LG

Life's Good

Owner's Manual

LASER PROJECTOR

Please read the safety information carefully before using the product.

SA560
SA565

Projectisle.com.au
Where Projectors Roam Free

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

ABOUT DIVX VIDEO-ON-DEMAND: This DivX Certified® device must be registered in order to play purchased DivX Video-on-Demand (VOD) movies. To obtain your registration code, locate the DivX VOD section in your device setup menu. Go to vod.divx.com for more information on how to complete your registration.

"DivX Certified® to play DivX® video up to HD 1080p, including premium content."

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

HDMI HIGH-DEFINITION MULTIMEDIA INTERFACE

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dts 2.0 Channel

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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

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

SAFETY INSTRUCTIONS

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

• 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

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 projector in direct sunlight or near heat sources such as radiators, fires, stoves, etc.
  - This may result in fire.
- Do not place flammable materials such as aerosols near the projector.
  - This may result in fire.
- Do not allow children to cling to or climb up to the projector.
  - This may cause the projector to fall, causing injury or death.
- Do not install the product in a place with no ventilation (e.g., on a bookshelf or in a closet) or on a carpet or cushion.
  - This may result in fire due to the increase in internal temperature.
- Do not place the projector close to sources of steam or oil such as a humidifier or kitchen counter.
  - This may result in fire or electric shock.
- Do not place the projector where it might be exposed to dust.
  - This may result in fire.
- Do not use the projector in a damp place such as a bathroom where it is likely to get wet.
  - This may result in fire or electric shock.

- Do not allow a tablecloth or curtain to block the air vent.
  - This may result in fire due to the increase in the internal temperature.
- Ensure good ventilation around the projector. The distance between the projector and the wall should be at least 30 cm.
  - This will prevent fire due to the increase in the internal temperature.
- When installing the projector on a ceiling or wall, a professional technician should install the product using the authorized tools.
  - If installed improperly, the projector may fall, causing personal injury or property damage. To install the product, please contact the customer support center.
- When installing or adjusting a mounting device, do not use oil or lubricant for the purpose to prevent loosening of screws. If you apply an adhesive oil or lubricant to the projector, this may cause the case to crack and the projector to fall. This may also cause serious personal injury and damage to the projector when there is a person under the mounting device.

⚠ **CAUTION**

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

Power

⚠ **WARNING**

• The grounding wire should be con-nected.
  - Ensure that you connect the ground-ing cable to avoid electric shock. If it is not possible to ground the unit, have a qualified electrician install a separate circuit breaker. Do not try to ground the projector by connecting it to telephone wires, lightning rods or gas pipes.

• The power plug should be inserted fully into the power outlet.
  - An unstable connection may cause a fire.
• Do not place heavy objects on the power cord.
  - This may result in fire or electric shock.
• Never touch the power plug with wet hands.
  - This may result in electric shock.
• Do not plug too many devices into one multi-power outlet.
  - This may result in fire due to the power outlet overheating.
• Prevent dust from collecting on the power plug pins or outlet.
  - This may result in fire.
• To turn off the main power, remove the power plug, which should be positioned so it is easy to access for operation.

⚠ **CAUTION**

• Hold the plug firmly when unplugging.
  - A damaged wire may create a fire hazard.
• Ensure the power cord and plug are not damaged, modified, severely bent, twisted, pulled, sandwiched or hot. Do not use the product if the power outlet is loose.
  - This may result in fire or electric shock.
• Keep the power cord away from heating devices.
  - The wire's sheath may melt, which may result in fire or electric shock.

- Place the projector where people will not trip over or tread on the power cord to protect the power cord and plug from any damage.
  - This may result in fire or electric shock.
- Do not turn the projector on or off by plugging in the power plug or unplugging it from the power outlet.
  (Do not use the power plug as a switch.)
  - This may result in electric shock or damage to the product.
- Do not insert a conductor into the other side of the wall outlet while the power plug is inserted into the wall outlet.
  In addition, do not touch the power plug immediately after it is disconnected from the wall outlet.
  - This may result in electric shock.
- Only use the official power cord provided by LG Electronics. Do not use other power cords.
  - This may result in fire or electric shock.
- Check the power cord specifications. Do not use an inappropriate power cable.
  - This may result in electric shock.
- Pull the plug to reduce the power consumption to zero.

When in Use

⚠ WARNING

- Do not place anything containing liquid on top of the projector such as a vase, flower pot, cup, cosmetics, or medicine; or ornaments, candles, etc.
  - This may result in fire or electric shock, or cause injury due to falling.
- When there is smoke or a strange smell coming out from the projector or a foreign object falls into the projector, please switch it off and unplug it from the power outlet and contact our service center.
  - Otherwise, this may result in fire or electric shock.
- In the event that there is a heavy impact or the cabinet is damaged, switch it off, unplug it from the power outlet and contact an authorized service center.
  - This may result in electric shock.
- Do not insert pieces of metal such as coins, hairpins or metal debris, nor flammable materials such as paper or matches into the projector.
  - This is to prevent electric shock or fire.
- In the event that liquid or a foreign object falls into the projector, switch it off and unplug it from the power outlet and contact our service center.
  - This may result in 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.

- Never open any cover on the projector.
  - There is a high risk of electric shock.
- Do not look directly into the lens when the projector is in use.
  - The bright light may damage your eyes.
- When the lamp is on or has just been turned off, avoid touching the air vent or lamp, because these will be very hot.
- If there is a gas leak in the room with the projector, do not touch the projector or power outlet. Open the windows for ventilation.
  - Sparks may cause fire or burns.
- Unplug the power cord from the outlet during a lightning storm.
  - This will prevent shock or damage to the projector.
- Do not use the projector near electronic devices that generate a strong magnetic field.
- Do not put the plastic package used to pack the projector around your head.
  - This may cause suffocation.
- Do not keep your hand on the projector for a long time when it is running.
- When you play a game by connecting a game console to a projector, it is recommended that you maintain a distance of more than four times the diagonal length of the screen.
  - Make sure that the connecting cable is long enough. Otherwise, the product may fall causing personal injury or damage to the product.
- Do not place the projector or its remote control with battery in an extremely high temperature environment.
  - This may result in fire.

⚠ **CAUTION**

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

Cleaning

⚠ WARNING

- Do not spray the projector with water when cleaning. Make sure water does not flow into the projector.
  - This may result in fire or electric shock.
- Use air spray, a soft cloth or a cotton swab moistened with a lens cleaning chemical or alcohol to remove dust or stains on the front projection lens.

⚠ CAUTION

- Contact your seller or our service center once a year to clean the internal parts of the projector.
  - If you do not clean the projector for a long period of time, dust will accumulate, which may result in fire or damage to the projector.
- When cleaning plastic parts such as the projector case, unplug the power first and wipe with a soft cloth. Do not spray with water or wipe with a wet cloth. Never use glass cleaner, automobile or industrial shiner, abrasives, wax, benzene, or alcohol as these can damage the projector.
  - This can result in fire, electric shock or cause damage to the product (deformation and corrosion).
- Remove the plug from the outlet before cleaning the product.
  - Otherwise, this may result in electric shock.

Others

⚠ WARNING

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

⚠ CAUTION

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

Laser

⚠ WARNING

- This laser projector contains a laser module. Do not disassemble or modify the projector as this could be dangerous.
- You risk being exposed to laser radiation if you manipulate or alter the projector in a way not specified in the user manual.

⚠ CAUTION

- This laser projector is a class 2 laser device that meets safety standard IEC 60825-1.

    Laser projector standard:
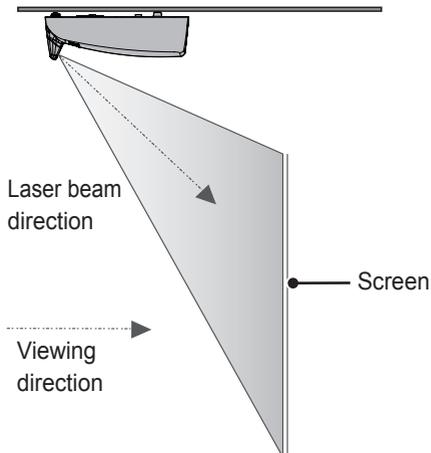   **class 2 laser product**
    Wavelength: 446 nm - 546 nm
    Wave source: 66.7mW or less
    Radiation angle: 71 °
    Built-in laser standard:
    Class 4 laser module
    Wavelength: 446 nm - 546 nm
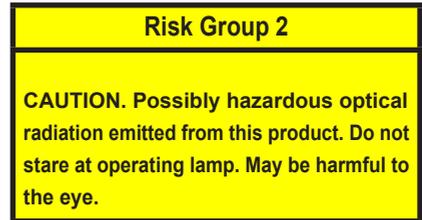   **Power: 1.6 W * 24 EA**

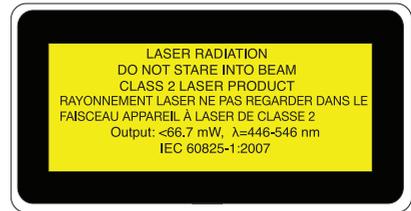Laser beam direction

Viewing direction

Screen

LASER RADIATION

DO NOT STARE INTO BEAM CLASS 2 LASER PRODUCT

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

Risk Group 2
CAUTION. Possibly hazardous optical radiation emitted from this product. Do not stare at operating lamp. May be harmful to the eye.

The label of this laser projector is attached to the bottom of the product.

Laser projector label

LASER RADIATION
DO NOT STARE INTO BEAM
CLASS 2 LASER PRODUCT
RAYONNEMENT LASER NE PAS REGARDER DANS LE
FAISCEAU APPAREIL À LASER DE CLASSE 2
Output: <66.7 mW, λ=446-546 nm
IEC 60825-1:2007

Laser warning symbol and danger symbol

CONTENTS

PREPARATION

Accessories

Accessories included with the project are show below. The pictures may differ slightly from the actual product. Accessories are subject to change without prior notice. New accessories may be added or old ones removed.

Remote Control
Two AAA Batteries

Owner's Manual

Power Cord

Computer Cable

eZ-Net Manager
Program CD

Magical Mirroring
Program CD

CD Owner's manual

(For SA565 only)

Interactive Pen

Interactive Dongle

Tip

USB A to B
Cable
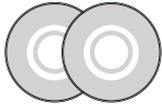
Recharge Cable

Wrist strap

WizTeach
Software CD

Hard case

Optional Extras

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

Projection Screen

HDMI Cable

PC Audio Port Connection Cable

Video Cable

Audio Cable

HDMI to DVI cable

RS232C cable

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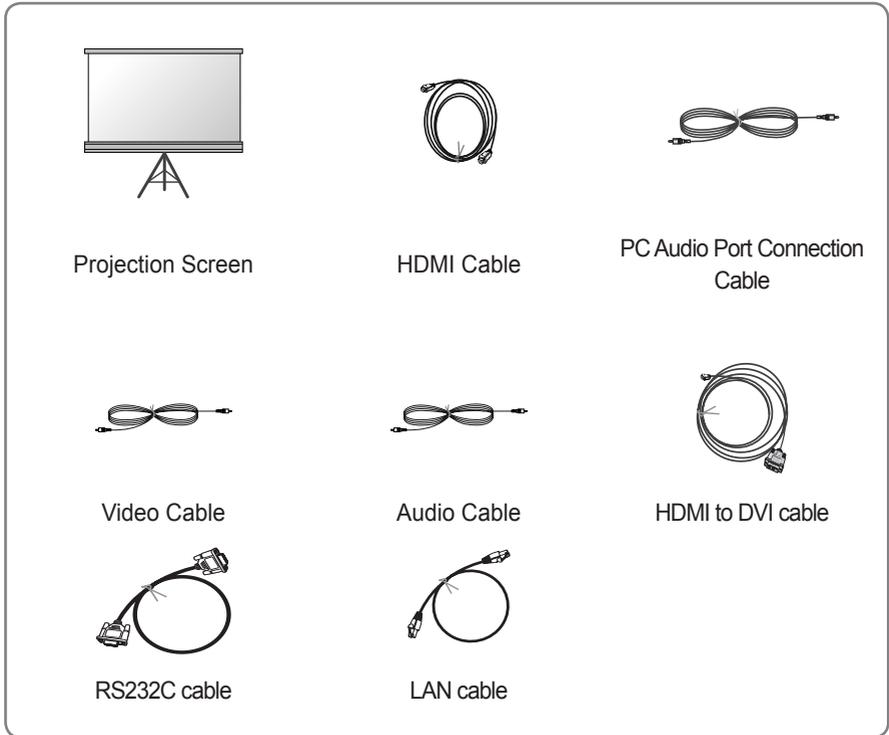
• When connecting an HDMI or USB cable, or connecting a USB flash drive to the HDMI or USB port, use a product that has a width of 18 mm or less and a height of 10 mm or less. If the USB cable or USB flash drive does not fit the USB ports of the projector, use an extension cable that supports USB 2.0.

