the high temperature air coming out of the vents, do not get close to the vents.
- 2 Do not touch the lens when using the projector. The lens may be damaged.

Installation

Installation Precautions

- Place the projector in a well-ventilated ed environment.
- To prevent internal heat from building up, install the projector in a wellventilated place.
 - Do not place anything near the projector as this may block its air vents. If the air vents are blocked, the internal temperature will increase.



 Do not place the projector on a carpet or rug. If a projector model has its inlet vent on its bottom, do not block the vent and use the projector on a leveled solid surface.



 Be sure to prevent foreign objects such as paper debris from entering the projector.



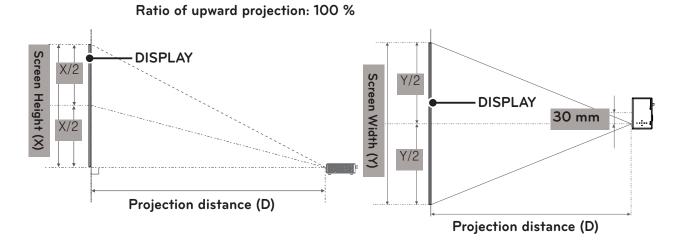
 Leave an adequate distance (30 cm or more) around the projector.



- Do not place the projector in a hot or humid environment.
 - Do not place the projector in a hot, cold, or humid environment. (See64 Page regarding operating temperature and humidity.)
- Do not place the projector in a place where it will easily attract dust.
 - This may cause a fire.
- Do not remove any covers except for the lens cap. There is a high risk of electric shock.
- The projector is manufactured using high-precision technology. You may, however, see tiny black dots and/ or bright colored dots (red, blue or green) that continuously appear on the projector screen. This is a normal result of the manufacturing process and does not indicate a malfunction.
- The remote control may not work in an environment where a lamp equipped with electronic ballasts or a three-wavelength fluorescent lamp is installed. Replace the lamp with an internationally standardized lamp for the remote control to work normally.

Projection Distance per Screen Size

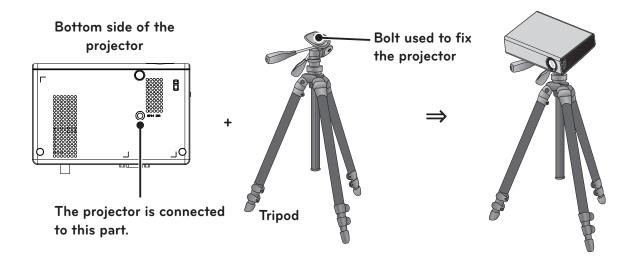
- 1 Place the projector on a sturdy, level surface, together with the PC or audio/video source.
- 2 Place the projector at an appropriate distance from the screen. The distance between the projector and the screen determines the actual size of the image.
- 3 Position the projector so that the lens is set at a right angle to the screen. If the projector is not set at a right angle, the image on the screen will be tilted and the image quality will be poor. If the screen image is crooked, use the Keystone function. (see page 26)
- 4 Connect the power cords of the projector and the connected devices to the wall outlet.



16:10 Screen Screen Width (Y) Screen Size Screen Height (X) Projection Distance (D) (mm) (mm) (mm) (mm)

How to Install the Projector Using a Tripod

- You can install this projector using a camera tripod.
 As shown below, you can mount the projector instead of a camera on the tripod.
- When stabilizing the tripod, we recommend using the locking bolt of standard size 4.5 mm or less. The maximum size allowed for the locking bolt is 5.5 mm. (If it is longer than the maximum allowed size, it may damage the projector.)

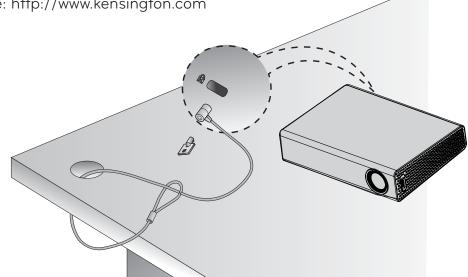


Kensington Security System

- This projector has a Kensington Security System Connector on the panel. Connect a Kensington Security System cable as below.
- For detailed installation and use of the Kensington Security System, refer to the user's guide included with the Kensington Security System set.
- The Kensington Security System is an optional item.
- What is Kensington?

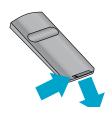
Kensington is a company that sells security systems that prevent expensive electronic equipment such as a computer or laptop from being stolen.

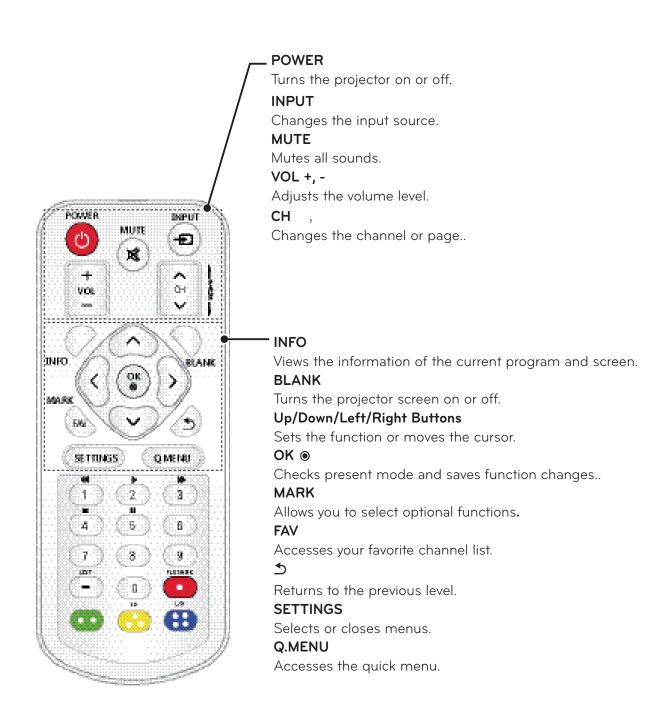
Internet Homepage: http://www.kensington.com

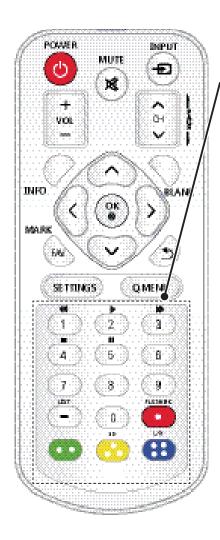


REMOTE CONTROL

Open the battery cover on the back of the remote control and insert the specified batteries as per instructions $\oplus \bigcirc$. The same type of batteries must be used.







Alphanumeric buttons

Enters letters and numbers.

Playback Control Buttons

Controls playback of USB mode.

LIST

Accesses the saved channel list.

- (Dash)

Inserts a dash between numbers such as 2 - 1 and 2 - 2.

FLASHBK

Tunes to the last channel viewed.

3D

Shows 3D images.

L/R

Switches left and right in 3D mode.

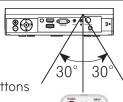
Color buttons

Access special functions in some menus.



NOTE-

- When using the remote control, the optimal remote range is less than 3 meters (left/right) and within a 30 degree arc of the IR receiver.
- For seamless operation, do not block the IR receiver.
- When you carry the remote control in the portable bag, make sure that the buttons on the remote control are not pressed by the projector, cables, documents or any other accessories in the bag. Otherwise, it may significantly reduce the battery life.





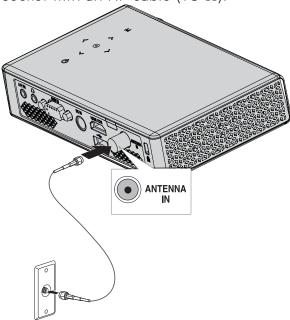
Using the PROJECTOR

Connecting to an Antenna or Cable

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

Connecting an Antenna or Basic Cable

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

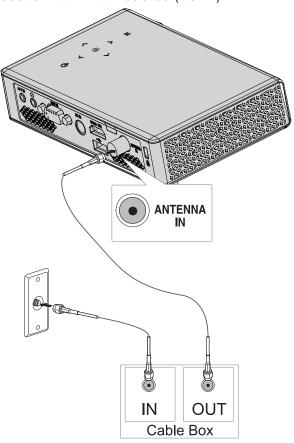


NOT

- Use a signal splitter to use more than 2 projectors.
- Visit http://lgknowledgebase.com for more information about the antenna and cable connection.
 Search for antenna.

