



OWNER'S MANUAL

LG CineBeam AI ThinQ

DLP Projector

Please read the safety information carefully before using this product.

HU85LA

HU85LS

www.lg.com

P/NO : SAC37813542 (2005-REV01)

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LICENSES

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! NOTE

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

Open Source Software Notice Information

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 a period of three years after our last shipment of this product.

This offer is valid to anyone in receipt of this information.


SAFETY PRECAUTIONS


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

Child injuries can be prevented by following these simple safety precautions.

The precautions should be followed in the same manner when you store or move your existing projector.

- Safety precautions are given in two forms, i.e., **WARNING** and **CAUTION** as detailed below.

 **WARNING:** Failure to follow the instructions may cause serious injury and even death.

 **CAUTION:** Failure to follow the instructions may cause personal injury or product damage.

- Read the owner's manual carefully and keep it on hand.



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



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

WARNING/CAUTION

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

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

Indoor Installation

WARNING

Do not install products including projectors and remote controls in the following places:

- Any place exposed to direct sunlight;
 - Any humid place such as bathroom;
 - Any place near hot objects such as flammables and stoves;
 - Any place where oil, oil mist, and steam can reach such as a worktop or places near a humidifier;
 - Any place where water can splash like a vase or the aquarium;
 - Any place that is dusty or exposed to wind and rain;
 - Any place that is under the air conditioner or is directly exposed to the wind from the air conditioner;
 - Any place near flammable materials such as flammable sprays, etc.; or
 - Any cupboard, bookcase shelf or cabinet without a fixture installed and any place where a pet can access.
- It may cause an electric shock, fire, malfunction, deformation or falling.

Be careful not to fall or drop the projector when connecting an external device.

- It may cause injury or damage to the product.

Keep the following precautions in mind to prevent the temperature rise inside the projector:

- Install the air vents at least 30 cm (11.8 inches) away from the wall.
- Do not install the product in a place where it cannot be ventilated, such as on a bookcase or in a closet.
- Do not install the product on carpet or cushion.
- Make sure that the air vents are not blocked with tablecloths, curtains, etc.
- It may cause a fire.

For places where oil or oil mist can reach, do not install the product on a wall or ceiling.

- The product may be damaged and fall.

Do not allow a child to hang or climb on the installed projector.

- The projector may fall and cause injury or death.

When installing the product on the ceiling, observe the following precautions to prevent the projector from falling:

- Contact the Customer Support Center for installation.
- Tighten the product by using the mounting equipment and M4 x 8 mm (M6 x 10mm, 1/4-20UNC x 5.5mm) screws that are approved by a professional technician.
- Do not use adhesive, lubricant, oil, etc. when using the mounting equipment.
- Do not tighten the screws with an excessive force since the projector may fall due to breakage of the screw connection part. (the recommended torque: 5-8 kgf.cm (4.34-6.94 lbf-in))
- A failure to follow the precautions may result in injury or death and product damage due to the fall of the product.

 **CAUTION**

When moving the projector, be sure to turn off the power switch and disconnect the power plug, antenna cable and the connection cord between the devices.

- A failure to do so may cause damage to the projector or the cord, resulting in a fire or electric shock.

Do not install the projector on a shaky shelf, a slanted place, a place subject to vibrations, a place where the projector is not fully supported or on a fabric such as tablecloths.

- It may cause injury as the projector falls or tips over, or it may cause a malfunction of the projector.

To prevent damage to the power cord or plug, do not install the projector where the cord can be walked on.

- It may cause a fire or electric shock.

When installing the projector, do not install it too close to the wall.

- The cable connection may be deteriorated or the projector and its cables may be damaged.

When installing the projector on a cabinet or a shelf, make sure that the front end of the bottom of the projector does not come out.

- The projector may fall due to the unbalance of the center of gravity and cause injury to people or a malfunction.

When in Use

WARNING

When thunder or lightning strikes, unplug the power cord and do not touch the antenna wire.

- It may cause an electric shock.

If there is a gas leak from the gas lines, do not touch the outlet and be sure to vent by opening the window.

- Sparks may be caused and lead to a fire or burns.

When using the product with an external device such as a game console connected, keep the length of the connection line enough.

- The product may fall over and cause injury or product damage.

Do not scratch or give an impact on the projector with metallic materials or objects.

- It may cause injury to people or damage to the product.

Do not insert metallic objects including coins, hairpins or a piece of iron or flammable objects such as paper or matches into the projector.

- It may cause a fire or electric shock.

When replacing the batteries used for the remote control, be careful not to let children eat them and keep the batteries out of reach of children.

- If a child swallows the battery, consult a doctor immediately.

Keep the plastic wrapping of the product out of the reach of children.

- If a child misuses it, it may suffocate the child.

Do not touch near the vents during the operation or immediately after the power is turned off as they generate intense heat.

- The heat does not indicate a defect or a problem of the projector when it is operating so use it with confidence.

Do not look into the front of the lens when the projector is operating. Strong light is projected from the product which can cause injury to your eyes.

Never try to disassemble or modify the projector yourself. Always seek a qualified service technician or consult your dealer or local Service Center for inspection, adjustment or repairs.

- It may cause a fire or electric shock.

 **CAUTION**

Do not use any product that uses high voltage electricity near the projector. (e.g. An electric fly swatter)

- It may cause a malfunction.

Do not place any liquid containers such as a vase, pot, cup, cosmetics or medicine, decorations such as candles or any heavy objects on top of the projector.

