



OWNER'S MANUAL

# LG CineBeam Laser

DLP Projector

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Please read the safety information carefully before using this product.

HF85LA

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

P/NO : SAC37813507 (1901-REV00)

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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.


# 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.




**WARNING/CAUTION**

**RISK OF ELECTRIC SHOCK**

**DO NOT OPEN**



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 use the projector outside and do not expose the product to any humidity or water.
  - Since the product is not waterproof, this may result in a fire or electric shock.
- Do not place the projector in direct sunlight or near heat sources such as radiators, fires, stoves, etc.
  - This may result in fire.

- Do not place flammable materials such as aerosols near the projector.
  - This may result in fire.
- Do not allow children to cling to or climb up to the projector.
  - This may cause the projector to fall, causing injury or death.
- Do not install the product in a place with no ventilation (e.g., on a bookshelf or in a closet) or on a carpet or cushion.
  - This may result in fire due to the increase in internal temperature.
- Do not place the product close to sources of steam, oil or oil mist, such as humidifiers and kitchen counters.
  - Failure to do so may result in fire, electric shock, or corrosion.
- Do not install the product onto a wall or ceiling that is close to sources of oil or oil mist.
  - The product may be damaged and fall, resulting in serious injury.
- Do not place the projector where it might be exposed to dust.
  - This may result in fire.
- Do not use the projector in a damp place such as a bathroom where it is likely to get wet.
  - This may result in fire or electric shock.
- Do not allow a tablecloth or curtain to block the air vent.
  - This may result in fire due to the increase in the internal temperature.
- Ensure good ventilation around the projector. The distance between the projector and the wall should be at least 30 cm (11.8 inches).
  - This will prevent fire due to the increase in the internal temperature.

- When installing the product on a ceiling, a professional technician should install it using authorized tools. If installed improperly, the product may fall.
  - This may cause personal injury or property damage. For installation of the product, please contact the customer support center.
- If you use a ceiling mounting device, adhesive to prevent loosening of screws, or if you apply oil or lubricant to the product, this may cause the case to crack and the product to fall. This may also cause serious personal injury to the person below the device (if any) and damage to the product as well.

 **CAUTION**

- When placing the projector on a table or shelf, be careful not to put it near the edge.
  - The projector could fall due to balance problems, which may cause personal injury or damage to the product. Make sure to use the projector cabinet or stand that fits the projector.
- When moving the projector, make sure to switch it off and remove the power plug and cords.
  - The power cord may be damaged, resulting in fire or electric shock.
- Do not place the projector on an unstable or vibrating surface such as a wobbly shelf or a slope.
  - It may fall and cause injury.
- Be careful not to tip the projector over when connecting external devices to the projector.
  - This may cause personal injury or damage to the projector.

## Power

### WARNING

- DISCONNECTING THE DEVICE FROM THE MAIN POWER
    - The Power plug is the disconnecting device. In case of an emergency, the Power Plug must remain readily accessible.
  - The grounding wire should be connected. (Except for devices which are not grounded.)
    - Ensure that you connect the grounding cable to avoid electric shock. If it is not possible to ground the unit, have a qualified electrician install a separate circuit breaker.  
Do not try to ground the projector by connecting it to telephone wires, lightning rods or gas pipes.
  - The power plug should be inserted fully into the power outlet.
    - An unstable connection may cause a fire.
  - Do not place heavy objects on the power cord.
    - This may result in fire or electric shock.
  - Never touch the power plug with wet hands.
    - This may result in electric shock.
- Do not plug too many devices into one multi-power outlet.
    - This may result in fire due to the power outlet overheating.
  - Keep the AC adapter, power plug, and the used power outlet clean from dust or foreign materials building up.
    - This may result in fire.
  - If there is any smoke or a burning smell from the projector or AC adapter, stop using the product immediately. Disconnect the power cord from the power outlet, and then contact the customer service center.
    - This may result in fire.
  - To turn off the main power, remove the power plug, which should be positioned so it is easy to access for operation.

 **CAUTION**

- Always grab the plug to remove the AC adapter or power cord.
  - Otherwise, this may result in a fire or may damage the product.
- Refrain from constantly bending the power cord of the AC adapter.
  - If the power cord is bent excessively for a long period of time, the cord may break inside. This may result in a fire or electric shock.
- Ensure the power cord and plug are not damaged, modified, severely bent, twisted, pulled, sandwiched or hot. Do not use the product if the power outlet is loose.
  - This may result in fire or electric shock.
- Keep the power cord away from heating devices.
  - The wire's sheath may melt, which may result in fire or electric shock.
- Place the projector where people will not trip over or step on the power cord to protect the power cord and plug from any damage.
  - This may result in fire or electric shock.
- Do not turn the projector on or off by plugging in the power plug or unplugging it from the power outlet. (Do not use the power plug as a switch.)
  - This may result in electric shock or damage to the product.
- 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 result in electric shock.
- Only use the official power cord provided by LG Electronics. Do not use other power cords.
  - This may result in fire or electric shock.
- If any water or foreign materials have gone into the AC adapter, power cord, or the interior of the projector, turn off the projector by pressing the power button. Remove all the cables, and then contact the customer service center.
  - This may result in fire or electric shock.