Connecting a Cable Box

Connect the projector to a cable box and the cable box to a wall antenna socket with 2 RF cables (75 Ω).



A CAUTION

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



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

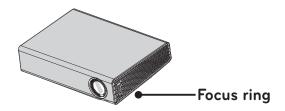
Watching Projector

Turning on the Projector

- 1 Connect the power cord correctly.
- 2 After waiting for a moment, press the POWER button on the remote control or the control panel. (The light on the control panel will be turned on.)
- **3** In the Language Selection screen, select a language.
- 4 Select an input signal by using the **INPUT** button on the remote control.

Focus and Position of the Screen Image

When an image appears on the screen, check if it is in focus and fits the screen properly.



• To adjust the focus of the image, rotate the focus ring.

Watching Projector

- 1 In Standby mode, press the **POWER** button to turn the projector on.
- 2 Press the **INPUT** button and select the input signal you want.
- **3** Control the projector using the following buttons while watching projector.

Button	Description		
CH ,	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.		
Q.MENU	Accesses the quick menu.		
	(see page 27)		
FLASHBK	Alternates between		
	the last two channels		
	selected.		

4 To turn the projector off, press the **POWER** button.

Managing Channels

Setting Up Channels

Storing Channels

To store channels automatically,

- 1 Press **MENU** to access the menu.
- **2** Press the Navigation buttons to scroll to **CHANNEL** and press **OK**.
- **3** Press the Navigation buttons to scroll to **Auto Tuning** and press **OK**.
- 4 Select **Start** to start automatic tuning. The projector scans and saves available channels automatically.
- 5 When you are finished, press **SETTINGS**.

To store channels manually,

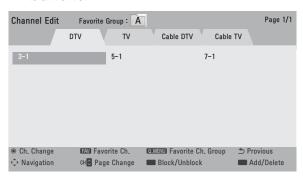
- 1 Press **MENU** to access the menu.
- **2** Press the Navigation buttons to scroll to **CHANNEL** and press **OK**.
- **3** Press the Navigation buttons to scroll to **Manual Tuning** and press **OK**.
- 4 Scroll through the channel types, and then add or delete channels.
- 5 When you are finished, press **SETTINGS**.



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

Editing Your Channel List

- 1 Press MENU to access the menu.
- 2 Press the Navigation buttons to scroll to **CHANNEL** and press **OK**.
- 3 Press the Navigation buttons to scroll to **Channel Edit** and press **OK**.
- **4** Edit channels using the following buttons.



Button	Description	
OK	Selects the highlighted	
	channel to view.	
, ,	Scrolls through channel	
<,>	types or channels.	
FAV	Adds a favorite channel list.	
СН	Moves to the previous or	
	next page.	
Q.MENU	Changes the favorite group.	
Yellow	Block or unblock a channel.	
Blue	Adds or deletes a channel.	
	The deleted channel	
	displays in blue.	

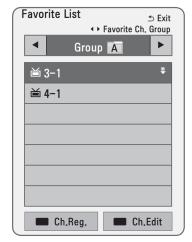
5 When you are finished, press **SETTINGS**.

Favorite Channel Setup

- 1 Press **CH** or Number buttons to access to select your desired channel.
- 2 Press FAV. to access the Favorite List.
- **3** Press the , buttons to scrolls through channel group.
- 4 Press the **Yellow** button.

Favorite Channel List

- Press **FAV.** to access the **Favorite List**.
- **2** Press the Navigation buttons to scroll to a channel and press **OK**.



Button	Description		
,	Scrolls through channels.		
<,>	Scrolls through channel		
	group.		
СН	Moves to the previous or		
	next page		
Yellow	Register or cancel the		
	current channel in favorite		
	channel list.		
Blue	Go to the "CHANNEL menu		
	- Channel Edit".		

Using Additional Options

Adjusting Aspect Ratio

You can also change the image size by pressing **Q.MENU** or **SETTINGS**.



NOTE-

- Some options may not be available depending on input signals.
- **FULL**: Changes to the full screen regardless of the aspect ratio.



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



 Just Scan: Displays video images in the original size without cutting off the edges.





NOTE

- If you select Just Scan, you may see image noises at the edge or edges of the screen.
- Set By Program: Displays images in the same aspect ratio as the original image.



4:3: Resizes images to the 4:3 aspect ratio.



- Zoom: Enlarges an image to fit the screen width. The top and bottom of the image may be truncated.
 - Press the or button to zoom in or out of the image.
 - Press the or button to move the image.



- **Cinema Zoom**: Formats an image to the cinemascope ratio, 2.35:1. It ranges from 1 to 16.
 - Press the or button to zoom in or out of the image.
 - Press the or button to move the image.





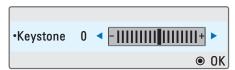
NOTE

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

Using the Keystone Function

To prevent the screen image from becoming trapezoidal, Keystone adjusts the top and bottom width of the image if the projector is not set at a right angle to the screen.

Because the **Keystone** function may cause inferior screen image quality, use this function only when it is not possible to set up the projector at an optimal angle.

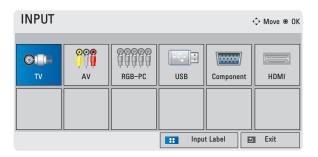


- 1 Press the **SETTINGS** button.
- **2** Press the , , or button to select **OPTION** and press the **OK** button.
- **3** Press the , , or button to select **Keystone** and press the **OK** button.
- **4** Press the or button to adjusted Keystone.
 - Keystone can be adjusted from -40 to 40.
- **5** Press the **OK** button after adjustment.

Using the Input List

Using the Input List

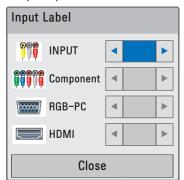
- 1 Press the **INPUT** button to access the input sources.
 - The connected input mode appears first. However, AV / Component input is always activated.



2 Select an input signal using the **INPUT** button and the projector is switched only to the connected input mode. You can use the , , or button to switch between all the input modes.

Adding an Input Label

Displays which devices are connected to which input ports.



- 1 Press the **INPUT** button to access the input sources.
- 2 Press the **BLUE** button.
- **3** Use the or button to scroll to one of the input sources.
- **4** Use the or button to select one of the input labels.

Blank Function

Using the Blank Function

This function may be effective when you need to draw attention during a meeting or training.

- 1 Press the **BLANK** button, and the screen is covered by the background color.
 - You can change the background color by referring to "Selecting a Blank Image".
- **2** Press any button to clear the blank function.

To cover the screen temporarily, press the **BLANK** button on the remote control.

Do not block the lens with any object while the projector is running. It may become overheated and deformed or even cause a fire.

Selecting a Blank Image

- 1 Press the **SETTINGS** button.
- **2** Press the , , or button to select **OPTION** and press the **OK** button.
- **3** Press the , , or button to select **Blank Image** and press the **OK** button.
- 4 Use the , button to move to the setting or option you want and press the **OK** button.

Using the Quick Menu

You can customize frequently used menus.

- 1 Press **Q.MENU** to access the quick menus.
- **2** Press the or button to scroll through the following menus and press **OK**.

Menu	Description		
Aspect	Resizes an image.		
Ratio	(see page 25)		
PJT Mode	Turns the projected image		
	upside down or flips it		
	horizontally.		
Picture	Changes the picture		
Mode	mode. (see page 48)		
Multi	Changes the audio		
Audio	language (Digital signal)		
SAP	Changes the MTS sound		
	(Analog signal)		
Sleep	The projector is turned off		
Timer	at the preset time.		
Clear	Makes the voice from the		
Voice II	projector crisp and clear.		
Del/Add	Edits the channels to add		
	or delete the channel.		
USB	Eject a USB device.		
Device	The menu is displayed		
	only when the USB		
	device is connected.		

3 Press the , , , or button to scroll through the following menus.

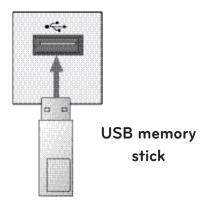
ENTERTAINMENT

MY MEDIA

Connecting USB Storage Devices

Connect a USB memory stick as shown below.

When a USB storage device is connected, the USB adjustment screen appears. You cannot write or delete data on the USB storage device.



To disconnect the USB storage device,

- 1 Press the **Q.MENU** button.
- 2 Use the or button to move to USB Device and press the OK button.
- 3 Remove the USB device.



NOTE

 After the USB storage device is disconnected, it cannot be read.
 Remove the USB storage device and connect it again.