- Doing so may cause a fire, electric shock and injury due to failing.

The surface of the AC adapter is hot, so be careful not to put the surface against your skin or let the children touch the surface during use. (Except for the models that do not use an adapter)

Do not hold or move the projector upside down by grabbing only the power cord, signal cable, or projection mirror.

- Doing so may damage the product or cause an electric shock or fire.

Even if the projector is turned off with the remote control or the button, the power is not completely cut off if the power cord is plugged in.

If you use headphones or earphones, do not use them at high volume or for a long period of time. (It applies only to the models that support headphones (earphones).)

- Doing so may damage your hearing.

Do not start the projector when the volume is high.

- A loud volume can cause hearing loss.

Do not use or store the projector outdoors for an extended period of time.

Do not touch the projector's lens or give an impact on it.

- It may cause damage to the product.

Do not block the light from the projector lens with a person, book or other objects.

- If the light from the projector shines on an object for a long time, it can cause fire due to the heat of such light. Also, the reflected light can heat the lens and cause damage to the projector.

Do not mix old and new batteries together.

- It may cause battery rupture or fire due to liquid leakage or may cause electrical shock.

When replacing the batteries, make sure that they are properly installed according to the polarities (+, -).

- Battery rupture or leakage may lead to fire, explosion, injury or contamination (damage) of the surrounding area.

Do not expose the batteries to direct sunlight, fireplace, electric heater, high temperature above 60 °C (140 °F), excessively humid places or excessive heat.

- It can cause an explosion or fire.

Do not throw or disassemble the battery.

- It can cause a fire and explosion due to battery damage.

Do not carelessly throw away old batteries.

- It can cause an explosion or fire. The disposal method may vary by country and region. Dispose of it in an appropriate manner.

Power



Make sure the power plug is securely plugged in to prevent it from shaking.

- If the connection is unstable, it may cause a fire.

Do not plug too many devices into one multi-power outlet.

- This may result in fire due to the power outlet overheating.

Do not insert a metal object such as chopsticks into the other end of the power plug while it is plugged into a wall outlet. Also, do not touch the power plug immediately after unplugging it from the outlet.

- It can cause an electric shock.

Connect the power plug to a grounded outlet or multi-tap. (Except for any device without ground connection)

- A failure to do so may cause an electric shock due to a malfunction or electrical short.

Never touch the power plug with wet hands.

- It may cause an electric shock.

Disconnect the power plug from the outlet when you are not using the projector for a long time or absent.

- Dust collects and may cause an electric shock and fire caused by a short circuit due to heat, ignition and insulation/degradation.

The Power Plug is the disconnecting device. In case of an emergency, the Power Plug must remain readily accessible.

If any of the following occurs, it could be a malfunction of the product, so you must immediately turn the projector off, unplug the power cord from the outlet, and contact the service center:

- When the product is damaged;
 - When the product fails;
 - When there is a foreign substance inside the product; or
 - When the product smokes or smells.
- It may cause a fire or electric shock.

 **CAUTION**

Do not unplug or plug the power plug from/in the outlet while the power switch is on. (Do not use the power plug as a switch.)

- It may cause a fire or malfunction.

When removing the AC adapter or power cord, be sure to hold the plug part.

- A failure to do so may cause a fire or damage to the product.

Do not damage the AC adapter, power cord or power plug, place heavy objects on them or give an impact on them.

- It may cause a fire, electric shock or damage to the product.

Attach the power cord and AC adapter connected to the projector in a way that they are fully seated.

- Poor contact can cause a malfunction of the product and fire.

If there is dust on the pin part of the power plug or the outlet, clean it thoroughly.

- It may cause a fire.

Keep the power cord away from heat sources.

- The coating of the cord may melt and cause a fire or electric shock.

Use only the authorized power cord or AC adapter supplied by LG Electronics. Do not use any other products.

- It may cause a malfunction of the product, fire or electric shock.

Cleaning

⚠ WARNING

Do not spray water directly onto the projector when cleaning it.

- It may cause a fire or electric shock.

⚠ CAUTION

How to clean the projector

- Disconnect the plug from the outlet before cleaning.
- Do not wipe the optical system (the lens and mirror) immediately after the power is turned off.
- Do not spray the water with a sprayer on the product or wipe the product with a damp cloth.
- Wipe the product gently with a soft cloth.
- Do not use any detergents, automotive or industrial polishes, abrasives, waxes, benzenes or alcohols.
- It may cause a fire, electric shock or damage to the projector (deformation, corrosion, and breakage).

How to clean the lens

- Clean the lens if any dust or smudge appears on the surface of the lens.
- Clean the surface of the lens with an air sprayer or a soft, dry cloth.
- To remove dust or stains on the lens, use a compressed air duster, cotton swab, or soft cloth to gently wipe the lens.
- Never clean the lens when the projector is operating or immediately after the projector is turned off.
- Do not use any detergents, automotive or industrial polishes, abrasives, waxes, benzenes, alcohols, water, etc. on the lens, as they will damage the projector.

Consult your dealer or the service center for cleaning the interior of the product once a year.

- If you do not clean the interior of the projector for a long time while dust collects, it may cause a fire or malfunction.

Antenna

WARNING

Bend down the part where the outdoor antenna line goes into the inside so that rainwater cannot flow into it.

- Rainwater going into the product may cause a fire or electric shock.