- The surface of the AC adapter is hot. Keep the AC adapter out of the reach of children and avoid touching it during use.
- Never disassemble the power supply devices (AC adapter/power cord, etc.).
  - This may damage the power cord and result in a fire or electric shock.
- Connect the AC adapter and the power cord firmly.
  - Not doing so may result in a product failure or fire.
- Do not place heavy objects or put pressure on the power cord and AC adapter and avoid damage.
  - This may result in a fire or may damage the product.
- Always use the AC adapter provided or any AC adapters approved and certified by LG Electronics.
  - Any other AC adapter connected may result in the screen flickering.

## When in Use

### **WARNING**

- Do not place anything containing liquid on top of the projector such as a vase, flower pot, cup, cosmetics, medicine, or ornaments, candles, etc.
  - This may result in fire or electric shock, or cause injury due to falling.
- In the event that there is a heavy impact or the cabinet is damaged, switch it off, unplug it from the power outlet and contact an authorized service center.
  - This may result in 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 is to prevent electric shock or fire.
- Make sure that a child does not swallow the batteries when you replace the old batteries in the remote control with new ones. Keep batteries out of reach of children.
  - If a child swallows a battery, consult a doctor immediately.



- Never open any cover on the projector.
  - There is a high risk of electric shock.
- Do not look directly into the lens when the projector is in use.
  - The bright 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 in the room with the projector, do not touch the projector or power outlet. Open the windows for ventilation.
  - Sparks may cause fire or burns.
- Unplug the power cord from the outlet during a lightning storm.
  - This will prevent shock or damage to the projector.
- Do not use the projector near electronic devices that generate a strong magnetic field.
- Keep the plastic film used for packaging the projector out of the reach of children.
  - If not handled safely, it can cause suffocation.
- 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 connecting cable is long enough. Otherwise, the product may fall causing personal injury or damage to the product.
- Do not place the projector or its remote control with batteries in an extremely high temperature environment.
  - This may result in fire.

 **CAUTION**

- Do not place heavy objects on the projector.
    - It may fall down and cause personal injury.
  - Be careful not to allow any impact to the lens during transport.
  - Do not touch the lens of the projector.
    - 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 or no sound is heard, stop using the projector. Switch off the projector, unplug it from the power outlet and contact our service center.
    - This may result in fire or electric shock.
  - Do not drop anything onto the projector or allow anything to bang into the projector.
    - This may cause damage to the projector or personal injury.
- It is recommended that you maintain a distance of more than 5 to 7 times the diagonal length of the screen.
    - If you watch the screen at a close distance for a long time, your eyesight may become worse.
  - Do not block the light beam emitted from the projector using a book or other object.
    - Lengthy exposure to the projector beam may result in fire. In addition, the lens may be overheated and damaged by the reflected heat. Disable the AV function to stop projection temporarily or turn off the power.
  - Do not start the projector with the volume turned up high.
    - High volume may damage hearing.
  - Do not use high voltage electrical equipment near the projector, (e.g., a bug zapper). This may result in product malfunction.

## **Cleaning**

### **WARNING**

- Do not spray the projector with water when cleaning. Make sure water does not flow into the projector.
  - This may result in fire or 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 our service center.
  - Otherwise, this may result in fire or electric shock.

### **CAUTION**

- Contact your seller or our service center once a year to clean the internal parts of the projector.
  - If you do not clean the projector for a long period of time, dust will accumulate, which may result in 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. Never use glass cleaner, automobile or industrial polish, abrasives, wax, benzene, or alcohol as these can damage the projector.
  - This can result in fire, electric shock or cause damage to the product (deformation and corrosion).

- Do not wipe the optical system (lens, mirror) right after the product has been turned off or while the product is being operated. When cleaning each part of the product, remove the power cord and wipe gently with a soft cloth. Do not spray with water or wipe with a wet cloth. Do not use detergents, automobile or industrial polish, abrasive substances, wax, benzene, alcohol, water, etc. on the product's main unit or optical system (lens, mirror) as this may damage the product.
  - This can result in fire, electric shock or cause damage to the product (deformation and corrosion).
- Remove the plug from the outlet before cleaning the product.
  - Otherwise, this may result in electric shock.

## Laser

### **WARNING**

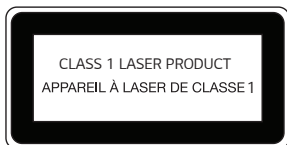
- This product contains a laser module. Do not disassemble or modify the product as this could be dangerous.
- You risk being exposed to laser radiation if you manipulate or alter the product in a way not specified in the user manual.
- To protect your eyes avoid looking directly into the bright light from the unit.
- Use of controls or adjustments or performance of procedures other than those specified herein may result in hazardous radiation exposure.

