



User's Guide

Home Projector

EH-LS12000B

EH-LS11000W

Notations Used in This Guide 5

Using the Manual to Search for Information 6

- Searching by Keyword 6
- Jumping Directly from Bookmarks..... 6
- Printing Only the Pages You Need..... 6

Getting the Latest Version of the Documents..... 7

Introduction to Your Projector 8

Projector Parts and Functions 9

- Projector Parts - Front/Top..... 9
- Projector Parts - Rear..... 10
- Projector Parts - Base 10
- Projector Parts - Interface Ports 11
- Projector Parts - Control Panel..... 11
- Projector Parts - Remote Control 12

Setting Up the Projector 14

Projector Placement 15

- Notes on Transporting 16
- Projector Setup and Installation Options..... 16
- Projection Distance..... 17

Installing the Safety Wire..... 18

- When Using the Ceiling Mount ELPMB22..... 18
- When Using the Ceiling Mount ELPMB30..... 19

Projector Connections 21

- Connecting to an HDMI Video Source 21
- Connecting to a Computer for HDMI Video 22
- Connecting to a Streaming Media Player 22
- Connecting to External Devices..... 22

- Connecting to an eARC/ARC Compatible AV System or External Speakers 23
- Connecting to a Trigger Out Port..... 23

Wired Network Connection..... 24

- Connecting to a Wired Network..... 24
- Selecting Wired Network Settings 24

Attaching and Removing the Cable Cover 26

Installing Batteries in the Remote Control..... 28

- Remote Control Operation 29

Using Basic Projector Features 30

Turning On the Projector 31

Turning Off the Projector 32

Displaying a Test Pattern 33

Projection Modes 34

- Changing the Projection Mode Using the Menus 34

Adjusting the Image Position Using Lens Shift..... 35

Adjusting the Projector's Tilt 36

Image Shape 37

- Correcting Image Shape with H/V Keystone 37
- Correcting the Image Shape with Quick Corner 38
- Correcting Image Shape with Point Correction..... 40

Resizing the Image with the Zoom Feature 42

Focusing the Image with the Lens Button..... 43

Selecting an Image Source 44

Image Aspect Ratio 45

- Changing the Image Aspect Ratio 45
- Available Image Aspect Ratios 45

Color Mode 47

Changing the Color Mode 47
 Available Color Modes..... 47

Adjusting the Image Quality..... 49

Adjusting the Sharpness..... 49
 Setting Frame Interpolation 50
 Adjusting the Light Source Brightness 51
 Turning On Automatic Luminance Adjustment 51
 Adjusting the Image Resolution 52

Adjusting the Image Color 54

Adjusting the Color Temperature 54
 Adjusting the RGB Offset and Gain 55
 Adjusting the Gamma 55
 Adjusting the Hue, Saturation, and Brightness..... 57

Adjusting Projector Features 59

HDMI Link Features 60

Operating the Connected Devices Using the HDMI Link Features 60

Shutting Off the Image Temporarily 62

Saving Settings to Memory and Using Saved Settings 63

Using Advanced Image Adjustment Features..... 65

Adjusting the Color Tone (Color Uniformity)..... 65

Projector Security Features..... 67

Locking the Projector's Lens Settings and Buttons..... 67
 Unlocking the Projector's Buttons 68
 Installing a Security Cable..... 68

Monitoring and Controlling the Projector 69

PJLink Support 70

Adjusting the Menu Settings 71

Using the Projector's Menus 72

Using the Displayed Keyboard 74

Available Text Using the Displayed Keyboard 74

Image Quality Settings - Image Menu..... 75

Input Signal Settings - Signal I/O Menu..... 77

Projector Installation Settings - Installation Menu..... 79

Projector Display Settings - Display Menu 80

Projector Feature Settings - Operation Menu 81

Projector Administration Settings - Management Menu..... 82

Projector Network Settings - Network Menu 84

Network Menu - Network Settings Menu 84
 Network Menu - Wired LAN Menu..... 84
 Network Menu - Projector Control Menu..... 85

Image Quality Memory Settings - Memory Menu..... 86

Projector Initial Settings and Reset Options - Initial/All Settings Menu..... 87

Copying Menu Settings Between Projectors (Batch Setup) 88

Transferring Settings From a USB Flash Drive..... 88
 Transferring Settings From a Computer 89
 Batch Setup Error Notification..... 90

Maintaining the Projector 91

Projector Maintenance 92

Cleaning the Lens..... 93

Cleaning the Projector Case..... 94

Air Filter and Vent Maintenance 95

Cleaning the Air Filters and Intake Vents	95
Replacing the Air Filter.....	97
Adjusting the Color Convergence (Panel Alignment)	100
Updating the Firmware	102
Updating Firmware Using a USB Storage Device.....	102
Updating Firmware Using a Computer and USB Cable	103
Solving Problems	105
<hr/>	
Projection Problems	106
Projector Indicator Status	107
Viewing the Status Display	109
Projector Status Display Messages.....	109
Solving Projector Power-On or Power-Off Problems	111
Solving Projector Power Problems.....	111
Solving Projector Shutdown Problems	111
Solving Image Problems	112
Solving Missing Image Problems.....	112
Adjusting an Image that is not Rectangular.....	113
Adjusting a Fuzzy or Blurry Image	113
Fixing Partial Image Problems	113
Adjusting an Image that Contains Noise or Static.....	114
Adjusting an Image with Incorrect Brightness or Colors.....	114
Adjusting an Upside-down Image.....	115
Synchronizing Image and Sound.....	115
Solving Sound Problems	116
Solving Remote Control Operation Problems.....	117
Solving HDMI Link Problems	118



Appendix	119
<hr/>	
Optional Accessories and Replacement Parts.....	120
Mounts.....	120
External Devices	120
Replacement Parts.....	120
Screen Size and Projection Distance.....	121
Supported Monitor Display Resolutions	123
Projector Specifications	124
Connector Specifications	125
External Dimensions	126
List of Safety Symbols and Instructions	127
Laser Safety Information.....	129
Laser Warning Labels.....	129
Glossary	131
Notices	132
FCC Compliance Statement.....	132
Indication of the manufacturer and the importer in accordance with requirements of EU directive.....	133
Indication of the manufacturer and the importer in accordance with requirements of United Kingdom directive.....	133
Restriction of Use	133
Operating System References.....	133
Trademarks.....	134
Copyright Notice.....	134
Copyright Attribution.....	134

Notations Used in This Guide




Safety Symbols

The projector and its manuals use graphical symbols and labels to indicate content that tells you how to use the projector safely.

Read and carefully follow the instructions that are marked with these symbols and labels to avoid injury to persons or damage to property.

 Warning	This symbol indicates information that, if ignored, could possibly result in personal injury or even death.
 Caution	This symbol indicates information that, if ignored, could possibly result in personal injury or physical damage due to incorrect handling.

General Information Notations

Attention	This label indicates procedures that may result in damage or injury if sufficient care is not taken.
	This label indicates additional information that may be useful to know.
[Button name]	Indicates the name of the buttons on the remote control or the control panel. Example: [Esc] button
Menu/Setting name	Indicates projector menu and setting names. Example: Select the Image menu  Image > Color Mode
»»	This label indicates links to the related pages.
	This label indicates the projector's current menu level.

»» Related Links

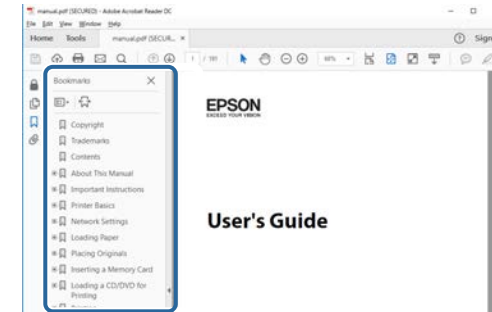
- "Using the Manual to Search for Information" [p.6](#)
- "Getting the Latest Version of the Documents" [p.7](#)

The PDF manual allows you to search for information you are looking for by keyword, or jump directly to specific sections using the bookmarks. You can also print only the pages you need. This section explains how to use a PDF manual that has been opened in Adobe Reader X on your computer.

► Related Links

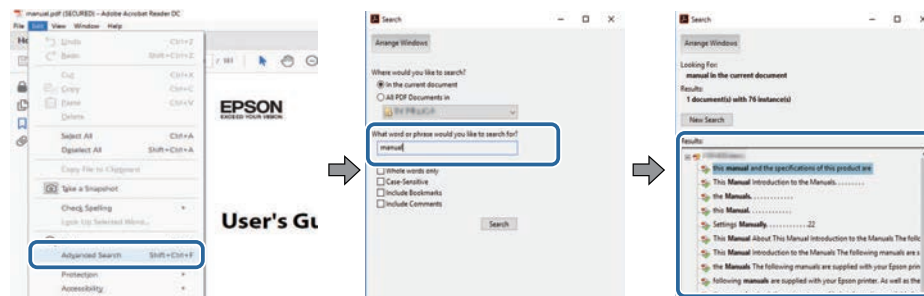
- "Searching by Keyword" p.6
- "Jumping Directly from Bookmarks" p.6
- "Printing Only the Pages You Need" p.6

- Mac OS: Hold down the command key, and then press ←.



Searching by Keyword

Click **Edit > Advanced Search**. Enter the keyword (text) for information you want to find in the search window, and then click **Search**. Hits are displayed as a list. Click one of the displayed hits to jump to that page.