CAUTION

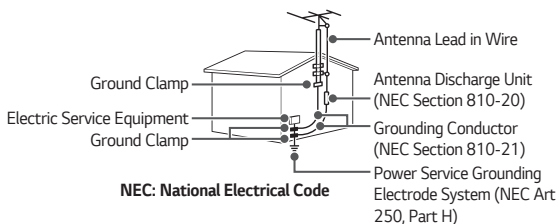
If you are using an outdoor antenna, please install it away from electrical wires to make sure it does not touch any nearby wires even when it falls down due to heavy wind.

- Failure to do so may cause electric shock or physical injury.

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 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



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.

Laser

WARNING

- You risk being exposed to laser radiation if you manipulate or alter the product in a way not specified in the user manual.
- Be sure not to let infants or people with diseases directly watch the light source.

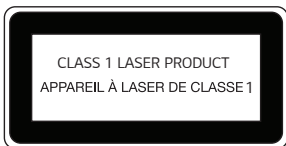
CAUTION

- This product is a class 1 laser device that meets IEC 60825-1.

Built-in laser standard (class 4 laser module)

- Blue
 - Wavelength: 448 nm - 462 nm
 - Light output: approx. 95 W x 2
- Red
 - Wavelength: 636 nm - 642 nm
 - Light output: approx. 2.5 W x 12

Product Laser Class Label



The laser class label of product is attached to the bottom of the product.

PREPARATION

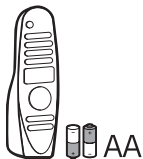
The pictures may differ slightly from the actual product.

Accessories

Accessories included with the projector are show below.

Accessories are subject to change without prior notice.

New accessories may be added or old ones removed.



Magic Lighting Remote
Two AA Batteries



Owner's Manual

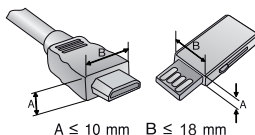


Power cord



Edge guards

- When connecting an HDMI or USB cable, or connecting a USB flash drive to the HDMI or USB port, use a product that has a width of 18 mm (0.7 inches) or less and a height of 10 mm (0.3 inches) or less. If the USB cable or USB flash drive does not fit the USB ports of the projector, use an extension cable that supports USB 2.0.



- When connecting two USB devices at the same time, each one should have bezels less than 8.5 mm (0.3 inches) thick.
- Use a certified cable with the HDMI logo attached.
- If you do not use a certified HDMI cable, the screen may not display or a connection error may occur. (Recommended HDMI cable types)
 - Ultra High-Speed HDMI®/™ Cable (3 m (9.8 feet) or less)

Optional Extras

To purchase optional accessories, visit an electronics store or online shopping site or contact the retail store where you purchased the product. Optional accessories are subject to change without prior notice.



Projection Screen



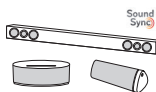
HDMI Cable



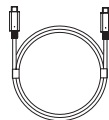
RF Cable



Optical Cable

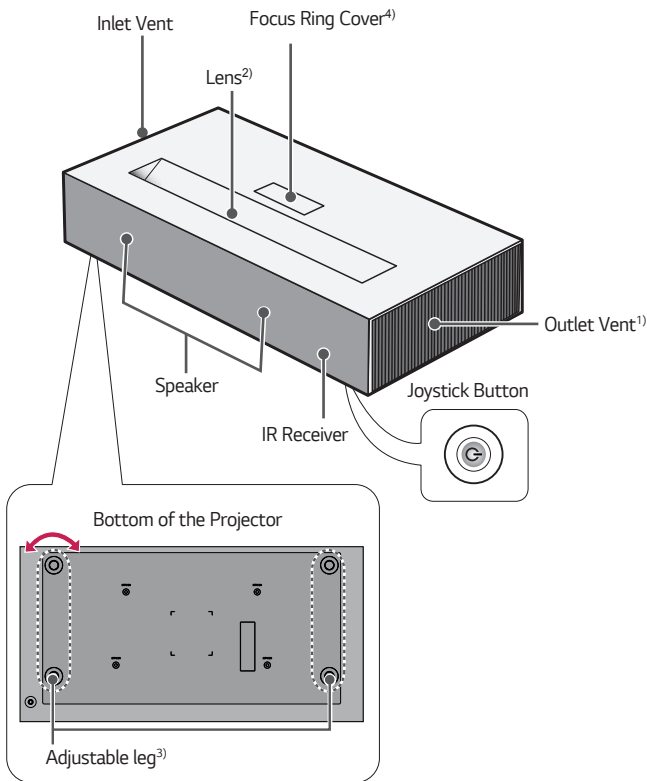


LG Audio Device

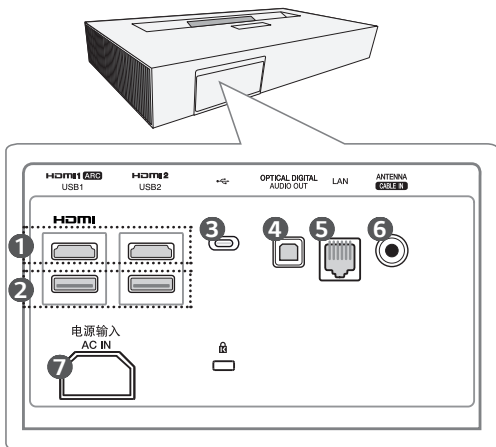



USB-C Cable

Parts and Components



- 1) Due to the high temperature of vent area, do not get close to the vent area.
- 2) Do not touch the lens when using the projector. The lens may be damaged.
(Keep lens away from sharp objects.)
- 3) Turn the adjustable leg left or right to adjust the angle.
- 4) Be careful not to get your fingers caught when closing the projector's door.
(This may cause injury to people or a malfunction of the product.)