Tips for Using USB Devices

- Only a USB storage device is recognizable.
- USB hubs are not supported.
- A USB storage device which uses its own driver may not be recognized.
- The recognition speed of a USB storage device will depend on each device.
- If a normal USB device does not work, disconnect and reconnect it.
 Please do not turn off the projector or unplug the USB device when the connected USB device is working.
 The USB device or stored files may be damaged.
- Please do not connect the USB storage device that has been manipulated on the PC. The projector may not operate properly or fail to play files. Use a USB storage device which contains normal music, photo, video, or document files.
- Please only use a USB storage device formatted as a FAT16, FAT32, or NTFS file system provided by Windows. In case a storage device formatted as a different utility program is not supported by Windows, it may not be recognized.
- Please connect power to a USB storage device which requires an external power supply. If not, the device may not be recognized.

- Please connect a USB storage device with a cable provided by the USB manufacturer. When you use a cable that is not provided by a USB manufacturer or an excessively long cable, the device may not be recognized.
- Some USB devices may not be supported or will not work properly.
- If the length of a folder or file is too long, the folder or file may not be recognized properly.
- The files in a USB storage device are sorted in the same way as Windows XP. Up to 100 English characters for a file name are allowed.
- The data of a USB device may be damaged, so it is recommended to backup any important files. Because a user is responsible for data management, the manufacturer is not responsible.
- It is recommended to use a USB memory stick which is 32 GB or less and a USB hard disk which is 1 TB or less. Any device with more than the recommended capacity may not work properly.
- If a USB storage device is not working properly, disconnect it and connect it again.
- If a USB external hard disk with the power saving function does not work, turn the hard disk off and on again to make it work properly.
- USB storage devices below USB 2.0 are supported as well. However, they may not work properly in the movie list.

MOVIE LIST

In the Movie List, you can watch movies stored on the connected USB device.

Tips for Playing Video Files

- Some subtitles created by a user may not work.
- Some special characters are not supported in subtitles.
- HTML tags are not supported in subtitles.
- Time information in a subtitle file should be arranged in ascending order to play the subtitle properly.
- Changing font and color in subtitles is not supported.
- A language which is not specified in the subtitle languages is not supported. (see page 34)
- Subtitle files of 1 MB or larger are not supported.
- The screen may suffer temporary interruptions (image stoppage, faster playback, etc.) when the audio language is changed.
- A damaged video file may not be played properly, or some functions may not be available.
- Video files created with some encoders may not be played properly.
- Either audio or video may only be supported depending on the video or audio packet structure of a video file.
- Video files with higher resolution than the maximum supported for each frame may not be played properly.
- Video files in formats other than the ones specified above may not be played properly.

- Streaming files which include GMC (Global Motion Compensation) or Qpel (Quarterpel Motion Estimation) is not supported.
- Up to 10,000 sync blocks are supported in the subtitle file.
- Seamless playback is not guaranteed for files encoded level 4.1 or higher in H.264/AVC.
- DTS audio codec is not supported.
- Video files larger than 30 GB (Gigabytes) are not supported.
- Playing a video via a USB connection that does not support high speed may not work properly.
- A video file and its subtitle file must be located in the same folder. A video file name and its subtitle file name must be identical in order to display the subtitle properly.
- While watching a video using the movie list function, you cannot adjust the picture mode.
- Trick Mode does not support other functions than > if video files do not have index information.
- When playing a video file using network, the Trick mode is limited to 2X speed.
- Video file names that contain special characters may not be playable.

Supported Video Formats

File	Audio/		
Extensions	Video	Codec	Profile/Level Support
	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.
.asf .wmv		VC-1 Simple and Main Profiles	Simple Profile @ Medium Level (e.g.CIF,QVGA) Main Profile @ High Level (e.g.1080p30) Only streams compliant to SMPTE 421M VC-1 standard are supported.
	Audio	WMA Standard	
	Audio	WMA 9 Professional	
		Divx3.11	
	Video	Divx4 Divx5 Divx6	Advanced Simple Profile(720p/ 1080i)
		XViD	Advanced Simple Profile(720p/ 1080i)
.divx		MPEG-1 Layer I,II	
.avi		MPEG-1 Layer III (MP3)	
	Audio	Dolby Digital	
	Audio	WMA Standard	
		WMA 9 Professional	
		DTS	Korea only
.mp4	Video	H.264 /AVC	Main Profile @Level 4.1 High Profile @Level 4.1 (e.g.720p60, 1080i60, 1080p30)
.m4v		MPEG-4 Part 2	Advanced Simple Profile(720p/ 1080i)
	Audio	HE-AAC	HE-AAC-LC and HE-AAC
	Video	H.264 /AVC	Main Profile @Level 4.1 High Profile @Level 4.1 (e.g.720p60, 1080i60, 1080p30)
.mkv	Audio	HE-AAC	HE-AAC-LC and HE-AAC
		Dolby Digital	
		DTS	Korea only
	Video	H.264 /AVC	Main Profile @Level 4.1 High Profile @Level 4.1 (e.g.720p60, 1080i60, 1080p30)
.ts		MPEG-2	Main Profile @High Level (e.g.720p60, 1080i60)
.trp		MPEG-1 Layer I,II	
.tp	Audio	MPEG-1 Layer III (MP3)	
	7.0010	Dolby Digital	
		HE-AAC	HE-AAC-LC and HE-AAC
	Video	MPEG-1	
		MPEG-2	Main Profile @High Level (e.g.720p60, 1080i60)
.vob		Dolby Digital	
		LPCM	
) /s :	MPEG-1 Layer I,II	
.mpg	Video	MPEG-1	
.mpeg .mpe	Audio	MPEG-1 Layer I,II	Only streams compliant configured properly for TS, PS or ES

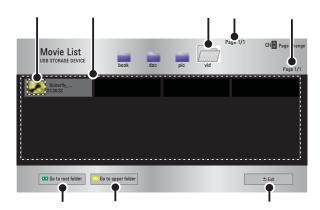
Supported Audio Files

No	Audio Codec	Bit rate	Sampling rate	Remark
1	МР3	32 kbps - 320 kbps	32 kHz - 48 kHz	
2	AC3	32 kbps - 640 kbps	32 kHz, 44.1 kHz, 48 kHz	
3	MPEG	32 kbps - 448 kbps	32 kHz - 48 kHz	
4	AAC,HEAAC	24 kbps - 3844 kbps	8 kHz - 96 kHz	DTS Audio codec is Korea only.
5	CDDA	1.44 kbps	44.1 kHz	
6	LPCM	1.41 Mbps - 9.6 Mbps	Multi-channel : 44.1 kHz, 88.2 kHz/ 48 kHz, 96 kHz Stereo : 176.4 kHz, 192 kHz	

Browsing Movie List

Play a video file stored in the connected device.

- 1 Connect a USB storage device.
- **2** Press the **SETTINGS** button.
- 3 Accesses the MY MEDIA.
- **4** Use the , , or button to select **Movie List** and press the **OK** button.
- **5** Use the , , or button to select the file you want and press the **OK** button.



Description	1
Thumbnails	
Abnormal file	5 ₈
File not supported	5
File List	
Moves to the upper lev	vel folder.
Current page/Total no pages	. of folder
Current page/Total no	. of file
pages	
Moves to the top level	folder.
Moves to the upper lev	vel folder.
Exit Movie List.	

6 Control playback by using the following buttons.



Setting	Description		
	Shows the current playing		
	position. Use <, > buttons to		
	move forward or backward.		
	Stops playing and returns to		
	Movie List.		
•	Returns to normal playback.		
l II	Pauses the media player.		
	If no button is pressed on the		
	remote control for 10 minutes		
	after pausing, the playback is		
	restarted.		
	■ Displays in slow motion.		
«»	Whenever this button is		
	pressed, the playback speed		
	is changed.		
	: x2, x4, x8, x16, x32		
eø	You can use the Energy Sav-		
	ing mode.		
Option	A pop-up window will appear.		
Hide	Hides the playback bar. Press		
	the OK button to make it		
	appear.		
Exit	Returns to the Movie List		
	screen.		

Options for Movie List

- 1 Press the **Q.MENU** button.
- **2** Use the or button to move to a desired option and press the **OK** button.
- **3** Use , , or button to set up each item.