**CAUTION**

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

**Built-in laser standard (class 4 laser module)**

- Wavelength: 448 nm - 462 nm
- Light output: approx. 4.35 W x 8

**Product Laser Class Label**

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

**Others****WARNING**

- When you go out, place the projector out of reach of animals, and remove the power plug from the wall outlet.
  - Using a damaged power cord may result in short circuit or fire.
- Do not use the projector near high-precision electronic devices or those that transmit weak radio signal.
  - This may affect the operation of the product, causing an accident.
- Only a qualified technician can disassemble or modify the projector. For diagnosis, adjustment, or repair, contact your seller or our service center.
  - This may result in fire or electric shock.
- Proper ventilation required, do not block airflow around unit. Doing so can cause injury and internal overheating.

- Do not touch the lens; doing so can result in burns or damage to lens. Lens and unit may be HOT during and immediately after use. Use caution when handling unit, allowing for proper cool down.
- Only use a grounded electrical outlet. (Except for devices which are not grounded.)
- Do not insert anything into or cover up the exhaust vents.
  - This may result in fire or electric shock.
- Follow all maintenance guidelines for optimal use; service only at an authorized service center.
- Keep the batteries and remote out of reach of children.
  - This will prevent personal injury or damage to the product.

 **CAUTION**

- Do not use or store the projector outdoors for long periods of time.
- Do not mix new batteries with old ones.
  - Burst or leaking batteries may result in damage or injury.
- Be sure to unplug if the projector is not to be used for a long period.
  - Accumulated dust may result in fire or electric shock due to overheating, ignition, or poor insulation.
- Only use the specified type of battery.
  - Burst or leaking batteries may result in damage or injury.
- Make sure you use the same type of battery when replacing.
  - In the case of a battery contact failure, the battery may drain quickly or the remote control may not work properly.
- Dispose of used batteries properly.
  - 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 as instructed.

- Do not throw or disassemble the battery.
  - This may result in fire or explosion due to damage to the battery.
- Store batteries 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 batteries near any heat source, such as a heater.
  - This may result in fire or damage to the product.
- Do not store batteries at temperatures higher than 60 °C (140 °F) or in high humidity.
  - This may result in explosion or fire.
- Make sure that the battery is installed correctly.
  - This prevent explosion or fire.
- Incorrect battery replacement may cause fire.
- Batteries: Store the accessories (battery, etc.) in a safe location out of the reach of children.

**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.

**ANTENNA****⚠ WARNING**

- 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.

**⚠ CAUTION**

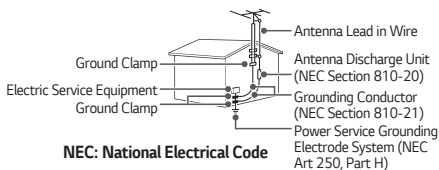
- To prevent any water flowing into the product, install a drip loop in the outdoor antenna wire where it comes indoors.
  - Raindrops flowing into the product may cause fire or electric shock.

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

## 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



**NEC: National Electrical Code**

## 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 Electrical Code (U.S.A.). The code provides guidelines for proper grounding and, in particular, specifies that the cable ground shall be connected to the grounding system of the building, as close to the point of the cable entry as practical.



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# PREPARATION

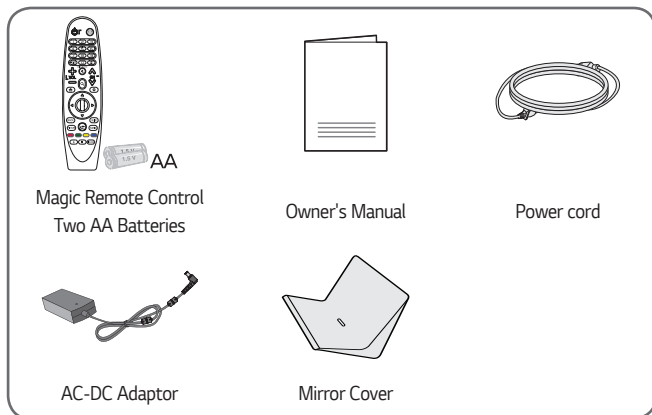
The pictures may differ slightly from the actual product.

## Accessories

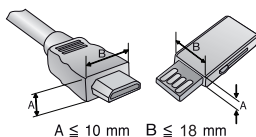
Accessories included with the projector are show below.

Accessories are subject to change without prior notice.

New accessories may be added or old ones removed.



