



LG

Life's Good

OWNER'S MANUAL

Laser TV

Please read the safety information carefully before using the product.

HECTO

LICENSE



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



NOTE

- The product images and On-Screen Display (OSD) in this manual are examples to help you understand how to operate the product, so they may be different from the actual Laser TV.

SAFETY INSTRUCTIONS


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

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 injury to persons or damage to the product.

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





WARNING/CAUTION

**RISK OF ELECTRIC SHOCK
DO NOT OPEN**



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

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

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

WARNING/CAUTION

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

Read these instructions.

Keep these instructions.

Heed all warnings.

Follow all instructions.

Indoor Installation

⚠ WARNING

- Do not place the product in direct sunlight or near heat sources such as radiators, fires, stoves, etc.
 - This may cause fire.
- Do not place inflammables such as flammable spray near the product.
 - This may cause fire.
- Do not allow children to cling to or climb up to the product.
 - This may cause the product to fall, causing injury or death.
- Do not place the product directly on a carpet, rug or place where ventilation is restricted such as a book shelf or closet.
 - This may cause the product's internal temperature to rise and cause fire.
- Do not place the product close to sources of steam or oil such as a humidifier or kitchen counter.
 - This may cause fire or electric shock.
- Do not place the product where it might be exposed to dust.
 - This may cause fire.
- Do not use the product in a damp place, such as a bathroom or a place exposed to the wind and rain, where it is likely to get wet.
 - This may cause fire or electric shock.
- Do not allow a tablecloth or curtain to block the vents.
 - This may cause the internal temperature of the product to rise and cause fire.
- The distance between the air vent of the product and the wall should be more than 30 cm for ventilation purposes.
 - Otherwise, this may cause the internal temperature of the product to rise and cause fire.
- When installing the product on a ceiling, a professional technician should install it using the 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, use adhesive to prevent loosening of screws, or 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 installing the product on a table or shelf, be careful not to place it near the edge.
 - This may fall causing injury to persons or the product malfunction. Make sure that you use the cabinet or stand that fits the product.
- Turn off the product, disconnect it from the power supply and all connected apparatus before moving it.
 - Otherwise, the power cord may be damaged causing fire or electric shock.
- Do not place the product on an unstable or vibrating surface such as a wobbly shelf or a slope.
 - It may fall or flip and cause injury.
- Be careful not to tip or drop the product over when connecting external devices to the product.
 - This may cause injury to persons or damage to the product.

Power**⚠ WARNING**

- The grounding wire should be connected.
 - Be sure to connect the grounding wire to avoid damage to the product or an electric shock when there is a short circuit.
- If it is not possible to ground the unit, purchase a circuit breaker and connect the product to its wall outlet.
- Do not try to ground the product to the gas pipe, water pipe, lightning rod, or telephone line, etc.
- The power plug should be inserted fully into the power outlet.
 - An unstable connection may cause fire.
- Do not place heavy objects on the power cord.
 - This may cause fire or electric shock.
- Never touch the power plug with a wet hand.
 - This may cause electric shock.
- Do not plug too many devices into one multi-power outlet.
 - This may cause fire due to the power outlet overheating.
- Remove dust or contaminants around power plug pins or wall outlets.
 - Failure to do so may cause fire.
- To turn off the main power, remove the power plug, which should be positioned so it is easy to access for operation.

⚠ CAUTION

- Hold the plug firmly when unplugging.
 - A broken wire in the cord may cause fire.
- 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 cause fire or electric shock.
- Keep the power cord away from any heating devices.
 - The cord coating may melt and cause fire or electric shock.
- Place the product where people will not trip over or tread on the power cord to protect the power cord and plug from any damage.
 - This may cause fire or electric shock.
- Do not turn the product on or off by plugging in the power plug or unplugging it from the wall outlet. (Do not use the power plug as a switch.)
 - This may cause electric shock or product malfunction.
- Do not insert a conductor into the other side of the wall outlet while the power plug is inserted into the wall outlet.
- In addition, do not touch the power plug immediately after it is disconnected from the wall outlet.
 - This may cause electric shock.
- Only use the official power cord provided by LG Electronics. Do not use other power cords.
 - This may cause fire or electric shock.

When in Use**⚠ WARNING**

- Do not place anything containing liquid on top of the product, such as a vase, flower pot, cup, cosmetics, or medicine; or ornaments, candles, etc.
 - This may cause fire or electric shock, or injury due to falling.
- In the event that there is a heavy impact on the product or the cabinet is damaged, switch it off, unplug it from the power outlet and contact an authorized service center.
 - Failure to do so may cause fire or electric shock.
- Do not insert pieces of metal, such as coins, hairpins or metal debris, or flammable materials, such as paper or matches, into the product.
 - This may cause fire or electric shock.
- In the event that liquid or a foreign object falls into the product, switch it off and unplug it from the power outlet and contact our service center.
 - Failure to do so may cause fire or electric shock.
- Make sure that a child does not swallow the batteries when you replace the old remote control batteries with new ones. Keep batteries out of reach of children.
 - If a child swallows a battery, consult a doctor immediately.
- Do not look directly into the lens when the product is in use. The strong light may damage your eyes.
- When the product is on or has just been turned off, avoid touching the air vent because it will be very hot.
- If there is a gas leak, do not touch the wall outlet. Open the window for ventilation.
 - A spark may cause a fire or burn.

- Never touch the product or power cord during thunder or lightning.
 - This may cause electric shock.
- Do not use the product near electronic devices that generate a strong magnetic field.
- Do not wear the plastic package used to pack the product around your head.
 - This may cause suffocation.
- Do not touch the product with your hand for a long time when it is running.
- When you play a game by connecting a game console to a product, it is recommended that you maintain a distance of more than 1.5 times the diagonal length of the screen.
- Make sure that the length of connecting cable is long enough.
 - Otherwise, the product may fall causing personal injury or damage to the product.

⚠ CAUTION

- Do not place a heavy object on the product.
 - It may fall down and cause physical injury.
- Be careful to protect the lens from heavy impact during transportation.
- Do not touch the cover glass of the product.
 - Otherwise, the cover glass may be damaged.
- Do not use any sharp tools on the product, 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 product. Switch off the product, unplug it from the power outlet and contact our service center. Failure to do so may cause fire or electric shock.
- Do not drop anything onto the product or apply heavy pressure to it.
 - This may cause injury to persons or the product malfunction.
- It is recommended that you maintain a distance of more than 1.5 - 3 times the diagonal length of the screen between your eyes and the screen.
 - If you watch the screen at a close distance for a long time, your eyesight may become worse.
- When closing the door of the product, be careful not to jam your finger.
 - This may cause injury to persons or the product malfunction.

- Do not block the light emitted from the product's lens with a book or a cover. Long exposure to the light may melt or burn the object, possibly causing fire. In addition, the lens may be overheated and the product may be damaged by the reflected light. Stop projecting temporarily or turn off the power.
- Do not start the product with volume high.
 - High volume may damage hearing. Be sure to lower the volume before turning off the product. Raise the volume gradually after turning on the product.
- When you go out, place the product out of reach of pets or other animals, and unplug it from the wall outlet.
 - Otherwise, it may cause short circuit and fire.

Cleaning

⚠ WARNING

- Do not spray water directly to the product when cleaning. Do not allow water to get into the product or do not allow it to get wet.
 - This may cause fire or electric shock.
- In the event that smoke or a strange smell comes out from the product or a foreign object falls into the product, stop using it. Switch off the product, unplug it from the power outlet and contact our service center.
 - Otherwise, this may cause fire or electric shock.
- To remove dust or stains on the cover glass, use an air spray or use a swab or soft cloth to wipe the glass gently.

⚠ CAUTION

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

Others

WARNING

- Only a qualified technician can disassemble or modify the product. For inspection, adjustment, or repair, contact your seller or our service center.
 - Otherwise, this may cause fire or electric shock.

CAUTION

- Make sure you use the same type of new battery for replacement.
- Do not mix new batteries with old ones.
 - Burst or leaking batteries may cause fire or electric shock.
- Unplug the power cord if the product is not used for a long period.
 - Accumulated dust may cause electric shock due to overheating, ignition, or poor insulation, or fire due to a short circuit.
- Do not charge the battery using any devices other than the one provided with the product.
 - This may cause damage to the battery or fire.
- Dispose of the used battery properly.
 - Failure to do so may cause explosion or fire. The correct method of disposal may vary depending on your country or region. Dispose of the battery pack according to the appropriate instructions.
- Do not throw or disassemble the battery.
 - This may cause fire or explosion due to damage to the battery.
- Always use batteries approved and certified by LG Electronics. Failure to do so may cause fire or explosion.
- Store the battery away from metallic objects, such as keys and paper clips.
 - Excess current may cause a rapid increase in temperature, resulting in damage to battery, fire or burns.
- Do not store the battery near any heat source, such as a heater. This may cause fire or product malfunction.
- Do not store it at temperatures higher than 60°C or in high humidity.
 - This may cause explosion or fire.
- Keep the battery out of reach of children.
 - Failure to do so may cause personal injury or product malfunction.
- Make sure that the battery is installed correctly. Failure to do so may cause explosion or fire.
- The battery contains lithium-ion, so it must be handled with care.
 - Failure to do so may cause explosion or fire.

Antenna

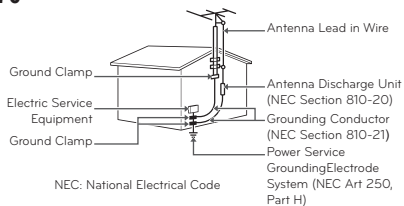
⚠ WARNING

- 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 raindrops flow into the product, bend the outdoor antenna wire where it comes indoors.
- Raindrops flowing into the product may cause fire or electric shock.

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



Eye Care Sensor

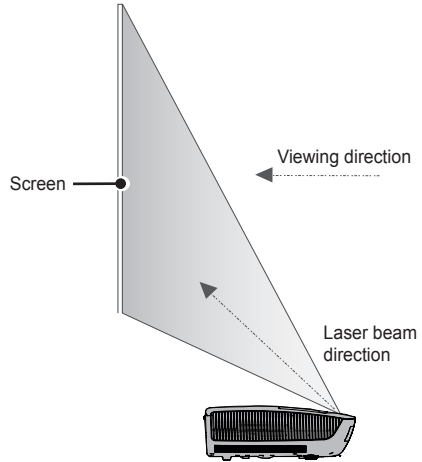
⚠ WARNING

- Do not poke the sensor with a sharp object.
 - This can damage the sensor and cause it to malfunction.

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.
- Prevent babies and children or anyone with a disease or injury from looking at the light.
- Please kindly take a 5W 440 - 460nm Laser protective goggles when you need direct access the Light, and do not use sun glasses for the eye protection.



⚠ CAUTION

- Use of controls or adjustments or performance of procedures other than those specified herein may result in hazardous radiation exposure.
- This product is a class 2 laser device that meets IEC 60825-1.

Laser TV standard: class 2 laser product

Wavelength: 446 nm

Wave source : Approximately 0.2 mW

Light output: < 24.5 mW

Radiation angle: 66 °

Built-in laser standard:

Class 4 laser module

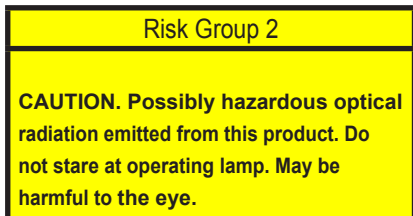
Wavelength: 435 nm - 455 nm

Light output: approx. 1.6 W x 36

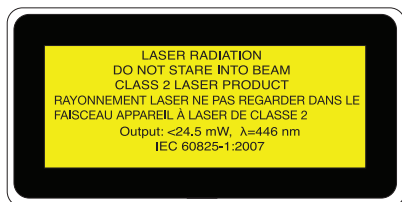
LASER RADIATION

DO NOT STARE INTO BEAM
CLASS 2 LASER PRODUCT

- This laser Laser TV is a Risk Group 2 device that meets safety standard IEC 62471 standard.



The label of Laser TV is attached to the top of the product.

Laser TV Label

Laser warning symbol and danger symbol

FCC NOTICE**Federal Communications Commission (FCC) Statement**

You are cautioned that changes or modifications not expressly approved by the part responsible for compliance could void the user's authority to operate the equipment.

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

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

1) this device may not cause harmful interference, and 2) this device must accept any interference received, including interference that may cause undesired operation of the device of the device.

FCC Caution

Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate this equipment and For indoor use only, use outdoors or in other modes not covered by this manual may violate the FCC regulation and violate the user authority to use the product. Specially, within the 5.15-5.25 GHz band, U-NII device is restricted to indoor operations to reduce any potential for harmful interference to co-channel MSS operations.

FCC RF Radiation Exposure

Statement:

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. End users must follow the specific operating instructions for satisfying RF exposure compliance.

Disposal of your old appliance



1. When this crossed-out wheeled bin symbol is attached to a product it means the product is covered by the European Directive 2002/96/EC.
2. All electrical and electronic products should be disposed of separately from the municipal waste stream through designated collection facilities appointed by your government or your local authorities.
3. The correct disposal of your old appliance will help prevent potential negative consequences for the environment and human health.
4. For more detailed information about disposal of your old appliance, please contact your city office, waste disposal service or the shop where you purchased the product.

Disposal of waste**batteries/accumulators**

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

For USA**NOTE TO CABLE/TV INSTALLER**

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

LG Recycling Policy

LG Electronics offers a customized e-waste take-back & recycling service that meets local needs and requirements in the countries where e-waste regulations are in place, and also provides product and packaging take-back & recycling service voluntarily in some countries. LG Electronics evaluates products' recyclability at the design step using LG's recyclability evaluation tool, with the goal of improving recyclability where practicable. Through these activities, LG seeks to contribute to conserving natural resources and protecting the environment.

For more information about the LG Recycling Policy, please visit our global site at <http://www.lg.com/global/sustainability/environment/take-back-recycling>

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PREPARATION

Accessories

Check the accessories provided with the product.

The picture may be different from the actual product.

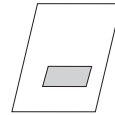
Accessories are subject to change without prior notice in order to improve the performance of the product. New accessories may be added or old ones may be removed.



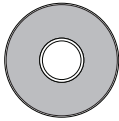
Remote Control
Two AAA Batteries



Magic Remote Control
Two AA Batteries



User Guide



Owner's Manual CD



RF Cable

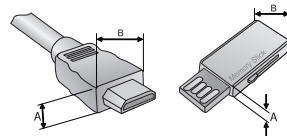


Power Cord



Polishing Cloth

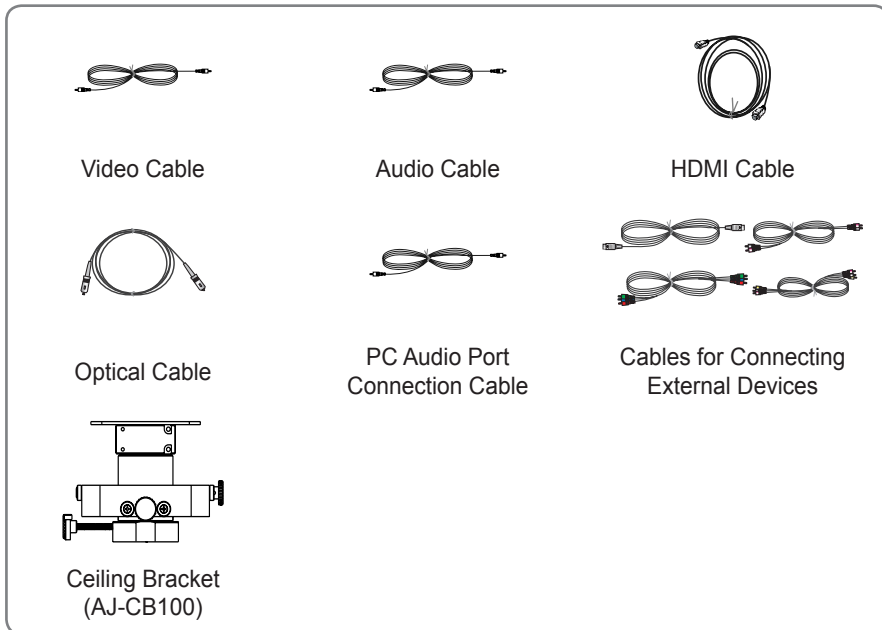
- When connecting a cable to the HDMI or USB port, make sure the bezel of the cable is not too large and will not block other ports.



$A \leq 10 \text{ mm}$, $B \leq 24 \text{ mm}$

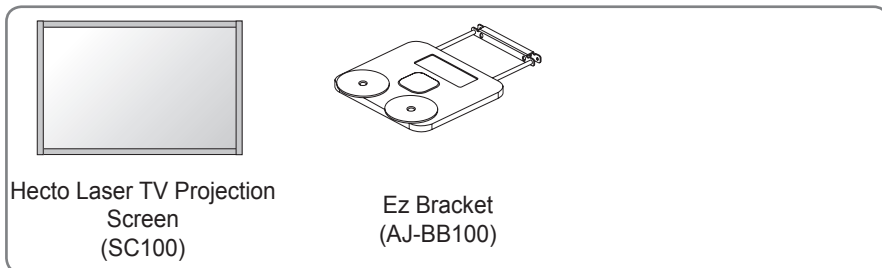
Optional Accessories

To purchase optional accessories, visit an electronics store or an online shopping site. Optional extras are subject to change without prior notice in order to improve the product quality, and new optional accessories may be added.