Description

Set Video Play

Setting

· · · · · · · · · · · · · · · · ·	2 coonpilen		
Picture	Selects the size of a playback		
Size	 Full: Files are played in full screen mode according to the aspect ratio of video. 16:9: Displays the video with the aspect ratio of 16:9. Just Scan: Displays the video in the original aspect ratio. 		
Audio	Allows you to select the lan-		
Lan-	guage you want for the file		
guage	with multiple audio tracks.		
	This option is not available		
	if the file has only one audio		
	track.		
Subtitle	The subtitle can be turned		
Lan-	on or off.		
guage	 Language: One of any of the available languages 		
	can be selected.		
	Code Page: A character set		
	used for a subtitle can be		
	selected.		
	By default, the subtitle is		
	displayed in a language		
	configured in OPTION →		
	Menu Language.		

Setting	Description
Subtitle	Speed: If a subtitle is
Lan-	not synchronized with its
guage	video, you can adjust its
	speed at 0.5 sec unit.
	 Position: Moves the loca-
	tion of a subtitle.
	 Size: Changes the sub-
	title font size.
Repeat	Turns the repeat function on
	or off.
	When it is set to off, the next
	file can be played sequentially
	if the file name is similar.

• Subtitle Language

Subtitle	
Lan-	Language
guage	
Latin1	English, Spanish, French,
	German, Italian, Swedish,
	Finnish, Dutch, Portuguese,
	Danish, Romanian,
	Norwegian, Albanian,
	Gaelic, Welsh, Irish, Catalan,
	Valencian
Korean	Korean

PICTURE Settings

You can change video settings. (Refer to "PICTURE Settings" on page 48.)

AUDIO Settings

You can change audio settings. (Refer to "AUDIO Settings" on page 51.)

Registering the DivX code

Please check your DivX code. For more information on the registration process, visit www.divx.com/vod. After registration, your can enjoy DivX VOD content protected by the DivX DRM code.

- 1 Press **SETTINGS** button to enter Setup menu.
- 2 Move to OPTION and press DivX(R) VOD.



3 Press the or button to move to **Registration** and press the **OK** button.



4 Check the DivX registration code.



- You cannot use DivX registration codes assigned to other devices.
 Make sure to use the DivX registration code assigned to your device.
- The video or audio files that are not converted by the standard DivX codec may be corrupted or not be played.

To deregister the DivX code

Use the DivX deregistration code to deactivate the DivX DRM function.

- 1 Press **SETTINGS** button to enter Setup menu.
- 2 Move to OPTION and press DivX(R) VOD.
- 3 Use the or button to go to **Deregistration** and press the **OK** button.





4 Select Yes.



What is DRM
 [Digital Rights Management]?
 This is a technology and service that prevents the illegal use of digital contents to protect the benefits and rights of the copyright owner. Files can be played after the license is verified through an online method, etc.

PHOTO LIST

You can see the photos stored on a connected device.

Supported Photo Files

PHOTO (*.JPEG)

Baseline: 64-pixel (width) x 64-pixel

(height) - 15360-pixel (width) x

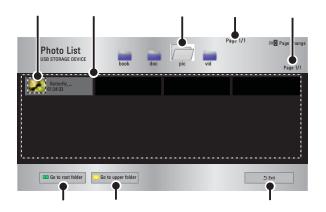
8640-pixel (height)

Progressive: 64-pixel (width) x 64-pixel (height) - 1920-pixel (width) x 1440-pixel (height)

- Only JPEG files are supported.
- Non-supported files are displayed in the form of an icon.
- An error message is displayed for corrupted files or file formats that cannot be played.
- Corrupted files may not be displayed properly.
- It may take some time to view highresolution images in full screen.

Browsing Photo List

- 1 Connect a **USB storage device**.
- 2 Press the **SETTINGS** button.
- 3 Accesses the MY MEDIA.
- **4** Use the , , or button to select **Photo List** and press the **OK** button.
- **5** Use the , , or button to select the file you want and press the **OK** button.



Description	
Thumbnails	
Abnormal file	0
File not supported	A
File List	
Moves to the upper lev	el folder.
Current page/Total no. pages	of folder
Current page/Total no.	of file
Moves to the top level f	folder.
Moves to the upper lev	el folder.
Exit	

Control playback by using the following buttons.



Setting	Description			
00	Selects the previous or next photo.			
Slide- show	 All photos are displayed during slide show. Set the time interval of the slide show in Option → Set Photo View menu. 			
BGM	You can listen to music while viewing photos in full size. • Set the BGM in Option → Set Photo View menu.			
Đ	 Rotates photos. Rotates a photo 90°, 180°, 270°, 360° clockwise. Photos cannot be rotated if their width is greater than the height of the max. supported resolution. 			
Q	You can move between screens using the navigation buttons. Press the blue button to enlarge the image.			
eØ	You can use the Energy Saving mode.			
Option	A pop-up window will appear.			

Setting	Description			
Hide	Hides the menu on the full			
	size screen.			
	To see the menu, press			
	the OK button on the			
	remote control.			
Exit	Exit from full screen photo			
	view.			

Options for Photo List

- 1 Press the **Q.MENU** button.
- **2** Use the or button to move to a desired option and press the **OK** button.
- **3** Use , , or button to set up each item.

Set Photo View

Setting	Description			
Slide	Selects a slideshow speed.			
speed				
BGM	Selects a music folder for			
(Back-	the background music.			
ground	You cannot change the			
Music)	music folder while the			
	background music is			
	playing.			
	 For background music, 			
	only the folder from the			
	same device can be se-			
	lected.			

PICTURE Settings

You can change video settings. (Refer to "PICTURE Settings" on page 48.)

AUDIO Settings

You can change audio settings. (Refer to "AUDIO Settings" on page 51.)

MUSIC LIST

You can play audio files stored on the connected device.

Supported Music Files

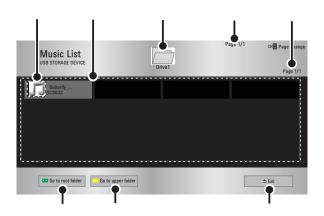
*.MP3

Bit rate range 32 Kbps - 320 Kbps

- Sampling rate MPEG 1 Layer 3:
 32 kHz, 44.1 kHz, 48 kHz
- Sampling rate MPEG 2 Layer 3:
 16 kHz, 22.05 kHz, 24 kHz

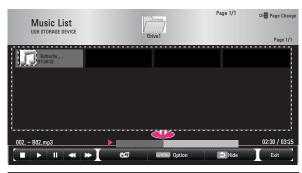
Browsing Music List

- 1 Connect a **USB storage device**.
- 2 Press the **SETTINGS** button.
- 3 Accesses the MY MEDIA.
- 4 Use the , , , button to select Music List and press the **OK** button.
- **5** Use the , , or button to select the file you want and press the **OK** button.



Description		
Thumbnails		
Abnormal file	T.	
File not supported	8	
File List		
Moves to the upper level folder.		
Current page/Total no. of folder		
pages		
Current page/Total no.	of file	
pages		
Moves to the top level folder.		
Moves to the upper level folder.		
Exit		

6 Control playback by using the following buttons.



Setting	Description			
	Changes the playing position.			
	Stops playing.			
•	Returns to normal playback.			
II	Pauses the media player.			
«»	Plays the previous/next file.			
eØ	You can use the Energy Sav-			
	ing mode.			
Option	Sets up the options of Music			
	List.			

Setting	Description			
Hide	Hides the playback bar.			
	Press the OK button to			
	make the playback bar			
	appear.			
Exit	Returns to the Music List			
	screen.			

Options for Music List

- 1 Press the **Q.MENU** button.
- **2** Use the or button to move to a desired option and press the **OK** button.
- **3** Use , , or button to set up each item.

Set Audio Play

Setting	Description
Repeat	Selects repeat play.
Random	Selects random play.

AUDIO Settings

You can change audio settings. (Refer to "AUDIO Settings" on page 51.)

FILE LIST

You can see document files stored on a connected device.

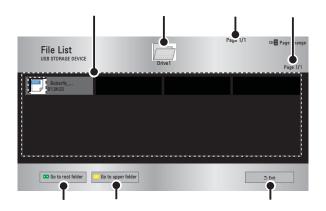
Supported File Formats

XLS, DOC, PPT, TXT, XLSX, PPTX, DOCX, PDF,
Microsoft Office
97/ 2000/ 2002/ 2003/ 2007
Adobe PDF 1.0/ 1.1/ 1.2/ 1.3/ 1.4

- File Viewer realigns a document, so it may look different from what is displayed on a PC.
- For documents that include images, the resolution may look lower during the realigning process.
- If the document volume is big or it has many pages, it may take longer to load the document.
- Unsupported fonts may be replaced by other fonts.