Printing Only the Pages You Need

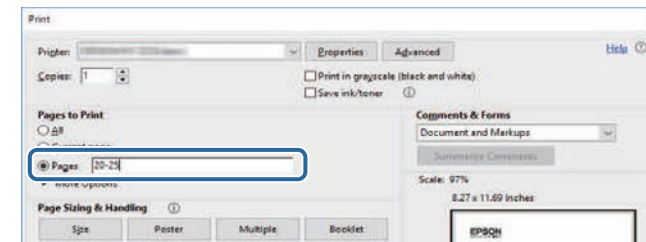
You can extract and print only the pages you need. Click **Print** in the **File** menu, and then specify the pages you want to print in **Pages in Pages to Print**.

- To specify a series of pages, enter a hyphen between the start page and the end page.
Example: 20-25
- To specify pages that are not in series, divide the pages with commas.
Example: 5, 10, 15

Jumping Directly from Bookmarks

Click a title to jump to that page. Click + or > to view the lower level titles in that section. To return to the previous page, perform the following operation on your keyboard.

- Windows: Hold down **Alt**, and then press ←.



You can get the latest version of the manuals and specifications on the Epson Web site.

Visit epson.sn, and enter your model name.

Introduction to Your Projector

See these sections to learn more about your projector.

► **Related Links**

- "Projector Parts and Functions" [p.9](#)

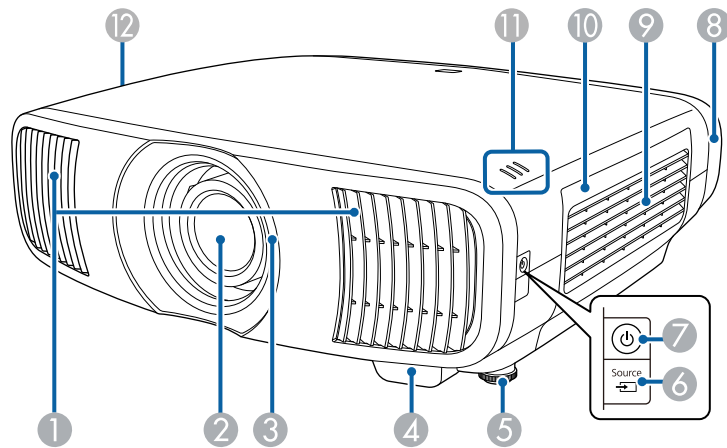
The following sections explain the projector parts and their functions.

All of the features in this guide are explained using illustrations of EH-LS12000B unless otherwise mentioned.

► **Related Links**

- "Projector Parts - Front/Top" [p.9](#)
- "Projector Parts - Rear" [p.10](#)
- "Projector Parts - Base" [p.10](#)
- "Projector Parts - Interface Ports" [p.11](#)
- "Projector Parts - Control Panel" [p.11](#)
- "Projector Parts - Remote Control" [p.12](#)

Projector Parts - Front/Top

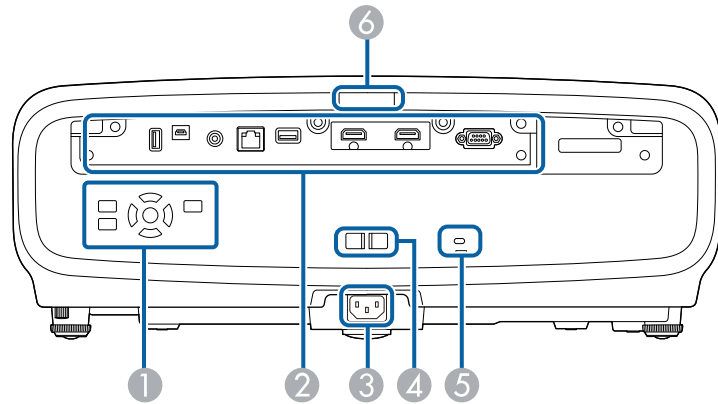


Name	Function
① Air exhaust vent	Exhaust vent for air used to cool the projector internally. ⚠ Caution While projecting, do not put your face or hands near the air exhaust vent, and do not place objects that may become warped or damaged by heat near the vent. Hot air from the air exhaust vent could cause burns, warping, or accidents to occur.
② Lens	Images are projected from here.
③ Lens shutter	Links to the projector's power on/off function, and automatically opens and closes the shutter.
④ Remote receiver	Receives signals from the remote control.
⑤ Front adjustable foot	When setup on a surface such as a desk, turn to extend and retract to adjust the horizontal tilt.
⑥ [Source] button	Cycles through the sources.
⑦ Power button/indicator (⏻)	Turns the projector on or off. Lit when the projector is on.
⑧ Cable cover (EH-LS12000B)	Cover for the rear interface ports section.
⑨ Air intake vent (air filter)	Takes in air to cool the projector internally.
⑩ Air filter cover	Open to access the air filter.
⑪ Indicators	Indicates the projector's status.
⑫ Air intake vent	Takes in air to cool the projector internally.

► **Related Links**

- "Air Filter and Vent Maintenance" [p.95](#)
- "Projector Indicator Status" [p.107](#)
- "Remote Control Operation" [p.29](#)
- "Attaching and Removing the Cable Cover" [p.26](#)

Projector Parts - Rear

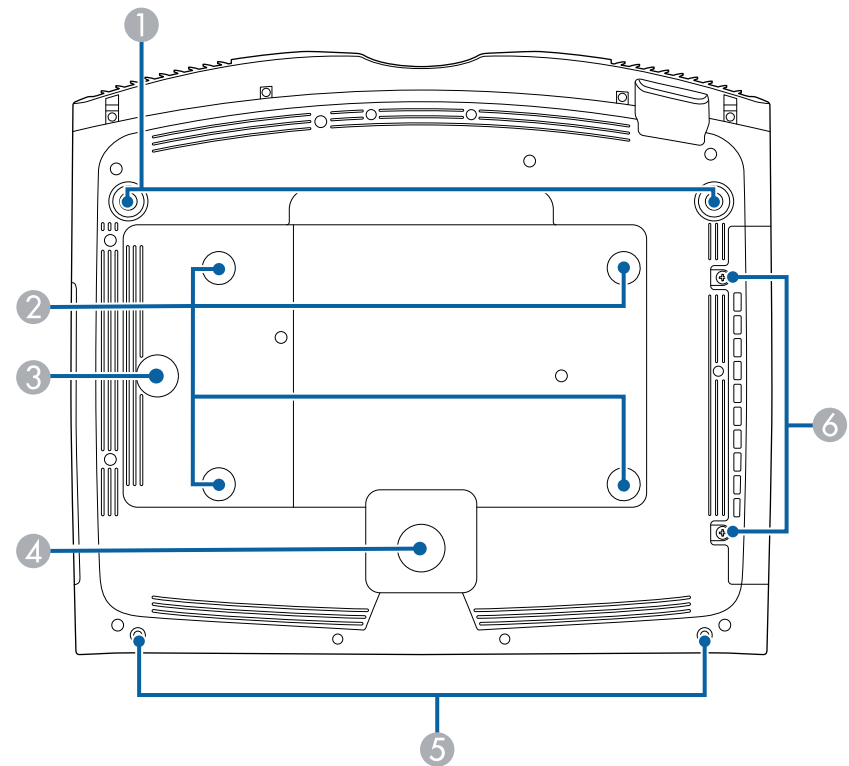


Name	Function
1 Control panel	Operates the projector.
2 Interface ports	Connects cables for external devices.
3 Power inlet	Connects the power cord to the projector.
4 Cable holder	Pass a commercially available cable tie through here to secure cables.
5 Security slot	The security slot is compatible with the Microsaver Security System manufactured by Kensington.
6 Remote receiver	Receives signals from the remote control.

» Related Links

- "Projector Parts - Interface Ports" [p.11](#)
- "Installing a Security Cable" [p.68](#)

Projector Parts - Base



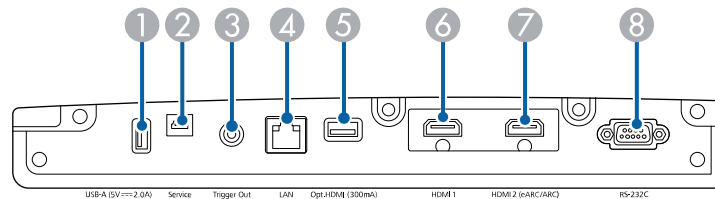
Name	Function
1 Front adjustable feet	When setup on a surface such as a desk, turn to extend and retract to adjust the horizontal tilt.
2 Ceiling mount fixing points (four points)	Attach the optional ceiling mount here when suspending the projector from a ceiling.
3 Wire clamp fixing point	When you use the optional ceiling mount, fix the carabiner here to attach the safety wire and prevent the projector from falling from the ceiling or wall.
4 Rear foot	Stabilizes the projector on a surface such as a desk.

Name	Function
5 Screw holes for cable cover	Screw holes to fix the cable cover in place.
6 Air filter cover screws	Screws to fix the air filter cover in place.