Accessories Shipped with Product

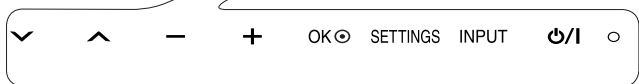
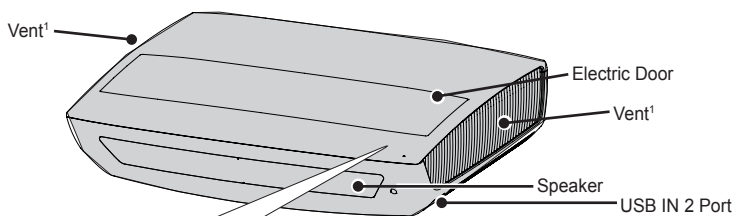
These accessories are shipped with the product when you purchase it.



Parts and Components

Front

- * This Laser TV is manufactured using high-precision technology. You may, however, see tiny black dots and/or bright spots that continuously appear on the screen. This is a normal result of the manufacturing process and does not indicate a malfunction.
- * Ceiling light glare depends on the light levels in a room and the distance between the product and the ceiling. It is not a product defect.



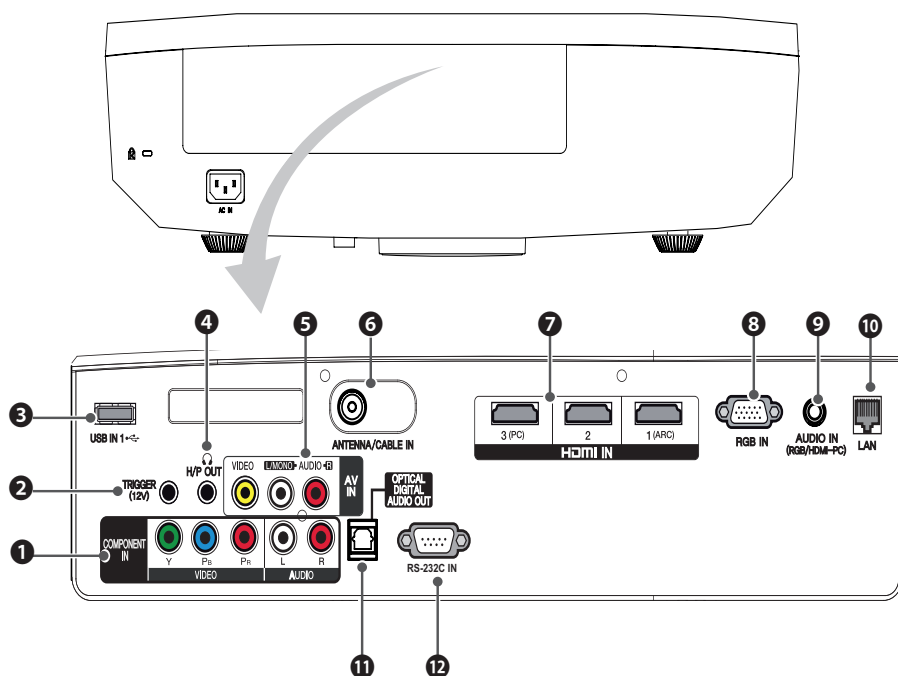
Control Panel

Button	Description
∧, ∨	Changes the channel or sets the features.
-, +	Adjusts the volume level, or enters a sub menu and changes the settings.
OK ●	Shows the current mode and saves changes to the settings.
SETTINGS	Displays or closes the Settings menu.
INPUT	Changes the input source.
⏻/I (Power)	Turns the the Laser TV on or off.

1 Due to the high temperature of the vent area, do not get close to the vent area.

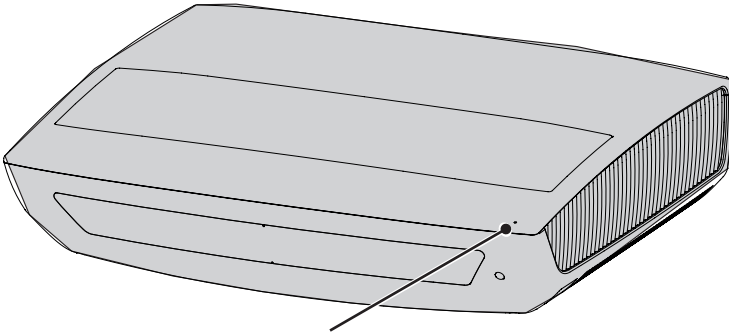
NOTE

- Press the "USB IN 2" label shown in the figure above to make the USB IN 2 port visible.

Back

1	Component IN Port
2	TRIGGER(12 V) Port Connect an external device (e.g., roll screen) to this port.
3	USB IN1 Port
4	H/P OUT Port
5	AV IN Port
6	ANTENNA/CABLE IN Port
7	HDMI IN 1 (ARC), 2, 3(PC) Port
8	RGB IN Port
9	AUDIO IN (RGB/HDMI-PC) Port
10	LAN Port
11	OPTICAL DIGITAL AUDIO OUT Port In standby mode, digital audio is not output.
12	RS-232C IN Port

Status Indicator



Operation/Status Indicator

Operation/ Status Indicator	Off	Power standby state (Power is off.)
	Red	Power standby state
	White	Warm stand-by (Power standby state)
	White (Brightness changes slowly.)	The Laser TV is in the process of turning on or off.
	Off	In operation
	Red (blinking)	High temperature warning
	Red (blinking) + Purple once (blinking)	The Laser TV has turned off due to the high temperature.
	Red (blinking) + Purple twice (blinking)	There may be a problem inside the product, so contact a local service center.
	Red (blinking) + Purple three times (blinking)	
	White (blinking) + Purple once (blinking)	
	White (blinking) + Purple twice (blinking)	
	White (blinking) + Purple three times (blinking)	

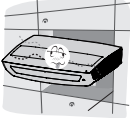
! **NOTE**

- If you turn off the power, the Laser TV may not complete the operation in progress depending on conditions and the operation/status indicator may turn red (standby mode).

Installation

Installation Precautions

- Place the product in a well-ventilated environment.
 - To prevent the internal heat from building up, install the Laser TV in a well-ventilated place.
Do not place anything near the Laser TV. That may block its air vents. If the air vents are blocked, the internal temperature will increase.



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



- Be sure to prevent foreign objects, such as scraps of paper, from entering the inlet vent.



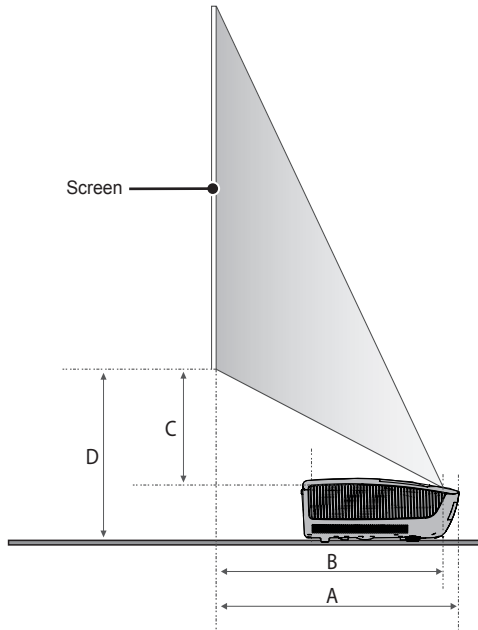
- Leave enough distance (30 cm or more) around the vent of the Laser TV.



- Do not place the product in a hot or humid environment.
 - Do not place the product in a hot, cold, or humid environment.
- Do not place the product in a dusty place.
 - This may cause fire.
- Never open any cover on the product. There is a high risk of electric shock.
- The Laser TV is manufactured using high-precision technology. You may, however, see tiny black dots and/or bright spots that continuously appear on the 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.
- Do not open or press the electric door or by force.
 - This may cause product malfunction.

Projection Distance per Screen Size

- 1** Place the Laser TV on a sturdy level surface, together with the computer or audio/video source.
- 2** Place the Laser TV at an appropriate distance away from the screen. The distance between the Laser TV and the screen determines the actual size of the image.
- 3** Position the Laser TV so that the lens is perpendicular to the screen. If the lens is not perpendicular to the screen, the image displayed on the screen may be distorted. To correct the distortion, use the Edge Adj function.
- 4** Connect the power cords of the Laser TV and the connected devices to the wall outlet.



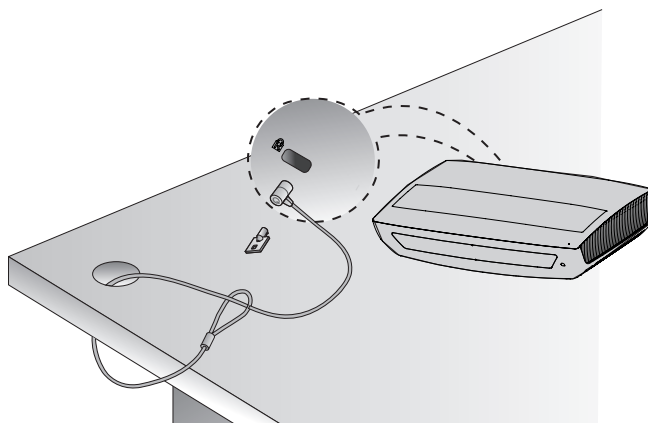
16:9 Aspect Ratio (Unit: mm)	
ARC	2540 (2213 x 1245)
A	550
B	530
C	262.5
D	370

Kensington Security System

- This the Laser TV has a Kensington Security Standard connector to prevent theft. 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 guide provided with the Kensington Security System.
- The Kensington Security System is an optional accessory.
- What is Kensington?

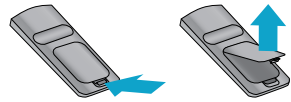
Kensington is a company that provides safety systems for laptops and other electronic devices.

Website: <http://www.kensington.com>



REMOTE CONTROL

Open the battery cover on the back of the remote control and insert the batteries which is specified in the battery room with ⊕ ⊖ poles pointing in the correct direction. The new and same type of batteries (1.5 V AAA) must be used.



CAUTION

- Do not mix new batteries with old ones.



POWER

Turns the Laser TV on or off.

ENERGY SAVING

Changes the energy saving mode.

RATIO

Resizes the picture.

INPUT

Changes the input source.

TV

Displays TV programs on the monitor.

Number buttons

Enters a number.

- (dash)

Enters a channel number, such as 2-1 or 2-2.

LIST

Displays the channel list.

FLASHBK

Displays the channel you were watching previously.

VOL +, -

Adjusts the volume level.

FAV

Shows favorite channels.

INFO

Displays the information of a program or screen.

MUTE

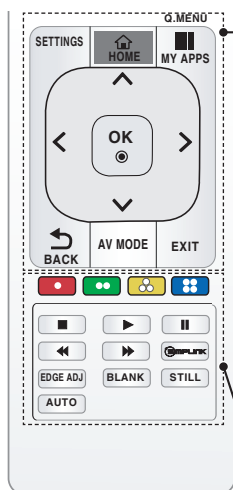
Mutes the sound of the Laser TV.

CH ,

Changes the TV channel.

PAGE ,

Moves to the previous/next page.



SETTINGS

Displays or closes the Settings menu.

HOME

Displays the Home menu.

MY APPS/Q.MENU

MY APPS: Displays the list of my apps.

Q.MENU: Changes the settings easily.

Up/Down/Left/Right buttons

Switches between menu functions.

OK

Shows the current mode and saves changes to the settings.

BACK

Returns to the previous screen.

AV MODE

Sets the genre for the TV program.

EXIT

Closes a menu.

Color buttons

Sets detailed settings or gesture for each menu.

Playback control buttons

Controls the playback of SmartShare.

Simplink

Allows you to use the Simplink function.

EDGE ADJ

Adjusts the image to fit the screen.

BLANK

Displays the empty screen for a while.

STILL

Freezes the moving image.

(Available in any mode other than DivX)

AUTO

Automatically adjusts the PC input image.

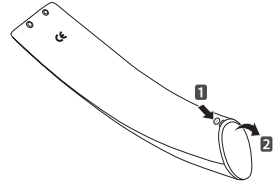
! NOTE

- For seamless operation, do not block the IR receiver.

MAGIC REMOTE CONTROL

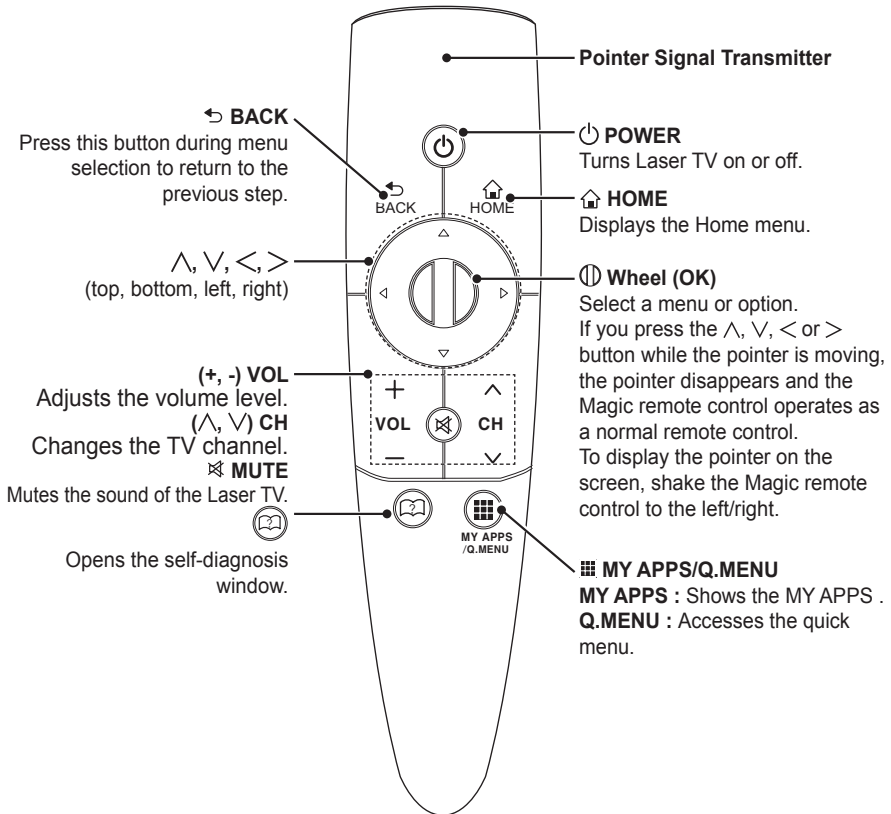
If the battery low message appears while using the Laser TV, replace the batteries.

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



CAUTION



- Do not mix new batteries with old ones.







Pairing the Magic Remote Control

You must pair the Magic remote control with the Laser TV to use it.

Pair the Magic remote control prior to use as follows:

- 1 Turn on the Laser TV and press the  **Wheel (OK)** button towards the Laser TV. When the pairing is complete, the pairing completion message is displayed on the Laser TV screen.
- 2 If the remote failed to pair, turn the Laser TV off and on and try pairing again by pressing the  **Wheel (OK)** button.

Re-pairing the Magic Remote Control

- 1 Press the  **HOME** button and  **BACK** button at the same time for about 5 seconds.
The Magic remote control will pair again when you press the  **wheel (OK)** button.
- 2 Press the  **BACK** button while pointing the remote control at the Laser TV for about 5 seconds to reset and pair the remote control. When the pairing is complete, the pairing completion message is displayed on the Laser TV screen.

Using the Magic Remote Control

- 1 Shake the Magic remote control lightly when there is no pointer displayed on the screen. A pointer will be displayed on the screen.
→ The pointer disappears if the remote control is not used for a certain period of time.
- 2 When you move the pointer signal transmitter up/down/left/right while pointing it toward the Laser TV, the pointer moves.
→ If the pointer is not working properly, do not move the Magic remote control for about 10 seconds, and then try again.



NOTE

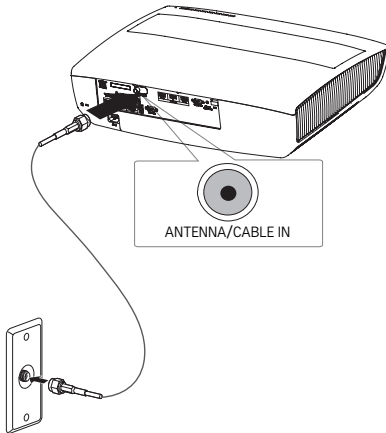
- Use the remote control within the specified range (10 meters). You may experience communication failures when using the device outside the coverage area or if there are obstacles within the coverage area.
- You may experience communication failures depending on nearby devices. Devices, such as a microwave oven and wireless LAN, operate in the same frequency band (2.4 GHz) as the Magic remote control. This may cause communication failures.
- The Magic remote control may become damaged or may malfunction if it is dropped or receives a heavy impact.
- Take care not to bump into nearby furniture, electronics or other people when using the Magic remote control.

Setting Up the TV

Connecting the Antenna or Cable

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

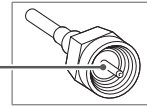
You can watch public TV or cable (analog, digital) TV.



! NOTE

- Be careful not to bend the copper wire when connecting the coaxial cable (75 Ω).
Fasten the cable connection terminal by turning it clockwise.