Browsing File List

- 1 Connect a USB storage device.
- 2 Press the **SETTINGS** button.
- 3 Accesses the MY MEDIA.
- 4 Use the , , or button to select **File List** and press the **OK** button.
- **5** Use the , , or button to select the file you want and press the **OK** button.



Description			
File List			
Moves to the upper level folder.			
Current page/Total no. of folder			
pages			
Current page/Total no. of file			
pages			
Moves to the top level folder.			
Moves to the upper level folder.			
Exit			

- 6 Control playback by using the following buttons.
 - Click Go Page then the pop-up window for selecting the number of page appears.
 - Input the page to move to the page you want.
 - Press the volume button to zoom in or zoom out.
 - 1. Press OK.
 - **2.** Press the **Up/Down/Left/Right** buttons to move to Go Page or Zoom.



Setting	Description			
Go	Moves to the page you want.			
Page	Use the Up/Down/Left/Right buttons to select a page and press the OK button.			
Zoom	Views the photo in full mode or original mode.			
Option	Sets up the options of File			
	Viewer.			
Hide	Hides the menu.Press the SETTINGS button to make it appear.			
Exit	Returns to the File Viewer			
	screen.			

Set FileViewer Option

Catting	December 1			
Setting	Description			
Single Page Loading	On	On Loads and displays pages one by one. The initial loading time is short but a contentheavy page may be displayed slowly.		
	Off	Loads all pages of a file to memory before it starts to display them. The initial loading time is long but you can navigate pages quickly after loading is complete. If a file is too large, it may fail to load all the pages.		
Image Quality	You can set the quality of the image included in the document. The following three options are available for the image quality: High, Medium, Low. Higher the image quality, lower the display time.			
Docu- ment Align	Selects initial document align method.			

File View settings are default, so close the currently opened document to apply changes to the new document, if any.

3D FUNCTION

3D technology uses different video frames for each eye to add depth to the video.

Before Watching 3D

While Watching 3D

M WARNING

- If you view 3D images too closely for a long period of time, it may cause blurred vision.
- If you watch the projector or game screen for a long time with 3D glasses on, you may experience dizziness or eye fatigue.
- If you are pregnant, a senior citizen, intoxicated, have heart problems, or easily feel motion sickness, we recommend that you do not watch 3D images.
- Because 3D images can be recognized as real, some viewers may get surprised or overexcited.
- Do not watch 3D images near fragile objects or any objects that can be knocked over easily.
- Take care not to injure yourself as you may subconsciously try to move away from the life-like 3D images.
- Prevent children of 5 years or younger from watching a 3D video. It may impair the development of their eyes.

Warning about photosensitivity seizures

- Some users may experience a seizure or other abnormal symptoms when they are exposed to a flashing light or particular pattern from a video game or movie. If anyone in your family has a history of epilepsy or has ever experienced any kind of seizure, please consult your doctor before viewing 3D images. If you experience one of the following symptoms while watching a 3D video, stop watching the 3D video immediately and take a rest.
- Dizziness, twitching of the eye or facial muscles, involuntary movements, cramp, loss of consciousness, confusion, loss of sense of direction, or nausea. If the symptom does not disappear, please consult your doctor.
- You can reduce the risk of photosensitive seizures by taking the following preventive measures.
 - Take a rest of 5 15 mins. for every 1 hour of viewing.
 - If vision varies between each eye, correct the variation before beginning to watch a 3D video.
 - Ensure that the 3D video is directly in front of you, at eye level.
 - You should stop watching if you experience a headache, fatigue or dizziness.
 - Do not view 3D images when you are tired or ill.

A CAUTION

 Extra special care is required for children watching a 3D video.

When Watching 3D Video

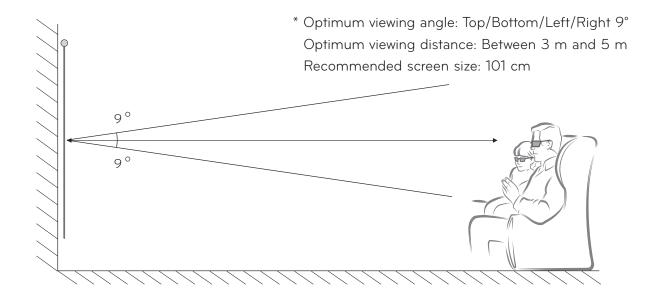
- Watch 3D images within the optimum viewing angle and distance.
- If you are outside the viewing angle or distance, you may not be able to watch 3D images. You cannot view 3D images when you lie down.
- You may see left and right images overlapped during projector initialization after it is powered on. It may take some time for optimization.
- It may take some time for the 3D image look normal after you turn your eyes away from the screen and look back at the 3D image.
- It may flicker slightly while watching 3D images under a 3 wavelength lamp fluorescent light (50 Hz - 60 Hz) or near windows. If so, it is recommended to block the sun light with a curtain and to dim the lights.
- The 3D glasses must be DLP-LINK (DLP Ready) type.
- You may not be able to watch 3D properly if there is an obstacle between the projector and 3D glasses.
- Install the 3D projector as far as possible from other devices.

Please check the following when using

3D glasses.

- Do not use 3D glasses as ordinary glasses, sunglasses or protective goggles.
 - If you do so, this may cause injury.
- Do not store 3D glasses in very hot or very cold conditions. If you do, this may cause them to become distorted. Do not use distorted glasses.
- Do not drop 3D glasses or allow them to come into contact with other objects.
 - This can result in damage to the product.
- The lenses of 3D glasses are easily scratched. Use a soft clean cloth when cleaning them.
 - Foreign particles on the cloth may cause scratches.
- Do not scratch the surface of the 3D glasses' lenses with sharp objects or wipe them with chemicals.
 - If the lenses get scratched, images may not look normal when viewing 3D.
- Please use 3D glasses certified by LG Electronics.

Requirements for Watching 3D Images



- * Basically, Watching 3D videos should be done in dark room environments only.
- * For 3D watching, set the energy saving mode to Minimum.



NOTE-

- The pairing with the DLP-LINK glasses is affected by the intensity of light reflected from the screen. Therefore, the pairing with DLP-LINK glasses may not work properly if the light reflected from the screen is not bright enough, such as when the surrounding area is bright, the screen is big, or the maximum energy saving mode is enabled.
- Some menus may not work while playing a 3D video.
- You can only watch a 3D video properly when the 3D video format option has been selected on the projector.

1 Please check the minimum system requirements for your computer. Minimum requirements are as follows:

Microsoft® Windows® XP, Vista 32/64 bit 'Windows 7 32/64 bit Intel® Core 2 Duo or AMD Athlon™ X2 CPU or higher More than 1 GB of system memory (2 GB recommended)
Free space of 100 MB or more
DirectX 9 or higher

Video card should support 120 vertical frequency (Hz).

Recommended video card requirements

- Graphic Processor speed 700 MHz higher
- Memory 512 MB higher
- A laptop equipped with the chipsets above can be used but it may not work properly.
- 2 Set the video output to XGA 120 Hz and play a video file using a video player that supports 3D output.

The following video players support 3D output: Stereoscopic Player, nVidia 3D Vision, and TriDef 3D.

For more information on the players above, please visit their websites at: www.3dtv.com

www.nvidia.co.kr

www.tridef.com

To Use DLP-LINK (DLP-Ready) Type Glasses

- 1 While watching 3D images from the projector, press buttons on the glasses.
- **2** When you press the button, the glasses flicker to be synchronized with the 3D images.
 - (The flickering is a unique operation method of DLP-LINK type glasses. It may be different depending on the glasses type.)
- 3 If the glasses flicker or problems occur while watching 3D, first turn the lights off to make the room darker. Contact your projector seller for gueries about the glasses.

Supported 3D input formats

Input	Signal	Resolution	Vertical Frequency (Hz)	Supported 3D Formats
НОМІ	XGA	1024 x 768	120	Frame Sequential / Frame Alternative
RGB-PC	XGA	1024 x 768	120	Frame Sequential / Frame Alternative

- The resolution supporting 3D mode is 1024 x 768 for HDMI and RGB input.
- Some menus may not work in 120 Hz input.