► **Related Links**

- "Installing the Safety Wire" [p.18](#)
- "Adjusting the Projector's Tilt" [p.36](#)

Projector Parts - Interface Ports



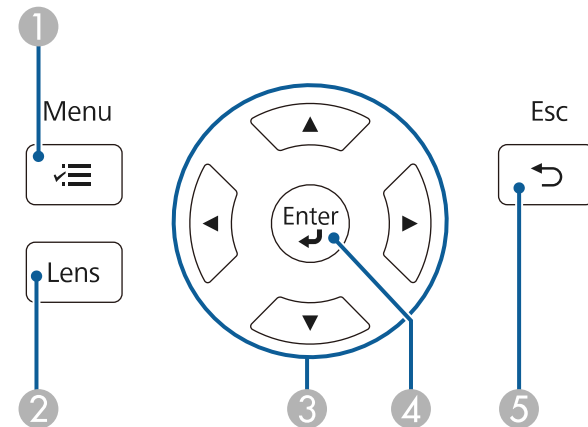
Name	Function
1 USB-A (5V===2.0A) port	Connects to a streaming media player to power it. Use to connect a USB memory device to save error and operation log files. It is also used for batch settings and firmware update. Hereinafter referred to as the USB-A port.
2 Service port	This port is used for batch settings and firmware update.
3 Trigger Out port	Connects with external devices such as motorized screens.
4 LAN port	Connects a LAN cable to connect to a network.

Name	Function
5 Opt.HDMI (300mA) port	Connects the power supply port for the optical HDMI cable. However, connection for all the devices is not guaranteed. Make sure to check if your device works beforehand.
6 HDMI1 port	Inputs video signals from HDMI compatible video equipment and computers. This port is compatible with HDCP 2.3.
7 HDMI2 (eARC/ARC) port	Inputs video signals from HDMI compatible video equipment and computers. This port is compatible with HDCP 2.3. This port is compatible with HDMI eARC/ARC.
8 RS-232C port	Connects an RS-232C cable to control the projector from a computer. (You do not need to use this port normally.)

► **Related Links**

- "Projector Connections" [p.21](#)

Projector Parts - Control Panel

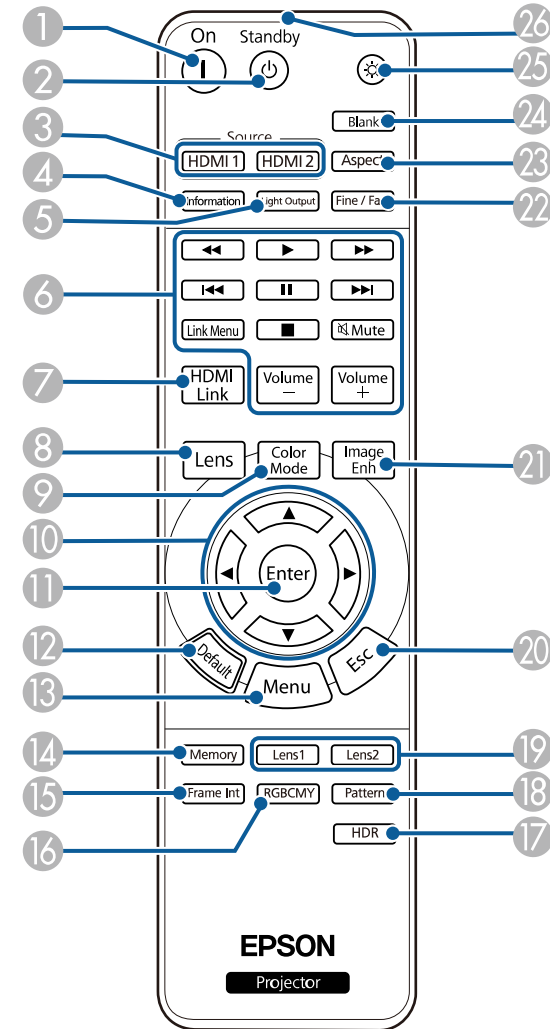


Name	Function
① [Menu] button (☰)	Displays and closes the projector's menu.
② [Lens] button	Adjusts the focus, size, and position of the projected image.
③ Arrow buttons	Selects menu items while displaying the projector's menu or help. Displays the previously used Geometry Correction screen (EH-LS12000B) or the H/V-Keystone adjustment screen (EH-LS11000W).
④ [Enter] button (↵)	Enters the current selection and moves to the next level while displaying the projector's menu or help.
⑤ [Esc] button (↶)	Stops the current function. Moves back to the previous menu level while displaying the projector's menu.

» **Related Links**

- "Resizing the Image with the Zoom Feature" [p.42](#)
- "Focusing the Image with the Lens Button" [p.43](#)
- "Adjusting the Menu Settings" [p.71](#)

Projector Parts - Remote Control



Name	Function
① [On] button	Turns the projector on.

Name	Function
② [Standby] button	Turns the projector off.
③ [HDMI1]/[HDMI2] button	Switches the image source between the HDMI1 and HDMI2 (eARC/ARC) ports.
④ [Information] button	Displays the Information screen.
⑤ [Light Output] button	Displays the Light Output screen.
⑥ Playback control buttons	Controls playback of the connected devices that support the HDMI CEC standard.
⑦ [HDMI Link] button	Displays the HDMI Link screen.
⑧ [Lens] button	Adjusts the focus, size, and position of the projected image.
⑨ [Color Mode] button	Displays the Color Mode screen.
⑩ Arrow buttons	Selects menu items while displaying the projector's menu.
⑪ [Enter] button	Enters the current selection and moves to the next level while displaying the projector's menu.
⑫ [Default] button	Returns the selected setting to its default value.
⑬ [Menu] button	Displays and closes the projector's menu.
⑭ [Memory] button	Displays the Memory menu.
⑮ [Frame Int] button	Sets the strength for Frame Interpolation .
⑯ [RGBCMY] button	Adjusts the hue, saturation, and brightness for each RGBCMY color.
⑰ [HDR] button	Displays the Dynamic Range screen.
⑱ [Pattern]	Displays the Test Pattern screen.
⑲ [Lens1]/[Lens2] button	Loads the lens position registered as Memory1 or Memory2 in the Lens Position setting.
⑳ [Esc] button	Stops the current function. Moves back to the previous menu level while displaying the projector's menu.
㉑ [Image Enh] button	Displays the Image Enhancement screen.
㉒ [Fine/Fast] button	Displays the Image Processing screen.

Name	Function
㉓ [Aspect] button	Displays the Aspect screen.
㉔ [Blank] button	Temporarily stops projection. To turn the image back on, press this button again.
㉕ Illumination button	When you press this button, the remote control buttons light up for approximately 10 seconds. This is useful when operating the remote control in the dark.
㉖ Remote control light emitting area	Outputs remote control signals.

► Related Links

- "Color Mode" [p.47](#)
- "Image Aspect Ratio" [p.45](#)
- "HDMI Link Features" [p.60](#)
- "Selecting an Image Source" [p.44](#)
- "Resizing the Image with the Zoom Feature" [p.42](#)
- "Focusing the Image with the Lens Button" [p.43](#)
- "Shutting Off the Image Temporarily" [p.62](#)
- "Displaying a Test Pattern" [p.33](#)
- "Setting Frame Interpolation" [p.50](#)
- "Adjusting the Light Source Brightness" [p.51](#)
- "Adjusting the Image Resolution" [p.52](#)
- "Adjusting the Hue, Saturation, and Brightness" [p.57](#)
- "Saving Settings to Memory and Using Saved Settings" [p.63](#)
- "Adjusting the Menu Settings" [p.71](#)

Setting Up the Projector

Follow the instructions in these sections to set up your projector.

► Related Links

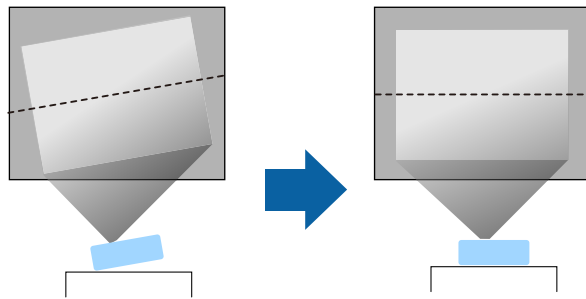
- "Projector Placement" [p.15](#)
- "Installing the Safety Wire" [p.18](#)
- "Projector Connections" [p.21](#)
- "Wired Network Connection" [p.24](#)
- "Attaching and Removing the Cable Cover" [p.26](#)
- "Installing Batteries in the Remote Control" [p.28](#)

You can place the projector on almost any flat surface to project an image.

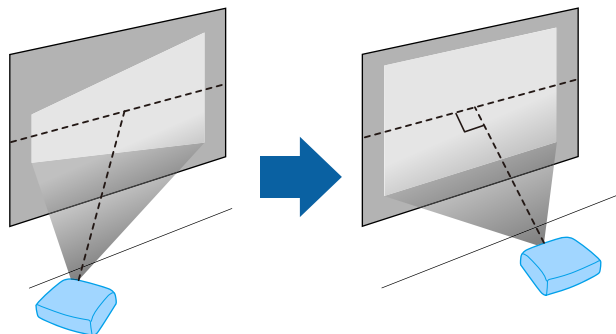
You can also install the projector in a ceiling mount if you want to use it in a fixed location. An optional ceiling mount is required when suspending the projector from a ceiling.

Note the following points when selecting a projector location:

- Place the projector on a sturdy, level surface or install it using a compatible mount.



- Leave plenty of space around and under the projector for ventilation, and do not place it on top of or next to anything that could block the vents.
- Place the projector so it squarely faces the screen, not at an angle.