- ① **HDMI** Port
- ② USB 2.0 Port
- ③  (USB-C Port)
- ④ **OPTICAL DIGITAL AUDIO OUT** Port
- ⑤ **LAN** Port
- ⑥ Antenna Port (**CABLE IN**)
- ⑦ 电源输入 **AC IN** (AC IN Port)

Using the Joystick Button

You can operate the projector by pressing the button or moving the joystick left, right, up, or down.

Basic functions



Power On

When the projector is turned off, place your finger on the joystick button, press it once, and release it.



Power Off (Press and Hold)

Press and hold the joystick button for more than 3 seconds while the projector is on.



Volume Control

Place your finger over the joystick button and move it left or right, you can adjust the volume level.



Channels Control

Place your finger over the joystick button and move it up or down, you can scroll through the saved channels.





! NOTE

- When moving the joystick button up, down, left or right, be careful not to move the button while it is being pressed. The volume and channel may not be adjusted when the joystick button is pressed and moved.

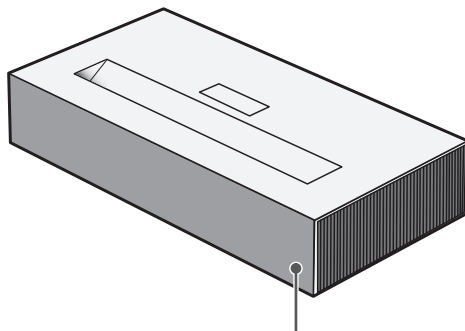
Adjusting the menu

When the projector is turned on, press the joystick button one time.

You can adjust the menu items (🔌, 📺, ✕, ⚙️) moving the joystick button left, right, up, or down. Move to the desired menu item, and then press the joystick button once to select it.

-  Turns the power off.
-  Changes the input source.
-  Clears on-screen displays and returns to projector viewing.
-  Displays the Settings menu.

Projector Status Indicators



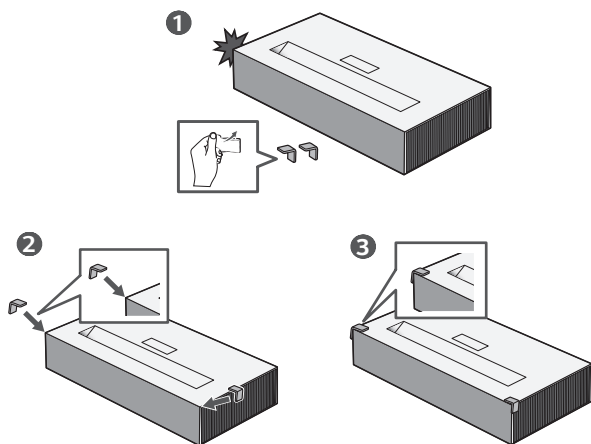
LED Power Indicator

LED Power Indicator	
Red	Power standby state
Off	The projector is operating with the power on.

INSTALLATION

How to use the edge guards

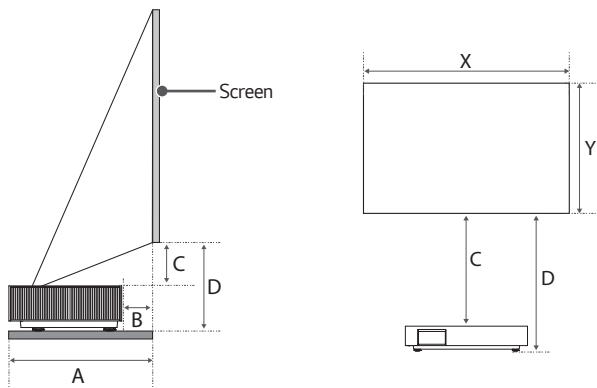
It prevents any damage to the product and injury when being attached to sharp edges of the product.



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 an appropriate distance away 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 at a right angle to the screen. If the projector is not at a right angle, the projected image will look distorted. To correct the distortion, use the Edge Adjustment function.
- 4** Connect the power cord of the projector and the connected device to the wall outlet.

Ratio of upward projection: 120 %



Screen Size	inches	90	95	100	105	110	115	120
	mm	2286	2413	2540	2667	2794	2921	3048
Horizontal Size (X) x Vertical Size (Y)	inches	78.4 x 44.1	82.7 x 46.5	87.1 x 49.0	91.4 x 51.4	95.8 x 53.9	100.2 x 56.3	104.6 x 58.8
	mm	1992 x 1121	2103 x 1183	2214 x 1245	2324 x 1308	2435 x 1370	2546 x 1432	2657 x 1494
A	inches	15.8	16.6	17.5	18.3	19.2	20.0	20.8
	mm	403	424	445	466	488	509	530
B	inches	2.2	3.0	3.8	4.6	5.5	6.3	7.2
	mm	56	77	98	119	141	162	183
C	inches	7.1	7.6	8.1	8.6	9.1	9.6	10.1
	mm	182	195	207	220	232	245	257
D	inches	12.6	13.1	13.6	14.0	14.6	15.0	15.5
	mm	321	334	346	358	371	383	396


The projection distance may vary depending on the installation conditions.