A ≤ 10 mm   B ≤ 18 mm
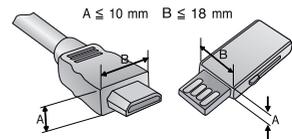
Parts and Components

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

Front & Top
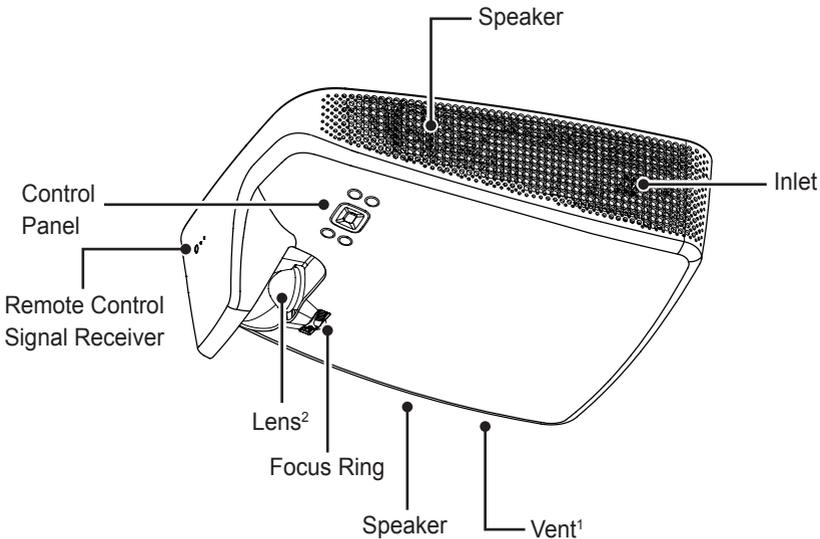
1 Due to the high temperature of vent area, do not get close to the vent area.
2 Do not touch the lens while using the projector. The lens may be damaged.

Bottom
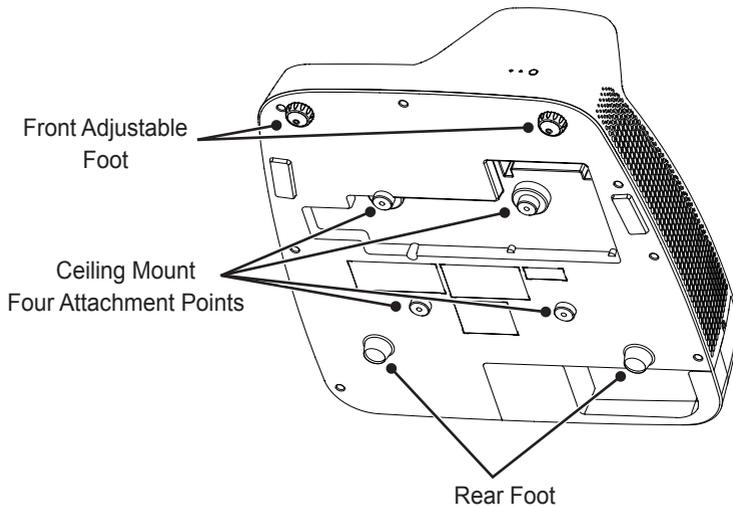
Front Adjustable Foot

Ceiling Mount Four Attachment Points

Rear Foot

• When installing the projector on a ceiling or wall, a professional technician should install the product using the authorized tools. If installed improperly, the projector may fall.
  - This may cause personal injury or property damage. For installation of the product, please contact the customer support center.

• When installing or adjusting a mounting device, do not use oil or lubricant for the purpose to prevent loosening of screws. If you apply an adhesive, oil, or lubricant to the projector, this may cause cracks in the projector case or the projector may fall.
  - This may also cause serious personal injury and damage to the projector if there is a person under the mounding device.

Back

(For SA560 only)
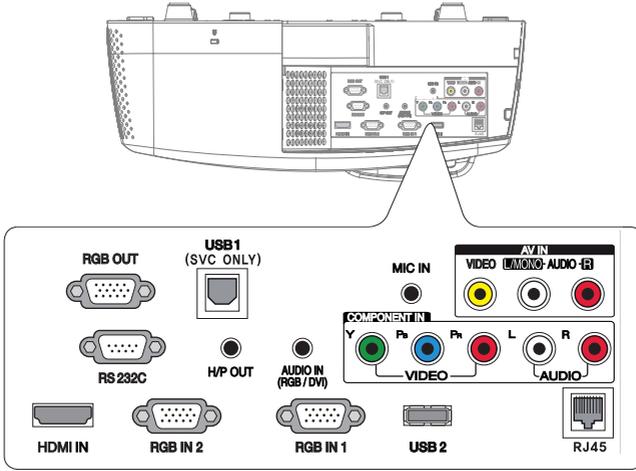
(For SA565 only)
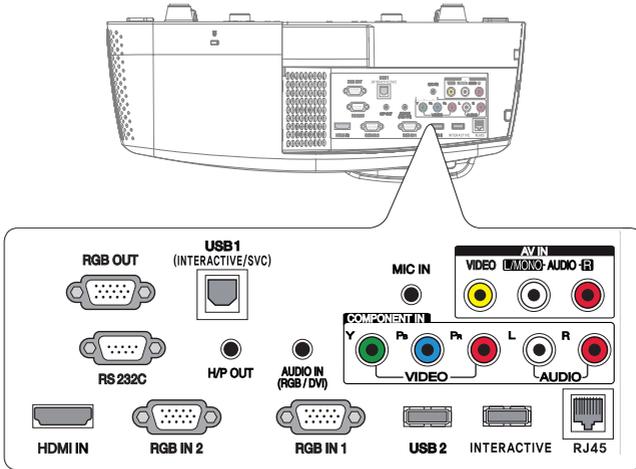
Control Panel
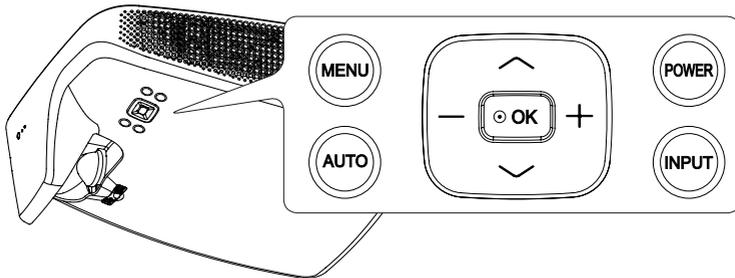
Button	Description
POWER	Turns the projector on or off.
MENU	Displays or closes the Settings menu.
AUTO	Adjusts the picture position and minimizes image shaking.
INPUT	Selects the input signal (RGB, component, HDMI and external input).
-, +	Adjusts the volume level, or enters a sub menu and changes the settings.
∧, ∨	Moves between menus and changes the settings.
⊙ OK	Shows the current mode and saves changes to the settings.

Projector Status Indicators

LED Indicator   Temperature Indicator
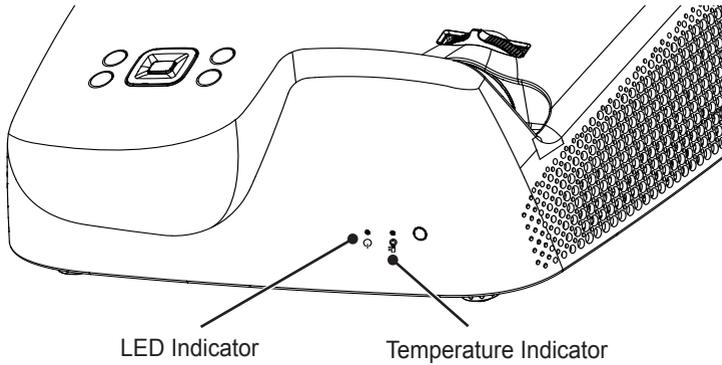
LED Indicator ⏻ ○	Off ○	Power off state
	Red ●	Power standby state
	Green (blinking)	The projector is being turned on or off.
	Green ●	The projector is being operated.
	Orange (blinking)	The projector has been turned off due to a problem related to a projector color wheel. Please contact a local service center.
	Red (blinking)	The projector has been turned off due to a problem related to an internal fan. Please contact a local service center.
Temperature Indicator 🌡 ○	Off ○	Normal operation
	Orange ●	High temperature warning Turn off the power and check around the projector.
	Red (blinking)	The projector has been turned off due to high temperature inside or outside of the projector.

Installation

Installation Precautions

• Place the projector in a well-ventilated environment.

- To prevent internal heat build-up, install the projector in a well-ventilated place.
  Do not place anything near the projector as this may block its air vents. If the air vents are blocked, the internal temperature will increase.
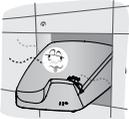
- Do not place the projector on a carpet or rug. If the vent is on the bottom, use the projector on a solid level surface and ensure the vent is not blocked.

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

- Leave enough distance (30 cm or more) around the projector.

• Do not place the projector in a hot or humid environment.
  - Do not place the projector in a hot, cold, or humid environment.
• Do not place the projector in a place where it will easily attract dust.
  - This may result in fire.
• Never open any cover on the projector. There is a high risk of electric shock.
• The projector is manufactured using high-precision technology. You may, however, see tiny black dots and/ or bright colored dots (red, blue or green) that continuously appear on the projector screen. This is a normal result of the manufacturing process and does not indicate a malfunction.
• The remote control may not work in an environment where a lamp equipped with electronic ballasts or a three-wavelength fluorescent lamp is installed. Replace the lamp with an international standard lamp for the remote control to work normally.

Projection Distance per Screen Size

1 Place the projector on a sturdy, level surface, together with the PC or audio/video source.

2 Place the projector an appropriate distance away from the screen. The distance between the projector and the screen determines the actual size of the image.

3 Position the projector so that the lens is at a right angle to the screen. If the projector is not at a right angle, the projected image will look distorted.
To correct the distortion, use the Keystone function.

4 Connect the power cord of the projector and the connected device to the wall outlet.

Ratio of upward projection : 128 %

Screen
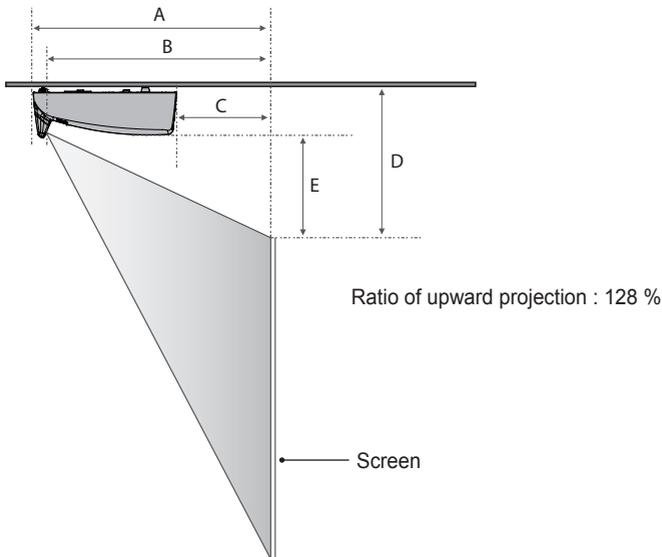
(Unit: mm)

16:10 Ratio					
ARC (Width x Height)	1778	2032	2286	2540	2794
	1580 x 1133	1723 x 1077	1939 x 1212	2154 x 1346	2369 x 1487
A	497	562	627	691	756
B	452	517	582	646	711
C	29	94	159	223	288
D	349	386	423	460	497
E	196	233	270	307	344

Assembling the Cover
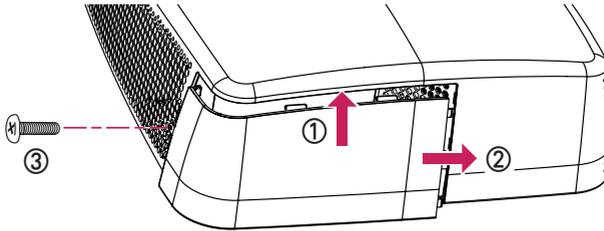
① Insert the upper edge of the cover into the groove.

② Slide the cover to the right until it latches into the groove.

③ Insert the screw into the hole and tighten it.
  Check that the cover is securely fastened and cannot move.

* You can remove the cover in reverse order.

* If you locate the projector on the desk to use, remove the cover before using.
  Otherwise, a cable might keep the cover from closing properly.