Warning

- You must install a ceiling mount when suspending the projector from a ceiling. If you do not install the projector correctly, it could fall and cause damage or injury.
- Do not use adhesives on the ceiling mount fixing points to prevent the screws from loosening, or use lubricants, oils, or similar substances on the projector; the projector case may crack causing it to fall from its ceiling mount. This could cause serious injury to anyone under the ceiling mount and could damage the projector.
- Failure to install the ceiling mount and projector may cause the projector to fall. After installing the specific Epson mount that supports your projector, make sure you secure the mount to all of the projector's ceiling mount fixing points. Also, secure the projector and the mounts using wire that is strong enough to hold their weight.
- Do not install the projector in a location subject to high levels of dust or humidity, or in a location subject to smoke or steam. Otherwise, it could cause a fire or electric shock to occur. The projector's case could also deteriorate and be damaged causing the projector to fall from the mount.

Examples of environments that could cause the projector to fall due to case deterioration

- Locations subject to excessive smoke or airborne oil particles, such as factories or kitchens
- Locations containing volatile solvents or chemicals, such as factories or laboratories
- Locations where the projector could be subjected to detergents or chemicals, such as factories or kitchens
- Locations in which aroma oils are often used, such as relaxation rooms
- Near devices that produce excessive smoke, airborne oil particles, or foam at events

⚠ Warning

- Do not cover the projector's air intake or air exhaust vents. If the vents are covered, the internal temperature could rise and cause a fire.
- Do not use or store the projector in locations where it will be subject to dust or dirt. Otherwise, the quality of the projected image may decline. If the lens or air filter gets dusty, it may result in a malfunction or fire.
- Do not install the projector on an unstable surface or in a location beyond the weight specifications of the projector. Otherwise, it could fall or topple causing an accident and injury.
- When installing the projector in a high position, take measures to prevent falling by using wires to ensure safety in an emergency, such as an earthquake, and to prevent accidents. If it is not installed correctly, it could fall causing an accident and injury.
- Do not install in locations where salt damage could occur, or in locations subject to corrosive gas such as sulphuric gas from hot springs. Otherwise, corrosion could cause the projector to fall. It could also cause the projector to malfunction.

Attention

- If you are using the projector at altitudes above 1,500 m, set the **High Altitude Mode** setting to **On** in the projector's **Installation** menu to ensure the projector's internal temperature is regulated properly.
- Try not to setup the projector in locations subject to high humidity and dust, or in locations subject to smoke from fires or tobacco smoke.

» Related Links

- "Notes on Transporting" [p.16](#)
- "Projector Setup and Installation Options" [p.16](#)
- "Projection Distance" [p.17](#)

Notes on Transporting

There are many glass parts and precision components inside the projector. To prevent damage due to impacts when transporting, handle the projector as follows.

- Remove any equipment connected to the projector.

- Center the lens position using the [Lens] button. If you transport the projector when the lens is not centered, the lens shift mechanism may be damaged.
- Make sure the lens shutter is closed.
- When transporting the projector a long distance or as checked luggage, pack it in a firm box with cushioning around it and mark the box "Fragile."
- When shipping the projector for repairs, place it in its original packing materials, if possible, or use equivalent materials with cushioning around the projector. Mark the box "Fragile."

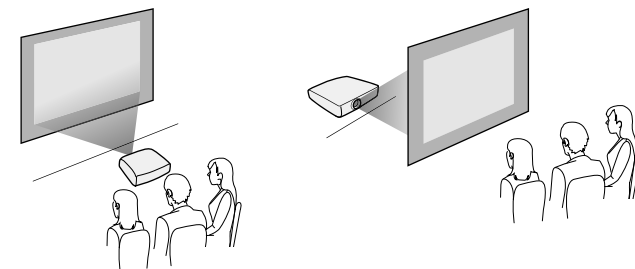


Epson shall not be liable for any damages incurred during transportation.

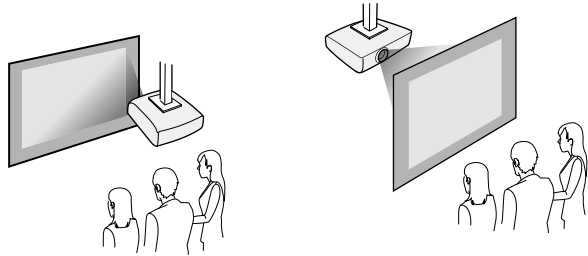
Projector Setup and Installation Options

You can set up or install your projector in the following ways:

Front/Rear



Front Ceiling/Rear Ceiling

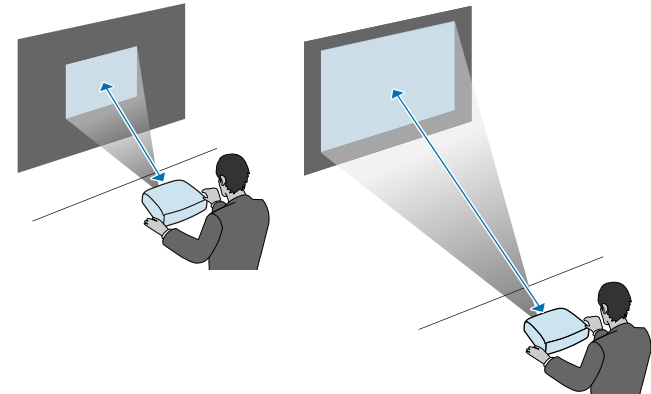


Select the correct **Projection** option in the projector's **Installation** menu according to the installation method being used. If necessary, turn on the **Inv Direction Button** setting in the projector's **Operation** menu.

» Related Links

- "Projection Modes" [p.34](#)

See the Appendix for details about how far to place the projector from the screen based on the size of the projected image.



» Related Links

- "Screen Size and Projection Distance" [p.121](#)

Projection Distance

The distance at which you place the projector from the screen determines the approximate size of the image. The image size increases the farther the projector is from the screen, but can vary depending on the zoom factor, aspect ratio, and other settings.

You can install the safety wire to prevent the projector from falling from the ceiling.

Warning

Be sure to use the safety wire provided with the Epson ceiling mount. The safety wire is available as an optional Safety Wire Set ELPWR01.

▶ Related Links

- "When Using the Ceiling Mount ELPMB22" [p.18](#)
- "When Using the Ceiling Mount ELPMB30" [p.19](#)

When Using the Ceiling Mount ELPMB22

You can attach a safety wire to your projector for increased safety as shown.

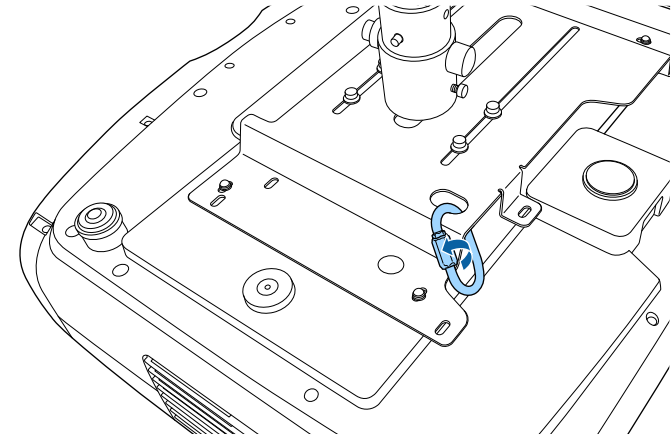
Before you start, make sure you have firmly installed the ELPMB22 ceiling mount on the projector and have the following items that are included in the safety wire set:

- Safety wire × 1
- Carabiner × 2
- Wire clamp × 1
- Attaching screw (M4 × 10 mm) × 1

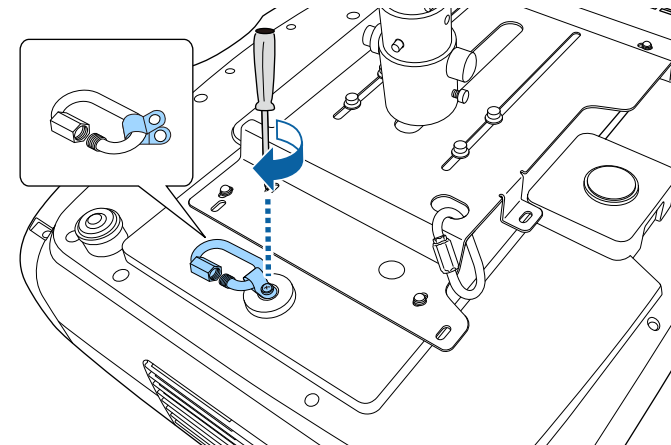


For details on installing the ELPMB22, see the *Ceiling Mount ELPMB22/ELPMB23 Instruction Manual*.

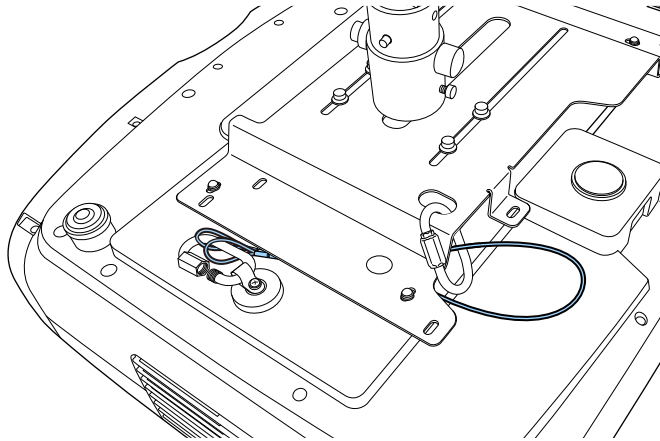
- 1** Attach a carabiner to the hole on the ceiling mount, and tighten the carabiner lock.