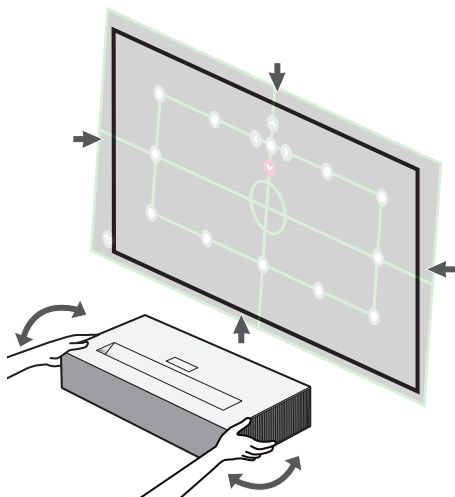
NOTE

- If the projected image looks distorted or bent, check to see if the screen is installed properly.

Focus of the Screen Image

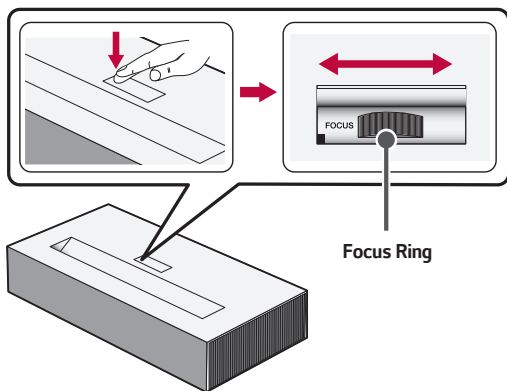
When an image appears on the screen, check if it is in focus and fits the screen properly.

- 1 Press  (**Edge Adjustment**) button on the remote control to execute the [Edge Adjustment] function.
- 2 Move the projector to the left or right to check that the projection fits on the screen.



3 To adjust the focus of the image, slowly adjust the focus ring to the left or right while looking at the top center of the screen. You can adjust the focus most effectively when the left and right screen are balanced. When adjusting the focus on the screen, do not let the product shake.

- Before using the focus ring, press the lower left corner of the focus ring cover once to open the cover. Please open the focus ring cover before using the focus ring.

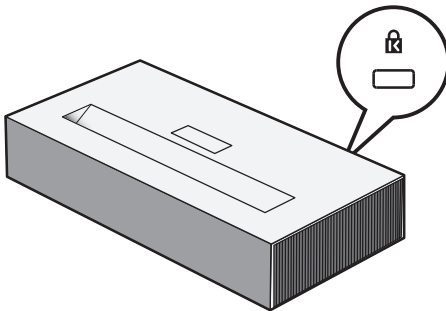


4 If the angle of the projection is not perpendicular, use the [Edge Adjustment] function. (Use the Up/Down/Left/Right buttons on the remote control to adjust the top/bottom/left/right of each angular point.)

Kensington Security System

- This projector has a Kensington Security Standard connector as an anti-theft mechanism. Connect a Kensington Security System cable as shown below.
- For more information on installation and use of the Kensington Security System, refer to the user's guide provided with the Kensington Security System.
- The Kensington Security System is an optional accessory.
- What is Kensington?

Kensington is a company that provides safety systems for laptops and other electronic devices. Website: <http://www.kensington.com>



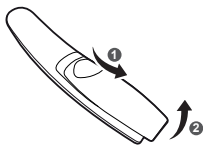
MAGIC LIGHTING REMOTE

- **Depending on country**

If the battery low message appears while using the Projector, replace the batteries.

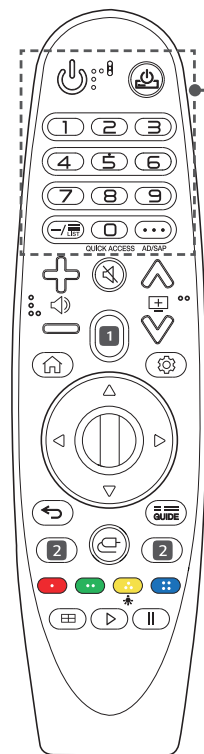
As shown in the figure, press the top of the battery cover and slide it down the cover. Insert two new and identical batteries (1.5 V, AA type) with + and - poles pointing in the correct direction in the remote control.

*** : To use the button, press and hold for more than 3 seconds.**



⚠ CAUTION

- Do not mix new batteries with old ones.



⏻ (POWER)

Turns the Projector on or off.



You can turn your set-top box on or off by adding the set-top box to the universal remote control for your Projector.

Number buttons

Enters numbers.



Accesses the [QUICK HELP].

- (Dash)

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



Accesses the saved channel list.

QUICK ACCESS*

Edits QUICK ACCESS.

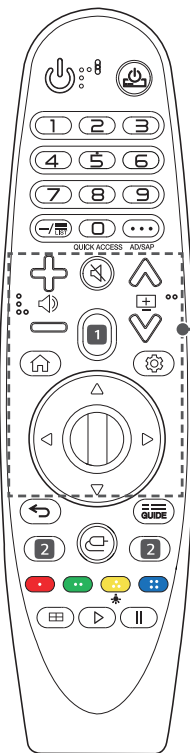
(QUICK ACCESS is a feature that allows you to enter a specified app or Live TV directly by pressing and holding the number buttons.)

... (MORE ACTIONS)

Displays more remote control functions.

AD/SAP*

Enables SAP (Secondary Audio Program) Feature.



Adjusts the volume level.



(MUTE)

Mutes all sounds.



(MUTE) *

Accesses the [Accessibility] menu.



1 (Voice recognition)

Network connection is required to use the voice recognition function.

Once the voice display bar is activated on the projector screen, press and hold the button and speak your command out loud.