Copper Wire

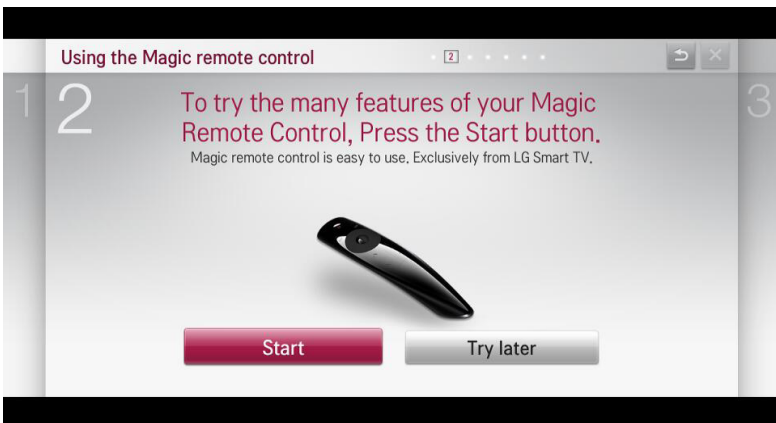
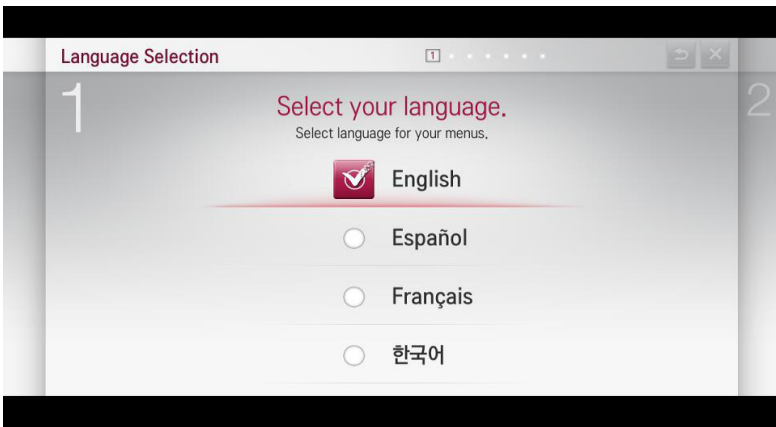


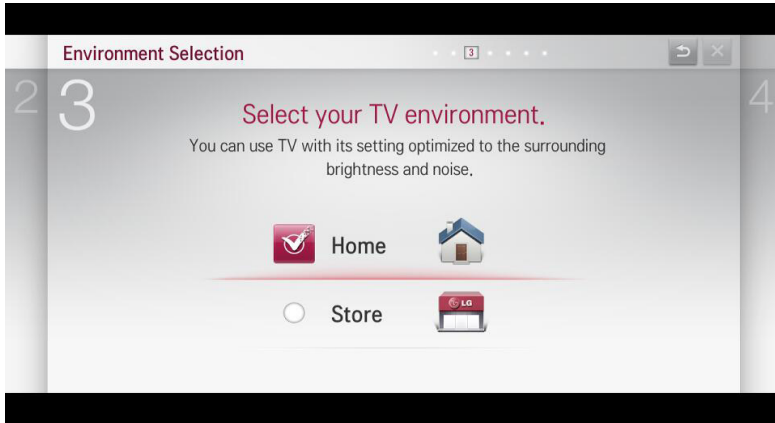
- Ensure you use a standard coaxial cable (75 Ω) when connecting to the Laser TV input.
- To obtain better image quality in locations where signal strength is low, please purchase and install a signal amplifier (booster).
- A signal splitter is required to use one antenna to send a signal to more than two Laser TVs.
- If you have any problems with antenna installation, please consult the antenna specialized retailer or the store where you purchased the antenna.

Setting Up the TV

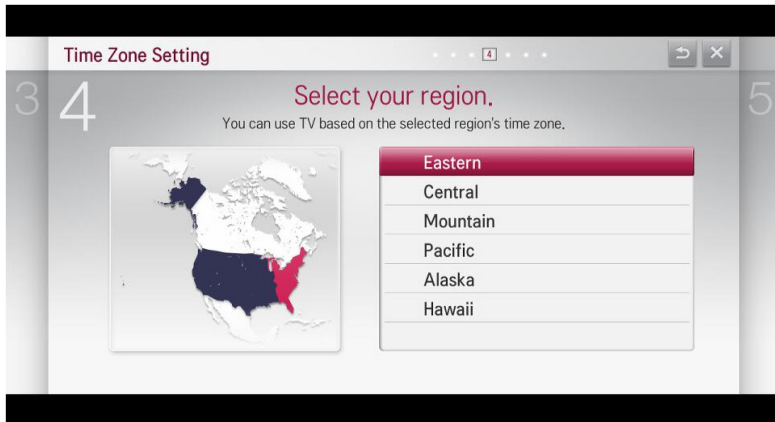
Initial Setup

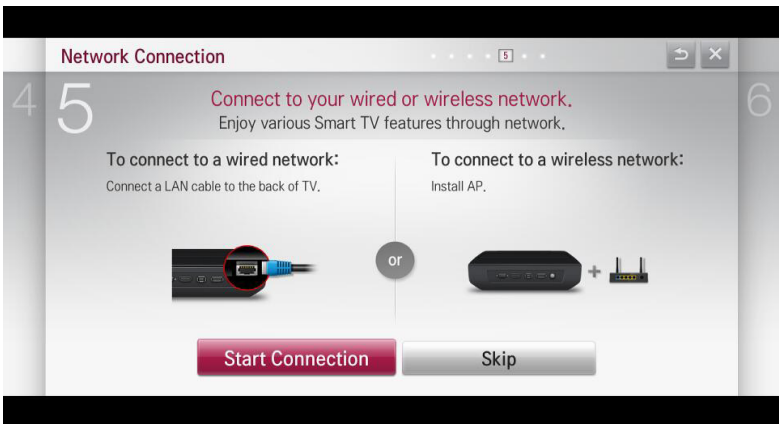
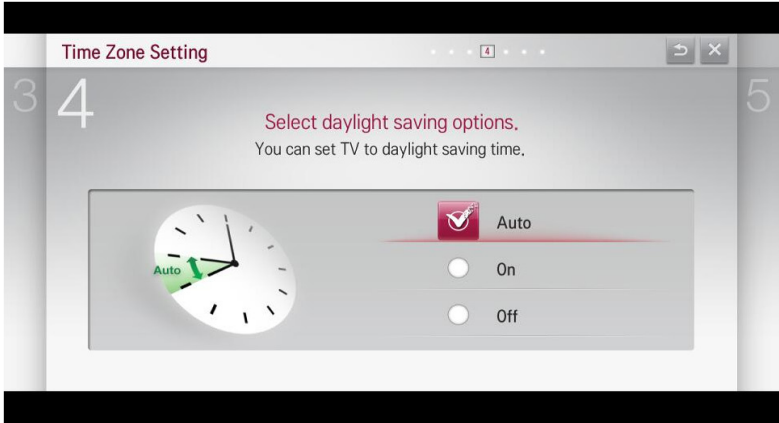
- 1 Connect the antenna and power cord correctly.
- 2 After waiting for a moment, press the **POWER** button on the remote control or the control panel.
- 3 When you turn on the Laser TV for the first time, a setting screen appears as shown below.
Here, you can specify the items required for watching the Laser TV more easily.

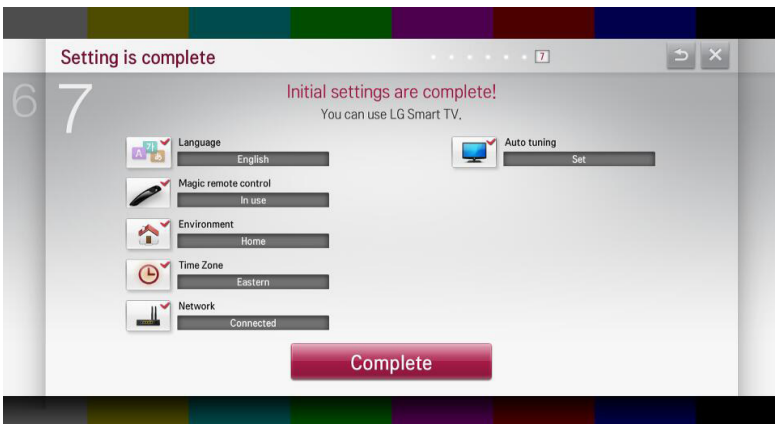
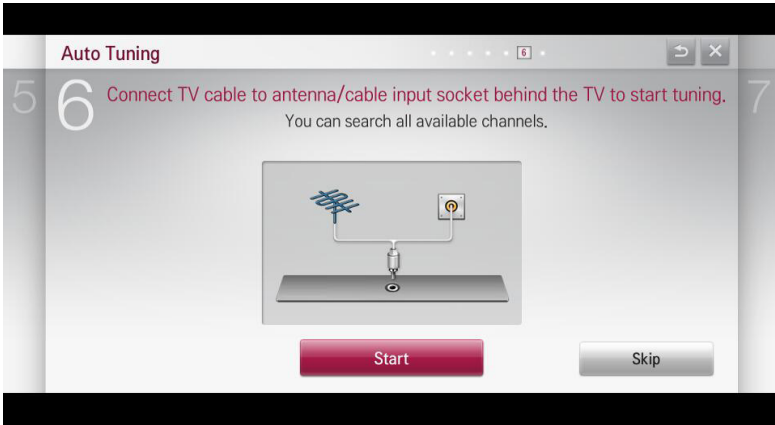




* **[Store]** is the mode for exhibition in the store. The picture mode is automatically reset after a certain period of time. You can select **[Home]** to use the product at home.







Watching TV

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

Button	Description
CH ^, v	Changes the TV channel.
LIST	Displays the channel list.
0 - 9	Enters a channel number.
VOL -, +	Adjusts the volume level.
MUTE	Mutes the sound from the Laser TV.
FLASHBK	Displays the channel you were watching previously.
Edge Adj	Adjusts the image to fit the screen.

- 4** To turn off the Laser TV, press the **POWER** button.

Checking the Laser TV Functions

The menu screen display in this owner's manual is an example to help users understand how to operate the product and may look different from the actual screen.

Home Menu

- 1 Press the **HOME** button of the remote control.



	Description
①	Displays the screen you are currently watching.
②	Displays the premium menu.
③	Login button
④	Edit the card list.
⑤	Returns to the previous screen.
⑥	Exits from the HOME menu.
⑦	Displays the list of my apps.
⑧	A user can delete or change the order of an item listed in My Apps to suit his/her preferences.

Additional Options

Adjusting the Aspect Ratio

You can adjust the aspect ratio of the picture by pressing **RATIO** while watching Laser TV.

! NOTE

- Available options may vary depending on the input signal.
- You can also use the **Q.MENU** or **SETTINGS** button.

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



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



! NOTE

- For Just Scan, you may see image noises at the edges of the screen.

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



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



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



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



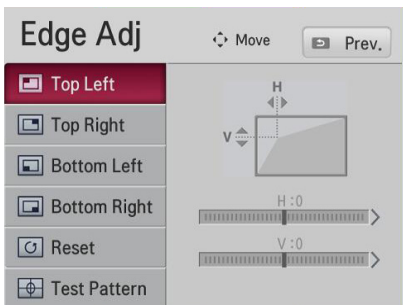
! NOTE

- If you enlarge or reduce the picture, it may be distorted.

Using the Edge Adj Function

To prevent the screen image from becoming trapezoidal, Edge Adj adjusts the top and bottom width of the image if the Laser TV is not set up at a right angle to the screen.

Because the Edge Adj function may cause inferior screen image quality, use this function only when it is not possible to set up the Laser TV at an optimal angle.



- Adjust the screen using the **EDGE ADJ** button.
 - The value range of Edge Adj is as follows.
 - Left top (H: 0 ~ 100, V: 0 ~ 100)
 - Right top (H: -100 ~ 0, V: 0 ~ 100)
 - Left bottom (H: 0 ~ 100, V: -100 ~ 0)
 - Right bottom (H: -100 ~ 0, V: -100 ~ 0)
- Press the **OK** button after adjustment.

NOTE

- While you use the Test Pattern option, the keys on the control panel do not work.

Using the Input List

Using the Input List

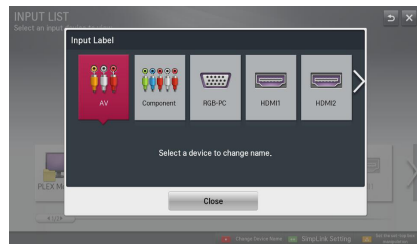
- Press the **INPUT** button to display the input selection screen.



- Select an input signal using the **INPUT** button to switch the Laser TV to the desired input mode. You can use the **<** or **>** button to switch between all the input modes.

Selecting an Input Label

You can select an input label to display which devices are connected to which input ports.



- Press the **INPUT** button to display the input selection screen.
- Press the **red** button.
- Press the **<** or **>** button to select an input and press **OK** button.
- Use the **^**, **v**, **<** or **>** button to select a device name.

To use SIMPLINK

SIMPLINK allows users to control and manage multiple multimedia devices using the convenient Laser TV remote control and SIMPLINK menu.

- 1** Connect the Laser TV's HDMI IN terminal with SIMPLINK device's HDMI output terminal using HDMI cable. For home theater units with SIMPLINK function, connect HDMI terminals as above and use an optical cable to connect Optical Digital Audio Out from the Laser TV to Optical Digital Audio In of the SIMPLINK device.
- 2** Press the **SIMPLINK** button. SIMPLINK menu window appears.
- 3** Select **Set SIMPLINK** on SIMPLINK menu window. SIMPLINK setup window appears.
- 4** Set SIMPLINK to On in SIMPLINK setup window.
- 5** Close SIMPLINK setup window.
- 6** Select the device to control from SIMPLINK.

NOTE

- This function works only on devices with the SIMPLINK logo (SIMPLINK).
- Make sure that the external device has a SIMPLINK logo.
- To use SIMPLINK function, use a high-speed HDMI® cable (with CEC, or Consumer Electronics Control feature added) and No. 13 pin connected for information exchange between devices.
- Turn on or select the media of a device with home theater features to see the speaker switch to HT Speaker.
- Connect with an Optical cable (sold separately) to use HT Speaker.
- Switching to external input causes devices operating with SIMPLINK to stop.
- Use of a third-party device with HDMI-CEC features may cause malfunctions.

Explanation on SIMPLINK features

Menu	Description
Direct Play	Play the multimedia device on the Laser TV instantly without extra steps.
Select multimedia device.	Select the desired device through the SIMPLINK menu and instantly control it from the Laser TV screen.
Disc playback	Manage the multimedia device with the Laser TV remote control.
Power off all devices	Turning the Laser TV off with Auto Power function On in SIMPLINK setting will turn the power off on all SIMPLINK-connected devices.
Sync Power on	If the Auto Power function is set to On in the SIMPLINK settings, turning on a SIMPLINK device will turn the Laser TV on.
Speaker	Selects speaker on the home theater unit or Laser TV.

Using the Quick Menu

You can customize frequently used menus.

- 1 Press the **MY APPS** button to select the **Q.MENU**.
- 2 Press the < or > button to select a menu and press **OK**.

Menu	Description
Aspect Ratio	Resizes the picture.
Picture Mode	Changes the picture mode.
Sound Mode	Sets the sound mode.
Multi Audio	Sets MONO or STEREO, or a language for a bilingual broadcast.
Sleep Timer	Sets the Laser TV to be turned off at the specified time.
ENERGY SAVING	Adjusts the brightness.
AV MODE	Sets the genre.
Channel Edit	Edits channels.
Caption	Sets whether to display captions .
USB Device	Allows you to remove a connected USB device in a safe manner. (Displayed only when a USB device is connected.)

- 3 Press the ^, v, < or > button to scroll through the following menus.

Network Features

NETWORK Settings

To use the smart functions, the wired or wireless Internet must be connected. Once the Internet is connected, you can use premium contents or DLNA functions, etc.

One-Click Network Connection

You can make a wireless network connection easily.

- 1** Press the **SETTINGS** button.
- 2** Press the \wedge or \vee button to select **NETWORK** and press the **OK** button.
- 3** Use the \wedge , \vee , $<$ or $>$ button to set Network Connection and press the **OK** button.
- 4** It is automatically connected to the network.
See the Help provided by the Laser TV.

Expert Settings for Network Connection

It is used in a specific environment such as office (where fixed IP, etc. is used).

- 1** Press the **SETTINGS** button.
- 2** Press the \wedge or \vee button to select **NETWORK** and press the **OK** button.
- 3** Use the \wedge , \vee , $<$ or $>$ button to set Network Connection and press the **OK** button.
- 4** Select **Set Expert** in the network connection list.
- 5** Select one of the following network connection methods.

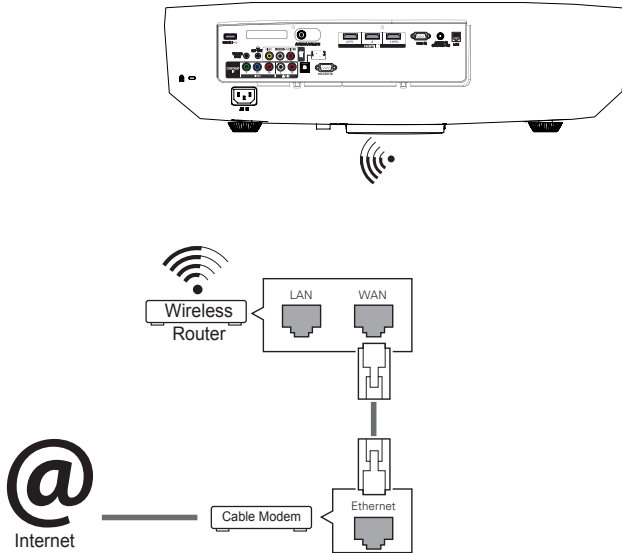
Item	Description
AP List	Select a network from a router list.
Enter the SSID	Directly enter the name of the wireless router to connect.
WPS-PBC	Press the WPS button on the wireless router supporting the PBC to connect to the router in a simple manner.
WPS-PIN	Enter the PIN number in the web page of the PIN-supporting wireless router to connect to the router in a simple manner.
Ad-hoc	Use the PC, mobile phone, etc. which is connected to Wi-Fi.