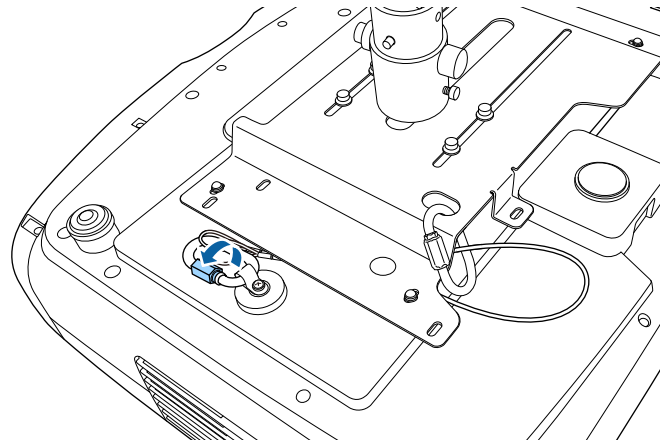
- 2** Attach the wire clamp to another carabiner, and then use the screw to fix the wire clamp to the wire clamp fixing point on the projector.



- 3** Loop the safety wire through the carabiner on the ceiling mount, and attach both ends to the carabiner on the projector.



- 4** Tighten the carabiner lock.



When Using the Ceiling Mount ELPMB30

You can attach a safety wire to your projector for increased safety as shown.

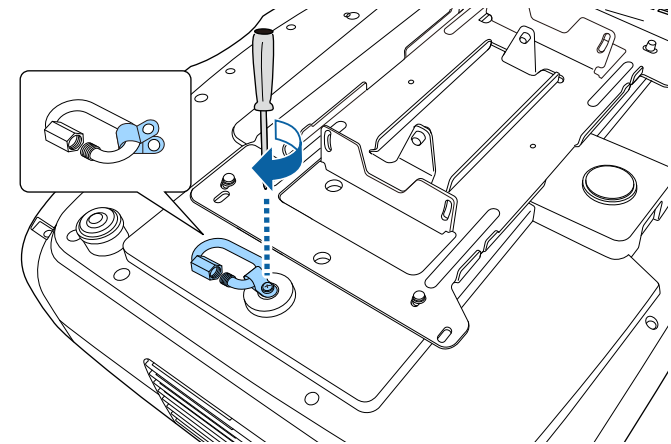
Before you start, make sure you have firmly installed the projector plate for the ELPMB30 ceiling mount on the projector and have the following items that are included in the safety wire set:

- Safety wire × 1
- Carabiner × 2 (Only one carabiner is used for the ELPMB30.)
- Wire clamp × 1
- Attaching screw (M4 × 10 mm) × 1



For details on installing the ELPMB30, see the *ELPMB30 User's Guide*.

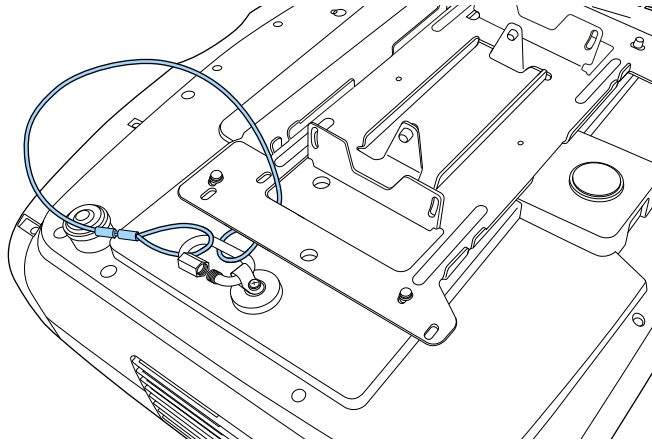
- 1** Attach the wire clamp to the carabiner, and then use the screw to fix the wire clamp to the screw into the wire clamp fixing point on the projector.



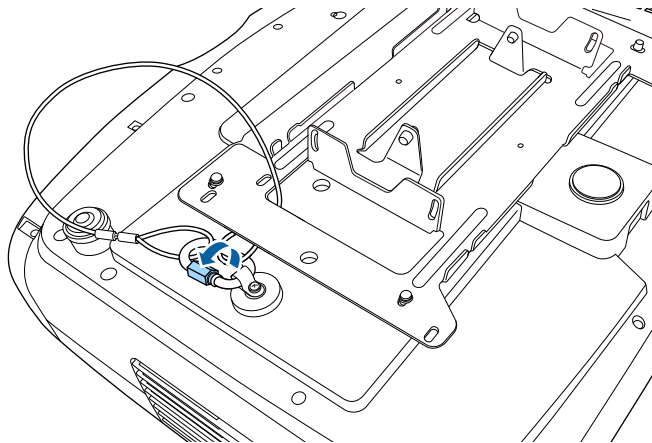
► Related Links

- "Getting the Latest Version of the Documents" [p.7](#)

- 2** Loop the safety wire through the hole in the ceiling mount, and then attach both ends to the carabiner.



- 3** Tighten the carabiner lock.



» Related Links

- "Getting the Latest Version of the Documents" [p.7](#)

See these sections to connect the projector to a variety of projection sources.

Attention

Check the shape and orientation of the connectors on any cable you plan to connect. Do not force a connector into a port if it does not fit. The device or your projector could be damaged or could malfunction.



See the *Quick Reference* for a list of cables supplied with your projector. Purchase optional or commercially available cables when necessary.

► Related Links

- "Connecting to an HDMI Video Source" [p.21](#)
- "Connecting to a Computer for HDMI Video" [p.22](#)
- "Connecting to a Streaming Media Player" [p.22](#)
- "Connecting to External Devices" [p.22](#)
- "Getting the Latest Version of the Documents" [p.7](#)

Connecting to an HDMI Video Source

If your video source has an HDMI port, you can connect it to the projector using an HDMI cable.

Attention

Do not turn on the video source before connecting it to the projector. Doing so could damage the projector.

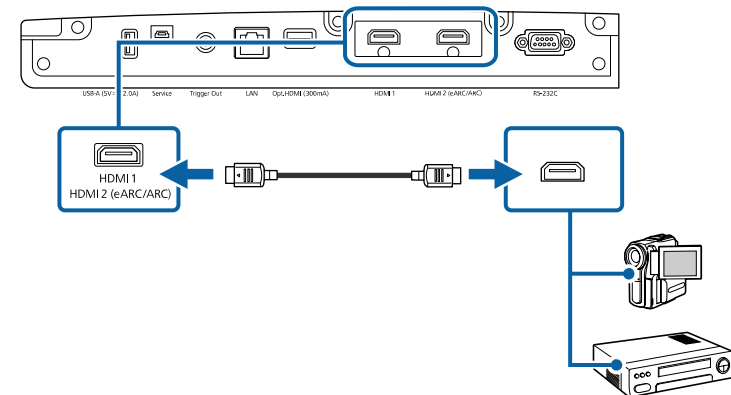


- If the port on the device you connect has an unusual shape, use the cable supplied with the device or an optional cable to connect to the projector.
- The cable differs depending on the output signal from the connected video devices.
- Some video devices are capable of outputting different types of signals. See your video device manual to confirm what type of signals can be output.
- When sending 40 Gbps images such as 4K 120Hz, use an HDMI cable (ultra-high speed). If you use an incompatible cable, images may not be displayed correctly. If images are not displayed correctly, you may be able to display them correctly by changing the **EDID Mode** setting in the projector's **Signal I/O** menu.
 - ☛ **Signal I/O > EDID > EDID (HDMI1) > EDID Mode**
 - ☛ **Signal I/O > EDID > EDID (HDMI2) > EDID Mode**

1 Connect the HDMI cable to your video source's HDMI output port.

2 Connect the other end to one of the projector's HDMI ports.

If you are connecting an optical HDMI cable that has a power supply USB cable, you must also connect the cable's USB power connector to the Opt.HDMI (300mA) port.

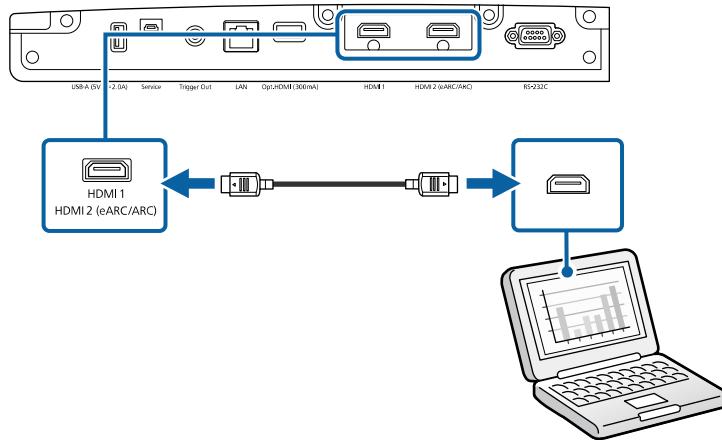


Connecting to a Computer for HDMI Video

If your computer has an HDMI port, you can connect it to the projector using an HDMI cable.