Watching 3D Images

- 1 Play supported 3D video titles.
- 2 For RGB-PC, you must press "SETTINGS →PICTURE → Screen Display (RGB-PC) → Auto Config." on the remote control before watching 3D.
- **3** Press the **3D** button.
- 4 While watching 3D images from the projector, press buttons on the glasses.
- 5 Press the L/R button to switch the playing direction of an image. Select a screen with better 3D display quality.
- If you press the **3D** button during viewing, it returns to 2D.
- 6 If a 2D image is displayed on the 16:9 screen, a 3D image is also displayed at the aspect ratio of 16:9. For ratios other than 16:9, a 3D image is displayed in 4:3.
- You cannot change the screen size for 3D images.

CUSTOMIZING SETTINGS

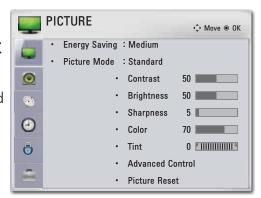
SETUP Menu

- 1 Press the **SETTINGS** button.
- ${\bf 2}$ Use the $\ \ , \ \ \$ or $\ \$ button to select a desired item and press the ${\bf OK}$ button.
- $oldsymbol{3}$ Use the $\ \ , \ \ \$ or $\ \$ button to set up a desired item and press the $oldsymbol{OK}$ button.
- 4 When you finished, press **SETTINGS**.

Menu		Description	
	PICTURE	Adjusts the image quality for optimal viewing.	
	AUDIO	Adjusts the sound quality and volume level.	
	TIME	Sets the time and time-related features.	
	CHANNEL	Sets up and edit channels.	
	LOCK	Locks or unlocks channels and programs.	
X	OPTION	Customizes the general settings.	
	INPUT	Selects the desired input source.	
	MY MEDIA	Accesses photo, music, movie, and document files.	

PICTURE Settings

- 1 Press the **SETTINGS** button.
- **2** Use the , , or button to select **PICTURE** and press the **OK** button.
- **3** Use the , , or button to set up a desired item and press the **OK** button.
 - To return to the previous menu, press the 5 button.
- 4 When you finished, press **SETTINGS**.



The available picture settings are described as follows.

Setting	Description		
Energy	Reduces the power consumption by adjusting the screen brightness.		
Saving			
Picture	Selects one	of the preset images or customizes options in each mode	
Mode	for the best screen performance.		
	You are also	able to customize advanced options of each mode.	
	Mode		
	Vivid	Maximizes the visual effect of video. Displays a crystal clear	
		picture by enhancing contrast, brightness, and sharpness.	
	Standard	Has the contrast, brightness and sharpness at normal levels.	
	Cinema	Optimizes the image for movie.	
	Sport Optimizes the image for sports by emphasizing primary		
	colors and dynamic actions.		
	GAME Optimizes the image for playing games on fast-moving		
	screens.		
	Expert Adjusts the detailed image settings.		
CON-	Increases or decreases the gradient of the video signal.		
TRAST			
BRIGHT-	Adjusts the base level of the video signal to make the image brighter or		
NESS	darker.		
Sharpness	Adjusts the level of sharpness in the edge between the light and dark		
	areas of the picture. The lower the level is, the softer the image looks.		
Color	Adjusts the intensity of all colors.		
Tint	Adjusts the balance between red and green levels.		
Advanced	Customizes	the advanced settings.	
Control			

Setting	Description		
Picture	Restores the options of each mode to the factory default.		
Reset			
Aspect	Changes th	e image size to view images at its optimal size. (See p.25)	
Ratio			
Picture	By following	the instructions, using the remote control, you can eas-	
Wizard II	ily adjust th	e picture quality to technical standards without needing an	
	expensive p	pattern device or a picture quality expert.	
Screen	Adjusts the picture quality of RGB-PC input.		
(RGB-PC)	Option		
	Resolution	Available resolutions are 768 resolution (1024 x 768/ 1280	
		x 768/ 1360 x 768, 60 Hz) and 1050 resolution (1400 x	
		1050/ 1680 x 1050, 60 Hz).	
	Auto Provides optimized picture quality by automatically calibr		
	Config.	ing the mismatch of horizontal width and picture shake	
	caused by clashes between the internal settings of the		
	jector and various PC graphic signals.		
	You can also use the AUTO button on the remote co		
	Position Moves the image up/down/left/right.		
	Size Changes the screen size.		
	Phase	Makes the picture look clear by removing horizontal noise.	
	Reset Restores all the settings to the factory default.		

Advanced Control

Setting	Description		
Dynamic Con-	Adjusts the contrast to keep it at the best level according to the		
trast	brightness of the screen.		
Dynamic Color	Adjusts screen colors so that they look natural.		
Clear White	Makes the white area of screen look brighter and whiter.		
Skin Color	Detects the skin area of image and adjusts it to render a natural skin		
	color.		
Noise Reduc-	Reduces image noise.		
tion			
Digital Noise	This option reduces the noise produced while creating digital video		
Reduction	signals.		
GAMMA	Sets a gradation curve between video input and output signal.		
Black Level	Compensates the brightness and contrast of a screen to balance		
	with the black level of the video input.		
	Not available for RGB-PC.		

Setting	Description		
Real Cinema	Provides the optimal picture quality for watching a movie.		
Color Gamut	 Selects the range of colors to display. Standard: Displays the original colors of an input signal regardless of the display features. Wide: Sets to use the rich colors of the display. 		
Edge En-	Provides much sharper and clearer edges to the picture.		
hancer	Trovides much sharper and clearer edges to me picture.		
Expert Pattern	This is a pattern used for expert adjustment.		
Color Filter	Accurately adjusts color and tint by filtering a specific color area of RGB space.		
White Peaking	Adjust white color brightness. White peaking can be adjusted from 0 to 10. Adjust to higher setting to achieve brighter picture. Adjust to lower setting for darker picture.		
Color Temperature	Adjusts the overall color of the screen to suit your preference. Select Warm, Cool or Medium. In Expert mode, you can customize the options of each mode. Gamma: Select 1.9, 2.2,or 2.4. a. Method: 2 points - Pattern: Inner, Outer - Contrast Red/Green/Blue, Brightness Red/Green/Blue: Adjustable range -50 - +50. b. Method: 10 points IRE - Pattern: Inner, Outer - IRE (Institute of Radio Engineers) is the unit that indicates the size of the video signal and can be set as either 10, 20, 30 - 90, or 100. You can fine-tune for each setting as shown below. - Luminance: If you set up luminance for 100 IRE, a luminance value satisfying each gamma is automatically calculated for each step from 10 IRE to 90 IRE.		
	- Red/Green/Blue: The adjustment range is -50 - +50.		
Color Manage- ment	Adjusts Red/Green/Blue/Yellow/Cyan/Magenta colors. Allows an expert to adjust the tint using a test pattern. Six colors (Red/Green/Blue/Cyan/Magenta/Yellow) can be selectively adjusted without affecting other colors.		
	You may not see colors change on a normal picture even after ad-		
	justment Chroma Red/Green/Blue/Yellow/Cyan/Magenta, Tone Red/Green/Blue/Yellow/Cyan, Magenta: The adjustment range is -30 - +30 each.		

AUDIO Settings

- 1 Press the **SETTINGS** button.
- **2** Use the , , , buttons to select **AUDIO** and press the **OK** button.
- **3** Use the , , **or** button to set up a desired item and press the **OK** button.
 - To return to the previous menu, press the 5 button
- 4 When you finished, press **SETTINGS**.



The available audio settings are described as follows.

Setting	Description		
Auto Volume	Automatically adjusts the volume level.		
Clear Voice II	Makes the voice from the projector crisp and clear.		
Balance	Adjusts the balance of the left and right speakers.		
Sound Mode	Adjusts sound.		
	Option		
	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.	
Infinite	LG's unique sound option provides 5.1 channel stereo sound from		
Surround	two speakers.		
Treble	Adjusts the treble sound.		
Bass	Adjusts the base sound.		
RESET	Resets all the sound settings to the factory default.		

CHANNEL Settings

- 1 Press the **SETTINGS** button.
- **2** Use the , , or button to select **CHAN- NEL** and press the **OK** button.
- **3** Use the , , or button to set up a desired item and press the **OK** button.
 - To return to the previous menu, press the 5 button
- **4** When you finished, press **SETTINGS**.

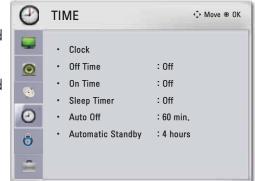


The available channel settings are described in the following.

Setting	Description		
Auto Tuning	Tunes and stores all available channels through antennas or cable inputs.		
Manual Tuning	Tunes and stores the channels you want manually.		
Channel Edit Adds or deletes channels.			