Wireless Network Connection

You can use a wireless network by using the built-in wireless network module as shown below.

A wireless router must be installed and operating at this time. Refer to the wireless router's user manual to see how to install it.

The network settings and connection may be different depending on the network environment. Set up the router as instructed in its user manual.



Wireless Network Setup

This function allows you to use the wireless connection e.g., Wi-Fi Direct and WiDi. You can share the screen of the device connected by the Wi-Fi Screen Share on the SmartShare.

Turn on the Wi-Fi Screen Share. A list of devices available for connection is displayed. Select a device to connect. A connection request message is displayed. Select Yes. The Wi-Fi Screen Share is then connected.

- 1** Press the **SETTINGS** button.
- 2** Use the **^**, **v**, **<** or **>** button to select **NETWORK** and press the **OK** button.
- 3** Press the **^**, **v**, **<** or **>** button to select **Wi-Fi Screen Share** and then press the **OK** button.

Tips for Network Setup

- Modem reconfiguration may cause network connection problems. If it does, turn off the modem and disconnect it from the product; then turn on the modem again. It will be working normally.
- LG Electronics is not responsible for any Internet connection problems, or any failure, error or malfunction due to your Internet connection.
- The network connection may not be working properly because of the Internet Service Provider (ISP).
- DSL service requires a DSL modem, and cable service requires a cable modem. Internet connections may be limited due to an agreement with an Internet service provider (ISP) and the Laser TV may not be connected to a network. (When only one device is allowed per line and a PC is already connected, other devices are not available for use.)
- The wireless network may be affected by interference from a device that uses 2.4 GHz frequency, such as a wireless telephone, Bluetooth device or microwave. Interference may also be caused by a device that uses 5 GHz frequency such as Wi-Fi devices.
- The wireless network service may run slowly depending on surrounding wireless environment.
- Some devices may have network traffic jam if any of local home networks is turned on.
- To connect to a wireless router, a router that supports wireless connection is necessary; the wireless connection function of the corresponding router must also be activated. Ask the router manufacturer whether the router supports wireless connection.
- To connect to a wireless router, verify the SSID and security settings of the wireless router. Please refer to the user guide of the corresponding router regarding SSID and security settings of the wireless router.
- The Laser TV may not slow down or malfunction if network devices (wire/wireless router or hub, etc.) are incorrectly set up. Be sure to install the devices correctly by referring to their user guides before configuring the network connection.
- When Ad-hoc is used, it may not be able to connect depending on the device (for example, laptop) that is connected.
- The connection method may vary according to the manufacturer of the wireless router.

Using the Wi-Fi Screen Share Function

With this function, you can use a wireless connection such as Wi-Fi Direct or WiDi, etc.

Using SmartShare, you can share a device's screen through Wi-Fi Screen Share.


Connecting the Wi-Fi Direct

- 1** Press the **SETTINGS** button.
- 2** Press the \wedge or \vee button to select **NETWORK** and press the **OK** button.
- 3** Press the \wedge , \vee , $<$ or $>$ button to select **Wi-Fi Screen Share** and then press the **OK** button.
- 4** Set Wi-Fi Screen Share to On. (If you don't want to use this function, set to Off.)
- 5** Enable Wi-Fi Direct on the device that you want to connect to.
- 6** The list of devices that can connect to the Laser TV is displayed.
- 7** Select a device to connect.
- 8** Select Yes when the connection request message appears.
- 9** If the device that you want to connect to accepts the request, Wi-Fi Screen Share will be connected.

Using WiDi

WiDi represents Wireless Display. It is a system that sends video and sound files a notebook PC that supports Intel WiDi.

WiDi Setup (Wireless Display)

- 1** Press the **SETTINGS** button.
- 2** Use the \wedge , \vee , $<$ or $>$ button to select **NETWORK** and press the **OK** button.
- 3** Press the \wedge , \vee , $<$ or $>$ button to select **Wi-Fi Screen Share** and then press the **OK** button.
- 4** Set Wi-Fi Screen Share to On. (If you don't want to use this function, set to Off.)
- 5** Your laptop runs the Intel WiDi program (.
- 6** The nearby LG Laser TVs supporting WiDi are searched. In the list, select the Laser TV you want and click Connect.
- 7** Enter the 4-digit MY PIN number displayed on the Laser TV in the Intel WiDi program input field on a laptop and press Continue.
- 8** In a moment, the laptop screen is displayed on the Laser TV screen. The wireless environment may affect the screen display. If the connection is poor, the Intel WiDi connection may be lost.

* For more information on how to use the Intel WiDi, visit <http://intel.com/go/widi>.

Using Media Link

If you install the Plex program on a PC or laptop that is connected on the same network as the smart Laser TV, you can directly and easily use various multimedia, such as photos, videos, or music stored in the PC or laptop.

Connecting Media Link

- 1 Install the Plex Media Server program on a PC or laptop. You can download and install the Plex program suitable to your PC or laptop from the website (<http://www.lg.com>).
- 2 After installing the program, select the Plex icon from the tray at the bottom of the PC screen and click the right button of the mouse. Set the file section in the Media Manager.
- 3 From the HOME page of the Laser TV, select **Media Link**.
- 4 The Media Link section for a connected PC or laptop is displayed. Select a section.

Using Media Link

- 1 Click the **MYAPPS** button.
- 2 Go to **Media Link**.



The folders appear as set up in the PLEX Media Manager.

System Requirements for PLEX installation

- Minimum requirements
PC with 1.6 GHz Intel Core Duo Processor and Windows XP SP3 or higher, 512 MB RAM or more
Recommendations for HD contents transcoding (720p and 1080p)
PC with 2.4 Ghz Intel Core Duo Processor and Windows XP SP3 or higher, 2 GB RAM or more
Windows XP, Vista and Windows 7 support
- Network requirements
ADSL/Cable/Wi-Fi Internet connection for calculation and update of media meta data
Wired network: 100 BaseT or 1000 BaseT Ethernet network
Wireless network: Uncongested 802.11 n recommended, Media play supported by wireless mobile devices

Cautions when Using Media Link

- Only the 0.9.1.14 or higher version of PLEX media server can be installed on a Mac or PC.
- For the following languages, the GUI language is displayed in English and the transferred data is not shown.
: Thai, Arabic, Persian, Hebrew, Kurdish
- When playing a media file which is not supported by the Laser TV using the video plug-in, initial buffering may take longer because of conversion on the computer.
The conversion performance in the computer may be different depending on the computer performance or network speed.
- The supported formats for playing the files from the computer (Movie, Laser TV Show and Music) are the same with DLNA.
- Playing a specific clip is not supported during music playback. (Same as DLNA)
- If you play high definition video over Wi-Fi, it may not play properly because of the low network speed.
- The Laser TV may not detect a computer when a router is used because of the router settings. (For example, if the "Tcast Forward" function is enabled in some routers, the Laser TV cannot detect a computer if it is connected through Wi-Fi.)
- For some plug-ins, the media play may be restricted depending on its media format.
- A plug-in is subject to change without notice by its provider, or it may not be working.

Using the Premium Service

This service gives you easy access to a wide variety of content, such as news and UCC at any time, as long as you are connected to the network.

In addition to global contents, the premium contents specialized for each country are provided considering each country's characteristics.

Using the Premium Service

- 1 Press the **HOME** button.
- 2 Go to **Premium**.



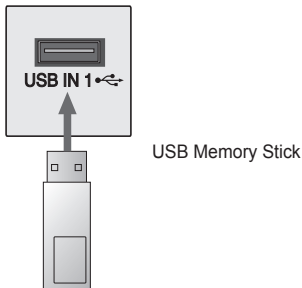
	Description
1	Displays the screen you are currently watching.
2	Selects the content.
3	Adds a content to My Apps.

SmartShare™

Before Using

Connecting a USB Device

Connect a USB device (external HDD, USB memory) to the USB port of Laser TV to enjoy the content files stored in the USB device with your Laser TV. You cannot write or delete data in the USB device. Connect a USB memory stick as shown below.



Removing a USB Device

- 1 Click the **MYAPPS** button.
- 2 Select **Q.MENU**.
- 3 Use the < or > button to move to **USB Device** and press the **OK** button.
- 4 Remove the USB device.

NOTE

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

Tips for Using a USB Device

- A USB device which has a built-in automatic recognition program or uses its own driver might not be recognizable.
- Some USB devices may not be supported or will not work properly.
- Please use only a USB device formatted as a FAT32 or NTFS file system provided by Windows.
- It is recommended to use an external USB hard disk with rated voltage of 5V or less and rated current of 500mA or less.
- It is recommended to use a USB hub or hard disk drive with power supplied. (If the power supplied is not enough, the USB device may not be detected properly.)
- It is recommended to use a USB memory stick which is 32 GB or less and a USB hard drive which is 2 TB or less.
- If a USB external hard drive with the power saving function does not work, turn the hard drive off and on again to make it work properly. See the owner's manual of the USB hard drive for more information.
- The data of a USB device may be damaged, so it is recommended to back up any important files. Users are responsible for data management. The manufacturer bears no responsibility.

Supported Files for SmartShare™

- Maximum data transmission rate: 20 Mbps (Megabit per second)
- Supported external subtitle formats: *.smi, *.srt, *.sub (MicroDVD, SubViewer 1.0/2.0), *.ass, *.ssa, *.txt (TMPlayer), *.psb (PowerDivX)
- Supported internal subtitle formats: XSUB (subtitles from DivX6 are supported)

Connecting DLNA

Digital Living Network Alliance (DLNA) allows you to enjoy videos, music and photos saved on your PC or server using the Laser TV through a home network.

Connecting the DLNA-Certified

Mobile Device

Laser TV and smartphone should be connected to the same network.

- 1** Enable Wi-Fi on the smartphone.
- 2** Install/run the app to share content on the smartphone.
- 3** Run “Share my mobile phone Content”.
- 4** Select the kind of Content (video/music/photo) to play.
- 5** Select the video, music, or photo file to play on Laser TV.
- 6** Select Add to Playlist.
- 7** On the device that you want to play the file, select the Laser TV model. (You can find the Laser TV model name on the product label.)
- 8** Play ▶ Enjoy the selected file on Laser TV.

Connecting DLNA DMR (Digital

Media Renderer)

With the Windows 7 or Window 8 PC operating system or DLNA-certified device (e.g. mobile phone), music/videos/photos may be played on the Laser TV without installing a separate program.

- 1** Configure the Laser TV and PC on the same network. Configure Windows 7 or Window 8-installed PC on the network.
- 2** To replay a music/video/photo file, right-click on the file and use the “Remote Playback” Windows 7 or Window 8 feature. To play on your mobile device, refer to its user manual.
- 3** Content will be played in only one device even though more than one Laser TV or device is connected. Play speed can vary depending on network speed.

Connecting DLNA DMP (Digital


Media Player)

With a PC having SmartShare PC Software, music/video/photo files may be replayed on the Laser TV by linking them via home networking.

- 1 Configure the Laser TV and the PC on the same network. Laser TV and each device should be connected through a single access point to enable DLNA service.
- 2 Install SmartShare PC Software on PC from the web site. Before installation, close all running programs including firewall and Anti-Virus programs.
- 3 The sever should be running in order to watch the shared file on your Laser TV.



NOTE

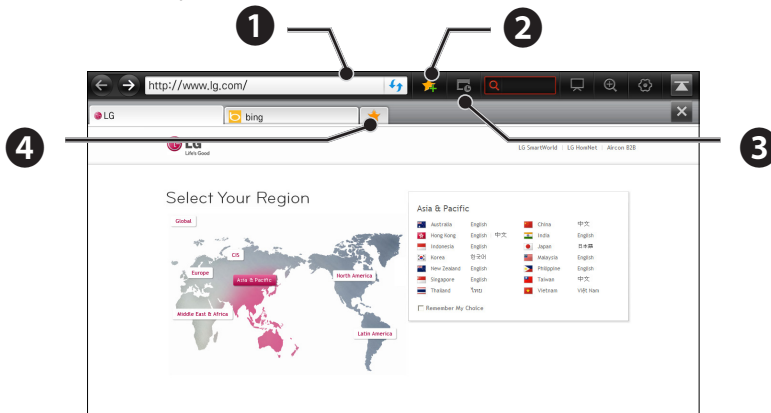
- For the website information, go to  HOME → Settings → SUPPORT → Product/Service Info.
- For how to use the SmartShare PC software, refer to the software help.

When DLNA is Malfunctioning

- Check your network settings when the DLNA option does not work properly.
- To watch the 1080p video through DLNA, a router that uses 5 GHz frequency is required. If a 2.4 GHz router is used, the video does not play properly.
- When playing a video in DLNA mode, the Multi Audio and Closed Caption features are not supported.
- If multiple Laser TVs are connected to one server in the DLNA mode, the content may not be played properly depending on server performance.
- Subtitles are only supported on some DMC devices.
- The DLNA function may not work properly depending on the network environment.
- The DLNA function may not be supported for a router that does not support multi-cast. For more information, refer to the user guide that came with your router or contact to the manufacturer.
- Even for the file format supported by the Laser TV, the supported file format may differ depending on the DLNA server environment.
- If there are too many folders or files in a folder, it may not work properly.
- The information on the file imported from the DLNA server may not be displayed correctly.
- When viewing video subtitles on a DLNA server, we recommend that you use SmartShare PC Software.
- When a subtitle file is added later, disable the shared folder and then enable it again.
- The DRM file and document file in the DLNA server are not played.

Connecting Internet

Types URL manually on TV or visits websites added to Favourite.



	Description
①	Types in the web address.
②	Add the current page to favorites.
③	Moves to a website that you have visited.
④	Chooses when you open several web browsers.

! NOTE

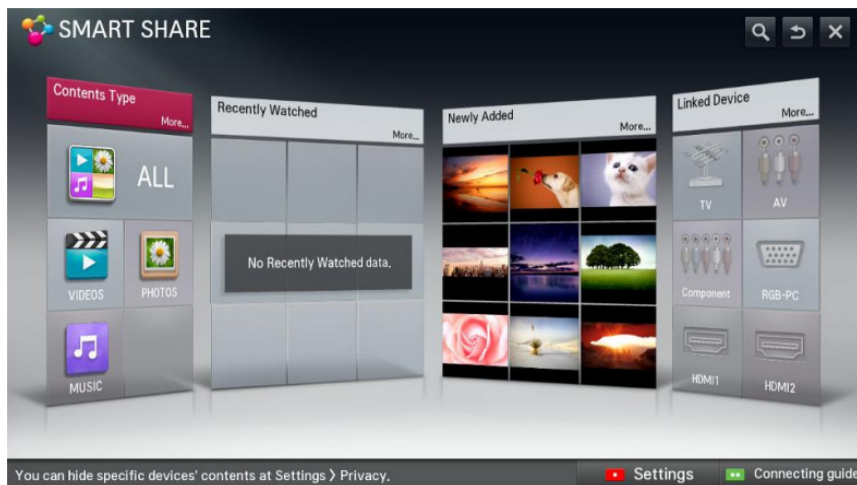
- Internet supports up to Flash 10 but does not support platform-dependent technology like ActiveX.
- Internet only works with a pre-installed plug-in.
- Internet may not play any media file format other than the following: JPEG / PNG / GIF / WMV (ASF) / WMA / MP3 / MP4
- Internet will be forcibly closed when there is insufficient memory.
- For the Internet, fonts installed on the TV are used and may not be displayed normally depending on the content played.
- Internet does not support file and font download.
- Internet is made for TV so it may have a different function to browsers made for PC.

Using SmartShare™

1 Press the **HOME** button of the remote control.

2 Select **SmartShare**.

You can watch the photo, music and video on the Laser TV by connecting a USB or home network (DLNA, Media Link). It shows all the photos, music and videos in the device connected to the Laser TV.



Watching the Videos

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

Tips for Playing Videos

- Some subtitles created by a user may not work.
- A video file and its subtitle file must be located in the same folder. A video file name and its subtitle file name must be identical in order to display the subtitle properly.
- Streaming of files encoded by GMC (Global Motion Compensation) or Qpel (Quarterpel Motion Estimation) is not supported.
- H.264/AVC profile level 4.1 or below is supported.
- The file sizes that can be played may be different depending on the encoding environment.
- Video files created by some encoders may not be played back.
- Video files in formats other than the ones specified here may not be played back.
- Videos stored on a USB device that does not support high-speed playback may not play properly.
- The DTS is supported only for playback of USB video files.

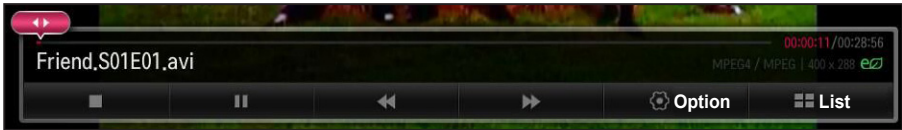
Video Codec

Maximum supported resolution: 1920 x 1080 @ 30p

Extension	Codec	
.asf .wmv	Video	VC-1 Advanced Profile, VC-1 Simple and Main Profile
	Audio	WMA Standard, WMA 9 Professional
.divx .avi	Video	DivX3.11, DivX4, DivX5, DivX6, XViD, H.264/AVC, Motion Jpeg
	Audio	MPEG-1 Layer I, II, MPEG-1 Layer III (MP3), Dolby Digital, Dolby Digital Plus, LPCM, ADPCM, DTS
.mp4 .m4v .mov	Video	H.264/AVC, MPEG-4 Part 2
	Audio	AAC
.mkv	Video	H.264/AVC
	Audio	HE-AAC, Dolby Digital
.ts .trp .tp	Video	H.264/AVC, MPEG-2, VC-1
	Audio	MPEG-1 Layer I, II, MPEG-1 Layer III (MP3) Dolby Digital, Dolby Digital Plus, AAC
.vob	Video	MPEG-1, MPEG-2
	Audio	Dolby Digital, MPEG-1 Layer I, II, DVD-LPCM
.mpg .mpeg	Video	MPEG-1
	Audio	MPEG-1 Layer I, II

Controlling the Video Playback

You can control playback using the following buttons.