- 1** Connect the HDMI cable to your computer's HDMI output port.
- 2** Connect the other end to one of the projector's HDMI ports.

If you are connecting an optical HDMI cable that has a power supply USB cable, you must also connect the cable's USB power connector to the Opt.HDMI (300mA) port.



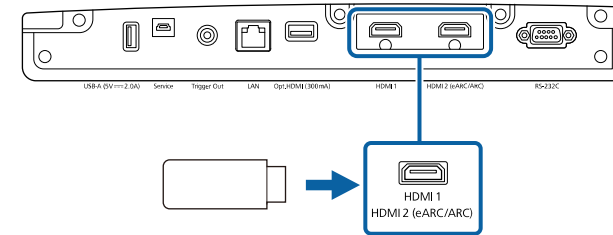
Connecting to a Streaming Media Player

You can connect your streaming media player to the projector's HDMI port. By connecting the power supply USB cable, you can power the streaming media player from the projector.

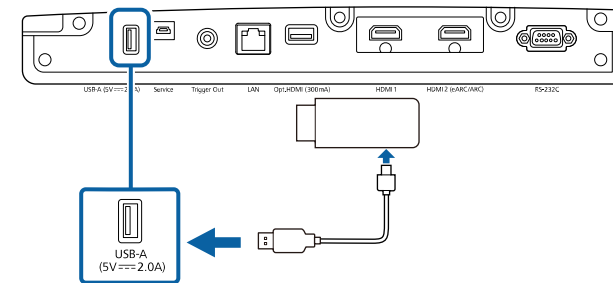


The connection method and operating environment for the streaming media player vary depending on the model you are using. For details, see the documentation supplied with your streaming media player; otherwise, it may not operate properly.

- 1** Connect your streaming media player to the projector's HDMI port.



- 2** Connect the power supply USB cable to the projector's USB-A port.
- 3** Connect the other end to the streaming media player.



Connecting to External Devices

Follow the instructions in these sections to connect external devices to the projector.

» Related Links

- "Connecting to an eARC/ARC Compatible AV System or External Speakers" p.23
- "Connecting to a Trigger Out Port" p.23

Connecting to an eARC/ARC Compatible AV System or External Speakers

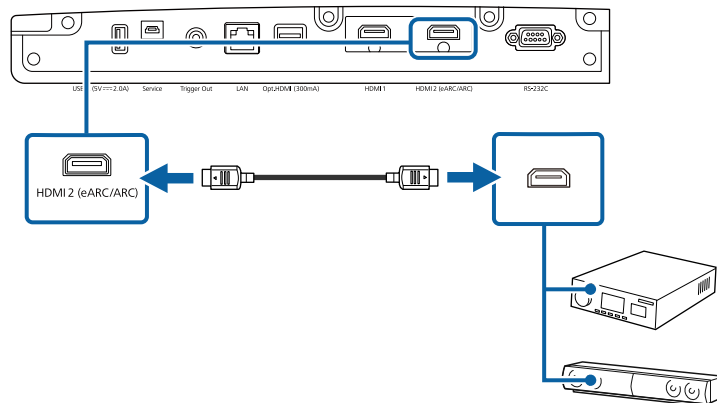
If your AV system or speakers, such as a sound bar, has an HDMI port, you can connect them to the projector using an HDMI cable (with Ethernet) to output audio to these devices.



- When the AV System is connected to the projector, set **HDMI Link** to **On**.
 - **Signal I/O > HDMI Link > HDMI Link**
- See the *Supplemental A/V Support Specification* for eARC/ARC audio supported formats.

1 Connect the HDMI cable to your AV system's or speakers' HDMI output port (eARC/ARC compatible).

2 Connect the other end to the projector's HDMI2 (eARC/ARC) port.



3 Make any necessary settings on the connected AV system. See your device's documentation for more information.

» Related Links

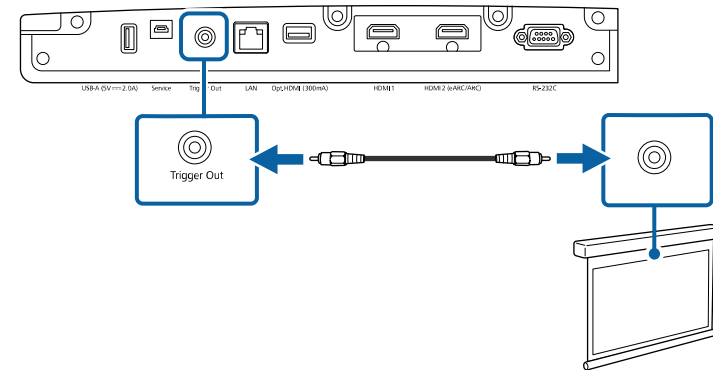
- "Getting the Latest Version of the Documents" p.7

Connecting to a Trigger Out Port

You can connect your projector to external devices such as motorized screens that support a trigger signal. When active, a 12V (200 mA maximum) signal is sent to the connected device while the projector is powered on.

1 Connect a 3.5 mm stereo mini-jack cable to the external device's trigger port. See the documentation supplied with the device for more information.

2 Connect the other end to the projector's Trigger Out port.



3 Set the **Trigger Out** setting in the projector's **Operation** menu.

You can monitor and control your projector, over a network.

To perform these operations, connect the projector to your network, and then set up your projector and computer.

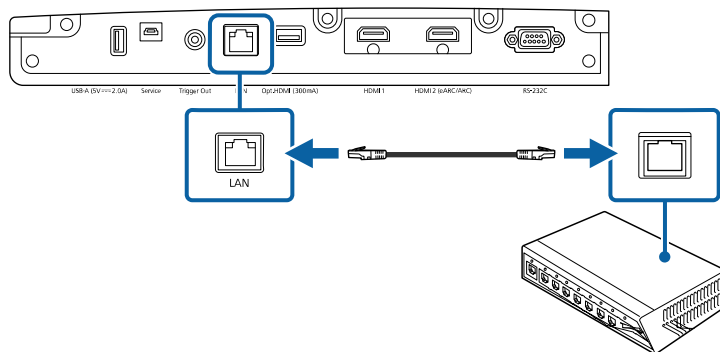
► Related Links

- "Connecting to a Wired Network" p.24
- "Selecting Wired Network Settings" p.24

Connecting to a Wired Network

To connect the projector to a wired local area network (LAN), use a 100Base-TX or 10Base-T network cable. To ensure proper data transmission, use a Category 5 shielded cable or better.

- 1 Connect one end of the network cable to your network hub, switch, or router.
- 2 Connect the other end of the cable to the projector's LAN port.



Make sure you already connected the projector to your wired network using the LAN port.

- 1 Press the [Menu] button, select the **Network** menu, and press [Enter].

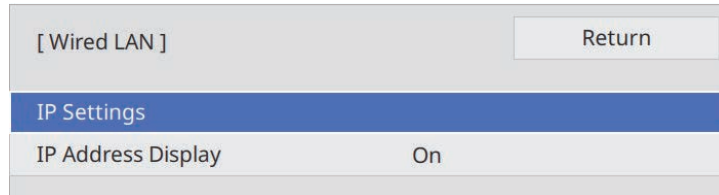
Frequently Used Items	Color Uniformity	
Image	Log Save Destination	USB and Internal Memory
Signal I/O	Batch Setup Range	
Installation	Language	English
Display	Information	
Operation	Display Status	
Management	Reset Management Settings	
Network	Network	
Memory	Wired LAN Info.	
Initial/All Settings	Network Settings	
	Reset Network Settings	
	Memory	
	Image	
	Lens Position	
	Reset Memory Settings	
	Initial/All Settings	
	Reset All	
	Firmware Update	

- 2 Select **Network Settings** and press [Enter].
- 3 To identify the projector over the network, select **Projector Name** and enter a name up to 16 alphanumeric characters long.

Selecting Wired Network Settings

Before you can use the projector on your network, you need to select network settings on the projector.

- 4** Select the **Wired LAN** menu and press [Enter].



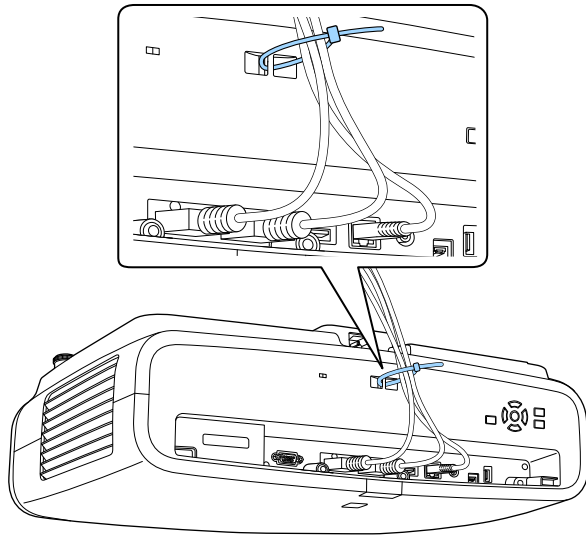
- 5** Assign the IP settings for your network as necessary.
- If your network assigns addresses automatically, select **IP Settings** to set the **DHCP** setting to **On**.
 - If you must set addresses manually, select **IP Settings** to set the **DHCP** setting to **Off**, and then enter the projector's **IP Address**, **Subnet Mask**, and **Gateway Address** as necessary.
- 6** To prevent the IP address from being displayed on the network information screen, set the **IP Address Display** setting to **Off**.
- 7** When you finish selecting settings, go back to the **Network Settings** screen, select **Set**, and follow the on-screen instructions to save your settings and exit the menus.