- 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



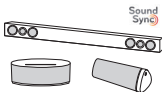
HDMI Cable



RF Cable



Optical Cable

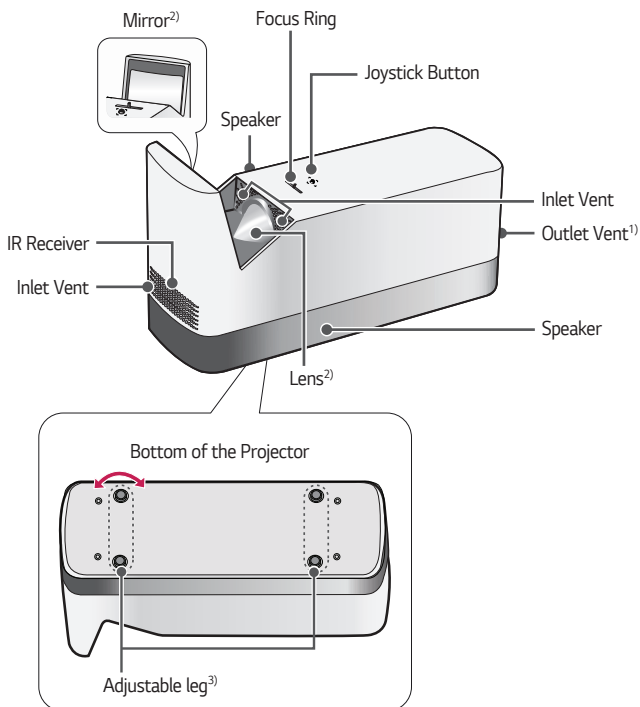


LG Audio Device

## Parts and Components

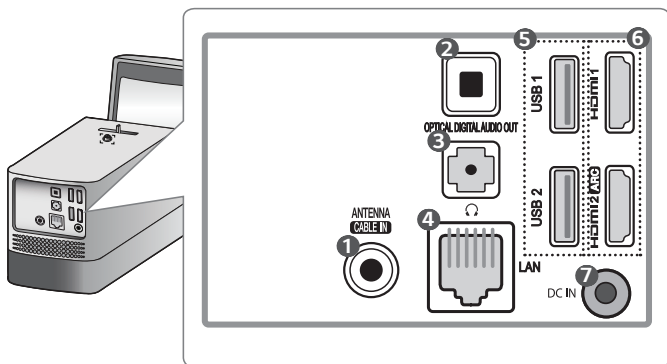
This projector is manufactured using high-precision technology. You may, however, see tiny black dots and/or bright colored dots (red, blue, or green) that continuously appear on the projector screen. This is a normal result of the manufacturing process and does not indicate a malfunction.

### Main Unit



- 1) Due to the high temperature of vent area, do not get close to the vent area.
- 2) Do not touch the lens and mirror when using the projector. The lens and mirror may be damaged. (Keep lens away from sharp objects.)
- 3) Turn the adjustable leg left or right to adjust the angle.

## Back







No.	Description
①	ANTENNA <b>CABLE IN</b> Port
②	OPTICAL DIGITAL AUDIO OUT Port
③	🎧 (Headphone Port)
④	LAN Port
⑤	USB port
⑥	<b>HDMI</b> Port
⑦	DC 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

	<b>Power On</b>	When the projector is turned off, place your finger on the joystick button, press it once, and release it.
	<b>Power Off</b>	Press and hold the joystick button for more than 3 seconds while the projector is on.
	<b>Volume Control</b>	Place your finger over the joystick button and move it left or right, you can adjust the volume level.
	<b>Channels Control</b>	Place your finger over the joystick button and move it up or down, you can scroll through the saved channels.





### **!** NOTE

- Place your finger over the joystick button and move it up, down, left, or right. Be careful not to press the joystick button. If you press the joystick button first, you may not be able to adjust the volume level and/or scroll through saved channels.

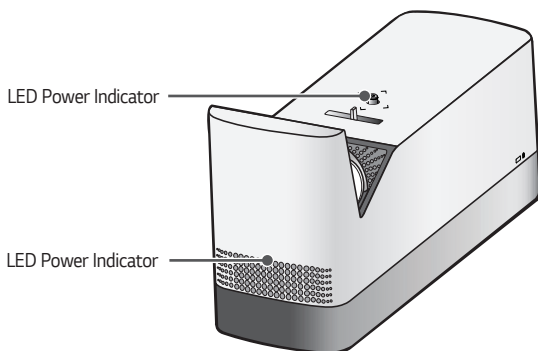
## Adjusting the menu

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

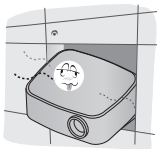


LED Power Indicator	
<b>Red</b>	Power standby state
<b>Off</b>	The projector is operating with the power on.

## Installation

### Installation Precautions

- Place the projector in a well-ventilated environment.
  - To prevent internal overheating, install the projector in a well-ventilated place. Do not place anything near the projector. That may block its air vents. If the air vents are blocked, the internal temperature of the projector will increase.



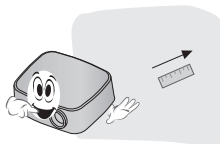
- Do not place the projector on a carpet or rug. If the projector's inlet vent is on the bottom, be careful not to block the vent and always use the projector on a solid, level surface.



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



- Leave an adequate open area (30 cm (11.8 inches) or more) around the projector.



- Do not place the projector in a hot, cool, or humid environment.
- Do not place the projector in a place where it will easily attract dust.
  - This may result in fire.
- Never open any cover on the projector. There is a high risk of electric shock.