Item	Description
◀▶	Shows the current playing position. You can use the < or > button to move forward or backward.
■	Stops playing and returns to Movie List.
▶	Resumes normal playback.
	Pauses the media player.
▶▶	Displays in slow motion.
◀▶▶	Whenever this button is pressed, the playback speed is increased or decreased by one unit.
Option	Sets the option.
List	Stops the playback and returns to the list.

Viewing the Photos

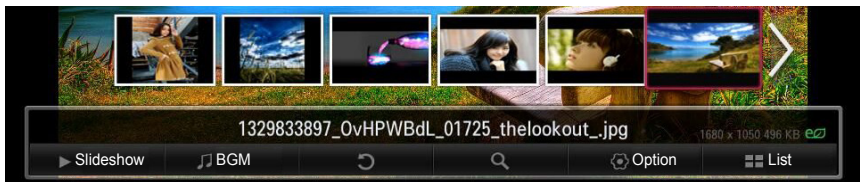
You can view photos stored on a connected device.

Photo File

File Format	Item	Information	
2D (jpeg, jpg, jpe)	Supported format	SOF0: baseline SOF1: Extend Sequential SOF2: Progressive	
	Size	Min.	64 x 64
		Max.	Normal Type: 15360 (W) x 8640 (H) Progressive Type: 1920 (W) x 1440 (H)

Controlling the Photo Playback

You can control playback using the following buttons.



Item	Description
<, >	Selects the previous or next photo.
Slideshow	If no picture is selected, all photos in the current folder are displayed in a slide show. If one or photos are selected, those photos are displayed in a slide show. Set Slide Speed in the Option → Set Photo View menu.
BGM	You can listen to music while viewing full-size photos. Set BGM in the Option → Set Photo View menu.
↻	Rotates photos. Rotates a photo 90°, 180°, 270°, 360° clockwise. Photos cannot be rotated if their width is greater than the height of the maximum supported resolution.
🔍	Enlarges or reduces the photo. Use the Up/Down/Left/Right buttons to select a page and press the OK button.
Option	A setting popup window will appear.
List	Stops the playback and returns to the list.

Listening to Music

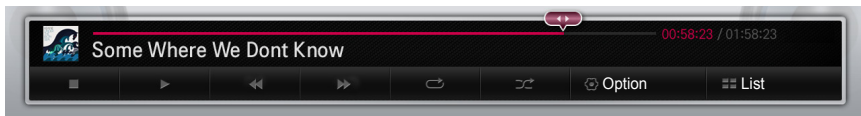
You can play audio files stored on the connected device.

Audio File

File Format	Item	Information
MP3	Bit rate	32 Kbps - 320 Kbps
	Sample freq.	16 kHz - 48 kHz
	Support	MPEG1, MPEG2, Layer2, Layer3

Controlling Music Playback

You can control playback using the following buttons.



Item	Description
◀▶	Changes the playing position.
■	Stops playing.
▶	Resumes normal playback.
◀▶	Plays the previous/next file.
↻	Sets the repeat playback.
✂	Sets the random playback.
Option	Sets Option for the music list.
List	Returns to a list.

Using the Magical Mirroring Function

The Magical Mirroring feature is used to wirelessly transmit and project the screen of a network-connected laptop (PC) to the Laser TV. To use this function, MirrorOp Sender, an application for PC, should be installed in the user's laptop (PC).

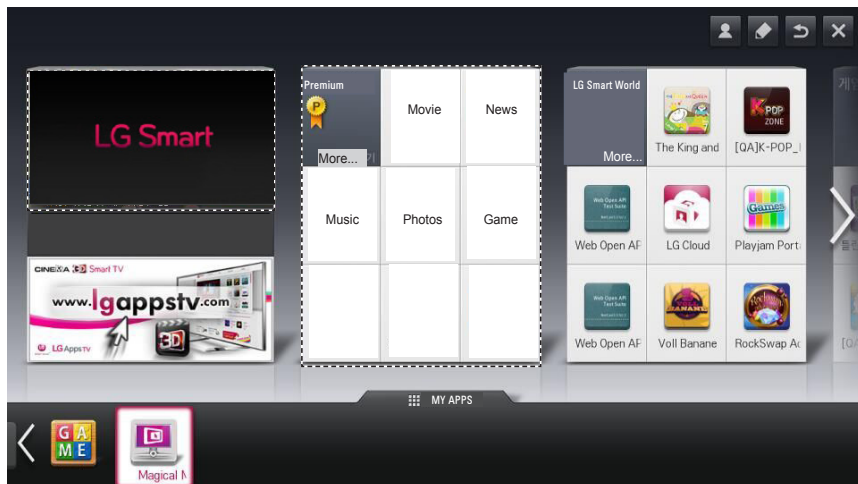
You can download this PC program from www.mirrorop.com/products_support/LG/. (To obtain a full-featured MirrorOp Sender program, a user should purchase one.)

System Requirements

CPU	Dual core 1.8 GHz or higher (excluding Atom processor)
Display Adaptor	nVIDIA or ATI graphic card with 64MB VRAM or above
Operating System	Windows Vista, Windows 7
Wi-Fi	802.11 n

Running Magical Mirroring

- 1 From the HOME screen, select Magical Mirroring.



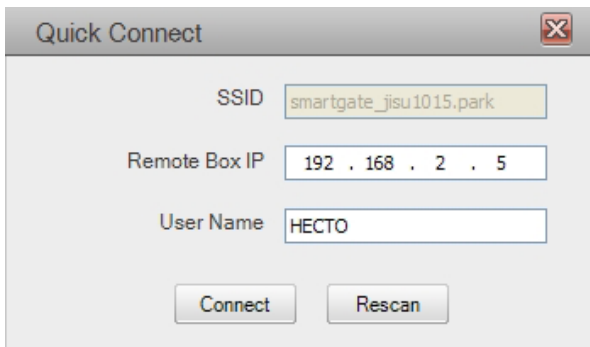
CAUTION

- Magical Mirroring is available only when a network is connected.
- When Magical Mirroring is running, only the following buttons are available on the remote control and control panel: Power, Volume, Previous and Exit.

- 2 After running Magical Mirroring, execute the MirrorOp Sender program in the PC on a standby screen as follows.

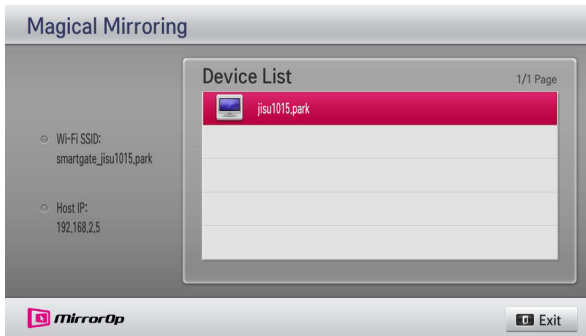


- 3 In the Remote Device IP field of the MirrorOp Sender, enter the IP which is the same as the host IP of the Magical Mirroring and press Connect.



<PC Screen>

- 4 If MirrorOp Sender is connected normally, the connected PCs are displayed in Device List of Magical Mirroring as shown below. (All connected PCs are displayed.)



If MirrorOp Sender does not run, Device List of Magical Mirroring is shown as follows. Check the network connection.



- 5 In the Device List, select a desired PC by pressing the Up/Down key and press the OK button.



CAUTION

- While running Magical Mirroring, the video or audio transmitted from the PC may be interrupted due to PC performance or wireless network status.

MirrorOp Sender

Changing MirrorOp Mode



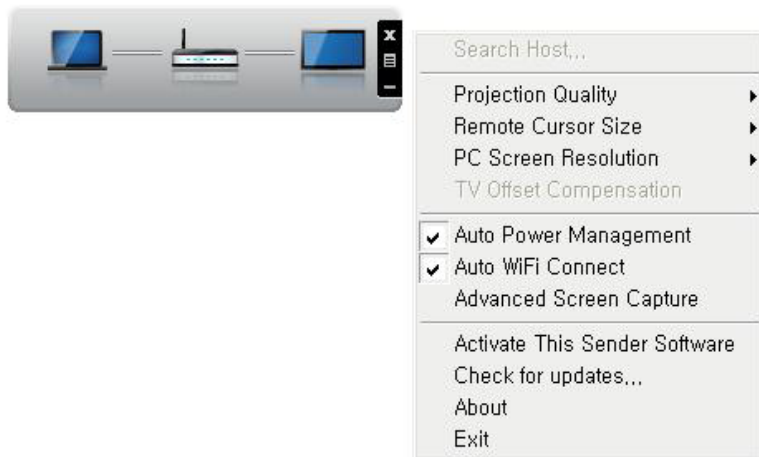
Move the button to this position to change the transfer mode to application mode.



Move the button to this position to change the transfer mode to movie mode.

Mode	Description
Application Mode	When MirrorOp is set to this mode, the software will transfer images with greater quality. When you run applications such as games, you can set to this mode. This mode requires broadband, so we suggest you use the wired network when using this mode.
Movie Mode	This mode is only for movies. When you play a movie on your PC, you can change to this mode. In this mode, the mouse and other applications do not work in real time.

Configuring MirrorOp



- **Search Host Device**
 - Searches the devices available for connection on the local network.
- **Projection Quality**
 - Changes the quality of the projected image. If the network speed is high, select 'Best'; if not, select 'Normal'.
- **Remote Cursor Size**
 - Controls the size of mouse cursor (1x, 2x, 3x).

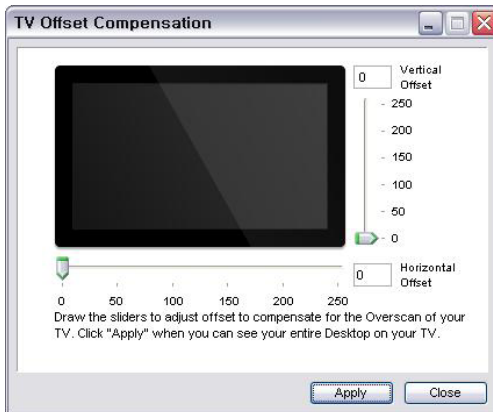


NOTE

- Using this option, you can select "Normal" or "Best" for the projection quality. If the network connection is good, select "Best"; if not, "Normal".

- TV Offset Compensation

- Adjusts the size of screen projected to the Laser TV. Adjust the horizontal and vertical offset, and click the Apply button.



- Auto Power Management

- Choose this option when you run the MirrorOp application on your laptop. This option enables your Wi-Fi network to always work at an optimum level.

- Auto Wi-Fi Connection

- When you choose this option, your MirrorOp will automatically connect to the server and log in.

- Advanced Screen Capture

- Different PCs have different video output formats. When this option is not selected, some video images might not be displayed normally, for example, when you play a movie using a certain media player. When you play a movie on your PC and cannot see it with Laser TV, you should choose this option.

- Activate This Sender Software

- If you purchased or already have a license, please enter the license information.

- Check for Updates

- Check the newest version on the network.

CUSTOMIZING SETTINGS

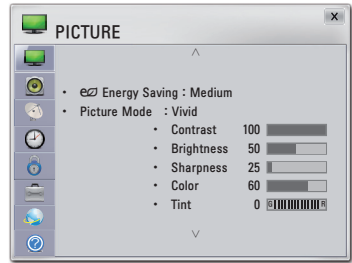
SETTINGS

- 1 Press the **SETTINGS** button.
- 2 Use the \wedge , \vee , $<$ or $>$ button to select a desired item and press the **OK** button.
- 3 Use the \wedge , \vee , $<$ or $>$ button to set the desired item and press the **OK** button.
- 4 Press the **EXIT** button when completed.

Menu	Description
PICTURE	Adjusts the image quality for optimal viewing.
SOUND	Adjusts the sound quality and volume level.
CHANNEL	Sets up or edits a channel.
TIME	Sets the time and time-related features.
LOCK	Locks or unlocks a channel or a program.
OPTION	Customizes the general settings.
NETWORK	Sets the network.
SUPPORT	Shows the Laser TV information.

PICTURE Settings

- 1 Press the **SETTINGS** button.
 - 2 Use the \wedge or \vee button to select **PICTURE** and press the **OK** button.
 - 3 Use the \wedge , \vee , \lt or \gt button to set up the desired item and press the **OK** button.
- To return to the previous menu, press the \hookrightarrow button.



The available picture settings are described as follows.

Item	Description	
ENERGY SAVING	Adjusts the brightness.	
PICTURE Mode	Selects one of the preset images or customizes options in each mode for the best screen performance. You can also customize advanced options for each mode.	
	Mode	
	Vivid	Maximizes the visual effect of video. Displays a crystal clear picture by enhancing contrast, brightness, and sharpness.
	Standard	Displays the picture with normal contrast, brightness and sharpness.
	Cinema	Optimizes the image for a movie.
	Game	Optimizes the image for playing games on fast-moving screens.
Expert1/2	Adjusts the detailed image settings.	
Contrast	Increases or decreases the gradient of the video signal.	
Brightness	Adjusts the base level of the video signal to make the image brighter or darker.	
Sharpness	Adjusts the level of edge sharpness between the light and dark areas of the picture. The lower the level is, the softer the image looks. Horizontal and Vertical Sharpness are available only in Expert1/2.	
Color	Adjusts the intensity of all colors.	
Tint	Adjusts the balance between red and green levels.	
Advanced Control	Customizes the advanced settings.	
Picture Option	Sets optional settings.	

Item	Description	
Picture Reset	Restores each mode's options to the factory default.	
Aspect Ratio	Resizes the picture.	
Picture Wizard II	By following the instructions, you can easily adjust the picture quality to technical standards using the remote control without needing an expensive pattern device or a picture quality expert.	
Screen (RGB-PC)	Adjusts the picture quality in RGB-PC input.	
	Item	
	Resolution	Available resolution is 768 (1024x768/1280x768/1360x768, 60 Hz).
	Auto Config.	Provides optimized picture quality by automatically calibrating mismatched horizontal width and a shaky picture caused by conflicts between the internal settings of the Laser TV and various PC graphic signals. You can also use the AUTO button on the remote control.
	Position	Moves the image up/down/left/right.
	Size	Changes the screen size.
	Phase	Makes the picture look clear by removing horizontal noise.
Reset	Restores all the settings to the factory default.	

Advanced Control

Item	Description	
Dynamic Contrast	Adjusts the contrast to keep it at the best level for the brightness of the screen.	
Dynamic Color	Adjusts screen colors so that they look natural.	
Clear White	Makes the white area of the screen look brighter and whiter.	
Preferred Color	Skin Color	Adjusts the skin color in the picture to your preference.
	Grass Color	Adjusts only the natural color area of e.g., field and mountain.
	Sky Color	Adjusts only the color of the sky.
Super Resolution	Improves blurry and unclear parts in the picture to make the picture more vivid.	
Color Temperature	Adjusts the overall color of the screen to suit your preference. You can select Warm, Cool, Medium or Natural.	
Gamma	Sets a gradation curve between video input and output signal.	

Item	Description
Color Gamut	<p>Selects the range of colors to display.</p> <p>Standard: Displays the original colors of an input signal regardless of the display features.</p> <p>Wide: Sets to use the rich colors of the display.</p>

Available options may differ depending on the input signal or video mode, etc.

Expert Control

Item	Description
Dynamic Contrast	Adjusts the contrast to keep it at the best level for the brightness of the screen.
Super Resolution	Improves blurry and unclear parts in the picture to make the picture more vivid.
Color Gamut	<p>Selects the range of colors to display.</p> <p>Standard: Displays the original colors of an input signal regardless of the display features.</p> <p>Wide: Sets to use the rich colors of the display.</p>
Edge Enhancer	Provides much sharper and clearer edges to the picture.
xvYCC	Displays much richer colors.
Color Filter	Accurately adjusts color and tint by filtering a specific color area of RGB space.
Expert Pattern	Patterns used for expert adjustment.
Gamma	Sets a gradation curve between video input and output signal.
White Balance	<p>Adjusts white balance. Detailed adjustment is possible as shown below.</p> <p>Color Temperature: Select Warm, Cool, Medium or Natural.</p> <p>a. Method: 2 points Pattern: Inner, Outer Contrast Red/Green/Blue, Brightness Red/Green/Blue: Adjustable range -50 - +50.</p> <p>b. Method: 20 point IRE Pattern: Inner, Outer Institute of Radio Engineers (IRE) is the unit indicating the size of a video signal and can be set to 5, 10, 15, ... 100. You can fine-tune for each setting as shown below. Luminance: If you set up luminance for 100 IRE, a luminance value satisfying each gamma is automatically calculated for each step from 10 IRE to 90 IRE. Red/Green/Blue: The adjustment range is -50 - +50.</p>

Item	Description
Color Management system	<p>Adjusts Red/Green/Blue/Cyan/Magenta/Yellow colors. Allows an expert to adjust the tint using a test pattern. Six colors (Red/Green/Blue/Cyan/Magenta/Yellow) can be selectively adjusted without affecting other colors.</p> <p>You may not see colors change on a normal picture even after adjustment.</p> <p>Chroma Red/Green/Blue/Yellow/Cyan/Magenta, Tone Red/Green/Blue/Yellow/Cyan, Magenta: The adjustment range is -30 - +30 each.</p>

Available options may differ depending on the input signal or video mode, etc.