TIME Settings

- 1 Press the **SETTINGS** button.
- **2** Use the , , or button to select **TIME** and press the **OK** button.
- **3** Use the , , or button to set up a desired item and press the **OK** button.
 - To return to the previous menu, press the 5 button
- 4 When you finished, press **SETTINGS**.



The available time settings are described as follows.

Setting	Description		
Clock	Sets the time, date, or Timer feature.		
Off Time	Sets the time to turn on or off the projector automatically. To use this		
/On Time	 function, you should set the current time and date in advance. NOTE If you set both Off time and On time features to the same time, the Off time feature overrides the On time feature. If you do not press any button within 2 hours after the projector turns on by the On Time feature, the projector enters the Standby mode automatically. 		
Sleep Timer	Sets the length of time until the projector turns off.		
Auto Off	If there is no signal, the projector automatically turns off after the preset time has elapsed.		
Automatic	If there is no press any button when Automatic Standby function is on,		
Standby	the Projector automatically switches to the standby mode.		

LOCK Settings

- 1 Press **MENU** to access the menu.
- **2** Press the Navigation buttons to scroll to **LOCK** and press **OK**.
- **3** Press the Navigation buttons to scroll to the setting or option you want and press **OK**.
 - To return to the previous level, press BACK.
- **4** When you finished, press **SETTINGS**.



The available lock settings are described in the following.

Setting	Description		
Set Password	Changes the 4-	digit password. The default PIN is "O O O O".	
If you forget your password, press "0-3-2-5" on the r		r password, press "0-3-2-5" on the remote control.	
Lock System		activates the lock system.	
	Option		
	Block Lo	cks the selected channel. When you enter the	
	Channel pa	ssword for a locked channel, the channel is unlocked	
	ter	nporarily.	
	Input Block Lo	cks the selected input.	
Block Channel	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.		
		es that are only broadcasted on the projector	
	and contain inappropriate contents, based on the Motion Picture		
	Association of A	America (MPAA) rating.	
	Rating		
	G	General audiences – All ages admitted	
	PG	Parental guidance suggested – Some material	
		may not be suitable for children	
	PG-13	Patents strongly cautioned – Some material may	
		be inappropriate for children under 13	
	R	Restricted – Under 17 requires accompanying	
		parent or adult guardian	
	NC-17	No one 17 and under admitted.	
	X	Adults only	
	Blocking Off	Permits all programs	

Setting		Description	
TV Rating-	Blocks the children's TV programs that parents do not want their		
Children	children to watch. To block other TV programs, you should set the TV		
	Rating-General feature.		
	Rating		
	Age	Applies to TV-Y, TV-Y7	
	Fantasy Viol	lence Applies to TV-Y7	
TV Rating-	Blocks the 1	TV programs that you want based on the ratings by using	
General	the Parenta	l Control Function (V-Chip).	
	NO.	TE	
		Chip electronically reads TV program ratings and allows	
		to block program that are unsuitable for children.	
	5		
	Rating	h	
	Age	applies to TV-G, TV-PG, TV-14, TV-MA	
	Dialogue	(sexual dialogue) applies to TV-PG, TV-14	
	Language	(adult language) applies to TV-PG, TV-14, TV-MA	
	Sex	(sexual situations) applies to TV-PG, TV-14, TV-MA	
	Violence	applies to TV-PG, TV-14, TV-MA	
Downloadable		on operates only when projector has received Region5	
Rating	Rating data. The name of the rating option may differ.		
	NO.	TE	
	This feature is available only for digital channels.		
Input Block	Block the input sources.		
Key Lock	This feature can be used to prevent unauthorized viewing by locking		
	out the panel controls, so that it can only be used with the remote control.		
	In Key Lock ' On ', if the projector is turned off, press the Power button.		
	With the Key Lock 'On', the display 'Key Lock' appears on the screen if any button on the panel is pressed while viewing the projector.		

OPTION Settings

- 1 Press the **SETTINGS** button.
- **2** Use the , , or button to select **OPTION** and press the **OK** button.
- **3** Use the , , or button to set up a desired item and press the **OK** button.
 - To return to the previous menu, press the 5 button.
- 4 When you finished, press **SETTINGS**.



The available option settings are described as follows.

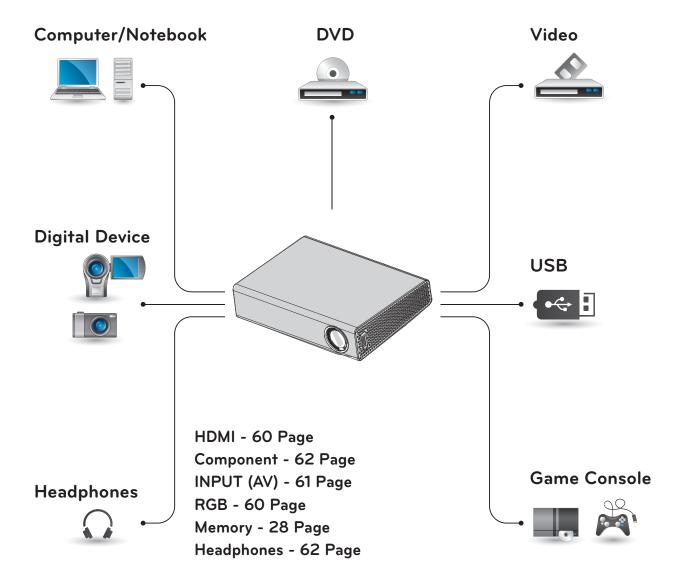
Setting		Description	
Language	Selects a desired Menu Language.		
PJT Mode	This function turns the projected image upside down or flips horizon-		
	tal.		
	• Select Rear v	when projecting from the back of the transparent	
	screen		
	purchased se	eparately.	
		g when installing the product on the ceiling.	
	• When PJT Mode is Rear/Front Ceiling , the left/right of the speaker		
	changes automatically.		
Auto	Auto Keystone provides a rectangular screen image by automatically		
Keystone	adjusting the Keystone number when there is a trapezoidal screen im-		
	age caused by tilting of the projector.		
	Option		
	ON	Automatically adjusts the Keystone number.	
	Off	Manually adjusts the Keystone number.	
Keystone	To prevent the screen image from becoming trapezoidal, Keystone		
	adjusts the top	and bottom width of the image if the projector is not	
	set at a right angle to the screen.		
Blank	Selects a background for blank Image. (see page 27)		
Image			
3D Mode	Selects 3D mode.		
Auto Input	Automatically se	earches and displays an input signal type when it is	
Search	received.		

Setting		Description	
Auto Power	Makes the projector turn on automatically when the adaptor plug is		
	inserted.		
	Option		
	On	When the DC plug is connected to the projector, it	
		turns on automatically.	
	Off	When the DC plug is connected to the projector, it	
		goes into standby mode.	
High Altitude	If the projector i	s used at an altitude higher than 1200 meters, turn	
	this on.		
	Otherwise, the p	projector may overheat or its protection function may	
		his happens, turn the projector off and then on again	
		several minutes.	
Caption	Sets whether to display captions and customize your option in each		
	mode.		
	Mode		
	CC 1-4 (Closed	Displays the audio portion of a TV program as text	
	Captioning)	on the screen. CC1 is the most common mode in	
	Text 1-4	use.	
		- Field 1 data channels: two Captions (CC1, CC2) and	
		two Text (T1, T2).	
		- Field 2 data channels: two Captions (CC3, CC4)	
		and two Text (T3, T4).	
	Service 1-6	This is only available for the digital broadcasting	
		system.	
	Option (For Digi	ital Broadcasting)	
	Size	Selects the wordsize.	
	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	Adjusts the opacity for the text color.	
	Bg Opacity	Adjusts the opacity for the background color.	
	Edge Type	Selects an edge type.	
	Edge Color	Selects a color for the edges.	

Setting	Description		
Standby	Adjusts the LED button indicator.		
Light	Option		
	On	When the buttons are touched, their indicators are all	
		turned on at maximum brightness. In standby mode,	
		all LED indicators are turned on at 20 % of the	
		maximum brightness.	
	Off	When the buttons are touched, their indicators are all	
		turned on at maximum brightness. In standby mode,	
		all LED indicators are turned off.	
DivX(R) VOD	sets DivX related settings.		
Initial Setting	Resets all the projector settings to the factory default.		

MAKING CONNECTIONS

You can connect various external devices to the ports on the projector.