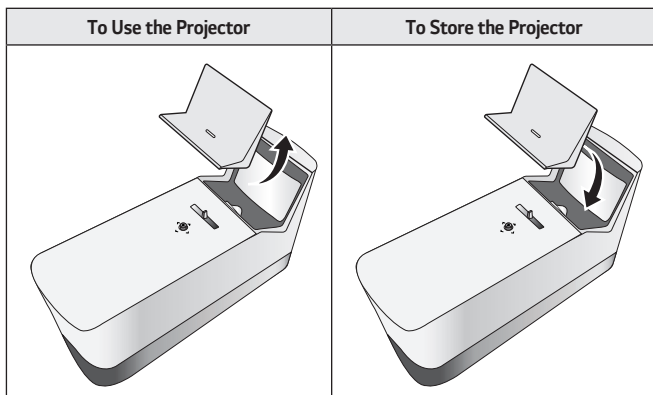


- The projector is manufactured using high-precision technology. You may, however, see tiny black dots and/or bright colored dots (red, blue or green) that continuously appear on the projector screen. This is a normal result of the manufacturing process and does not indicate a malfunction.
- The remote 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 international standard lamp for the remote control to work normally.
- To install to the ceiling, attach the ceiling-type bracket to the projector with M4 x 8 mm screws.
- Do not overtighten the screws. It may damage the case, causing the projector to fall and cause a serious injury. (Recommended Torque: 4.34 ~ 6.94 ibf-in (5~8 kgf·cm))

## **Precautions When Using the Mirror Cover**

The mirror cover prevents dust from gathering on the lens and mirror while the projector is not in use.

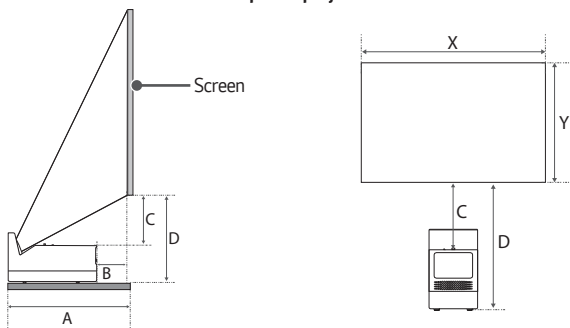
- Remove the mirror cover before using the projector.
- Fit the mirror cover in place when the projector is not in use.
  - Doing so will prevent dust from gathering on the lens and mirror.



## **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: 125 %



Screen Size	mm	2286	2540	2794	3048
	inches	90	100	110	120
Horizontal Size (X) x Vertical Size (Y)	mm	1992 x 1121	2214 x 1245	2435 x 1370	2657 x 1494
	inches	78.4 x 44.1	87.1 x 49.0	95.8 x 53.9	104.6 x 58.8
A	mm	447	489	531	573
	inches	17.5	19.2	20.9	22.5
B	mm	77	119	161	203
	inches	3.0	4.6	6.3	7.9
C	mm	242	273	304	336
	inches	9.5	10.7	11.9	13.2
D	mm	385	416	447	479
	inches	15.1	16.3	17.5	18.8

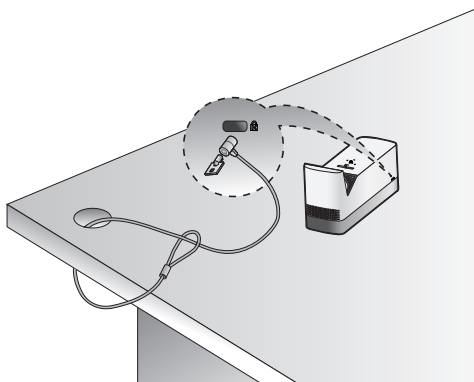
The projection distance may vary depending on the installation conditions.

**! NOTE**

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

## **Kensington Security System**

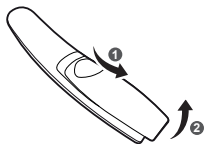
- This projector has a Kensington Security Standard connector as an anti-theft mechanism. Connect a Kensington Security System cable as shown below.
- For more information on installation and use of the Kensington Security System, refer to the user's guide provided with the Kensington Security System.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

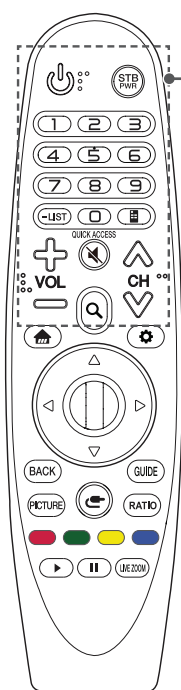
If the battery low message appears while using the Projector, replace the batteries.

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.



## ! NOTE

- Do not mix new batteries with old ones.



### (POWER)

Turns the Projector on or off.

### (STB POWER)

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.

### - (Dash)

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

### LIST

Accesses the saved channel list.