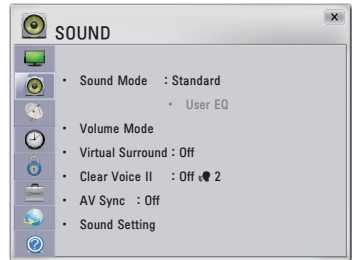
Picture Option

Item	Description	
Noise Reduction	Removes noises in the picture.	
MPEG Noise Reduction	Reduces the noise produced while creating digital video signals.	
Black Level	Compensates the brightness and contrast of a screen to balance with the black level of the video input.	
Real Cinema	Provides optimal picture quality for watching a movie.	
TruMotion	Makes the picture look smooth by compensating it.	
	Mode	
	Smooth	The De-Judder value is set to 3.
	Clear	The De-Judder value is set to 7.
User	You can set this function manually. De-Judder: Adjusts the juddering on a screen.	

* If the video signal is 60 Hz, TruMotion may not work.

SOUND Settings

- 1 Press the **SETTINGS** button.
 - 2 Use the \wedge or \vee button to select **SOUND** and press the **OK** button.
 - 3 Use the \wedge , \vee , \lt or \gt button to set up the desired item and press the **OK** button.
- To return to the previous menu, press the \curvearrowright button.



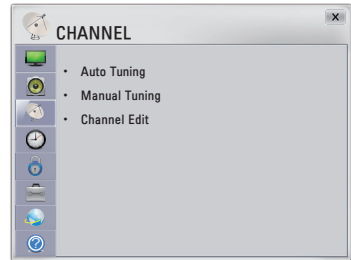
The available sound settings are described as follows.

Item	Description	
Sound Mode	Optimizes Laser TV audio to the selected sound mode.	
	Mode	
	Standard	Suitable for all types of video.
	Music / Cinema / Sport / Game	Sets audio optimized for a specific genre.
	Vivid	Delivers distinct voices with rich bass and clear, high-pitched sounds.
User Setting	Adjusts the volume to a level of your choice using the User EQ.	
User EQ	Allows you to adjust the treble and bass sound. Sets Sound Mode at User Setting first.	
	Mode	
	100 Hz / 300 Hz / 1 kHz / 3 kHz / 10 kHz	Sets EQ by manual adjustment of sound bands.
	Reset	Resets the equalizer value changed by the user.
Volume Mode	Sets the Laser TV volume.	
Virtual Surround	Provides realistic stereo sound.	
Clear Voice II	Makes the voice from the Laser TV crisp and clear.	
AV Sync.	Allows you to manually adjust picture and audio when they are not synced.	

Item	Description	
Sound Setting	Balances the sound.	
	Mode	
	ARC Mode	<p>External audio devices can be connected via High-Speed HDMI® cable without an extra optical audio cable to output SPDIF. It interfaces with SIMPLINK.</p> <p>For an external device that supports ARC (Audio Return Channel), connect it to the HDMI(ARC) port.</p>
	Balance	Adjusts left/right audio balance.
	TV Speaker	<p>When listening via speakers on external audio devices connected to the Laser TV, such as home theatre equipment, the Laser TV speaker may be turned off. If there is a home theatre device connected to SIMPLINK, setting the Laser TV Speaker to Off will turn the home theatre equipment on automatically.</p>
Digital Sound Out	Sets up Digital Sound Output.	

CHANNEL Settings

- 1 Press the **SETTINGS** button.
 - 2 Use the \wedge or \vee button to select **CHANNEL** and press the **OK** button.
 - 3 Use the \wedge , \vee , \lt or \gt button to set up the desired item and press the **OK** button.
- To return to the previous menu, press the \curvearrowright button.

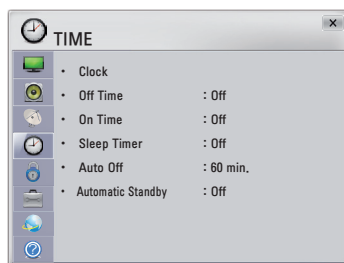


The available Channel settings are described as follows.

Item	Description
Auto Tuning	Remembers a channel which is currently broadcasting. You should use this function when you move to another house or move the Laser TV to other place. It must be used while the antenna is connected and there are channel broadcasting signals.
Manual Tuning	Checks a channel signal, deletes or remembers a channel.
Channel Edit	Deletes or remembers a channel.

TIME Settings

- 1 Press the **SETTINGS** button.
 - 2 Use the \wedge or \vee button to select **TIME** and press the **OK** button.
 - 3 Use the \wedge , \vee , \lt or \gt button to set up the desired item and press the **OK** button.
- To return to the previous menu, press the \rightarrow button.

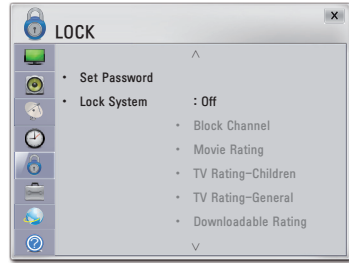


The available Time settings are described as follows.

Item	Description
Clock	You can check or change the time while using the Laser TV.
Off Time /On Time	<p>You can set the On/Off time for Laser TV.</p> <div style="border: 1px solid black; padding: 5px;"> <p>NOTE</p> <ul style="list-style-type: none"> • This works normally only when the current time is configured. If Off Time and On Time are the same, Sleep takes priority when the Laser TV is on and Power On takes priority when the Laser TV is off. • Although the Laser TV can be turned on by the On Time function, it is automatically turned off if no button is pressed within 120 minutes. This is a convenient function if you are away from your home for a long period of time. </div>
Sleep Timer	Sets the Laser TV to be turned off at the specified time.
Auto Off	If there is no signal, the Laser TV automatically turns off after the preset time has elapsed.
Automatic Standby	Turn off the Laser TV at the preset time if there is no input within the given period of time.



LOCK Settings

- 1 Press the **SETTINGS** button.
 - 2 Use the \wedge or \vee button to select **LOCK** and press the **OK** button.
 - 3 Use the \wedge , \vee , \lt or \gt button to set up the desired item and press the **OK** button.
- To return to the previous menu, press the \curvearrowright button.



The available Lock settings are described as follows.

Setting	Description	
Set Password	Changes the 4-digit password. The default PIN is "0 0 0 0". If you forget your password, press "0-3-2-5" on the remote control.	
Lock System	Activates or deactivates the lock system.	
Block Channel	Blocks the channels that contain inappropriate contents for children. The channels can be selected but the screen is blank and the audio is muted. To watch a locked channel, enter the password.	
Movie rating	Blocks the movies that are only broadcasted on the Laser TV and contain inappropriate contents, based on the Motion Picture Association of America (MPAA) rating.	
	Rating	
	G	General audiences – All ages admitted
	PG	Parental guidance suggested – Some material may not be suitable for children
	PG-13	Parents strongly cautioned – Some material may be inappropriate for children under 13
	R	Restricted – Under 17 requires accompanying parent or adult guardian
	NC-17	No one 17 and under admitted.
	X	Adults only
	Blocking Off Permits all programs	
TV Rating-Children	Blocks the children's TV programs that parents do not want their children to watch. To block other TV programs, you should set the TV Rating-General feature.	
	Rating	
	Age	Applies to TV-Y, TV-Y7
	Fantasy Violence	Applies to TV-Y7

Setting	Description												
TV Rating-General	<p>Blocks the TV programs that you want based on the ratings by using the Parental Control Function (V-Chip).</p> <div style="border: 1px solid black; border-radius: 10px; padding: 10px; margin: 10px 0;"> <p> NOTE</p> <ul style="list-style-type: none"> The V-Chip electronically reads TV program ratings and allows parents to block program that are unsuitable for children. </div> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th colspan="2" style="text-align: left;">Rating</th> </tr> </thead> <tbody> <tr> <td style="width: 30%;">Age</td> <td>Applies to TV-G, TV-PG, TV-14, TV-MA.</td> </tr> <tr> <td>Dialogue</td> <td>(Sexual dialogue) applies to TV-PG, TV-14.</td> </tr> <tr> <td>Language</td> <td>(Adult language) applies to TV-PG, TV-14, TV-MA.</td> </tr> <tr> <td>Sex</td> <td>(Sexual situations) applies to TV-PG, TV-14, TV-MA.</td> </tr> <tr> <td>Violence</td> <td>Applies to TV-PG, TV-14, TV-MA.</td> </tr> </tbody> </table>	Rating		Age	Applies to TV-G, TV-PG, TV-14, TV-MA.	Dialogue	(Sexual dialogue) applies to TV-PG, TV-14.	Language	(Adult language) applies to TV-PG, TV-14, TV-MA.	Sex	(Sexual situations) applies to TV-PG, TV-14, TV-MA.	Violence	Applies to TV-PG, TV-14, TV-MA.
Rating													
Age	Applies to TV-G, TV-PG, TV-14, TV-MA.												
Dialogue	(Sexual dialogue) applies to TV-PG, TV-14.												
Language	(Adult language) applies to TV-PG, TV-14, TV-MA.												
Sex	(Sexual situations) applies to TV-PG, TV-14, TV-MA.												
Violence	Applies to TV-PG, TV-14, TV-MA.												
Downloadable Rating	<p>This function operates only when the Laser TV has received Region5 Rating data. The name of the rating option may differ.</p> <div style="border: 1px solid black; border-radius: 10px; padding: 10px; margin: 10px 0;"> <p> NOTE</p> <ul style="list-style-type: none"> This feature is available only for digital channels. </div>												
Input Block	Block the input sources.												


OPTION Settings

- 1 Press the **SETTINGS** button.
 - 2 Use the \wedge or \vee button to select **OPTION** and press the **OK** button.
 - 3 Use the \wedge , \vee , \lt or \gt button to set up the desired item and press the **OK** button.
- To return to the previous menu, press the \curvearrowright button.



The available Option settings are described as follows.

Item	Description	
Language	Selects the desired language.	
Caption	If a broadcasting station transmits a digital bilingual signal, you can select a desired language. This will be the default language used when the power is on or a channel is changed. If there is no information for a selected foreign language, it is displayed in English.	
	Digital Subtitle Settings (For digital broadcasting)	
	Size	Selects the size of a subtitle.
	Text Color	Selects the color of a subtitle.
	Text Opacity	Selects the transparency of a subtitle.
	Bg Color	Selects the background color of a subtitle.
Pointer	Bg Opacity	Selects the transparency of a subtitle background.
	Customizes the pointer settings.	
	Speed	Sets the move speed of a pointer.
	Shape	Selects the pointer shape.
	Size	Selects the pointer size.
Alignment	Turn on this option. While using the Magic remote control, if the pointing position of the remote control and the actual pointer position do not match, shake the Magic remote control to the left and right. The pointer automatically moves to the center of screen to match the movement.	
Set ID	The range of the set ID is 1 - 99. Only the saved set ID takes effect.	
PJT Mode	Turns the projected image upside down or flips it horizontally.	
Edge Adj	Compensates for the trapezoidal image shape created when projecting an image from an angle not perpendicular to the screen.	
Blank Image	Selects the background for blank image.	

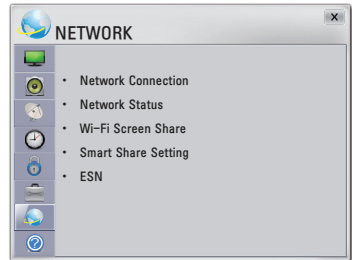
Item	Description			
Auto Power	Makes the Laser TV turn on automatically when the power cord is connected.			
	Item			
	<table border="1"> <tr> <td data-bbox="292 300 437 363">On</td> <td data-bbox="437 300 1010 363">When the power cord is connected to the Laser TV, it turns on automatically.</td> </tr> <tr> <td data-bbox="292 363 437 424">Off</td> <td data-bbox="437 363 1010 424">When the power cord is connected to the Laser TV, it goes into standby mode.</td> </tr> </table>	On	When the power cord is connected to the Laser TV, it turns on automatically.	Off
On	When the power cord is connected to the Laser TV, it turns on automatically.			
Off	When the power cord is connected to the Laser TV, it goes into standby mode.			
Power Sound	The alert sound plays upon turning on/off the power.			
High Altitude	<p>If the Laser TV is used at an altitude higher than 1200 meters, turn this option on.</p> <p>When High Altitude is not enabled, the Laser TV may overheat or its protection function may be activated. If this happens, turn the Laser TV off and then on again after waiting for several minutes.</p>			
Test Pattern	<p>You can run this option when installing the Laser TV to adjust the screen size and focus.</p> <div style="border: 1px solid black; border-radius: 10px; padding: 10px; margin-top: 10px;"> <p> NOTE</p> <ul style="list-style-type: none"> • While you use the Test Pattern option, the keys on the control panel do not work. </div>			
Auto Input Search	Automatically searches for and displays the input signal type when it is received. It is available only with external inputs (RGB, HDMI, AV and Component).			

Item	Description
Eye Care Sensor	<p data-bbox="260 212 641 240">Change the eye care sensor settings.</p> <div data-bbox="269 256 962 1342" style="border: 1px solid black; padding: 10px;"> <p data-bbox="292 256 415 300">! NOTE</p> <ul data-bbox="292 312 953 1326" style="list-style-type: none"> <li data-bbox="292 312 930 392">• If a user gets closer to the product while the eye care sensor is turned on, the sensor detects it and reduces the light intensity automatically to protect the user's eyes. <li data-bbox="292 392 925 443">• The eye care sensor does not work when the test pattern or the Edge Adj function is used. <li data-bbox="292 443 891 523">• The eye care sensor may not work properly if the sensor is blocked by an object or placed in an area where direct sunlight or wind comes in contact with it. <li data-bbox="292 523 949 574">• The eye care sensor is more sensitive to horizontal movement than vertical movement. <li data-bbox="292 574 919 625">• The detection range may vary depending on the installation environment, temperature, or brightness. <li data-bbox="292 625 938 676">• The eye care sensor detects heat sources, so it may respond to animals moving or heaters placed close by. <li data-bbox="292 676 919 756">• The eye care sensor detects heat sources, so it may not be able to detect the user if there is no exposed skin or if an obstacle is placed between the sensor and the user. <li data-bbox="292 756 930 807">• It may not be able to detect the user if there is no movement for a long time. <li data-bbox="292 807 938 858">• The eye care sensor may also detect a small animal (e.g. cat or dog) or rotating heater. <li data-bbox="292 858 930 938">• The eye care sensor may not be able to detect when room temperature rises to skin temperature (30 °C or more in summer) or when a user is wearing thick clothes or standing with their back to the sensor. <li data-bbox="292 938 938 1018">• The detection area may change if curtains or plants move in the wind. Detection also depends on variable conditions such as clothing and temperature. <li data-bbox="292 1018 904 1069">• The eye care sensor works normally even if the product is wobbling. <li data-bbox="292 1069 947 1120">• A wired/wireless communication device may cause the sensor to malfunction. <li data-bbox="292 1120 897 1171">• The eye care sensor may not work for a maximum of one minute after it is turned on. <li data-bbox="292 1171 925 1222">• When a user moves away from the unit, the light intensity is recovered within three seconds. <li data-bbox="292 1222 936 1273">• The eye care sensor may be disabled when energy saving is turned on. </div>

Item	Description	
Eye Care Sensor	Item	
	Sensor	Turn the eye care sensor on/off.
	Sensitivity	Set the sensitivity of the eye care sensor. The default is medium, but set it higher for better sensitivity or lower for less sensitivity.
Balloon Help	Enables/disables the balloon help.	
Smart TV Setting	Manages the smart TV settings or IDs.	
Initial Setting	Resets all the Laser TV settings to the factory settings.	
Mode Setting	Sets the environment.	

NETWORK Settings

- 1 Press the **SETTINGS** button.
 - 2 Use the \wedge or \vee button to select **NETWORK** and press the **OK** button.
 - 3 Use the \wedge , \vee , \lt or \gt button to set up the desired item and press the **OK** button.
- To return to the previous menu, press the \curvearrowright button.

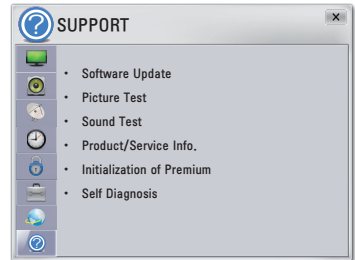


The available Network settings are described as follows.

Item	Description	
Network Connection	Connects the network.	
Network status	Checks the network status.	
Wi-Fi Screen Share	Wi-Fi Screen Share supports the wired/wireless connection technology, such as Wi-Fi Direct and WiDi. You can share the file and screen of the devices connected by the Wi-Fi Screen Share on the SmartShare.	
Smart Share Setting	Changes the settings for SmartShare.	
	Item	
	TV Name	Changes the name that appears when searching for the Laser TV from other devices.
	Share My TV	Allows / prevents connection to the Laser TV from other devices. Turns DMR (Digital Media Renderer) connection on/off.
	Auto Play on Recieve	Accepts / rejects content transferred from other devices.
DivX(R) VOD	Registers or releases DivX. Checks DivX Registration Code for playing DivX-protected videos. Register at http://vod.divx.com . Uses Registration Code to rent or purchase movies at www.divx.com/vod . <ul style="list-style-type: none"> • Rented/purchased DivX files cannot be played if the DivX Registration Code of a different device is used. Use only the DivX Registration Code granted to this device. • Converted files not conforming to the DivX Codec Standard may not play or may produce abnormal images and sound. 	
ESN	Electronic serial number.	

SUPPORT Settings

- 1 Press the **SETTINGS** button.
 - 2 Use the \wedge or \vee button to select **SUPPORT** and press the **OK** button.
 - 3 Use the \wedge , \vee , \lt or \gt button to set up the desired item and press the **OK** button.
- To return to the previous menu, press the \curvearrowright button.