» Related Links

- "Network Menu - Network Settings Menu" [p.84](#)

You can attach the cable cover that came with your projector to hide the attached cables from view (EH-LS12000B).

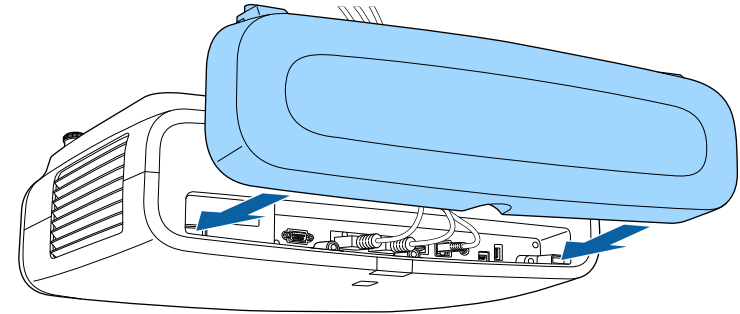
- 1** Turn the projector upside down.
- 2** Pass a commercially available cable tie through the cable holder and tie the cables together.



Caution

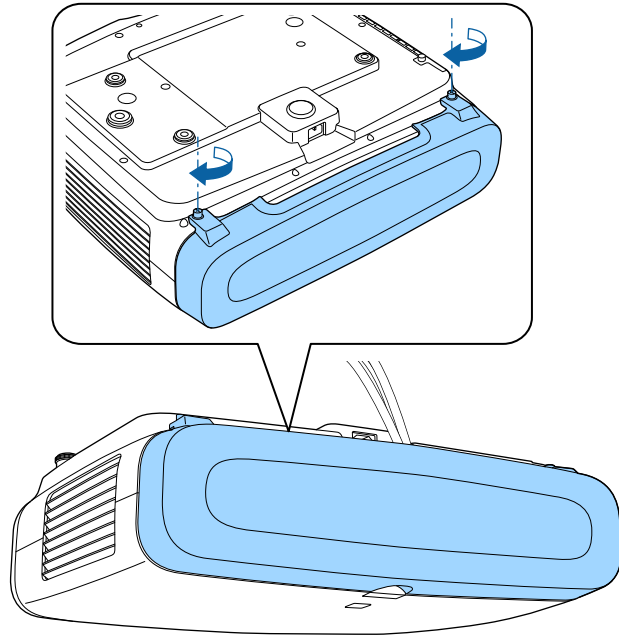
Do not bundle the power cord to the other cables. Otherwise, a fire may occur.

- 3** Place the cable cover on the projector as shown, guiding the cables through the notch on the base of the cable cover.



Attach the cable cover by lifting it up slightly, and then tilting it down so that the cable cover screws fit into the holes on the projector.

- 4** Tighten the cable cover screws.



To remove the cover, loosen the cover screws and pull the cover off of the projector.

The remote control uses the two AA batteries that came with the projector.

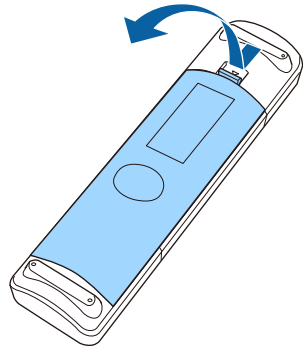
Attention

Make sure you read the *Safety Instructions* before handling the batteries.



Replace the batteries as soon as they run out. The remote control uses two AA manganese or alkaline batteries.

- 1** Remove the battery cover as shown.

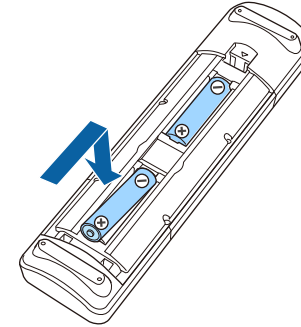


- 2** Remove the old batteries, if necessary.



Dispose of used batteries according to local regulations.

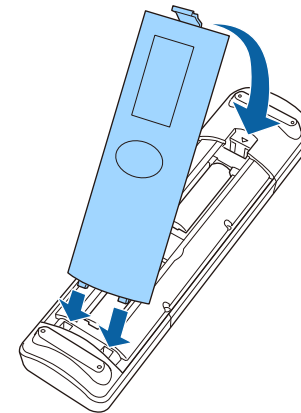
- 3** Insert the batteries with the + and – ends facing as shown.



Warning

Check the positions of the (+) and (–) marks inside the battery holder to ensure the batteries are inserted the correct way. If the batteries are not used correctly, they could explode or leak causing a fire, injury, or damage to the product.

- 4** Replace the battery cover and press it down until it clicks into place.



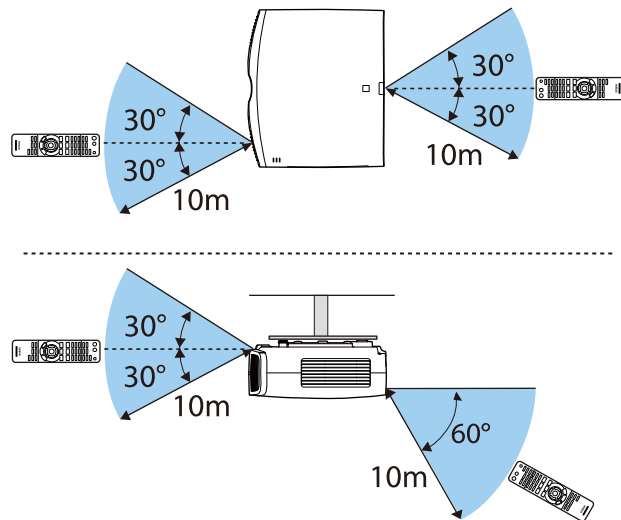
» Related Links

- "Remote Control Operation" [p.29](#)

Remote Control Operation

The remote control lets you control the projector from almost anywhere in the room.

Make sure that you aim the remote control at the projector's receivers within the distance and angles listed here.



- Avoid using the remote control in conditions with bright fluorescent lights or in direct sunlight, or the projector may not respond to commands. If you are not going to use the remote control for a long time, remove the batteries.

Using Basic Projector Features

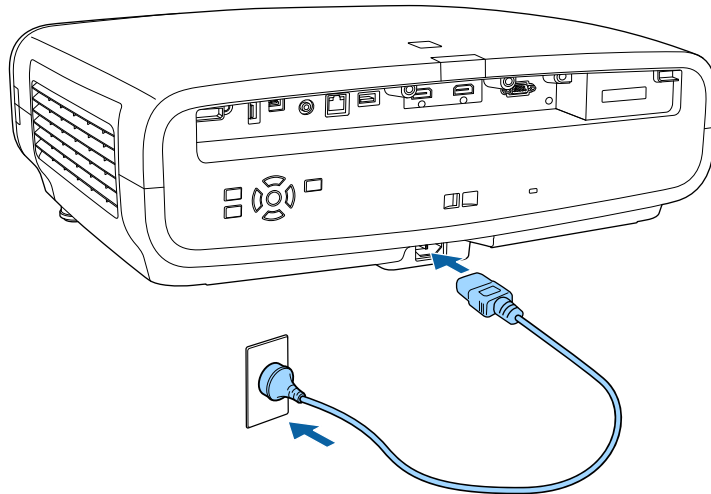
Follow the instructions in these sections to use your projector's basic features.

► Related Links

- "Turning On the Projector" [p.31](#)
- "Turning Off the Projector" [p.32](#)
- "Displaying a Test Pattern" [p.33](#)
- "Projection Modes" [p.34](#)
- "Adjusting the Image Position Using Lens Shift" [p.35](#)
- "Adjusting the Projector's Tilt" [p.36](#)
- "Image Shape" [p.37](#)
- "Resizing the Image with the Zoom Feature" [p.42](#)
- "Focusing the Image with the Lens Button" [p.43](#)
- "Selecting an Image Source" [p.44](#)
- "Image Aspect Ratio" [p.45](#)
- "Color Mode" [p.47](#)
- "Adjusting the Image Quality" [p.49](#)
- "Adjusting the Image Color" [p.54](#)

Turn on the computer or video equipment you want to use after you turn on the projector.

- 1 Connect the power cord to the projector's power inlet and plug it into an electrical outlet.



The projector enters standby mode. This indicates that the projector is receiving power, but is not yet turned on.

- 2 Press the power button on the projector or the [On] button on the remote control to turn on the projector.

The lens shutter opens and the status indicator flashes blue as the projector warms up. Once the projector is warmed up, the status indicator stops flashing and turns blue.



- When you turn on the projector for the first time, the initial setup wizard is displayed. Make the focus, projection direction, and language settings using the arrow and [Enter] buttons on the control panel or remote control.
- The projector's menu screens are displayed in black by default. All of the instructions in this guide are explained using white screens unless otherwise mentioned. You can change the color theme using **Menu Color** in the projector's **Display** menu.

Try the following if you do not see a projected image.