Kensington Security System

• This projector has a Kensington Security Standard connector. Connect a Kensington Security System cable as shown below.

• For more information on installation and use of the Kensington Security System, refer to the user's guide provided with the Kensington Security System.

• The Kensington Security System is an optional accessory.

• What is Kensington?
  Kensington is a company that provides security systems for laptops and other electronic devices. Website: http://www.kensington.com
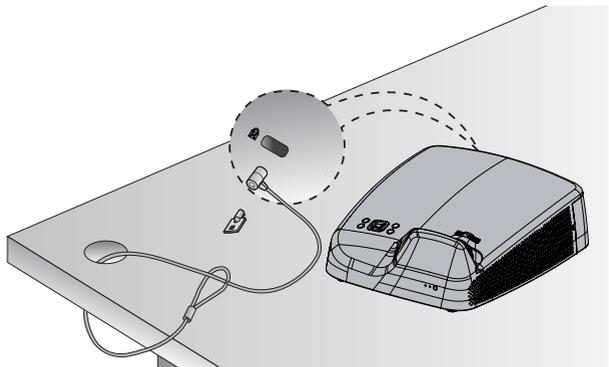
REMOTE CONTROL

Open the lid at the back of the remote control and insert the batteries as described in the ⊕⊖ instructions.
Use new batteries and do not mix regular or rechargeable batteries. (1.5 V AAA)
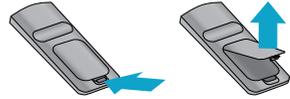
⚠ **CAUTION**

• Do not mix new batteries with old ones.

POWER
Turns the projector on or off.
ENERGY SAVING
Adjusts the screen brightness.
MIC
Turns the microphone on/off.
INPUT
Changes the input source.
USB
Shows the SmartShare menu.

Number buttons
Enters a number.
SLEEP
Sets the sleep timer.
STILL
Stops the video being played.
VOL +, -
Adjusts the volume level.
BLANK
Blanks the screen.
RATIO
Changes the aspect ratio of the screen per pressing of the button.
MUTE
Mutes the sound of the projector.
PAGE
Moves to the previous/next page.
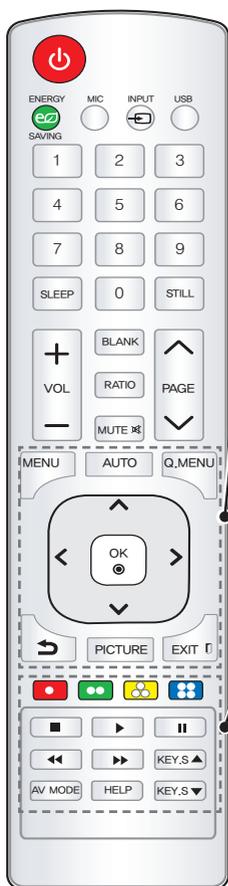
MENU
Brings up or closes the settings menu.
AUTO
Optimizes the screen automatically in RGB-PC input mode.
Q.MENU
Allows you to change the settings easily.
Up/Down/Left/Right buttons
Selects or sets an option of the selected menu.
OK ◉
Shows the current mode and saves changes to the settings.
⤺
Returns to the previous screen.
PICTURE
Changes the picture mode per press of the button.
EXIT 〖
Exits the menu.

Color buttons
Sets additional settings for each menu.
Playback control buttons
Controls the playback of multimedia content on the SmartShare.
KEY.S ▲ , ▼
Adjusts the Keystone function.
AV MODE
Selects AV mode for the genre of the program being watched.
HELP
Enables the self-diagnosis.

🛈 **NOTE**

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

USING THE PROJECTOR

Watching Projector

Initial Setup

1 Connect the 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 Projector for the first time, a setting screen appears as shown below. Here, you can specify the items required for watching the Projector more easily.
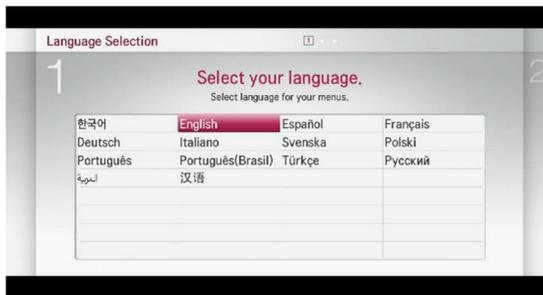
Focus and Position of the Screen Image

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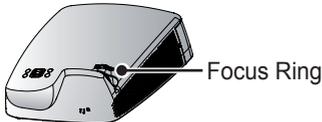
Focus Ring

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

Watching with the Projector

1 In Standby mode, press the **POWER** button to turn the projector on.

2 Press the **INPUT** button and select the input signal you want.

3 Control the projector using the following buttons while watching projector.

Button	Description
VOL -, +	Adjusts the volume level.
MUTE	Mutes the sound of the projector.
Q.MENU	Enters the quick menu.
KEY.S ▲, ▼	Adjusts the Keystone function.

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

Additional Options

Adjusting Aspect Ratio

You can adjust the aspect ratio of the picture by pressing **RATIO** while watching with the projector.

> ⓘ **NOTE**
> • Available options may vary depending on the input signal.
> • You can also use the **Q.MENU** or **MENU** button.

- **Full** : Displays the picture in full screen regardless of the aspect ratio.

- **16:9** : Resizes the picture with a 16:9 ratio.

- **Just Scan** : Displays the picture 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 the picture in the same aspect ratio as the original image.

- **4:3** : Resizes the picture with a 4:3 ratio.

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

- **Cinema Zoom 1** : Resizes the picture with a cinemascope ratio of 2.35:1. It ranges from 1 to 16.
  - Press the < or > button to zoom in or out of the image.
  - Press the ∧ or ∨ button to move the image.

> ⓘ **NOTE**
> • If you enlarge or reduce the picture, it may be distorted.

Using the Keystone Function

To prevent the screen image from becoming trapezoidal, **Keystone** adjusts the top and bottom width of the image if the projector is not set up at a right angle to the screen.
Because the **Keystone** function may cause inferior screen image quality, use this function only when it is not possible to set up the projector at an optimal angle.

1 Press the **KEY.S ▲** or **KEY.S ▼** button to adjust the picture.
• **Keystone** can be adjusted from **-40** to **40**.
2 Press the **OK** button when done.

Using the Input List

Using the Input List

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

- The connected input mode appears first.

2 Select an input signal using the remote control's **INPUT** button to connect the projector to the desired input. You can use the $<$ or $>$ button to switch between all the input modes.

Adding Input Label

Displays which devices are connected to which input ports.
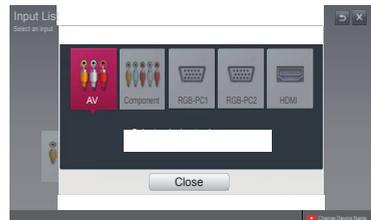
1 Press the **INPUT** button to display the input selection screen.
2 Press the **red** button.
3 Press the $<$ or $>$ button to go to the desired input and press the **OK** button.
4 User the $\wedge$, $\vee$, $<$ or $>$ button to select a device name.

Using the Quick Menu

You can customize frequently used
menus.

1 Select the **Q.MENU** button.

2 User the $<$ or $>$ button to select a
   desired item and press **OK**.

Menu	Description
Aspect Ratio	Resizes the picture.
Picture Mode	Changes the picture mode.
Sound Mode	Sets the sound mode.
Sleep Timer	Sets the projector to be turned off at the specified time.
Energy Saving	Adjusts the brightness.
AV Mode	Sets the genre.
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 Use the $\wedge$, $\vee$, $<$ or $>$ button
   to scroll through the menu items.

ENTERTAINMENT

Network Settings

To use the DLNA function and the Magical Mirroring function, the wireless connection to the Internet is required.

One-Click Network Connection

You can make a wireless network connection easily.

1 Press the **MENU** button.
2 Use the $\wedge$, $\vee$, $<$ or $>$ button to select **NETWORK** and press the **OK** button.
3 Use the $\wedge$, $\vee$, $<$ or $>$ button to specify the **Network Connection** and press the **OK** button.
4 The network is connected automatically.
See the Help provided by the projector.

Expert Settings for Network Connection

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

1 Press the **MENU** button.
2 Use the $\wedge$, $\vee$, $<$ or $>$ button to select **NETWORK** and press the **OK** button.
3 Use the $\wedge$, $\vee$, $<$ or $>$ button to specify the **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 (if supported) to connect to the router in a simple manner.
WPS-PIN	Enter the PIN number from the menu of the wireless router to connect to the router in a simple manner.
Ad-hoc	Use to connect directly to the projector with out using a router.

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.

Wired/Wireless Router
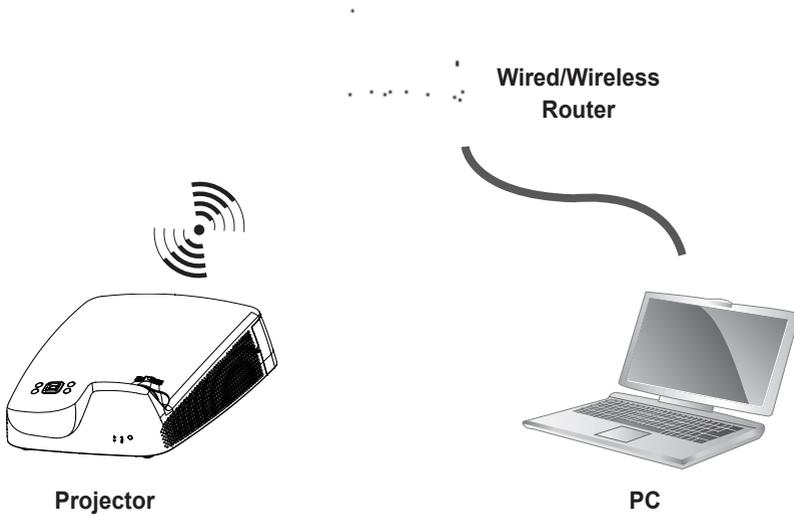
Projector   **PC**

Tips for Network Settings

- Modem reconfiguration may cause network connection problems. If it does, turn off the modem and disconnect it from the projector; then turn on the modem again.
- 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 projector might not connect to a network. (When only one device is allowed per line, if 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 a 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 projector may not work properly 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 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.

To use the Wi-Fi Direct function

Wi-Fi Direct is a function that allows your projector to connect with a Wi-Fi Direct device without Internet connection. With **SmartShare™**, you can watch the files stored on a device connected via Wi-Fi Direct.

- Press the **MENU** button on the remote control. Select **NETWORK** → **Wi-Fi Direct**.

1 Set **Wi-Fi Direct** to **On**. (If you do not use it, please change it to **Off**.)

2 Enable the Wi-Fi Direct settings on the device that you want to connect to.

3 A list of devices that can be connected to the projector is displayed.

4 Select a device to connect.

5 Select **Yes**, when the connection request message appears.

6 If the device that you want to connect accepts the request, **Wi-Fi Direct** is connected.

To use the Intel(R) WiDi function

You can view the screen of a device with Intel(R) WiDi technologies on your projector. Contact the device manufacturer to find out if the device supports this function.

- Press the **MENU** button on the remote control. Select **NETWORK →**
  Intel(R) WiDi.
1 Set **Intel(R) WiDi** to **On**. (If you do not use it, please change it to **Off**.)
2 Enable the **Intel(R) WiDi** settings on the device that you want to connect to.
3 A list of devices that can be connected to the projector is displayed.
4 Select a device to connect.
5 Select **Yes**, when the connection request message appears.
6 If the device that you want to connect accepts the request, **Intel(R) WiDi** is connected.
- When **Wi-Fi Direct** is set to **Off**, if you set **Intel(R) WiDi** to **On**, **Wi-Fi Direct** is automatically set to **On**.
- When you set the **Intel(R) WiDi** function to **Off**, **Wi-Fi Direct** returns to the previous setting.

ⓘ NOTE

- It is recommended to connect a laptop using **Intel(R) WiDi** within close range.
- Though **Intel(R) WiDi** can be connected without a wireless router, it is recommended to connect the wireless router first for optimal performance.
- You may not connect your projector to a non-LG Electronics device even when it is detected.
- It is recommended you to connect a device to a 5 GHz router.
- The response rate may vary depending on the user's environment.
- For more information on the device you want to connect to, refer to its owner's manual.

SMARTSHARE

Before Using

Connecting a USB Storage Device

Connect a USB storage device (external HDD or USB flash drive) to the USB port of the projector to view multimedia content.
You cannot write to or delete data from the USB storage device.
Connect a USB flash drive as shown below.