### QUICK ACCESS \*

You can access apps or Live TV using the number buttons corresponding to the features.

### (Screen Remote)

Displays the Screen Remote.

- Accesses the Universal Control Menu in some regions.

### (Screen Remote) \*

Enables SAP (Secondary Audio Program) Feature.

### VOL

Adjusts the volume level.

### (MUTE)

Mutes all sounds.

### (MUTE) \*

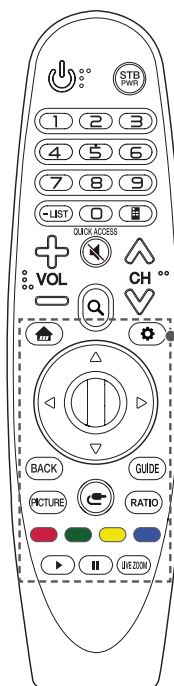
Accesses the [Accessibility] menu.

### CH

Scrolls through the saved channels.

### (SEARCH)

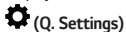
Search for content such as channels, movies and other videos, or perform a web search by entering your search terms in the search box.



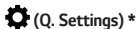
Accesses the Home menu.



Displays the list used previously.



Accesses the Quick Settings.



Displays the [All Settings] menu.



Press the up, down, left or right button to scroll the menu.

If you press  $\triangle$   $\nabla$   $\triangleleft$   $\triangleright$  buttons while the pointer is in use, the pointer will disappear from the screen and Magic Remote will operate like a general remote control. To display the pointer on the screen again, shake Magic Remote to the left and right.



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.

## PICTURE

Changes the picture mode.

## GUIDE

Shows channels guide.



Changes the input source.



Displays all the lists of external inputs.

## RATIO

Changes the aspect ratio of the screen per pressing of the button.

## Colored buttons

These access special functions in some menus.



You have access to premium content, video content and devices that support SIMPLINK.


## LIVE ZOOM

By zooming in on the selected area, you can view it in full screen.



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

## To Register the Magic Remote Control

To use the Magic Remote control, register it with your projector first.



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

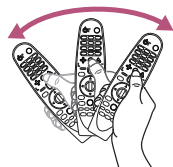
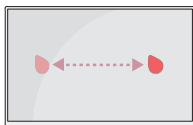
## To Re-register the Magic Remote Control

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



## Using the Magic Remote Control

- Shake the Magic Remote slightly to the right and left or press ,  (INPUT) buttons to make the pointer appear on the screen.
- If the pointer has not been used for a certain period of time or Magic Remote is placed on a flat surface, then the pointer will disappear.
- If the pointer is not responding smoothly, you can reset the pointer by moving it to the edge of the screen.
- The Magic Remote depletes batteries faster than a normal remote due to the additional features.



### CAUTION

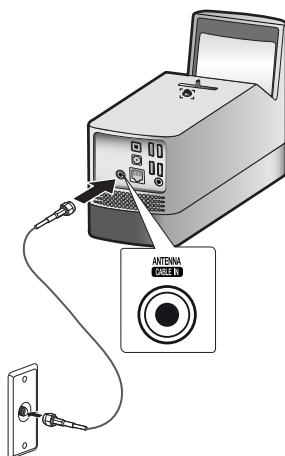
- Use the remote control within the specified range (within 10 m (32.8 feet)). You may experience communication failures when using the device outside the coverage area or if there are obstacles within the coverage area.
- You may experience communication failures depending on the accessories. Devices such as a microwave oven and wireless LAN operate in the same frequency band (2.4 GHz) as the Magic Remote. This may cause communication failures.
- The Magic Remote may not work properly if a wireless router (AP) is within 1 m (3.2 feet) of the projector. Your wireless router should be more than 1 m (3.2 feet) away from the projector.
- Do not disassemble or heat the batteries.
- Do not drop the battery. Avoid extreme shocks to the battery.
- Inserting a battery in the wrong way may result in explosion.

# USING THE PROJECTOR

## Connecting the Antenna or Cable

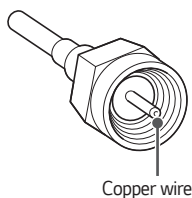
To watch TV using an indoor/outdoor antenna, connect a wall terminal and the antenna port of the projector using an RF cable (75  $\Omega$ ).

You can watch terrestrial or cable (analog, digital) TV. (The RF cable is sold separately.)



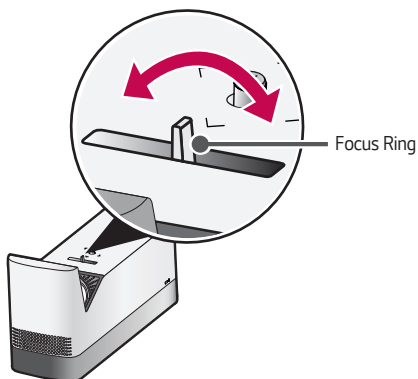
### ! NOTE

- Make sure not to bend the copper wire of the RF cable (75  $\Omega$ ). Turn the input jack to the right to fasten it.
- Ensure you use a standard coaxial cable (75  $\Omega$ , 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.