1 (Search)

Search for content such as movies and other videos, or perform a web search by entering your search terms in the search box.



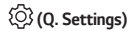
Scrolls through the saved channels.



Accesses the Home menu.



Displays the list used previously.



(Q. Settings)

Accesses the Quick Settings.



(Q. Settings) *

Displays the [All Settings] menu.



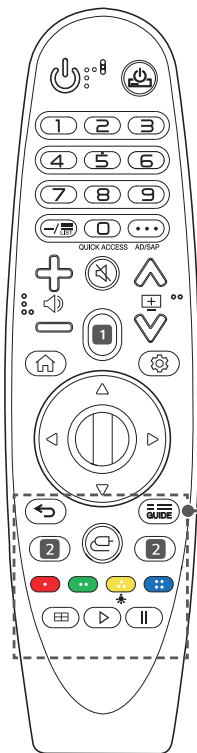
(Up/Down/Left/Right)

Press the up, down, left or right button to scroll the menu. If you press \triangle ∇ \triangleleft \triangleright buttons while the pointer is in use, the pointer will disappear from the screen and the Magic Lighting Remote will operate like a general remote control. To display the pointer on the screen again, shake the Magic Lighting Remote to the left and right.



Wheel (OK)

Press the center of the Wheel button to select a menu. You can change channels by using the Wheel button.

**(Back)**

Returns to the previous screen.

**(Back) ***

Clears on-screen displays and returns to last input viewing.

**GUIDE**

Shows channels guide.

2 Streaming Service buttons

Connects to the Video Streaming Service.

**(INPUT)**

Changes the input source.

**(INPUT) ***

Accesses the [Home Dashboard].





These access special functions in some menus.



The remote control buttons light up so that you can use the remote control in the dark.

If the remote control does not move, the pointer disappears and the remote control light turns off in about 5 seconds.

The lighting function is applied when the product is shipped, and if you press and hold the  button for more than 5 seconds, the  (**POWER**) button flashes twice and you can turn the lighting function on or off.

Edge Adjustment

Execute [Edge Adjustment].


Control buttons (▶, ||)

Controls media contents.





To Register the Magic Lighting Remote

You must pair the Magic Lighting Remote with the projector to use it.

Pair the Magic Lighting Remote prior to use as follows.

- 1 Put batteries into the Magic Lighting Remote and turn the Projector on.
 - 2 Point the Magic Lighting Remote at your projector and press the  **Wheel (OK)** on the remote control.
- If the projector fails to register the Magic Lighting Remote, try again after turning the projector off and back on.

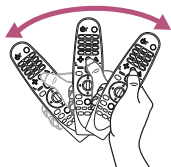
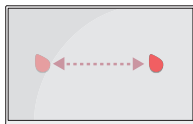
To Re-register the Magic Lighting Remote

- 1 Press the  and  buttons at the same time, for five seconds, to unpair the Magic Lighting Remote with your projector.
 - 2 Press the  **Wheel (OK)** button towards the projector to re-register the Magic Lighting Remote.
- Pressing and holding the  **GUIDE** button will let you cancel and re-register Magic Lighting Remote at once.

Using the Magic Lighting Remote

- If you shake the Magic Lighting Remote left and right or turn its wheel while pointing it at the projector, a pointer will appear on the projector screen. If you move the remote control in the direction you want, the pointer follows the movement.

Move the pointer to the location you want and press the **Wheel (OK)** button to execute the function.



Setting the Pointer of Magic Lighting Remote

 →  → [Accessibility] → [Pointer Options]

- You can set the pointer speed and size you want while it is on the screen.
 - [Tracking Speed]: Sets the pointer speed.
 - [Pointer Size]: Selects the pointer size.
- If the pointer has not been used for a certain period of time, it will disappear. When the pointer disappears from the screen, shake the Magic Lighting Remote right and left.
The pointer will disappear if you press the up, down, left, right buttons, and the remote will work as a conventional remote.
- If the pointer is not responding smoothly, you can reset the pointer by moving it to the edge of the screen.
- Use the remote control within the specified range (within 10 m (32.8 feet)). You may experience communication failures when using the device outside the coverage area or if there are obstacles within the coverage area.
- You may experience communication failures depending on the accessories. Devices such as a microwave oven and wireless LAN operate in the same frequency band (2.4 GHz) as the Magic Lighting Remote. This may cause communication failures.
- Impacts can cause the Magic Lighting Remote to malfunction.
- Take care not to bump into nearby furniture, electronic equipment, or other people when using the Magic Lighting Remote.

CONNECTING DEVICES

You can connect various external devices to the projector.

Connecting the Antenna or Cable

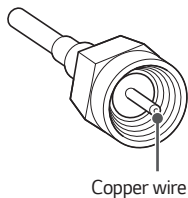
To watch TV using an indoor/outdoor antenna, connect a wall terminal and the antenna port of the projector using an RF cable (75 Ω).

You can watch terrestrial or cable (analog, digital) TV.



! NOTE

- Make sure not to bend the copper wire of the RF cable (75 Ω). Turn the input jack to the right to fasten it.
- Ensure you use a standard coaxial cable (75 Ω , sold separately) when connecting to the projector input.
- For better image quality in locations where signal strength is low, purchase and install a signal amplifier (booster).
- A signal splitter is required if you want to use two or more projectors through one antenna.
- If you have any problems when installing the antenna, please consult a suitable retailer or the store where you purchased the antenna.