USB flash drive
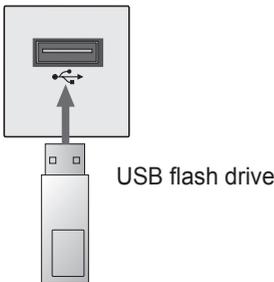
To disconnect the USB storage device

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

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

Tips for Using a USB Device

• A USB storage device installed using an automatic recognition program or its own driver might not be recognizable.
• Some USB devices may not be supported or will not work properly.
• Please use only a USB storage 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 5 V or less and rated current of 500 mA or less.
• It is recommended to use a USB hub or hard disk drive with its own power supply. (If the power supplied is not enough, the USB storage device may not be detected properly.)
• It is recommended to use a USB flash drive 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 backup 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)

Subtitle Language

Subtitle Language	Language
Latin1	English, Spanish, French, German, Italian, Swedish, Finnish, Dutch, Portuguese, Danish, Romanian, Norwegian, Albanian, Gaelic, Welsh, Irish, Catalan, Valencian
Latin2	Bosnian, Polish, Croatian, Czech, Slovak, Slovenian, Serbian, Hungarian
Latin4	Estonian, Latvian, Lithuanian
Cyrillic	Bulgarian, Macedonian, Russian, Ukranian, Kazakh
Greek	Greek
Turkish	Turkish
Hebrew	Modern Hebrew
Chinese	Simplified Chinese
Korean	Korean
Arabic	Arabic

Connecting DLNA

Digital Living Network Alliance (DLNA) allows you to enjoy videos, music and photos saved on your projector through a home network.

Connecting a DLNA-Certified

Mobile Device

- The projector and mobile device must be connected via the same network.

1 Check if Wi-Fi is enabled on your mobile device.

2 Install and run an app that allows you to share files on your mobile device.

3 Choose to share on your mobile device.

4 Select the type of file (video/audio/photo) to play.

5 Select the video, music or photo to play on the projector.

6 Click the Add icon to open the Browse Folder window.

7 On the device where the file will play, select the projector model.
(You can find the projector model on the product label.)

8 Press Play ► to watch the selected file using the projector.

Connecting DLNA DMR
(Digital Media Renderer)

- If the PC's operating system is Windows 7 or Window 8 or the DLNA-certified device (e.g. mobile phone) is connected via a network, you can play music / videos / photos on projector without installing a separate program.

1 Configure projector and PC on the same network. Configure Windows 7 or Window 8-installed PC on the network.

2 Right-click the music / video / photo file that you want to play and use the *Remote Playback* feature that comes with Windows 7 or Window 8.
To play on your mobile device, see its owner's manual.

3 Even when multiple projectors are connected, the selected file is played through only one projector. The playback rate may vary depending upon the network connection.

Connecting DLNA DMP
(Digital Media Player)

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

1 Configure the projector and PC on the same network. The DLNA service is available only when the projector and all the devices are connected to a single router.

2 Install SmartShare PC Software on the PC from the website. Before installation, exit all programs running in the PC such as firewall, anti-virus, etc.

3 The sever should be running in order to watch the shared file on your projector.

> **!** **NOTE**
>
> - For how to use the SmartShare PC software, refer to the software help.

SmartShare™ PC SW Installing & Setting

Install the SmartShare™ PC SW(DLNA) programme on your PC.

1 Download the setup file from the path below in order to use the DLNA function.
http://liu.lge.com/smartshare/release/smartshare.zip

2 Install the downloaded SmartShare™ PC software.

3 You can run the programme when installation is complete.

🛈 NOTE

• DLNA or Media Link service is only available if projector and other devices are connected via a single router.

PC requirement for installing LG SmartShare™

Item	Minimum Specifications	Recommended Specifications
CPU	Intel Pentium4 2.0 G or higher/ AMD Sempron 2000 or higher	Intel Pentium Dual Core or higher/AMD Athlon 64 x 2 or higher
RAM	1 GB or higher	2 GB or higher
VGA	64 MB RAM, 1024 x 768 or higher resolution, and a video card that supports 16 bit or more colors	128 MB RAM, 1024 x 768 or higher resolution, and a video card that supports 16 bit or more colors
Hard Disk Drive	200 MB or higher	
Operating System	Windows XP (Service Pack 2 or later), Windows Vista, Windows 7, Windows 8 ⅼ Windows Media Player: 11.0.5721.5280 or higher is recommended	
Network Environment	100 MB Ethernet, Wireless LAN (WLAN) IEEE 802.11g or higher	

• Program speed can be delayed depending on the system performance and the network environment.

In case of a DLNA malfunction

• 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 more than one projector is connected to a single server in DLNA mode, the content may not play depending upon 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 projector, 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.

Using SmartShare™

Press the **USB** button on the remote control.

You can watch the photo, music, video and document on the projector by connecting a USB or home network (DLNA). The photo, music, video and document files of all devices connected to the projector are displayed. (For the document files, only those in the devices connected via USB are displayed.)
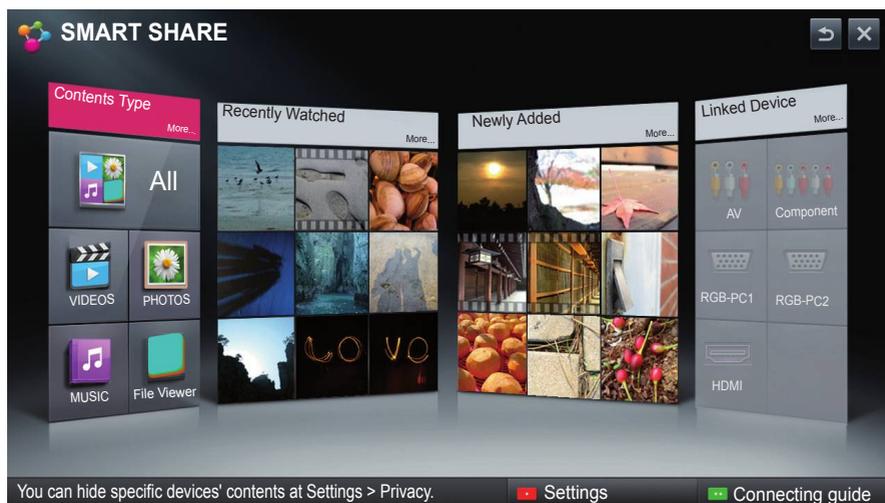
Watching Videos

* In 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 files which include 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 file.

Supported Video Codecs

Maximum 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 .dat	Video	MPEG-1
	Audio	MPEG-1 Layer I, II

Controlling Video Playback

You can control playback using the following buttons.
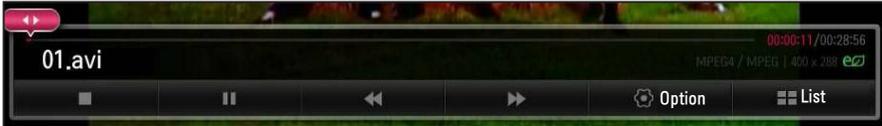
Item	Description
◀ ▶	Shows the current playing position. Use the $<$ or $>$ button to move forward or backward.
■	Stops playing and returns to Movie List.
▶	Resumes normal playback.
Ⅱ	Pauses the media player.
	Ⅱ ▶▶ Displays in slow motion.
◀◀ ▶▶	Whenever this button is pressed, the playback speed is changed.
Option	Sets the option.
List	Stops the playback and returns to the list.

Viewing Photos

You can view photos stored on a connected device.

Photo File

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

Controlling 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 some 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.
Q	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	Profile
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.
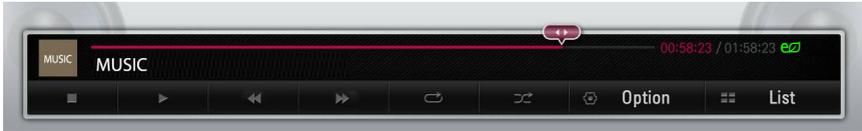
Item	Description
◀ ▶	Changes the playing position.
■	Stops playing.
▶	Resumes normal playback.
Ⅱ	Pauses the media player.
◀◀ ▶▶	Plays the previous/next file.
⇄	Sets the repeat playback.
⤨	Sets the random playback.
Option	Sets Option for the music list.
List	Returns to a list.

Viewing Files

You can see document files stored on a connected device.

Supported File Formats

XLS, DOC, PPT, TXT, XLSX, PPTX, DOCX, PDF, HWP
Microsoft Office 97/2000/2002/2003/2007 version
Adobe PDF 1.0/1.1/1.2/1.3/ 1.4 version
Hangul 97/2000/2002/2005/2007

- File Viewer realigns a document, so it may look different from what is displayed on a PC.
- For documents that include images, the resolution may look lower during the realigning process.
- If the document is large or has many pages, it may take longer to load.
- Unsupported fonts may be replaced by other fonts.
- The file viewer may not open for Office documents that contain many high resolution images. In that case, reduce the image file size, save it on a USB storage device and run the file viewer again or connect your PC to the projector and open the file on your PC.

Browsing File Viewer

You can control playback using the following buttons.
- Press the **Go Page** button to move to the previous or next page.
- Press the volume button to zoom in or zoom out.
  1. Press the **OK** button.
  2. Press the **Up/Down/Left/Right** buttons to move to **Go Page** or **Zoom**.

○ [125%]	11.pptx		1/2 31 KB ⊖⊘
▤ Go Page	○ Zoom	⊙ Option	▦ List

Item	Description
Go Page	Moves to the page you specify.
Zoom	Enlarges or reduces the photo.
Option	Sets Option for File Viewer.
List	Returns to a list.

MAGICAL MIRRORING

Using Magical Mirroring

The magical mirroring feature is used to wirelessly transmit and project the screen of a network-connected laptop (PC) to a projector. To use this feature, the MirrorOp Sender, an application for PC, should be installed in the user's laptop (PC).
Please install this PC program using the Magical Mirroring program CD provided with this product.

Installing Magical Mirroring

1 Select the Magical Mirroring software on the main window of the provided CD to start the installation.

2 After the installation is complete, the program starts checking the user PC performance.

3 The user PC screen may blink or resolution may be changed automatically during the performance check.

4 When the check is finished, press the **EXIT** button to end the program.

System Requirements

CPU	Dual core 1.8 GHz or higher (excluding Atom processor)
Display Adaptor	nVIDIA or ATI graphic card with 64 MB VRAM or above
Operating System	Windows Vista(32 bit/ 64 bit), Windows 7(32 bit/ 64 bit), Windows 8(32 bit/ 64 bit)
WiFi	802.11 n

Running Magical Mirroring

1 Select **Magical Mirroring** from the **NETWORK**.

NETWORK

- • Network Connection
- • Network Status
- • Wi-Fi Direct
- • Intel(R) WiDi
- • Smart Share Setting
- • Magical Mirroring
- • eZ-Net Manager

⚠ 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.
- • When Magical Mirroring is running, XGA (1024 x 768) is recommended for the screen resolution. A video and audio may not play properly at a high resolution.

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

Magical Mirroring

Device List

Please connect device, if MirrorOp sender is not installed, please install using the enclosed CD.

○ Wi-Fi SSID:
dlink_by_myung

○ Host IP:
192.168.0.8

🔲 MirrorOp   🔲 Exit

3 To 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>
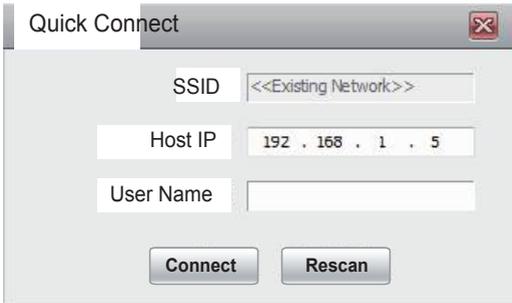
4 When the MirrorOp Sender is connected properly, the connected PC is displayed under Magical Mirroring Device List as shown below. Then, the PC's screen is projected.

If the MirrorOp Sender is not connected, check whether the PC and the projector are connected to the same wireless router.

⚠ **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 large bandwidth, so we suggest you to 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
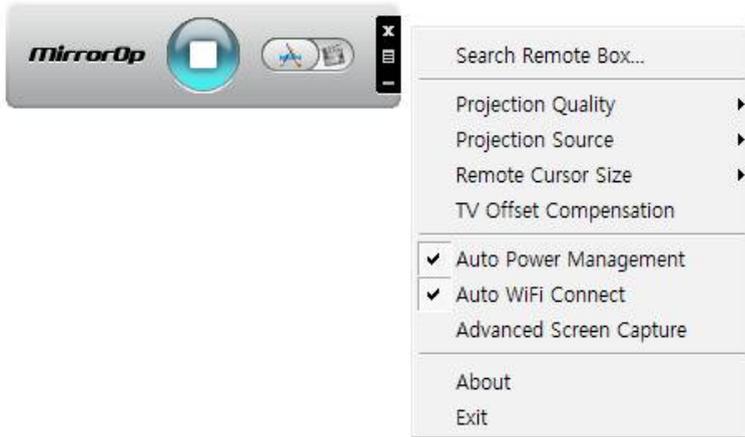
- Search Remote Box
• Select this option to search devices available on the connected network.