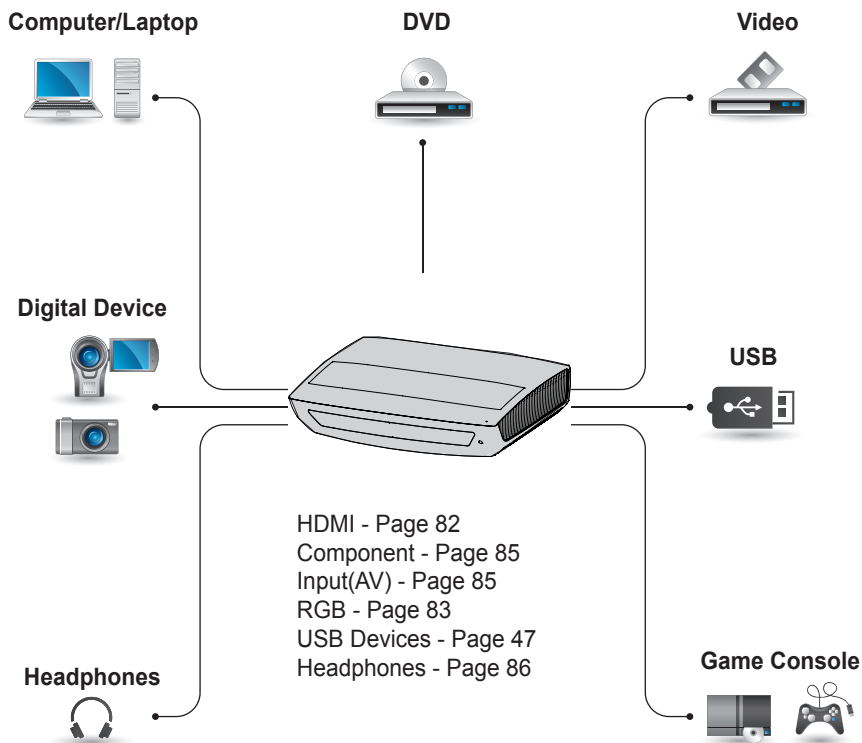


The available Support settings are described as follows.

Item	Description
Software Update	Updates to the latest software.
Picture Test	First run a Picture Test to verify that the image signal output is normal. If there is no problem with the test image, check external device connections and broadcast signals.
Sound Test	First run a Sound Test to verify that the sound signal output is normal. If there is no problem with the test sound, check connected external devices and the broadcast signal.
Product/Service Info.	Shows the product/service information.
Initialization of Premium	When Premium Page error occurs, initialize the premium.
Self Diagnosis	Troubleshoots functional problems that can arise while using the product.

CONNECTING EXTERNAL DEVICES

You can connect various external devices to Laser TV.



Connecting an HD Receiver, DVD Player, or VCR

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

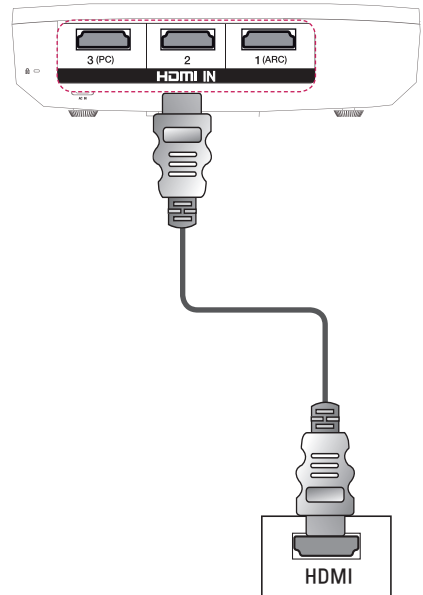
NOTE

- Audio Return Channel (ARC)
- An external audio device that supports SIMPLINK and ARC must be connected using HDMI input 1 (ARC) port.
- When connected with a high-speed HDMI® cable, the external audio device supporting ARC outputs optical SPDIF works with the SimpLink function without additional optical audio cable.

HDMI connection

With an HDMI cable, you can enjoy high quality picture and sound. Connect the HDMI input port of Laser TV to the HDMI output port.

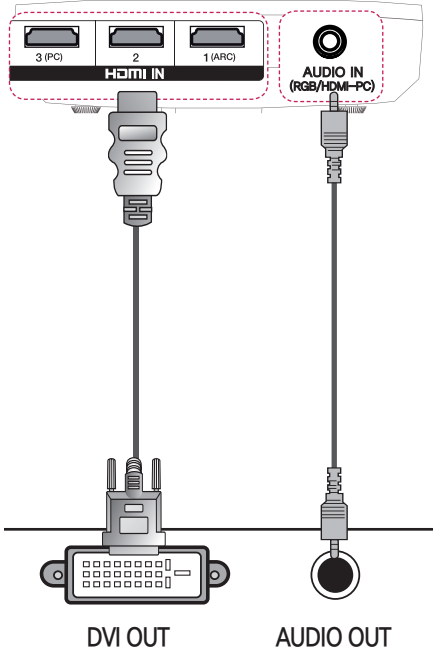
Press the INPUT button on the remote control to select HDMI. You can use any HDMI input port for connection.



HDMI to DVI Connection

Use the HDMI to DVI cable to connect the HDMI input port of the Laser TV to the DVI output port.

Press the INPUT button on the remote control to select HDMI. You can select any HDMI input port for connection.



Connecting a PC

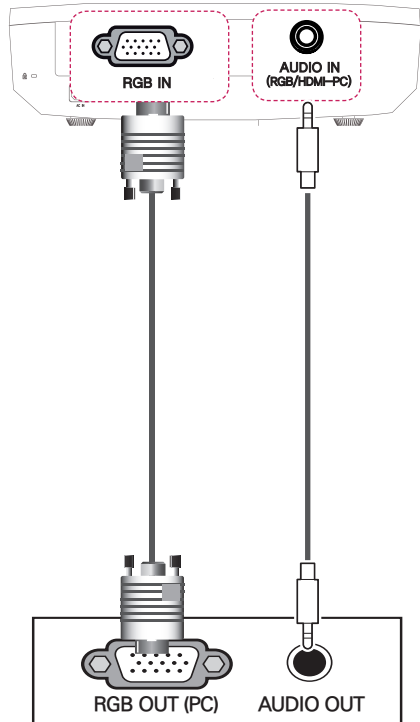
This Laser TV supports the Plug & Play function. Your PC will automatically detect the Laser TV and requires no driver installation.

RGB Connection

Connect the PC output and the PC video input port of the Laser TV with an RGB cable.

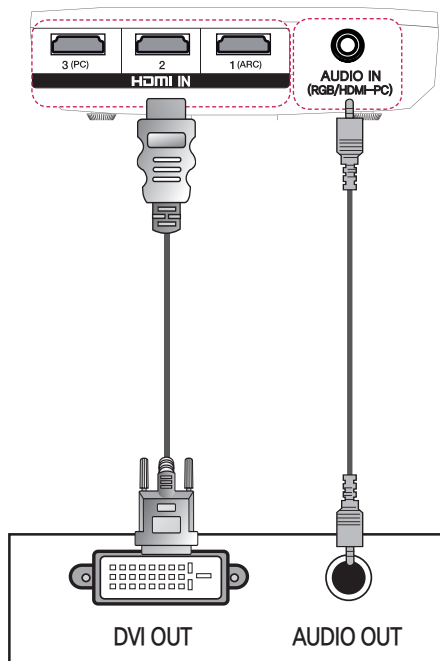
Connect the Laser TV's video (PC) input port to the RGB output port.

To output the audio, connect the PC to the Laser TV using an optional audio cable.



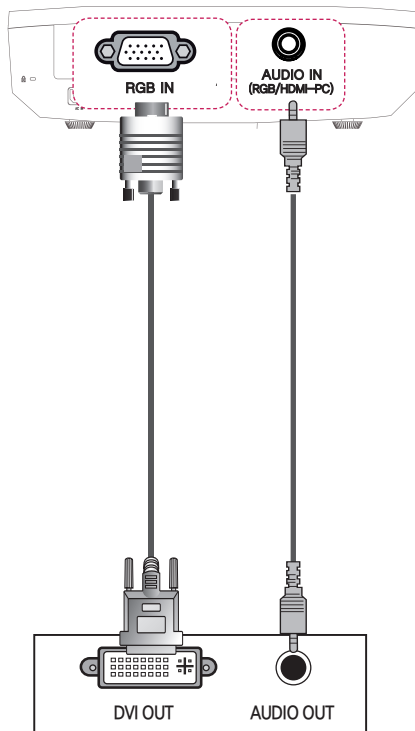
HDMI to DVI Connection

Use the HDMI to DVI cable to connect the HDMI input port of the Laser TV to the DVI output port.
Press the INPUT button on the remote control to select HDMI. You can use any HDMI input port for connection.



RGB to DVI Connection

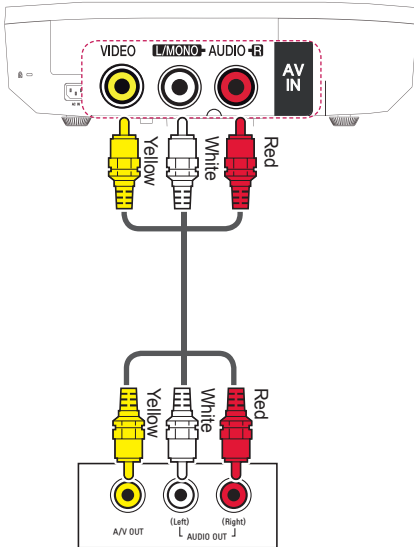
Connect the Laser TV's video (PC) input port to the DVI output port.
To output the audio, connect the PC to the Laser TV using an optional audio cable.



Connecting External Devices

AV Connection

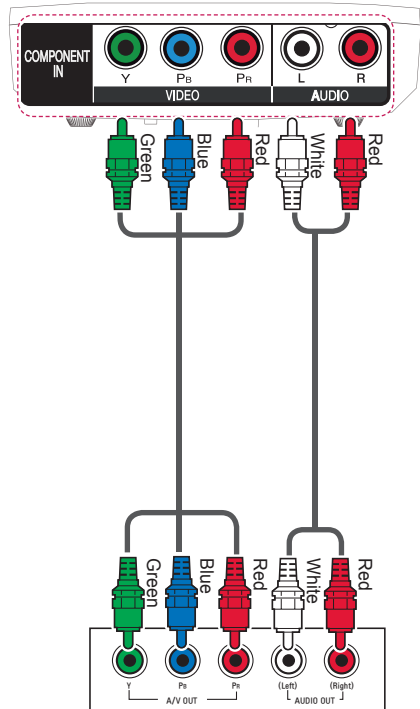
Connect the output ports of an external device and the AV input ports of the Laser TV using AV connection cables. Press the INPUT button to select AV.



Component Connection

You can enjoy more vivid images when you connect an external device with a component port to the component input port of the Laser TV. Press the INPUT button on the remote control to select Component.

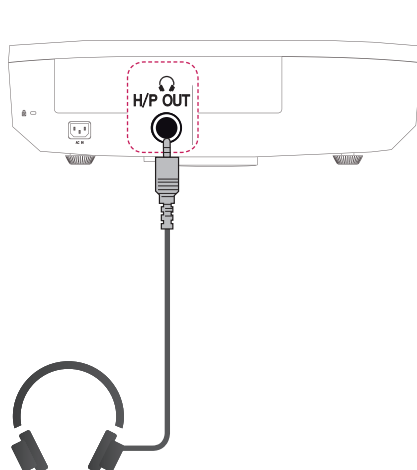
The output jack Y, PB or PR of the DVD player may be marked as Y, B-Y, R-Y/Y, Cb, Cr/Y, Pb or Pr depending on the model.



Connecting Headphones

Headphone Connection

You can listen to the sound from Laser TV using headphones.

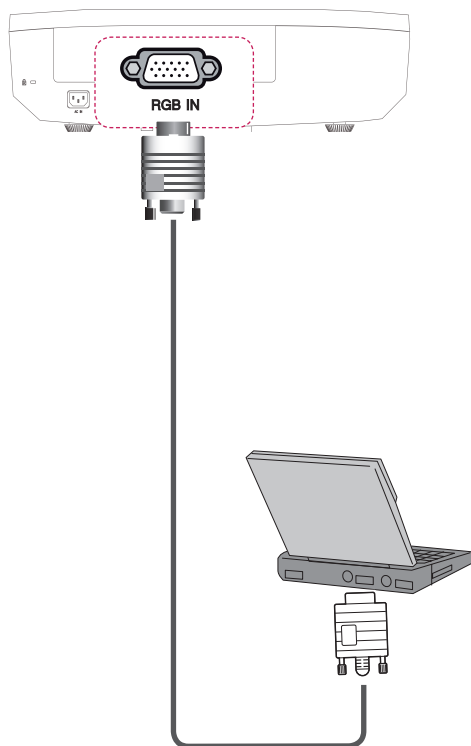


Connecting a Laptop

You can connect the Laser TV to a laptop to use various functions.

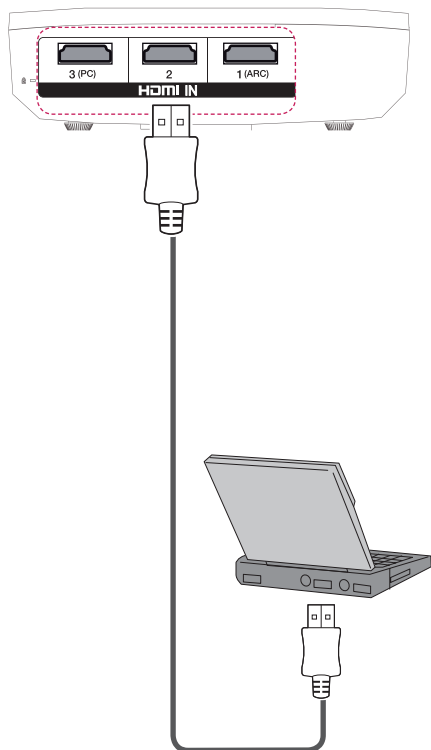
RGB Connection

You can connect it to the video (PC) input port of the Laser TV.



HDMI connection

Connect the HDMI input port of Laser TV to the HDMI output port.



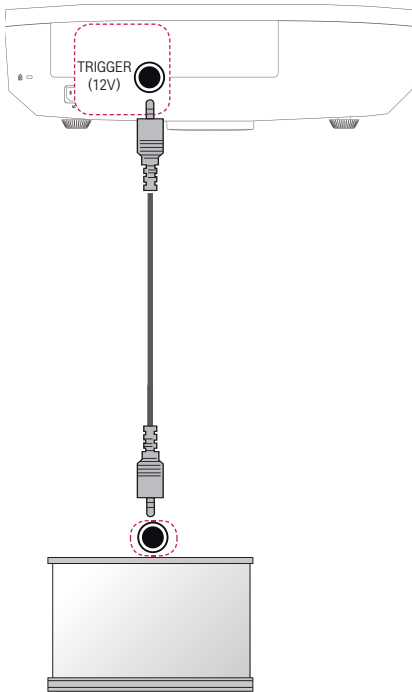
The table below shows examples of switching the output. For more information, refer to the "External Output", "Connecting to an External Monitor", or similar sections of the owner's manual of your computer.

Brand	Switching Output
NEC	[Fn]+[F3]
Panasonic	[Fn]+[F3]
Toshiba	[Fn]+[F5]
IBM	[Fn]+[F7]
Sony	[Fn]+[F7]
Fujitsu	[Fn]+[F10]
LG	[Fn]+[F7]
Samsung	[Fn]+[F4]
Macintosh	Adjust the control panel to enable mirroring after start-up.

Using the TRIGGER Port

Motor screen connection

Connect an external device (e.g., roll screen) to the TRIGGER (12V) port using a mini jack cable (3.5 mm).



! NOTE

- Do not plug an earphone jack into the TRIGGER (12V) port. This may cause damage to the earphones.
- When a device is connected to the TRIGGER port, turning the power on outputs voltage from the port; turning the power off stops outputting.

Serial Communication Function

Using Serial Communication

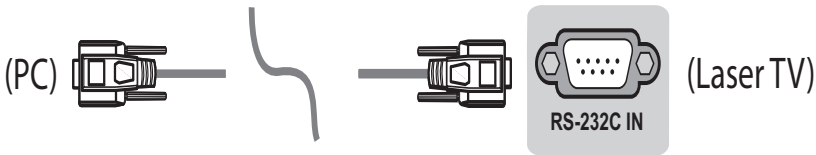
If the Laser TV is connected to a PC through an RS-232C cable, you can use the PC to control functions of the Laser TV such as power On/Off or input selection, etc. This function may not be available for a particular menu or input mode.

Establishing Serial Communication

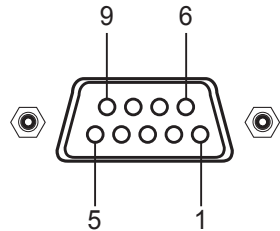
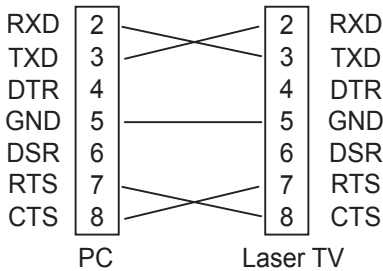
Connect the RS-232C (serial connector) of the PC to the RS-232C connector at the back of the Laser TV.

You need to purchase a cable to connect the RS-232C connectors as it is not provided as an accessory.

* A RS-232C cable is necessary for the remote control of the Laser TV (see Figure 1).



[Figure 1] RS-232 Connection Diagram



* There is no connection to Pin 1 and Pin 9.