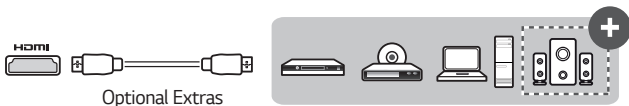
Connecting with a HDMI Cable

Various functions are available after connecting a digital broadcasting receiver, DVD, PC, laptop, etc. with an HDMI cable.

With an HDMI cable, you can enjoy high quality picture and sound.


Using a HDMI cable, connect the **HDMI** port of the projector to the HDMI output port of the device to connect. Both video and audio are output at the same time.

-  (**INPUT**) → [Home Dashboard] → [INPUTS] → [HDMI1]/[HDMI2]



NOTE

ARC (Audio Return Channel)

- External audio devices that support SIMPLINK and ARC must be connected using **HDMI 1 ARC** port. 
- When connected with a high-speed HDMI® cable, external audio devices that support ARC output or SPDIF work with the SIMPLINK function without the need for an additional optical audio cable.

When connecting PC/laptop

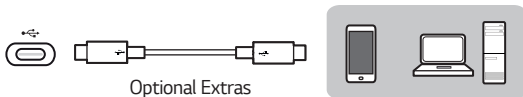
- The projector supports Plug and Play. Your PC will automatically detect the projector and requires no driver installation.

Connecting with a USB-C Cable

Connect the USB-C terminal of the projector to the USB-C output terminal of a PC/laptop or smartphone using a USB-C cable.

Contact the manufacturer of your device to see if this feature is supported. Only the smartphones that support USB-C will work.

-  (**INPUT**) → [Home Dashboard] → [INPUTS] → [USB-C]

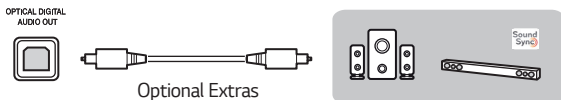


NOTE

- PD (Power Delivery) and DP Alternate Mode are supported.
 - A USB-C gender changer may be necessary depending on the cable used if using PD (Power Delivery).
- The function may not operate properly depending on the connected device's specifications, USB-C cable status, or surroundings.
- The USB PD (for power supply) function may not operate according to the specifications of the connected equipment.
- Check the resolution of the connected devices before using the DP Alternate Mode function.

Connecting a Digital Amp

Using an optical cable, connect the digital audio input port of a digital amp to the **OPTICAL DIGITAL AUDIO OUT** port of the projector. The output of an amp with a digital converter must be set to the desired audio format. When using a HDMI cable to connect a home theater or when connecting an optical output to an external audio device, set [Sound Out] to [Optical]. If a projector, home theater, or the speaker of an external audio device is operating at the same time, there will be an echo.



! NOTE

- Refer to the user manual of the audio device to connect.
- When connecting this product to other devices, make sure to turn off and unplug all the devices.
- The audio output of this product has wide-ranging audio bandwidth, so the receiver volume must be adjusted properly. Speakers can be damaged by unexpected high frequencies.
- Connecting the **OPTICAL DIGITAL AUDIO OUT** port of the projector to the digital audio input port of a digital amp and the audio input port of the projector to the analog audio output port of the digital amp can cause sound oscillation due to the closed loop. Remove one of the two connections to prevent this. (This also applies to home theater devices.)

Connecting a smart device (smartphone, tablet, etc.)

•  (INPUT) → [Home Dashboard] → [INPUTS] → [HDMI1]/[HDMI2]

• The picture may look different from the actual product.

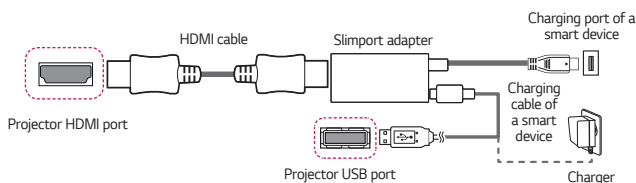
Connect a smart device to the projector using a cable¹⁾ and set the external input of the projector to HDMI. The smart device screen will then be displayed through the projector. You can connect with any HDMI input port.

For model-specific instructions regarding use of the wired connection, please check with the smart device manufacturer.

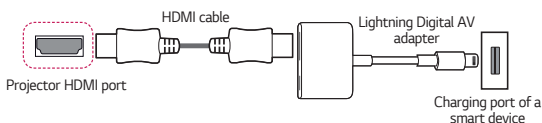
Supported smart devices may change depending on the circumstances of each manufacturer.

1) Examples of how to connect a cable to different smart devices (cable purchased separately).