- Projection Quality
• Select this option to change the projected image quality. If the network connection is good, select the **Best**; if not, **Normal**.

- Projection Source
• Select this option to set the screen to show through the projector. The default value is **Main Screen**. If **Virtual Extended Screen** is selected, it displays the desktop's extended screen.

- Remote Cusor Size
• Select this option to adjust the size of the mouse cursor. (1x, 2x, 3x)

- TV Offset Compensation

- Select this option to adjust the screen size projected by the projector. Adjust the horizontal/vertical offset and click the **Apply** button.
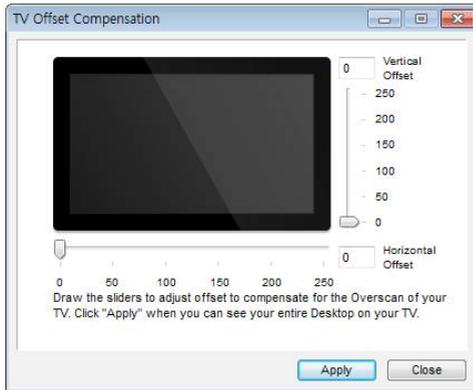
- Auto Power Management

- Select this option when running the MirrorOp application on a laptop.
  When you choose this option, a Wi-Fi network will provided at an optimum level.

- Auto WiFi Connect

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

- Advanced Screen Capture

- Different PCs have different video output designs. When this option is not selected, some layers might not be captured, for example if you play a movie using a special media player. When you play a movie on your pc, and cannot see the picture on the projector, make sure to choose this option.

CUSTOMIZING SETTINGS

SETUP Menu

1 Press the **MENU** button.
2 Use the $\wedge$, $\vee$, $<$ or $>$ button to select the desired item and press the **OK** button.
3 Use the $\wedge$, $\vee$, $<$ or $>$ button to set up 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.
TIME	Sets time-related settings.
OPTION	Customizes the general settings.
NETWORK	Sets the network.
SUPPORT	Shows the projector information.

PICTURE Settings

1 Press the **MENU** button.

2 Use the $\wedge$, $\vee$, $<$ or $>$ button to select **PICTURE** and press the **OK** button.

3 Use the $\wedge$, $\vee$, $<$ or $>$ button to set up the desired item and press the **OK** button.

   - To return to the previous menu, press the ↰ button.

```
┌─────────────────────────────────┐
│ 🖥  PICTURE                      │
│ 🖥           ∧                   │
│      • e⊘ Energy Saving : Maximum│
│ ◎    • Picture Mode     : Standard│
│           • Contrast      50     │
│ ⏱       • Brightness    50     │
│           • Sharpness     5      │
│ ⚪        • Color         70     │
│ ⊘        • Tint           0      │
│                 ∨                │
└─────────────────────────────────┘
```
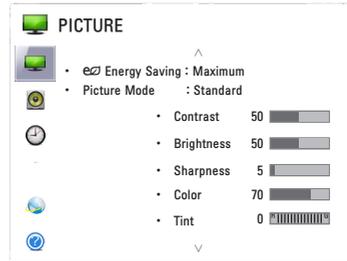
The available picture settings are described as follows.

Item	Description
Energy Saving	Adjusts the brightness. • If the temperature around the projector is high, mode changing is limited to protect the internal system.
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.
	Black Mode	Provides optimized picture quality on a dark-colored screen or a chalkboard by removing the input image's colors and reversing the contrast. • Black mode is only available when the external input is set to either of RGB1, RGB2 or HDMI and the resolution is set to 1280 x 800. • If you change the resolution to other value than 1280 x 800 while the picture mode is set to the black mode, the picture mode is automatically reset to the default value. • You cannot control the picture settings when the picture mode is set to the black mode.
	Expert1/2	Adjusts the detailed image settings.

Item	Description	
Contrast	Increases or decreases the gradient of the video signal.	
Bright-ness	Adjusts the base level of the video signal to make the image brighter or darker.	
Sharp-ness	Adjusts the level of sharpness in the edge between the light and dark areas of the picture. The lower the level is, the softer the image looks. 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.	
Ad-vanced Control	Customizes the advanced settings.	
Picture Option	Sets optional settings.	
Picture Reset	Restores each mode's options to the factory default.	
Aspect Ratio	Resizes the picture.	
Screen (RGB-PC)	Adjusts the picture quality in RGB-PC input.	
	Item	
	Resolution	Available resolutions are 768 resolution (1024 x 768/ 1280 x 768/ 1360 x 768, 60 Hz) and 1050 resolution (1400 x 1050/ 1680 x 1050, 60 Hz).
	Auto Config.	Provides optimized picture quality by automatically calibrating mismatched horizontal width and shaky picture caused by conflicts between the internal settings of the projector 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 picture. You can select Warm, Cool, Medium or Natural.	
Gamma	Sets a gradation curve between video input and output signal.	
Color Gamut	Selects the range of colors to display. • **Standard**: Displays the original colors of an input signal regardless of the display features. • **Wide**: Makes use of the display's rich colors.	

* Available options may differ depending on 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	Selects the range of colors to display. • **Standard**: Displays the original colors of an input signal regardless of the display features. • **Wide**: Makes use of the display's rich colors.
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.
Gamma	Sets a gradation curve between video input and output signal.

Item	Description
White Balance	Adjusts white balance. Detailed adjustment is possible as shown below. • **Color Temperature:** Select **Warm**, **Cool**, **Medium** or **Natural**.

	a. Method: 2 points
	  - Pattern: Inner, Outer
	  - Contrast Red/Green/Blue, Brightness Red/Green/Blue:
	    Adjustable range -50 - +50.
	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.

Color Management system	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.
	You may not see colors change on a normal picture even after adjustment.
	- Chroma Red/Green/Blue/Yellow/Cyan/Magenta,
	  Tone Red/Green/Blue/Yellow/Cyan/Magenta:
	  The adjustment range is -30 - +30 each.

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

Picture Option

Item	Description		
Noise Reduction	Removes noise 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 6.	
	Clear plus	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 **MENU** button.

2 Use the $\wedge$, $\vee$, $<$ or $>$ button to select **SOUND** and press the **OK** button.

3 Use the $\wedge$, $\vee$, $<$ or $>$ button to set up the desired item and press the **OK** button.

- To return to the previous menu, press the ↰ button.

```
┌─────────────────────────────────────┐
│ ⊙ SOUND                             │
│ ▭                    ∧              │
│        •  Sound Mode   : Standard    │
│ ⊙              •  User EQ           │
│        •  Volume Mode               │
│ ⊕      •  Virtual Surround : Off    │
│        •  Clear Voice II   : Off ⊷ 2│
│        •  AV Sync.         : Off    │
│ ◯      •  Sound Setting             │
│ ◉                    ∨              │
└─────────────────────────────────────┘
```
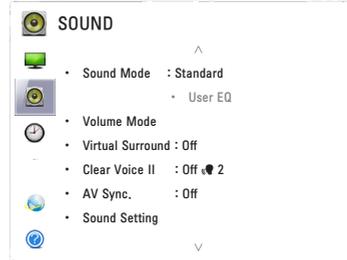
The available sound settings are described as follows.

Item	Description	
Sound Mode	Sets the 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.	
	* It is activated when **User Setting** is selected in Sound Mode.	
	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 projector volume.	
Virtual Surround	Provides realistic stereo sound.	
Clear Voice II	Makes the voice from the projector crisp and clear.	
AV Sync.	Allows you to manually adjust picture and audio when they are not synced.	
Sound Setting	Adjusts left/right audio balance.	
Mic Setting	Allows you to connect and use a microphone. * When using a microphone, it is normal to only hear sound from the microphone. * You can adjust the microphone volume using the volume key. * The microphone function is only available for external inputs (RGB, HDMI, AV, or Component).	

TIME Settings

1 Press the **MENU** button.

2 Use the ∧, ∨, ＜ or ＞ button to select **TIME** and press the **OK** button.

3 Use the ∧, ∨, ＜ or ＞ button to set up the desired item and press the **OK** button.
- To return to the previous menu, press the ↰ button.

⏱ TIME	
• Sleep Timer	: Off
• Auto Off	: 60 min.
• Automatic Standby	: 4 hours
• Presentation Timer	

The available time settings are described as follows.

Item	Description	
Sleep Timer	The projector is turned off at the preset time.	
Auto Off	If there is no signal, the projector automatically turns off after the preset time has elapsed.	
Automatic Standby	Turns off the projector automatically if there is no input for the given time.	
Presentation Timer	**Time Alarm**	Displays an alarm at the specified time. * If you set the time to 5 minutes, the time is displayed on the screen at a 1 minute interval. If you set the time to 10 minutes or more, the time is displayed at a 5 minute interval. If the remaining time is less than 5 minutes, it is displayed at a 1 minute interval. * You can set the time to 5, 10, ..., 60 minutes in 5-minute increments.
	Time Keeper	Displays the time remaining until the time specified on the screen. * For between 1 and 10 minutes, the time can be set in increments of 1 minute; and for between 10 and 60 minutes, in increments of 5 minutes.

OPTION Settings

1 Press the **MENU** button.

2 Use the ∧, ∨, ＜ or ＞ button to select **OPTION** and press the **OK** button.

3 Use the ∧, ∨, ＜ or ＞ button to set up the desired item and press the **OK** button.

- To return to the previous menu, press the ↰ button.

```
OPTION
                        ∧
  •  Language
  •  Caption          : Off
  •  Set ID           : 1
  •  PJT Mode         : Front
  •  KeyStone          1    ▪▐IIIIIIIII▪
  •  Blank Image      : Blue
  •  Auto Power       : Off
                        ∨
```
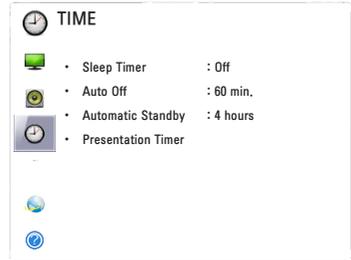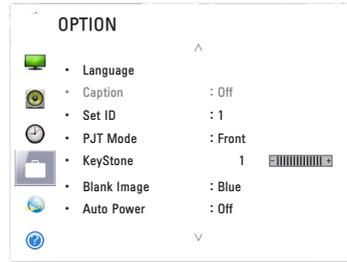
The available option settings are described below.

Item	Description
Language	Selects the desired language.
Caption	If the language for the AV input is set to Korean, captions can be turned on or off.
Set ID	Sets the unique number of a projector when it is being remotely controlled by PC.
PJT Mode	Turns the projected image upside down or flips it horizontally.
Keystone	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.
Auto Power	Makes the projector turn on automatically when the power cord is connected.

	Item	
	On	When the power cord is connected to the projector, it turns on automatically.
	Off	When the power cord is connected to the projector, it goes into standby mode.

Item	Description
Interactive	Sets the Interactive mode. (For SA565) • Operate only in RGB/HDMI input mode. • Only Full Screen, 16:9 and 4:3 are available for Aspect Ratio when the Interactive function is enabled. • If you enable the Interactive function when Aspect Ratio is set to either Just Scan, Set By Program, Zoom or Cinema Zoom, Aspect Ratio will be changed to Full Screen.
High Altitude	If the projector is used at an altitude higher than 1,200 meters, turn this option on. When **High Altitude** is not enabled, the projector may overheat or its protection function may be activated. If this happens, turn the projector off and then on again after waiting for several minutes.

Item	Description
Monitor Out	You can select one of the two RGB inputs connected as an output of the RGB OUT port. When **Auto** is selected, the current input you are watching is displayed, among **RGB1** and **RGB2** inputs.
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).
Balloon Help	Enables/disables the balloon help.
Initial Setting	Resets all projector settings to the factory default.

NETWORK Settings

1 Press the **MENU** button.

2 Use the ∧, ∨, < or > button to select **NETWORK** and press the **OK** button.

3 Use the ∧, ∨, < or > button to set up the desired item and press the **OK** button.

- To return to the previous menu, press the � button.

NETWORK
- Network Connection
- Network Status
- Wi-Fi Direct
- Intel(R) WiDi
- Smart Share Setting
- Magical Mirroring
- eZ-Net Manager

The available network settings are described below.