## Focus of the Screen Image




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



- To bring images into focus, move the Focus Ring slowly left or right, concentrating on the upper central part of the screen. Optimal focus is reached when the left and right sides of the screen appear balanced.

## Watching With the Projector

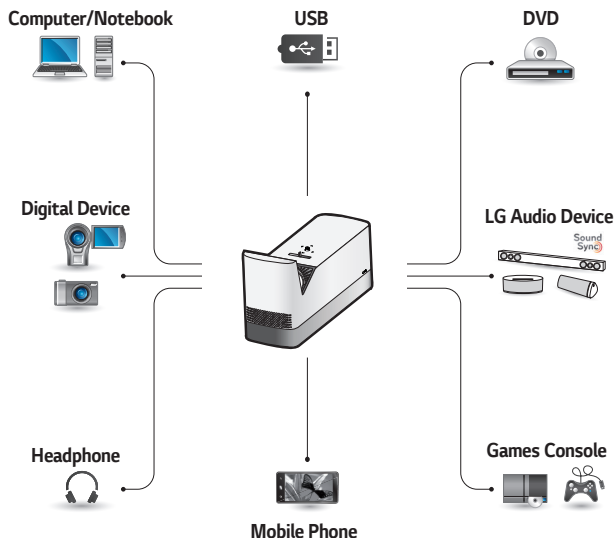
- 1 When in standby mode, press the  (**POWER**) button to turn the projector on.
- 2 Select the  (**INPUT**) → [All Inputs] and select the input signal you want.
- 3 Control the projector using the following buttons while watching projector.

Button	Description
 CH	Changes the TV channel.
 VOL	Adjusts the volume level.
 ( <b>MUTE</b> )	Mutes the sound from the projector.

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

# CONNECTING DEVICES

You can connect various external devices to the projector.



HDMI - Page 37, 38, 39

Headphone - Page 40


Digital Amp - Page 41

Smart device - Page 42

## HDMI Connection

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

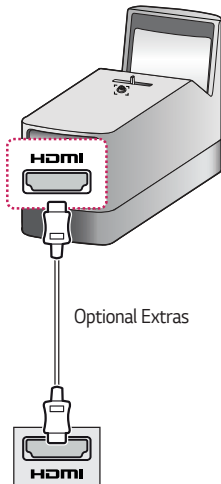
You can connect with any HDMI input port.

-  (INPUT) → [All Inputs] → [HDMI1]/[HDMI2]

### Connecting to HD Receiver, DVD, or External Devices

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.



### NOTE

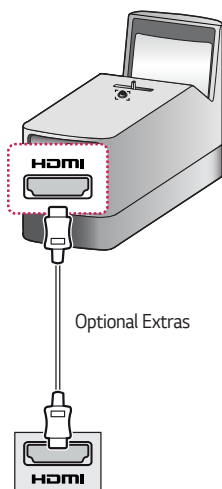
#### ARC (Audio Return Channel)

- External audio devices that support SIMPLINK and ARC must be connected using **HDMI2 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.

## Connecting a PC

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

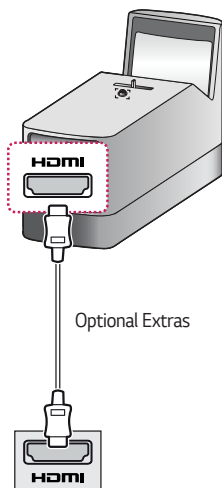
Using an HDMI cable, connect the **HDMI** port of the projector to the HDMI output port of your PC. Both video and audio are output at the same time.



## Connecting a Laptop

You can connect the projector to a laptop to use various functions.

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



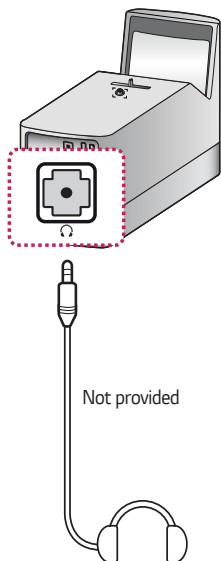
## Examples of switching output settings when connecting a laptop

The table below shows examples of switching the output. For more information, refer to the **External Output, Connecting to an External Monitor**, or similar sections of the owner's manual of your computer.

Brand	Switching Output
Lenovo	Fn + F7
HP	Fn + F4
Dell	Fn + F8
Acer	Fn + F5
ASUS	Fn + F8
LG	Fn + F7
Samsung	Fn + F4
Apple	Adjust the control panel to enable mirroring after start-up.

## Connecting Headphones

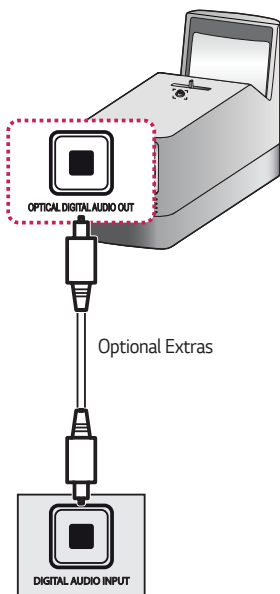
You can listen to the audio through a headphone.