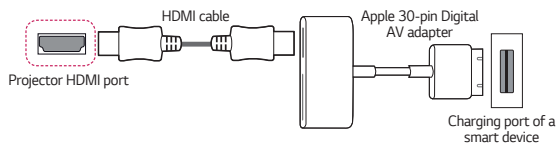
Slimport supported devices



Apple Lightning Digital AV adapter supported devices



Apple 30-pin Digital AV adapter supported devices



SPECIFICATIONS

MODEL	HU85LA (HU85LA-NA) HU85LS (HU85LS-NA)	
Resolution (Pixel)	3840 (Horizontal) x 2160 (Vertical) ¹⁾	
Aspect ratio	16:9 (Horizontal:Vertical)	
Projection distance – Screen size	403 mm to 530 mm (15.8 inches to 20.8 inches) – 2286 mm to 3048 mm (90 inches to 120 inches)	
Ratio of upward projection	120 %	
Power consumption	350 W	
Power	AC 100 - 240 V, 50/60 Hz, 3.5 A	
Audio Output	5 W + 5 W	
Television System	ATSC / NTSC-M / 64 & 256 QAM	
Program Coverage	VHF 02 to 13, UHF 14 to 69, CATV 01 to 135, DTV 02 to 69, CADTV 01 to 135	
External Antenna Impedance	75 Ω	
Height	128 mm (5.0 inches) (without foot), 139 mm (5.4 inches) (with foot)	
Width	680 mm (26.7 inches)	
Depth	347 mm (13.6 inches)	
Weight	12.2 kg (26.8 lbs)	
USB Device	USB 2.0 Standard-A	Output: 5 V, 0.5 A (Max.)
	USB Type-C	Output: 5 V, 1 A (Max.)
Environment Condition	Temperature	
	Operation	0 °C to 40 °C (32 °F to 104 °F)
	Storage	-20 °C to 60 °C (-4 °F to 140 °F)
	Relative Humidity	
	Operation	0 % to 80 %
	Storage	0 % to 85 %

- Contents in this manual may be changed without prior notice due to upgrade of product functions.

1) 4K UHD resolution with 8.3 million discrete pixels projected by XPR (Expanded Pixel Resolution) video processing.

HDMI (DTV) / USB-C (DTV) Supported Mode

Resolution	Horizontal Frequency (kHz)	Vertical Frequency (Hz)
640 x 480	31.46	59.94
640 x 480	31.5	60.00
720 x 480	31.47	59.94
720 x 480	31.5	60.00
720 x 576	31.25	50.00
1280 x 720	44.96	59.94
1280 x 720	45	60.00
1280 x 720	37.5	50.00
1920 x 1080i	28.12	50.00
1920 x 1080i	33.72	59.94
1920 x 1080i	33.75	60.00
1920 x 1080p	26.97	23.97
1920 x 1080p	27.00	24.00
1920 x 1080p	33.71	29.97
1920 x 1080p	33.75	30.00
1920 x 1080p	56.25	50.00
1920 x 1080p	67.43	59.94
1920 x 1080p	67.5	60.00
1920 x 1080p	112.5	100
1920 x 1080p	134.86	119.88
1920 x 1080p	135.00	120

Resolution	Horizontal Frequency (kHz)	Vertical Frequency (Hz)
3840 x 2160p	53.95	23.98
3840 x 2160p	54	24.00
3840 x 2160p	56.25	25.00
3840 x 2160p	61.43	29.97
3840 x 2160p	67.5	30.00
3840 x 2160p	112.5	50.00
3840 x 2160p	134.86	59.94
3840 x 2160p	135	60.00
4096 x 2160p	53.95	23.98
4096 x 2160p	54	24.00
4096 x 2160	56.25	25.00
4096 x 2160	61.43	29.97
4096 x 2160	67.5	30.00
4096 x 2160	112.5	50.00
4096 x 2160	134.86	59.94
4096 x 2160	135	60.00

HDMI (PC) / USB-C (PC) Supported Mode

Resolution	Horizontal Frequency (kHz)	Vertical Frequency (Hz)
640 x 350	31.46	70.09
720 x 400	31.46	70.08
640 x 480	31.46	59.94
800 x 600	37.87	60.31
1024 x 768	48.36	60.00
1360 x 768	47.71	60.01
1152 x 864	54.34	60.05
1280 x 1024	63.98	60.02
1920 x 1080	67.5	60
1920 x 1080	135	120
3840 x 2160	54	24.00
3840 x 2160	56.25	25.00
3840 x 2160	67.5	30.00
4096 x 2160	53.95	23.97
4096 x 2160	54	24

- 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 Format] will be displayed.
- The projector supports the DDC1/2B type as the Plug and Play function (Auto-recognition of PC monitor).
- 3840 x 2160 is recommended as the best picture quality in the PC mode.







Other specifications

Risk Group 2

CAUTION Possibly hazardous optical radiation emitted from this product. Do not stare at operating lamp. May be harmful to the eye.

This label is attached to the bottom of the product and language may differ.

SYMBOLS

	Refers to alternating current (AC).
	Refers to direct current (DC).
	Refers to class II equipment.
	Refers to stand-by.
	Refers to "ON" (power).
	Refers to dangerous voltage.

TROUBLESHOOTING

Please check the list below when you experience the following symptoms during use of the product. It may not be a failure.

Checklist for Safety (please check a long-used projector for safety issues.)

Does your device have any of the following issues?

- The projector does not display anything on the screen or output sound when it is turned on.
- The product emits smoke or a burning smell.
- Water or foreign substances are present inside the product.
- Part of the projected image is cut out.
- A strange noise (crackling or sparking sound) regularly occurs from inside the projector.
- The projector still displays the screen or outputs sound when it is turned off.
- There are other errors or failures.

In this case, stop using the product.

- For safety, turn off the power switch and remove the plug from the socket.
- Contact the place of purchase or authorized service center for product inspection.
- Do not attempt to repair the product yourself.

Abnormal behavior

- There is a colored dot (bright dots, dark dots, stationary dots, and/or flickering dots) on the screen.
 - This projector was produced with high precision technology. However, a tiny dark or bright dot may appear on the screen. This is a common occurrence due to the production process, and it does not indicate a functional failure.
- The remote control may not work properly where a lamp with electronic stabilizer or a three-wavelength lamp is installed.
 - In this case, replace the lamp with electronic stabilizer or the three-wavelength lamp with international standard products to ensure the remote control works properly.