Item	Description
Network Connection	Connects a wireless network.
Network Status	Displays the connection status of the wireless network.
Wi-Fi Direct	Wi-Fi Direct is a function that allows your projector to connect with a Wi-Fi Direct device without Internet connection. With **SmartShare™**, you can watch the files stored on a device connected via Wi-Fi Direct.
Intel(R) WiDi	You can view the screen of a device with Intel(R) WiDi technologies on your projector.

Item	Description	
Smart Share Setting	Changes the settings for SmartShare.	
	Item	
	Projector Name	Changes the name that appears when searching for the Projector from other devices.
	Share My Projector	Allows / prevents connection to the Projector from other devices. Turns DMR (Digital Media Renderer) connection on/off.
	Auto Play on Receive	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. • 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.
Magical Mirroring	Transmits wirelessly and projects the screen of a network-connected laptop (PC) to a projector.	
eZ-Net Manager	Allows you to control one or more projectors in an easier way through a local area network. * For more information about how to install and set the eZ-Net Manager program, refer to the owner's manual for eZ-Net Manager.	

SUPPORT

1 Press the **MENU** button.

2 Use the $\wedge$, $\vee$, $<$ or $>$ button to select **SUP-PORT** and press the **OK** button.

3 Use the $\wedge$, $\vee$, $<$ or $>$ button to set up the desired item and press the **OK** button.

   - To return to the previous menu, press the ↰ button.

SUPPORT

- Software Update
- Product/Service Info.
- Self Diagnosis

The available support settings are described below.

Item	Description
Software Update	Updates to the latest software.
Product/Service Info.	Shows the product/service information.
Self Diagnosis	Troubleshoots functional problems that can arise while using the product.

CONNECTING DEVICES

You can connect various external devices to the projector.

• The ports on the back of the projector are designed for the ceiling installation, so their label is printed upside down for your convenience.
• The picture may be different from the actual product.

Computer/Notebook   **DVD**   **Video**

Digital Device

USB

Headphones   **Microphone**   **Game Console**

HDMI - Page 66
Component - page 69
Composite (AV) - page 69
RGB - page 67
USB Devices - page 35
Microphone - page 70
Headphones - page 70

Connecting to HD Receiver, DVD, or VCR Player

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

HDMI Connection

With an HDMI cable, you can enjoy high quality picture and sound. Connect the projector's HDMI IN port to the HDMI output port.
Press the **INPUT** button on the remote control to select **HDMI**.

* Optional Extras
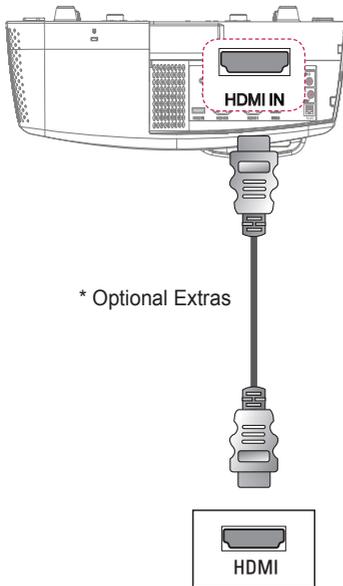
HDMI to DVI Connection

Using an HDMI to DVI cable, connect the projector's HDMI IN port to the DVI OUT port. To output audio, use an audio cable for connection. Press the **INPUT** button on the remote control to select **HDMI**.

* Optional Extras (Video)

* Optional Extras (Audio)
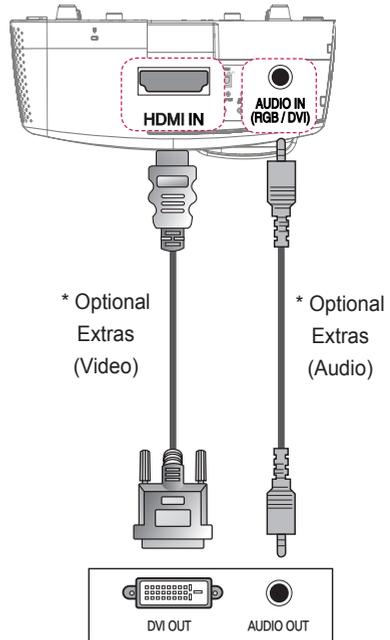
PC Connection

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

RGB Connection

Connect the PC output and the PC video input port of the projector with the RGB cable.
Connect the projector's RGB IN 1 or RGB IN 2 port to the RGB out port.
To output the audio, connect the PC to the projector using an audio cable.
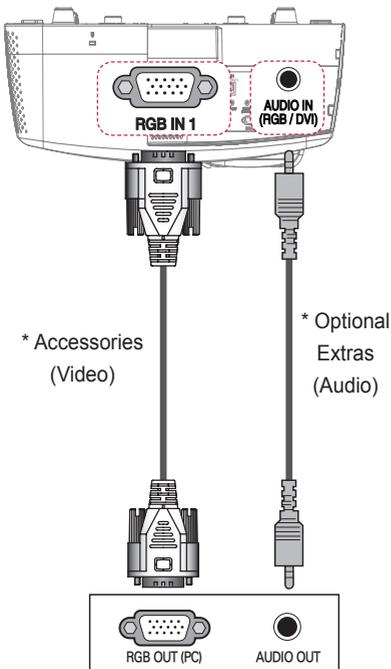
* Accessories (Video)

* Optional Extras (Audio)

HDMI to DVI Connection

Using an HDMI to DVI cable, connect the projector's HDMI IN port to the DVI OUT port. To output audio, use an audio cable to connect the PC to the projector.
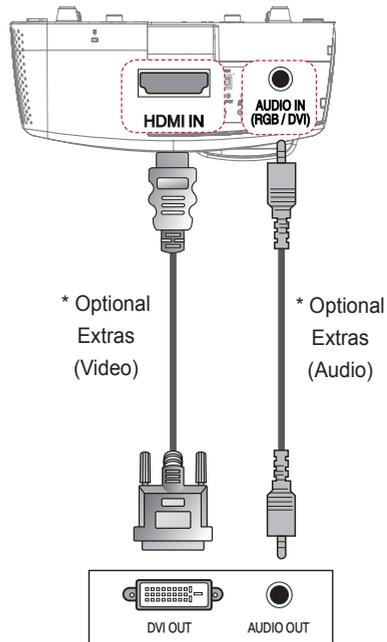
* Optional Extras (Video)

* Optional Extras (Audio)

HDMI Connection

With an HDMI cable, you can enjoy high quality picture and sound. Connect the projector's HDMI IN port to the HDMI output port.
Press the **INPUT** button on the remote control to select **HDMI**.

* Optional Extras

HDMI IN

HDMI
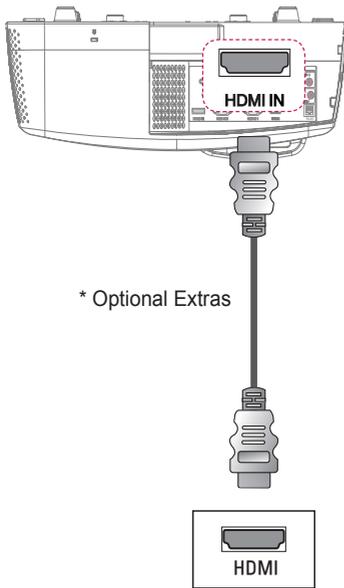
RGB to DVI Connection

Connect the projector's RGB IN 1 or RGB IN 2 port to the DVI OUT port. To output the audio, connect the PC to the projector using an audio cable.

RGB IN 1

AUDIO IN
(RGB / DVI)

* Optional
Extras
(Video)

* Optional
Extras
(Audio)

DVI OUT

AUDIO OUT
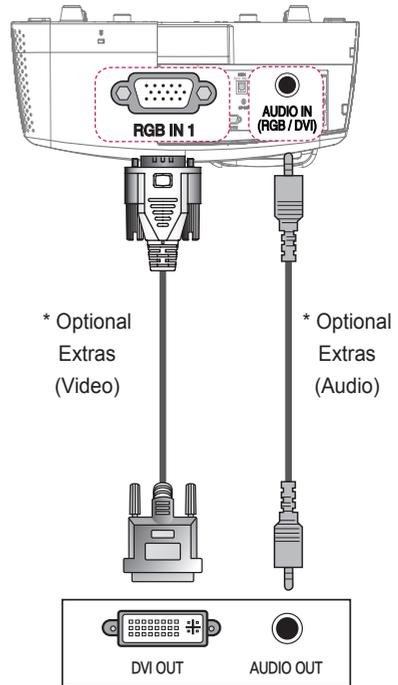
Connecting to External Devices

AV Connection

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

* Optional Extras
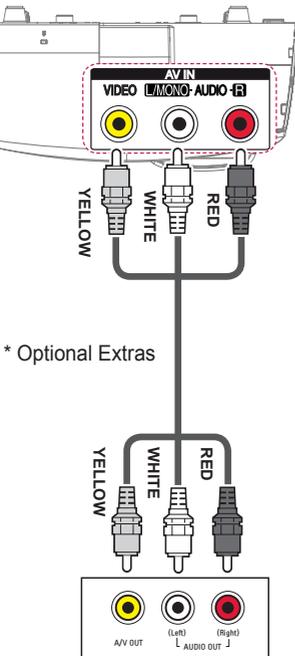
Component Connection

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

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

* Optional Extras (Video)

* Optional Extras (Audio)
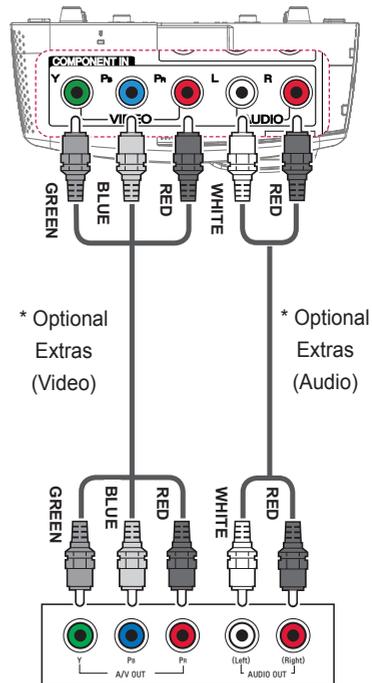
Connecting to Headphones

Headphone Connection

You can listen to the audio through a headphone.

* Optional Extras
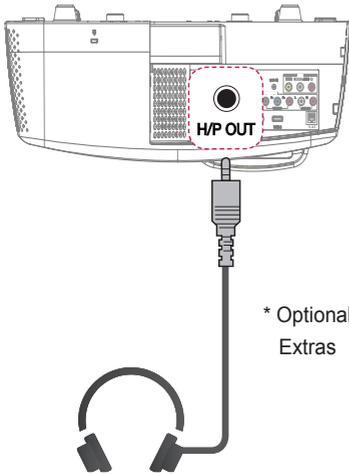
Connecting to a Microphone

Microphone Connection

You can connect a microphone to the MIC IN port of the projector.

* Optional Extras
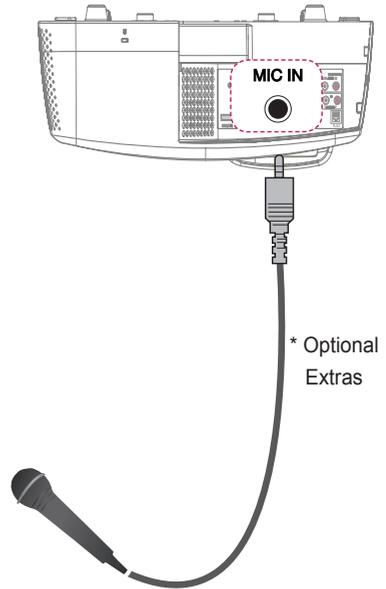
Connecting to a Laptop

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

RGB Connection

You can connect your laptop to the RGB IN 1 or RGB IN 2 port of the projector.

* Accessories
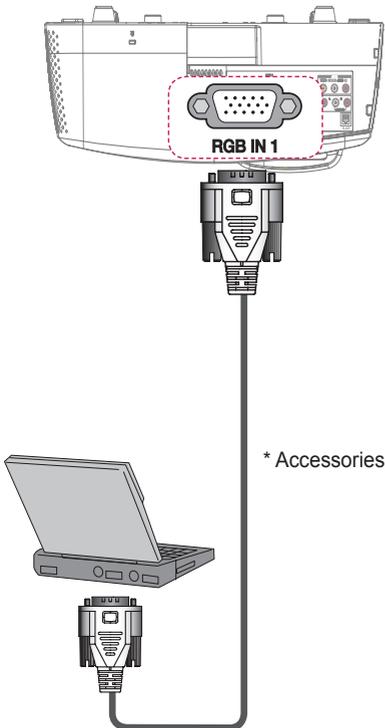
HDMI Connection

Connect the projector's HDMI IN port to the HDMI output port.