Communication Parameter Setup
 Baud Rate: 9600 bps(UART)
 Data Length: 8 bit
 Parity: none
 Stop bit: 1 bit
 Flow Control: none
 Communication code: ASCII code

Communication Protocol

1. Transmission

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

[Command1]: The first command to control the Laser TV (k, j, x, m, n, ASCII code, 1 Character)

[Command2]: The second command to control the Laser TV (ASCII code, 1 character)

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

[Data]: To transmit command data (hexadecimal). Transmit 'FF' data to read status of command.

[Cr]: Carriage Return
 It corresponds to ASCII code '0x0D'.

[] : ASCII code 'space (0x20)

2. OK Acknowledgement

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

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

3. Error Acknowledgement

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

If a set receives an abnormal piece of data such as a non-supported function or there is a communication error, it returns ACK in the above format.

Data [00]: illegal code
 (This command is not supported.)

Data Structure

10	16																		
0	00	10	16	10	16	10	16	10	16	10	16	10	16	10	16	10	16	10	16
1	01	11	0B	21	15	31	1F	41	29	51	33	61	3D	71	47	81	51	91	5B
2	02	12	0C	22	16	32	20	42	2A	52	34	62	3E	72	48	82	52	92	5C
3	03	13	0D	23	17	33	21	43	2B	53	35	63	3F	73	49	83	53	93	5D
4	04	14	0E	24	18	34	22	44	2C	54	36	64	40	74	4A	84	54	94	5E
5	05	15	0F	25	19	35	23	45	2D	55	37	65	41	75	4B	85	55	95	5F
6	06	16	10	26	1A	36	24	46	2E	56	38	66	42	76	4C	86	56	96	60
7	07	17	11	27	1B	37	25	47	2F	57	39	67	43	77	4D	87	57	97	61
8	08	18	12	28	1C	38	26	48	30	58	3A	68	44	78	4E	88	58	98	62
9	09	19	13	29	1D	39	27	49	31	59	3B	69	45	79	4F	89	59	99	63
10	0A	20	14	30	1E	40	28	50	32	60	3C	70	46	80	50	90	5A	100	64


Command Reference List

	Command 1	Command 2	Data (Hexadecimal)
01. POWER	k	a	00 - 01
02. Aspect Ratio	k	c	*
03. Blank Image	k	d	00 - 01
04. Contrast	k	g	00 - 64
05. Brightness	k	h	00 - 64
06. Color	k	i	00 - 64
07. Tint	k	j	00 - 64
08. Sharpness	k	k	00 - 32
09. OSD Control	k	l	00 - 01
10. Key Lock	k	m	00 - 01
11. Color Temperature	k	u	00 - 04 (excluding 03)
12. Black Level	n	m	00 - 01
13. Energy Saving	n	p	00 - 02
14. Auto configuration	j	u	01
15. Input	x	b	*
16. Key	m	c	Key Code
17. Picture Mode	n	s	00 - 05
18. Mute	k	e	00 - 01
19. Volume	k	f	00 - 64
20. Channel(Add/Del)	m	b	00 - 01

* For more information about the data(*), refer to next page.

* When playing a video or photo file stored on a storage media (USB memory stick or HDD, etc.) that is connected through USB, all commands are disabled, other than Power (ka), Key (mc) and Blank Image (kd). If a command cannot be used in a specific menu or input state, it is processed as NG.

01. Power (Command: ka)

⇒ Powers the set on/off.

Transmission

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

Data 00: Power Off
01: Power On

Ack

```
[a][Set ID][OK][Data][x]
```

Data 00: Power Off
01: Power On

⇒ To Show Power On(Only working when the Laser TV is turned on)

Transmission

```
[k][a][Set ID][FF][Cr]
```

Ack

```
[a][Set ID][OK][Data][x]
```

Data 01: Power On

⇒ As with other functions, if data is transmitted as '0xFF' in the above format, the current status of each function is returned as a feedback in Ack data.

02. Aspect Ratio (Command: kc)

⇒ Adjusts the aspect ratio.

Transmission

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

Data 01: 4:3
02: 16:9
04: Zoom
06: Set By Program
09: Just scan
10 - 1f: Cinema Zoom 1 - 16

Ack

```
[c][Set ID][OK][Data][x]
```

Data 01: 4:3
02: 16:9
04: Zoom
06: Set By Program
09: Just scan
10 - 1f: Cinema Zoom 1 - 16

03. Blank Image (Command: kd)

⇒ Enables/disables the blank image.

Transmission

```
[k][d][Set ID][Data][Cr]
```

Data 00: Screen Mute Off (picture on)
01: Screen Mute On (picture off)

Ack

```
[d][Set ID][OK][Data][x]
```

Data 00: Screen Mute Off (picture on)
01: Screen Mute On (picture off)

04. Contrast (Command: kg)

⇒ Adjusts the screen contrast.

Transmission

```
[k][g][Set ID][Data][Cr]
```

Data Min: 0H - Max: 64H
(* Transmitted in hexadecimal code)

* See the data structure.

Ack

```
[g][Set ID][OK][Data][x]
```

Data Min: 0H - Max: 64H

05. Brightness (Command: kh)

⇒ Adjusts the screen brightness.

Transmission

```
[k][h][Set ID][Data][Cr]
```

Data Min: 0H - Max: 64H
(* Transmitted in hexadecimal code)

* See the data structure.

Ack

```
[h][Set ID][OK][Data][x]
```

Data Min: 0H - Max: 64H

06. Color (Command: ki)

⇒ Adjusts the screen color.

Transmission

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

Data Min: 0H - Max: 64H
(* Transmitted in hexadecimal code)

* See the data structure.

Ack

```
[i][Set ID][OK][Data][x]
```

Data Min: 0H - Max: 64H

07. Tint (Command: kj)

⇒ Adjusts the screen tint.

Transmission

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

Data Red: 0H - Green: 64H
(* Transmitted in hexadecimal code)

* See the data structure.

Ack

```
[j][Set ID][OK][Data][x]
```

Data Red: 0H - Green: 64H

08. Sharpness (Command: kk)

⇒ Adjusts screen sharpness.

Transmission

```
[k][k][Set ID][Data][Cr]
```

Data Min: 0H - Max: 32H

(* Transmitted in hexadecimal code)

* See the data structure.

Ack

```
[k][Set ID][OK][Data][x]
```

Data Min: 0H - Max: 32H

09. OSD Control (Command: kl)

⇒ Selects OSD On/Off.

Transmission

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

Data 00: OSD selection mode off

01: OSD selection mode on

Ack

```
[l][Set ID][OK][Data][x]
```

Data 00: OSD selection mode off

01: OSD selection mode on

10. Key Lock (Command: km)

⇒ To Set the function of locking the remote control and front panel control on the Laser TV.

Transmission

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

Data 00: Disables the key lock.

01: Enables the key lock.

Ack

```
[m][Set ID][OK][Data][x]
```

Data 00: Disables the key lock.

01: Enables the key lock.

- ▶ This function is configured when the keys on the remote control or control panel are not used. If the unit is fully discharged after its power plug is pulled out of a wall outlet, the LOCK function is cleared.
- ▶ If the unit is in the key lock standby mode, the cinema beam TV will not respond to the power button on the remote control or control panel.

11. Color Temperature (Command: ku)

⇒ Adjusts the value of color temperature.

Transmission

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

Data 00: Medium 01: Cool

02: Warm 04: Medium

(* Transmitted in hexadecimal code)

*Data 03 is not used.

Ack

```
[u][Set ID][OK][Data][x]
```

Data 00: Medium 01: Cool

02: Warm 04: Medium

12. Black Level (Command: nm)

⇒ Adjusts the value of black level.

Transmission

```
[n][m][Set ID][Data][Cr]
```

Data 00: Low 01: High
(* Transmitted in hexadecimal code)

Ack

```
[m][Set ID][OK][Data][x]
```

Data 00: Low 01: High

13. Energy Saving (Command: np)

⇒ Sets the energy saving mode.

Transmission

```
[n][p][Set ID][Data][Cr]
```

Data 00: Minimum
Data 01: Medium
Data 02: Maximum
(* Transmitted in hexadecimal code)

Ack

```
[p][Set ID][OK][Data][x]
```

Data 00: Minimum
Data 01: Medium
Data 02: Maximum

14. Auto Configure (Command: ju)

⇒ Optimizes the screen automatically in PC input mode.

Transmission

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

Data 01: To set
(* Transmitted in hexadecimal code)

Ack

```
[u][Set ID][OK][Data][x]
```

Data 01: To set

15. Input Select (Command: xb)

⇒ Selects the input signal.

Transmission

```
[x][b][Set ID][Data][Cr]
```

Data 00: DTV (Digital broadcasting)
01: DTV cable
10: TV (Analog broadcasting)
11: TV cable
20: AV 40: Component
60: RGB-PC 90: HDMI 1
91: HDMI 2 92: HDMI 3
(* Transmitted in hexadecimal code)

Ack

```
[b][Set ID][OK][Data][x]
```

Data 00: DTV (Digital broadcasting)
01: DTV cable
10: TV (Analog broadcasting)
11: TV cable
20: AV 40: Component
60: RGB-PC 90: HDMI 1
91: HDMI 2 92: HDMI 3

16. Key (Command: mc)

⇒ Sends a key code of the IR remote control.

Transmission

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

Data Key Code see Page 98
 (* Transmitted in hexadecimal code)

Ack

[c][Set ID][OK][Data][x]

Data Key Code

17. Picture Mode (Command: ns)

⇒ Sets the picture mode.

Transmission

[n][s][Set ID][Data][Cr]

Data 00: Vivid 01: Standard
 02: Cinema 03: Game
 04: Expert1
 05: Expert2
 (* Transmitted in hexadecimal code)

Ack

[b][Set ID][OK][Data][x]

Data 00: Vivid 01: Standard
 02: Cinema 03: Game
 04: Expert1
 05: Expert2
 (* Transmitted in hexadecimal code)

18. Mute (Command: ke)

⇒ Enables/disables the mute function.

Transmission

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

Data 00: Mute On (volume off)
 01: Mute Off (volume on)

Ack

[e][Set ID][OK][Data][x]

Data 00: Mute On (volume off)
 01: Mute Off (volume on)

19. Volume (Command: kf)

⇒ Controls the volume.

Transmission

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

Data Min: 0H (Vol 0) - Max: 64H (Vol 100)
 (* Transmitted in hexadecimal code)
 * See the data structure.

Ack

[f][Set ID][OK][Data][x]

Data Min: 0H (Vol 0) - Max: 64H (Vol 100)



20. Channel Add/Del (Command: mb)

⇒ To add and delete the channels.

Transmission

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

Data 00: Channel Delete

01: Channel Add

Ack

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

Data 00: Channel Delete

01: Channel Add

<Key Code>

Key Name	Key Code	Key Name	Key Code
^	0x40	HOME	0x7C
v	0x41	MUTE	0x09
>	0x06	CH ^	0x00
<	0x07	CH v	0x01
POWER	0x08	STILL	0xBC
INPUT	0x0B	EXIT	0x5B
SETTINGS	0x43	0	0x10
↶ (BACK)	0x28	1	0x11
OK ●	0x44	2	0x12
ENERGY SAVING	0x95	3	0x13
RATIO	0x79	4	0x14
BLANK	0x84	5	0x15
AUTO	0x92	6	0x16
AV MODE	0x30	7	0x17
VOL+	0x02	8	0x18
VOL -	0x03	9	0x19
RED	0x72	▶▶	0x8E
GREEN	0x71	◀◀	0x8F
YELLOW	0x63	▶	0xB0
BLUE	0x61	■	0xB1
SIMPLINK	0x7E		0xBA
EDGE ADJ	0xA4	FAV	0x1E
TV	0x0F	INFO	0xAA
FLASHBK	0x1A	Q.MENU	0x45
LIST,-	0x4C	MY APPS	0x42

MAINTENANCE

Clean your Laser TV to keep it in optimal condition.

Cleaning

Cleaning Cover Glass

To remove dust or stains on the cover glass, use an air spray or use a swab or soft cloth to wipe the glass gently.

Cleaning the Laser TV Case

To clean the case of Laser TV, first unplug the power cord.

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

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

Updating the Software

When a software update is required, run the software update to obtain the latest software version.

You can manually check for and download any software updates.

1 On the **HOME** screen, press the **SETTINGS** button.

2 Select **SUPPORT** and go to **Software Update**.

Item	Description
Software Update	Turn on this option. When an update file is found, it is downloaded automatically. When the update file is completely downloaded, a software update window appears.
Check Update Version	If an update file of a higher version exists after checking the latest update version, you can proceed with the update manually.

- The update service to get the latest version is provided through an Internet connection.
- If the software is not updated, some functions may not work well.

Frequently Asked Questions about Smart TV

Problem	Troubleshooting
Whenever I enter a menu, the 'Initializing' message is always displayed.	The 'Initializing' message indicates the CPU and hardware booting time, network communication setup, or communication time with SDP (device authorization and basic information download). It normally takes about 20 seconds.
No contents are shown in the premium card.	If the country setting is changed in the Laser TV Setting menu, the contents may not be displayed. You can change the country in HOME → Settings → OPTION → Smart TV Setting → Smart TV Country.
Some spaces are not visible for a specific website when using the Internet.	In this Laser TV, the Internet supports up to Flash 10. Some formats other than the following formats may be restricted to play : JPEG, PNG, GIF, WMV (ASF), WMA, MP3 and MP4.
The Internet is automatically shut down when I visit a website.	The Internet may be forced to shut down if the memory size is insufficient to accommodate the image information of a website.

Wireless Specifications

As the wireless device may cause electromagnetic interferences, the manufacturer and installer may not provide the safety or medical services.

Wireless LAN Module (TWFM-B003D) Specifications

Standard	IEEE802.11a/b/g/n
Frequency Range	2400 MHz to 2483.5 MHz 5150 MHz to 5250 MHz 5725 MHz to 5850 MHz
Modulation	CCK / OFDM / MIMO
Output Power (Typical)	802.11a: 15 dBm 802.11b: 14 dBm 802.11g: 17 dBm 802.11n - 2.4 GHz: 17 dBm 802.11n - 5 GHz: 15 dBm
Data Rate	802.11a/g: 54 Mbps 802.11b: 11 Mbps 802.11n: 300 Mbps
Antenna Gain (Typical)	2400 MHz to 2483.5 MHz: -2.5 dBi 5150 MHz to 5250 MHz: -2.2 dBi 5725 MHz to 5850 MHz: -2.9 dBi
Occupied Bandwidth	802.11a/b/g: HT20 802.11n: HT20/40

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

- FCC ID of Wi-Fi module inside Laser TV
FCC ID: BEJTWFB003D

CE 0197 

Bluetooth Module (BM-LDS302) Specifications

Standard	Bluetooth Version 3.0
Frequency Range	2400 MHz - 2483.5 MHz
Output Power (Max.)	10 dBm or lower
Data rate (Max.)	3 Mbps
Communication Distance	Line of Open Sight approx. 10 m

- FCC ID of Bluetooth module inside Laser TV
FCC ID: BEJLDS302



SPECIFICATIONS

MODELS	HECTO(HECTO-NA)	
Resolution (Pixel)	1920 (Horizontal) × 1080 (Vertical)	
Aspect ratio	16:9 (Horizontal:Vertical)	
Panel size (mm)	14.515 (Horizontal), 8.1648 (Vertical)	
Projection distance (Video size)	0.53 m (2.54 m)	
Ratio of upward projection	123 %	
POWER	AC 100 - 240 V, 50/60 Hz	
Audio output	10 W + 10 W	
Reception type	NTSC, ATSC	
Reception channels	VHF 2 - 13, UHF 14 - 69, CATV 1 - 135, DTV 2 - 69, CADTV 1 - 135	
External Antenna Impedance	75 Ω	
Height (mm)	145 (excluding foot), 156.1 (including foot)	
Width (mm)	546.3	
Depth (mm)	406.6	
Weight (kg)	14	
USB Device	5 V, 0.5 A (Max.)	
Operation environment	Temperature	
	Operation	0 °C to 40 °C
	Storage	-20 °C to 60 °C
	Relative humidity	
	Operation	0 % - 80 %
	Storage	0 % - 85 %

Supported Monitor Display

Resolution	Horizontal Frequency (kHz)	Vertical Frequency (Hz)
720 x 400	31.469	70.08
640 x 480	31.469	59.94
800 x 600	37.879	60.31
1024 x 768	48.363	60.00
1152 x 864	54.348	60.053
1360 x 768	47.712	60.015
1280 x 1024	63.981	60.02
1920 x 1080	67.5	60

- If an invalid signal is input into the product, it will not be displayed properly on the screen or a message such as “No Signal” or “Invalid Mode” will be displayed.
- The product supports the DDC1/2B type as the Plug & Play function (Auto-recognition of PC monitor).
- PC synchronization signal types supported: Separate type synchronization.
- 1920 x 1080 is recommended as the best picture quality in the PC mode.

Supported HDMI/DVI-DTV Mode

Resolution	Horizontal Frequency (kHz)	Vertical Frequency (Hz)
720 x 480	31.47	60
	31.47	59.94
	31.5	60
1280 x 720	44.96	59.94
	45	60
1920 x 1080	33.75	60
	33.72	59.94
	67.5	60
	67.432	59.939
	27	24
	26.97	23.976
	33.75	30
	33.71	29.97

Component Port Connection

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

Open Source software 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 three (3) years from the date on which you purchased the product.



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

MODEL _____

SERIAL _____

LG Customer Information Center

For inquires or comments, visit www.lg.com or call;

1-800-243-0000 USA, Consumer User

1-888-865-3026 USA, Commercial User

1-888-542-2623 CANADA

Register your product Online!

www.lg.com