## 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 [HDMI ARC] or [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) → [All Inputs] → [HDMI1]/[HDMI2]

- The picture may look different from the actual product.

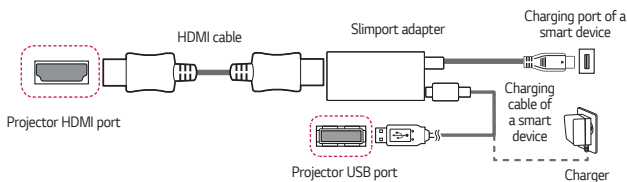
Connect a smart device to the projector using a cable<sup>1)</sup> and set the external input of the projector to HDMI. The smart device screen will then be displayed through the projector. You can connect with any HDMI input port.

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

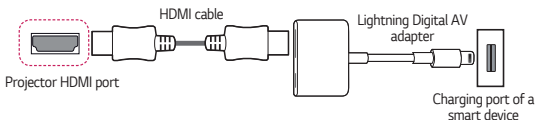
Supported smart devices may change depending on the circumstances of each manufacturer.

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

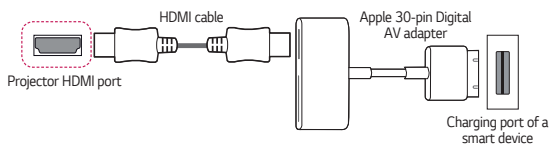
### Slimport supported devices



### Apple Lightning Digital AV adapter supported devices



### Apple 30-pin Digital AV adapter supported devices



# MAINTENANCE

Clean your Projector to keep it in optimal condition.

## Cleaning


### Cleaning the Lens/Mirror

- If there is any dust or staining on the lens/mirror surface, you must clean the lens.
- To remove dust or stains on the lens/mirror, use a compressed air duster, cotton swab, or soft cloth to gently wipe the lens.
- Do not wipe the lens/mirror while the product is in use or immediately after it has been turned off.
- When cleaning the lens/mirror, do not use a cleanser, automobile or industrial shiner, abrasive, wax, benzene, alcohol, water, etc., as this may damage the product.

### 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

MODEL	HF85LA (HF85LA-NA)
<b>Resolution (Pixel)</b>	1920 (Horizontal) × 1080 (Vertical)
<b>Aspect ratio</b>	16:9 (Horizontal:Vertical)
<b>Projection distance</b> – <b>Screen size</b>	447 mm to 573 mm (17.5 inches to 22.5 inches) – 2286 mm to 3048 mm (90 inches to 120 inches)
<b>Ratio of upward projection</b>	125 %
<b>Power consumption</b>	140 W
<b>AC-DC Adaptor</b>	Manufacturer: Lien Chang Model: LCAP31
	19 V  7.37 A (Adaptor Input 100-240 V @ 50/60 Hz)
<b>Audio Output</b>	3 W + 3 W
<b>Reception type</b>	ATSC / NTSC-M / 64 & 256 QAM
<b>Reception channels</b>	VHF 02 to 13, UHF 14 to 69, CATV 01 to 135, DTV 02 to 69, CADTV 01 to 135
<b>External Antenna Impedance</b>	75 Ω
<b>Height</b>	189 mm (7.4 inches) (without foot) / 193 mm (7.5 inches) (with foot)
<b>Width</b>	118 mm (4.6 inches)
<b>Depth</b>	353 mm (13.8 inches)
<b>Weight</b>	3.0 kg (6.6 lbs)
<b>USB Device</b>	5 V, 0.5 A (Max.)

MODEL	HF85LA (HF85LA-NA)	
<b>Environment Condition</b>	<b>Temperature</b>	
	<b>Operation</b>	0 °C to 40 °C (32 °F to 104 °F)
	<b>Storage</b>	-20 °C to 60 °C (-4 °F to 140 °F)
	<b>Relative Humidity</b>	
	<b>Operation</b>	0 % to 80 %
	<b>Storage</b>	0 % to 85 %

- Use only power supplies listed in the user instructions.
- Contents in this manual may be changed without prior notice due to upgrade of product functions.

## HDMI (DTV) Supported Mode

Resolution	Horizontal Frequency (kHz)	Vertical Frequency (Hz)
640 x 480p	31.46	59.94
	31.5	60.00
720 x 480p	31.47	59.94
	31.5	60.00
1280 x 720p	44.96	59.94
	45	60.00
1920 x 1080i	33.72	59.94
	33.75	60.00
1920 x 1080p	26.97	23.97
	27.00	24.00
	33.71	29.97
	33.75	30.00
	67.43	59.94
	67.5	60.00

**HDMI (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	60.00

- 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).
- 1920 x 1080 is recommended as the best picture quality in the PC mode.

## 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](mailto: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.



# 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.