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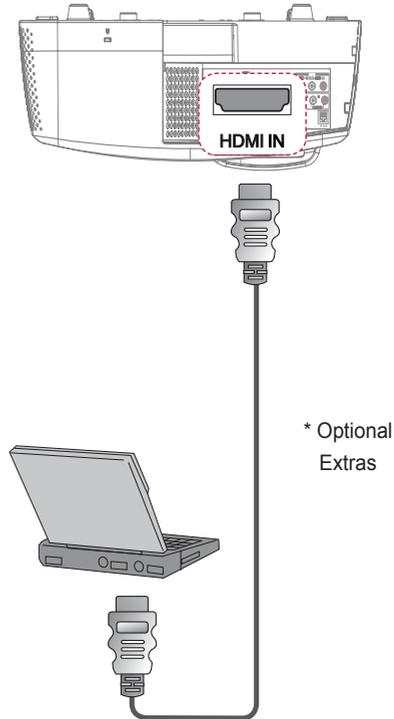
The table below shows examples of switching the output. For more information, refer to the **External Output**, **Connecting to an External Monitor**, or similar sections of the owner's manual of your computer.

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.

(For SA565 only)

INTERACTIVE FUNCTION

To Connect the Interactive Pen to the PC

Connect the USB A to B cable from the projector's **USB 1 (INTERACTIVE/SVC)** port and a PC USB port.
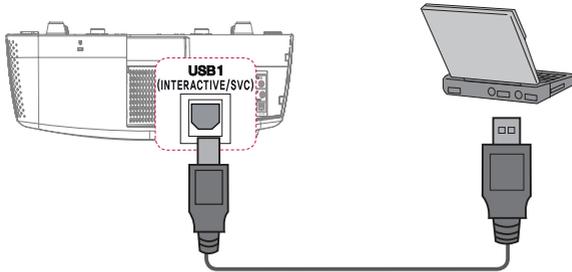
Connect the interactive dongle to the projector's **INTERACTIVE** port.
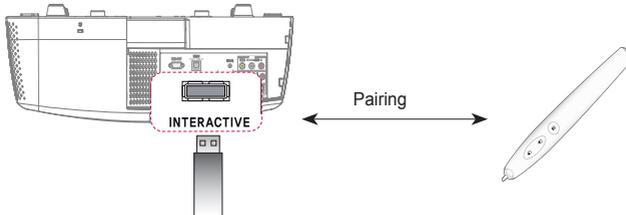
Pairing

⚠ CAUTION

- Up to two pens can be used at the same time.
- Pairing is not available when one of the paired pens is in use.
- In the Fixed Pairing mode, up to 10 pens can be paired one at a time.
- You must install the WizTeach program in the CD provided with the accessories on your PC before using the Annotation Software. The product key required to install the WizTeach program is attached to the back of the enclosed WizTeach software CD case. Make sure that you do not lose the product key.
- If the interactive pen is not used for more than 30 seconds, it will switch to low power mode. Press any button to return the pen to normal mode.
- Use the remote control within the specified range (see **Operating Range with Interactive Pen**). You may experience communication failures when using the device outside the coverage area or if there are obstacles within the coverage area.
- You may experience communication failures depending on the accessories. Devices such as a microwave oven and wireless LAN operate in the same frequency band (2.4 GHz) as the interactive pen. This may cause communication failures.
- Make sure not to block the image when using the interactive pen.

(For SA565 only)

Using The Interactive Pen

Interactive Pen and Button

Front   Back
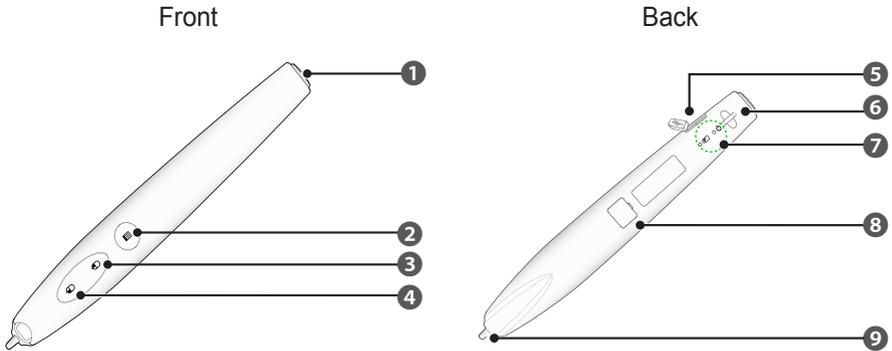
Function/ Button			Description
❶	**Power Button**		Turns the interactive pen on/off.
❷	📋		Used for pairing.
❸	🖱		Functions the same as a right mouse button.
❹	🖱		Functions the same as a left mouse button.
❺	**USB charging port**		Charges the product using the charging cable.
❻	**Eyelet for strap**		Connects the strap to the interactive pen.
❼	**LED Indicators**	🔋	Shows the battery status.
		↺	Shows the pen status.
❽	**Firmware upgrade port**		Used to upgrade the interactive pen firmware for maintenance.
❾	**Pen tip**		You can write text or draw figures using the Pen tip.

(For SA565 only)

Using the Interactive Pen Button

Function	Description
Left Mouse Click	Press the ⬭ button or push the Pen tip.
Right Mouse Click	Press the ⬭ button.
Enter Fixed mode	Go to **Interactive** and set **Pairing Mode** to **Fixed**. Then, press and hold the ▤ button more than three seconds within ten seconds.
Enter Open mode	Press both the pen's ▤ button and ⬭ button simultaneously for 3 seconds.
Wake Up	Press any one of the ⬭ button, ⬭ button, or ▤ button. Or, push the pen tip.

- Make sure that the interactive pen is not pointing toward the screen when entering each mode.
- If the interactive pen is not used for more than 30 seconds and is not pointing toward the screen, it will automatically enter Energy Saving mode.
- The projector operates in Open mode by default, while Fixed mode is only used for pairing the pen with the projector. The projector automatically returns to Open mode from Fixed mode after 10 seconds regardless of whether the pairing is successful or not.

(For SA565 only)

To Charge the Interactive Pen

To charge the battery, connect the interactive pen to the PC with the charging cable.
(Check that the PC is turned on before connection.)
The battery light stays on during charging and will turn off when charging is complete.
When charging is complete, disconnect the charging cable in order to use the pen. Alternatively, use the interactive pen while connected by the charging cable if charging is not complete.
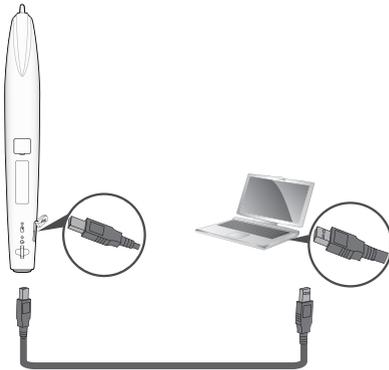
- Warning message (low battery)
  - When the battery voltage is 3.6 V or lower, the low battery warning message is displayed. The interactive pen will work for about 10 minute after this message is displayed.

  - The interactive pen may not work when the battery level is 3.4 V or lower.
- When you use the pen for the first time, charge the battery for at least 3 hours. The fully charged battery lasts 20 hours when it is continuously used, or four weeks in standby mode.

⚠ **WARNING**
- Do not replace or repair the battery yourself.
- To charge the interactive pen, use the charging cable provided to connect the pen to USB port of the PC.

(For SA565 only)

Description of LED Interactive Pen Indicators
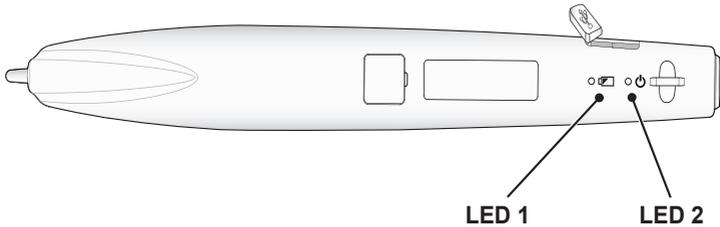
LED 1   **LED 2**

Pen Operation	LED Indicators	
	🔋 (LED 1)	⏻ (LED 2)
Charging battery	The green light is on	-
Battery charging required	The red LED flashes once every four seconds.	-
Open Mode - Searching a projector to connect	-	The green light quickly flashes twice per second.
Fixed Mode - Searching a projector to connect	-	The green light flashes twice at fixed intervals every second.
Attempting to pair	-	The green light flashes very quickly.
Enter Open mode, or pairing is complete	-	The green light slowly flashes three times.
Pairing failed	-	The red light slowly flashes five times.
The pen is connected to the projector	-	The green light flashes every three seconds.
When the pen is pointing the projector screen	-	The red light is on or flashing quickly.
Entering low power mode	The red light has flashed once.	The red light has flashed once.

• LED 1 relates to the battery for the interactive pen and LED 2 relates to the operation status of the interactive pen.

(For SA565 only)

To Replace the Pen tip

When the pen tip is worn out, replace it as shown in the figure below.

Open

Close

Turn the pen tip to the right to remove it from the interactive pen, as shown in the figure below.

Turn the pen tip to the left to install it onto the interactive pen, as shown in the figure below.

How to Use the Strap

Use the strap to prevent dropping the interactive pen. Use the pen safely so as not to cause injury or damage to nearby objects.
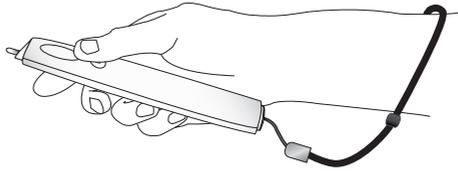
⚠ **CAUTION**
- Be sure to wear the strap on your wrist when using the interactive pen.
- Store the interactive pen in the hard case.

To Clean Interactive Pen

If the lens of the interactive pen does not work properly, clean it as shown in the picture below.
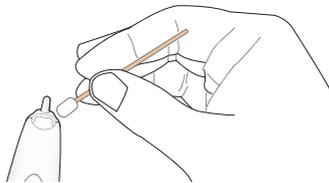
⚠ **CAUTION**
- If there are foreign objects or dust on the lens at the tip of the interactive pen, gently wipe with a cotton swab.
- Foreign objects or dust on the lens surface may cause malfunction of the interactive pen.

(For SA565 only)

Operating Range with Interactive Pen

- It is designed to work on the screen with the size of 1778 mm - 2540 mm.
- You can use two Interactive pens at the same time.
- Actual operating range may slightly differ from the diagram.
- If the projector screen darkens due to the surrounding environment, the operating range of the interactive pen may be affected.
- The screen's gain rate is in the range of 1 to 1.5.

Operating range	
Angle	Distance
0 °	9 m
20 °	7 m
45 °	5 m
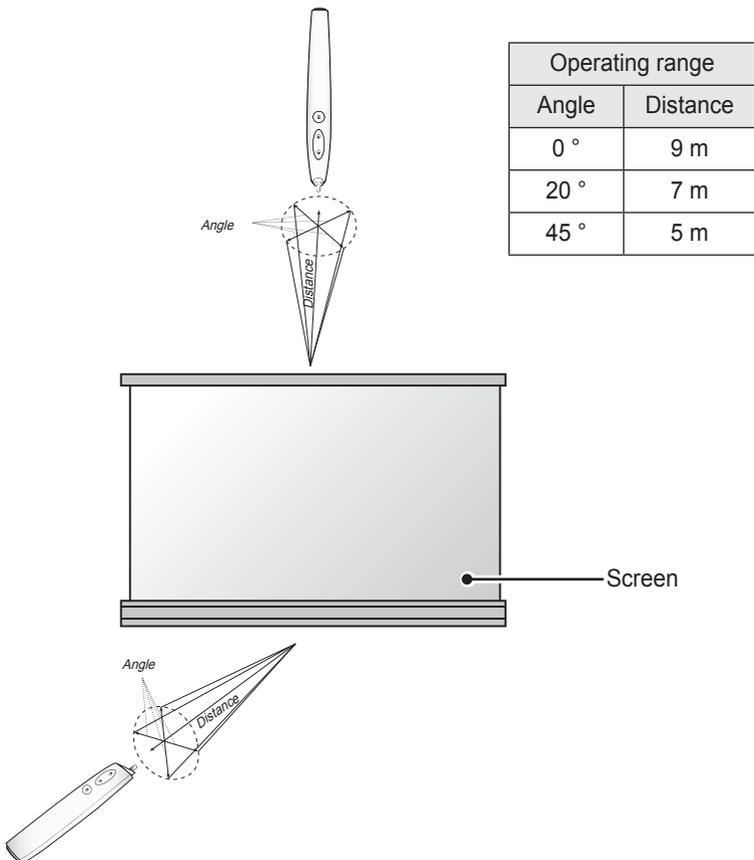
(For SA565 only)

To Use the Interactive Pen Functions

• Make sure that the Computer/Laptop screen is displayed on the projector screen.