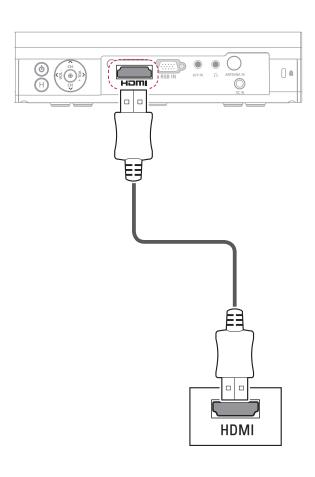


Connecting to an HD Receiver, DVD, or VCR Player

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

HDMI Connection

With an HDMI cable, you can enjoy high quality picture and sound. Press the **INPUT** button on the remote control to select **HDMI**.



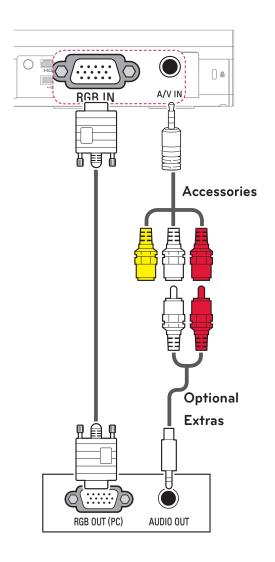
Connecting to a PC

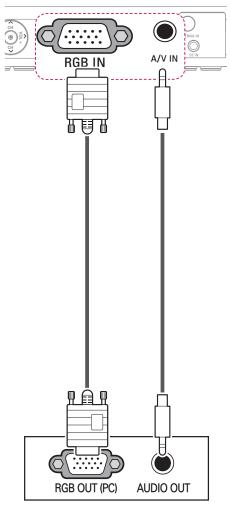
The projector supports Plug & Play. A PC will automatically recognize the projector and requires no driver to be installed.

RGB Connection

Connect the PC output and the PC video input port of the projector with the RGB cable.

For audio signal, connect the PC and the projector with an optional audio cable.

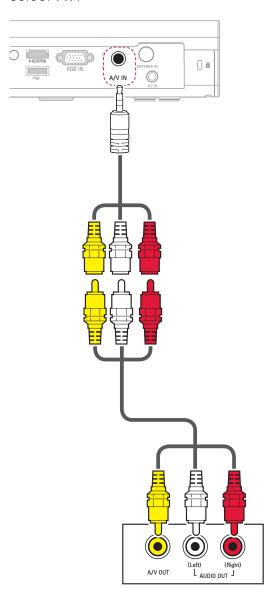




You can connect the audio cable without using a gender as shown in the illustration above.

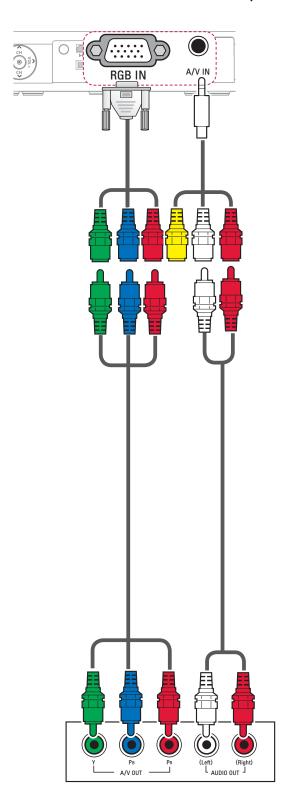
Connecting to the AV INPUT

Connect the output ports of an external device and the AV INPUT port of the projector. Press the **INPUT** button to select **AV**.



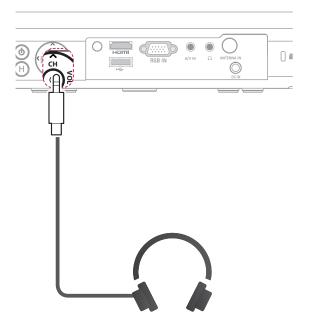
Component Connection

You can enjoy vivid images when you connect an external device with a **RGB**IN port to the component port of the projector. Press the INPUT button on the remote control to select Component.



Connecting to Headphones

You can listen to the audio through a headphone.



MAINTENANCE

Clean your projector to keep it in optimum condition.

Cleaning the Projector

Cleaning the Lens

If there is any dust or staining on the lens surface, you must clean the lens. Use an air spray or a cleaning cloth to clean the lens.

To remove dust or stains, use an air spray or apply a small amount of cleaning agent onto a swab or soft cloth to lightly rub the lens.

Please be aware that liquid may flow onto the lens if the product is sprayed directly onto the lens.

Cleaning the Projector Case

To clean the projector case, first unplug the power cord.

To remove dust or stains, use only a dry, lint-free, nonabrasive cloth to polish the lens.

Do not use alcohol, benzene, thinners or other chemicals, which may damage the case.

SPECIFICATIONS

Resolution (Pixel)1280 (Horizontal) × 800 (VerticalAspect ratio16:10 (Horizontal:Vertical)Panel size (mm)11.623				
Panel size (mm) 11.623	,			
	,			
Projection distance	0.90 m-3.06 m (76.2 cm - 254.0 cm)			
(Video size)	J111)			
Ratio of upward				
projection	100 //			
Working range of the	6 m			
remote control				
Video input NTSC, ATSC	NTSC, ATSC			
AC-DC Adaptor 19.5 V, 4.62 A (Adaptor Input 100 ~ 240 @	19.5 V, 4.62 A (Adaptor Input 100 ~ 240 @ 50 Hz/60 Hz)			
Audio Output 1 W + 1 W				
Television System DTV-ATSC / TV-NTSC				
Program Coverage VHF 2 - 13, UHF 14 - 69, CATV 01 -	VHF 2 - 13, UHF 14 - 69, CATV 01 - 135,			
DTV 2 - 69, DTV 1 - 135	DTV 2 - 69, DTV 1 - 135			
External Antenna 75 Ω (VHF/ UHF)	75 0 (//45/ 1145)			
Impedance	15 (2 (VHF) UHF)			
Height (mm) Front 56.5 (without foot), 60.0 (w	56.5 (without foot), 60.0 (with foot)			
Back 44.0 (without foot), 47.5 (w	vith foot)			
Width (mm) 230.0				
Depth (mm) 170.0				
Weight (g) 1350				
USB Device 5 V, 0.5 A (Max.)	5 V, O.5 A (Max.)			
Temperature	Temperature			
Operation 0 °C - 40 °C				
Operation environ- Storage -20 °C - 60 °C				
ment Relative Humidity	Relative Humidity			
Operation 0 % - 80 %	Operation 0 % - 80 %			
Storage 0 % - 85 %	Storage 0 % - 85 %			

Supported Monitor Display

Resolution	Horizontal Frequency (kHz)	Vertical Frequency (Hz)
640*350	31.468	70.09
720*400	31.469	70.08
640*480	31.469	59.94
800*600	37.879	60.31
1024*768	48.363	60.00 119.99
1152*864	54.348	60.053
1280*800	49.68	60
1360*768	47.712	60.015
1280*1024	63.981	60.020
1400*1050	65.317	59.979
1680*1050	65.3	60

- If an invalid signal is input into the projector, it will not be displayed properly on the screen or a message such as "No Signal" or "Invalid Mode" will be displayed.
- The projector supports the DDC1/2B type as the Plug & Play function (Auto-recognition of PC monitor).
- PC synchronization signal types supported: Separate type synchronization.
- In PC mode, 1280 x 800 is recommended for the best picture quality.

HDMI/DVI-DTV supported mode

Resolution	Horizontal Frequency (kHz)	Vertical Frequency (Hz)
720*480	31.469	59.94
	31.5	60
720*576	31.25	50
1280*720	37.5	50
	44.96	59.94
	45	60
1920*1080	33.72	59.94
	33.75	60
	28.125	50
	26.97	23.97
	27	24
	33.716	29.976
	33.75	30.00
	56.25	50
	67.43	59.94
	67.5	60

Component port connecting information

Signal	Component	
480i / 576i	0	
480p / 576p	0	
720p / 1080i	0	
1080p	o (50 Hz / 60 Hz only)	

Open Source Software Information

To obtain the source code under the GPL, LGPL, MPL and other open source licenses, which 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.

If you send an email to opensource@lge. com to request for the software's open source code installed into the projector within three years of purchase, we will send you a CD-ROM. You will only be charged a minimum for packaging and delivery.



The model and serial number of the projector are located on the back or on the side of the projector. Record them below should you ever need service.

MODEL			
SERIAL			