OPTION

• Caption	
• Set ID	
• PJT mode	
• KeyStone	
• Blank Image	
• Auto Power	
• Interactive	

Interactive	< Single Pen >
Channel	< Auto >
• Set Channel	< 0 >
Pen Setting	
• Pairing Mode	< Open >

Close
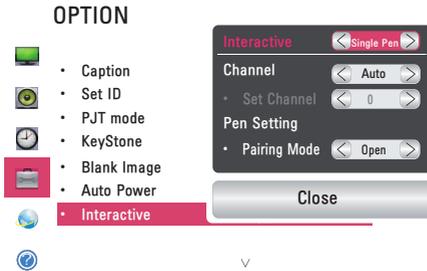
1 Press the **MENU** button.

2 Select **OPTION** using the $\wedge$, $\vee$, $<$, and $>$ buttons, and press the **OK** button.

3 Select Interactive using the $\wedge$, $\vee$, $<$, and $>$ buttons, and press the **OK** button.
- To return to the previous screen, press the ↰ button.

4 Select which item you want using the $\wedge$, $\vee$, $<$, and $>$ buttons, and press the **OK** button.
- After the settings have been changed, press the Close button to close the window.

The interactive function settings are as follows:

Item	Description
Interactive	There are four function modes: **Off, Single, Double Pen,** or **Multi Touch**. • **Off**: Disables the interactive pen function. • **Single Pen**: Use one interactive pen. • **Double Pen**: Use two interactive pens at the same time. (It is recommended to install the WizTeach program provided on your PC prior to use.) • **Multi Touch**: Use the Multi Touch function with two interactive pens. The Multi Touch function does not work on any PC, operating system or program that does not support it.
channel	You can select a channel in **Auto** or **Manual** mode. • **Auto**: A channel is automatically selected. • **Manual**: Select a channel manually.
Set Channel	A maximum of 29 channels (0 - 28) are available.
Pairing Mode	Set the **Pairing mode** to either **Open** or **Fixed**. • **Open**: Follow the on-screen instructions to set the interactive pen to **Open** mode.(While the interactive pen is pointing at a screen, the pen can be used with any projector.) • **Fixed**: Follow the on-screen instructions to set the interactive pen to **Fixed** mode. (The interactive pen can be used only with a paired projector.) - Up to 10 pens can be paired to one projector.

(For SA565 only)

Troubleshooting the Interactive Pen Function

Problem	Troubleshooting
I can't use or connect the interactive pen.	Check that the interactive pen function is turned on. Check that the interactive dongle is connected to the projector. Press the interactive pen's power button to check that the power is turned on. Check that the Interactive pen is paired. Make sure that the computer screen is displayed on the projector screen.
The interactive pen does not work from time to time.	Connect the interactive USB cable to another USB port and try to use the interactive pen again.
The projector screen looks abnormal when the interactive pen function is enabled.	Check that the projector and computer are connected properly.
The interactive pen is showing in a different position.	Make sure that the computer screen is displayed on the projector screen.
The interactive pen does not work smoothly.	Check whether the projector is too far away from the computer or if there are too many obstacles between them. Check whether too many applications are running on the PC.(It is not recommended to run other applications while running the interactive program (WizTeach software).)
The LED is not working.	Check whether the battery is dead.
The red LED indicating low battery level flashes once every four seconds.	The battery is low. Charge the interactive pen.

SERIAL COMMUNICATION FUNCTION

Using Serial Communication

If the projector is connected to a PC through an RS-232C cable, you can use the
PC to control functions of the projector such as power On/Off or input selection, etc.
It cannot be used with the eZ-Net Manager concurrently. For serial communication,
use **RJ45 Off** in the eZ-Net Manager.
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 projector.
You need to purchase a cable to connect the RS-232C connectors as it is not pro-
vided as an accessory.

PC   **Projector**

* A RS-232C cable is necessary for the remote control of the projector (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 bits
- Parity: none

- Stop bit: 1 bit
- Flow Control: none
- Communication code: ASCII code

Communication Protocol

Transmission

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

[Command1]: The first command to control the projector (k. j, x, m, n ASCII code, 1 Character)
[Command2]: The second command to control the projector (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 '00', every connected set is controlled. Set ID is
          indicated as decimal (1 to 99) on menu and as Hexa decimal (0x01 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)

OK Acknowledgement

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

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

Error Acknowledgement

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

* 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 Select	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 Config.	j	u	01
15. Input Select	x	b	*
16. Key	m	c	Key Code
17. Picture Mode	n	s	00 - 08(excluding 02, 04)
18. Mute	k	e	00 - 01
19. Volume	k	f	00 - 64
20. Monitor Out	n	r	00 - 02

- For more information about the data (*), refer to next page.
- When playing a video or photo file stored on a storage media (USB flash drive 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

► Shows the power on status.
(Only working when the projector 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

        08: Full   09: Just Scan

        10 to 1F: Cinema Zoom 1 - 16

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

Data   01: 4:3   02: 16:9

        04: Zoom   06: Set By Program

        08: Full   09: Just Scan

        10 to 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 contrast.
Disabled when the Black Mode is selected.

> 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 brightness.
Disabled when the Black mode is selected.

> 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 color.
  Disabled when the Black mode is selected.

  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 tint.
  Disabled when the Black mode is selected.

  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 the sharpness.
  Disabled when the Black mode is selected.

  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 Select (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 con-
  trol and front panel control on the projector.

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

Data   00: Lock Off   01: Lock On

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

Data   00: Lock Off   01: Lock On

* 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
  projector will not respond to the power button on
  the remote control or control panel.

11. Color Temperature (Command: ku)

► Adjusts the color temperature.
  Disabled when the Black mode is selected.

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

Data   00: Medium   01: Cool
        02: Warm   04: Natural
        (* Transmitted in hexadecimal code)
* Data 03 is not used.

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

Data   00: Medium   01: Cool
        02: Warm   04: Natural

12. Black Level (Command: nm)

▶ Adjusts the black level.

Disabled when the Black mode is selected.

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   01: Medium

        02: Maximum

        (* Transmitted in hexadecimal code)

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

Data   00: Minimum   01: Medium

        02: Maximum

14. Auto Config. (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)

▶ Select the input signal of the set.

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

Data
20: AV   40: Component
60: RGB 1   61: RGB 2
90: HDMI
        (* Transmitted in hexadecimal code)

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

Data
20: AV   40: Component
60: RGB 1   61: RGB 2
90: HDMI   A0: HDMI-PC

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 90 .
        (* Transmitted in hexadecimal code)

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

17. Picture Mode (Command: ns)

► Sets the picture mode.

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

Data

00: Vivid   01: Standard
03: Cinema   05: Game
06: Black Mode   07: Expert 1
08: Expert 2

(* Transmitted in hexadecimal code)

Ack [s][] [Set ID][][OK][Data][x]

Data

00: Vivid   01: Standard
03: Cinema   05: Game
06: Black Mode   07: Expert 1
08: Expert 2

(* 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)

► Adjusts the volume.

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

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

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

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

20. Monitor Out (Command: nr)

► Select either RGB1 or RGB2 input as an output of the RGB OUT port.

Transmission [n][r][][Set ID][][Data][Cr]

Data   00: RGB 1   01: RGB 2
        02: Auto

Ack [r][] [Set ID][][OK][Data][x]

Data   00: RGB 1   01: RGB 2
        02: Auto

Key Code

Key Name	Key Code	Key Name	Key Code
∧	0x40	KEY.S ▼	0xA5
∨	0x41	MIC	0xE4
>	0x06	USB	0x7C
<	0x07	MUTE	0x09
POWER	0x08	HELP	0x81
INPUT	0xEF	STILL	0xBC
MENU	0x43	EXIT ▯	0x5B
↰ (BACK)	0x28	0	0x10
OK	0x44	1	0x11
ENERGY SAVING	0x95	2	0x12
RATIO	0x79	3	0x13
BLANK	0x84	4	0x14
PICTURE	0x4D	5	0x15
AUTO	0x92	6	0x16
Q.MENU	0x45	7	0x17
SLEEP	0x0E	8	0x18
AV MODE	0x30	9	0x19
VOL +	0x02	PAGE ∧	0x00
VOL -	0x03	PAGE ∨	0x01
Red	0x72	▶▶	0x8E
Green	0x71	◀◀	0x8F
Yellow	0x63	▶	0xB0
Blue	0x61	■	0xB1
KEY.S ▲	0xA4	❚❚	0xBA

MAINTENANCE

Clean your projector to keep it in optimal condition.

Cleaning

Cleaning the Lens

If there is any dust or staining on the lens surface, you must clean the lens. Use an air spray or a cleaning cloth to clean the lens.
To remove dust or stains, use an air spray or apply a small amount of cleaning agent onto a swab or soft cloth to lightly rub the lens.
Please be aware that liquid may flow into the lens if the product is sprayed directly onto the lens.

Cleaning the projector case

To clean the projector case, first unplug the power cord.
To remove dust or stains, use only a dry, lint-free, nonabrasive cloth to polish the lens.
Do not use alcohol, benzene, thinners, or other chemicals, which may damage the case.

Updating Software

When 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 Press the **MENU** button.
2 Select **SUPPORT** and go to **Software Update**.

Item	Description
Software Update	Enable this option. When an update file is found, it is downloaded automatically. When the update file is finished downloading, 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.

WIRELESS SPECIFICATIONS

Wireless Specifications of the Interactive Dongle/Pen

(For SA565 only)

- The interactive pen communicates with the interactive a projector's interactive dongle.

Frequency Range	2400 MHz - 2483.5 MHz
Modulation	MSK
Transmission power	0 dBm
Receive sensitivity	-82 dBm
Data Rate	500 kbps

SPECIFICATIONS

Model	SA560 (SA560-JP) / SA565 (SA565-JP)		
Resolution (Pixel)	1280 (Horizontal) × 800 (Vertical)		
Aspect ratio	16:10 (Horizontal:Vertical)		
Panel size (mm)	16.51		
Projection distance (Video size)	0.452 m - 0.711 m (177.8 cm - 279.4 cm)		
Ratio of upward projection	128 %		
Audio output	7 W + 7 W		
Reception type	NTSC, PAL-B, D, G, H, I, PAL M, PAL N, PAL 60, SECAM		
Height (mm)	147.5 (without foot), 162 (with foot)		
Width (mm)	468.0		
Depth (mm)	415.0		
Weight (kg)	8.5		
Headphone, earphone	Impedance: 16 Ω / Output power: 10 mW / Jack thickness: 3.5 mm		
USB Device	5 V, 0.5 A (Max.)		
POWER	AC 100 V ~ 240 V, 50 Hz/ 60 Hz		
Standby power	≤ 0.5 W		
Operation environment	Temperature		
	Operation	0 °C to 40 °C	
	Storage	-20 °C to 60 °C	
	Relative humidity		
	Operation	0 % - 80 %	
	Storage	0 % - 85 %	

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

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
1280 x 800	49.68	60
1280 x 1024	63.981	60.020
1400 x 1050	65.317	59.979
1680 x 1050	65.3	60

- If an invalid signal is input into the projector, it will not be displayed properly on the screen or a message such as **No Signal** or **Invalid Mode** will be displayed.
- The projector supports the DDC1/2B type as the Plug & Play function (Auto-recognition of PC monitor).
- PC sync signals supported: Separate Sync.
- In PC mode, 1280 x 800 is recommended for the best picture quality.
- The 1400 x 1050 resolution may not be supported depending on the PC type.

Component Port Connection

Signal	Component
480i / 576i	o
480p / 576p	o
720p / 1080i	o
1080p	o

HDMI/DVI-DTV mode supported

Resolution	Horizontal Frequency (kHz)	Vertical Frequency (Hz)
480p	31.5	60
	31.469	59.94
576p	31.25	50
720P	37.5	50
	44.96	59.94
	45	60
1080i	28.125	50
	33.716	59.94
	33.75	60
1080p	56.25	50
	67.432	59.94
	67.5	60
	67.432	59.939
	27	24
	26.97	23.976
	28.125	25
	33.75	30
	33.71	29.97

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.

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

MODEL _____

SERIAL _____