- Turn on the connected computer or video device.
- Change the screen output from the computer when using a laptop computer.
- Insert a DVD or other video media, and press play (if necessary).
- Press the [Source] button on the projector.
- Press the button for the desired video source on the remote control.

Warning

- Never look into the projector lens when the light source is on. This can damage your eyes and is especially dangerous for children.
- When turning on the projector at a distance using the remote control, make sure there is no one looking into the lens.
- During projection, do not block the light from the projector with a book or other objects. If the light from the projector is blocked, the area on which the light shines becomes hot which could cause it to melt, burn, or start a fire. Also, the lens may get hot due to the reflected light which could cause the projector to malfunction. Turn off the projector to stop projection.



When the **Direct Power On** setting is set to **On** in the projector's **Operation** menu, the projector turns on as soon as you plug it in. Note that the projector also turns on automatically in cases such as recovery from a power outage.

» Related Links

- "Projector Feature Settings - Operation Menu" [p.81](#)

Turn off the projector after use.



- Turn off this product when it is not in use to prolong the life of the projector. Light source life varies depending on the mode selected, environmental conditions, and usage. Brightness decreases over time.

- 1** Press the power button on the projector or the [Standby] button on the remote control.

The projector displays a shutdown confirmation screen.

Power Off?

Yes: Press  button

No : Press any other button

- 2** Press the power button on the projector or the [Standby] button on the remote control again. (To leave it on, press any other button.)

The light source turns off, the lens shutter closes, and the status indicator turns off.

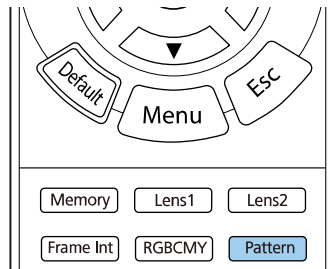
- 3** To transport or store the projector, make sure all of the indicators on the projector are off, and then unplug the power cord.

You can display a test pattern to adjust the projected image.



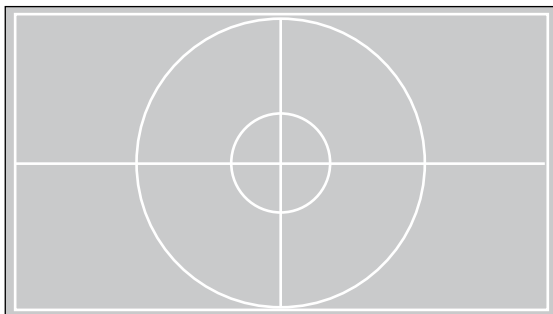
Some settings may not be available while displaying a test pattern. To adjust these settings, project an image from a connected device.

- 1 Turn on the projector.
- 2 Press the [Pattern] button on the remote control.



You can also display a test pattern from the projector's **Installation** menu.

- 3 Select one of the following options:
 - **Display Position** lets you display an internal pattern without connecting a computer or video device.



- **Color Isolation: R** lets you display the red component of the projected image.
- **Color Isolation: G** lets you display the green component of the projected image.
- **Color Isolation: B** lets you display the blue component of the projected image.



To display Color Isolation, you need to project an image from the connected video source.

- 4 Adjust the image as necessary.
- 5 To cancel pattern display, press the [Pattern] button again.

Depending on how you positioned the projector, you may need to change the projection mode so your images project correctly.

- **Front** (default setting) lets you project from a table in front of the screen.
- **Front/Ceiling** flips the image over top-to-bottom to project upside-down from a ceiling.
- **Rear** flips the image horizontally to project from behind a translucent screen.
- **Rear/Ceiling** flips the image over top-to-bottom and horizontally to project from a ceiling behind a translucent screen.

» **Related Links**

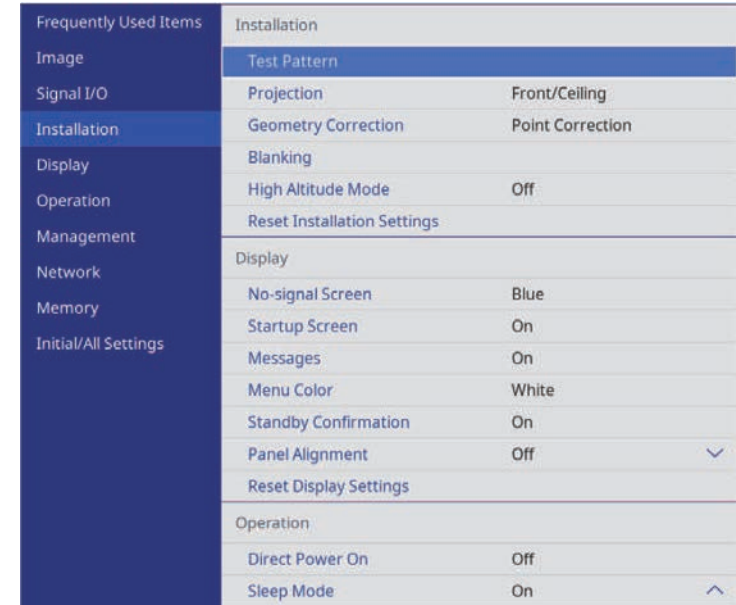
- "Changing the Projection Mode Using the Menus" [p.34](#)
- "Projector Setup and Installation Options" [p.16](#)

Changing the Projection Mode Using the Menus

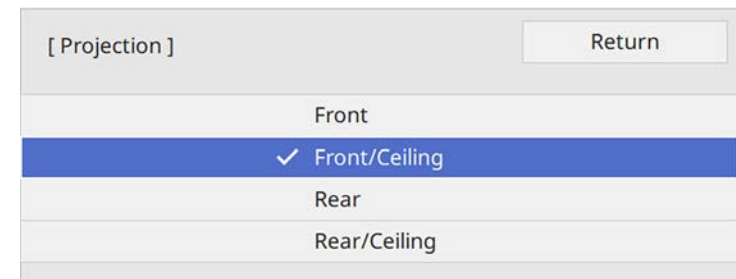
You can change the projection mode to flip the image over top-to-bottom and/or left-to-right using the projector menus.

- 1** Turn on the projector and display an image.
- 2** Press the [Menu] button on the control panel or remote control.

- 3** Select the **Installation** menu and press [Enter].



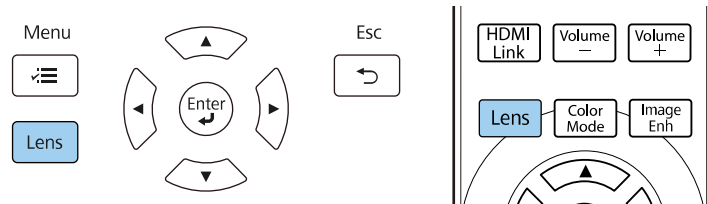
- 4** Select **Projection** and press [Enter].
- 5** Select a projection mode and press [Enter].



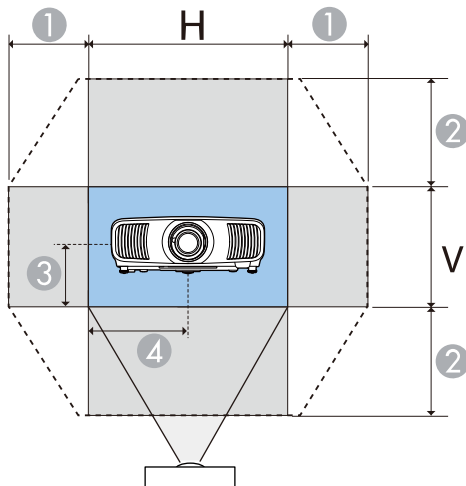
- 6** Press [Menu] or [Esc] to exit the menus.

If you cannot install the projector directly in front of the screen, you can adjust the position of the projected image using the lens shift feature.

- 1 Turn on the projector and display an image.
- 2 Press the [Lens] button on the control panel or remote control.



- 3 Press the [Lens] button repeatedly until **Adjust Lens Shift** appears on the screen.
- 4 Press the arrow buttons on the remote control or the control panel to adjust the position of the projected image as necessary.



- 1 Maximum horizontal range ($H \times 47\%$)
- 2 Maximum vertical range ($V \times 96\%$)
- 3 $\frac{1}{2}$ the vertical height of the image
- 4 $\frac{1}{2}$ the horizontal width of the image



You cannot move the image to both the horizontal and vertical maximum values.

- 5 When you are finished, press the [Esc] button on the control panel or remote control.

⚠ Caution

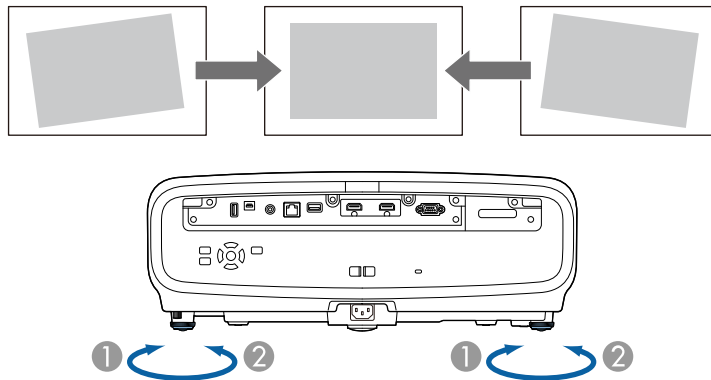
- When transporting the projector, set the lens position to the center. If you transport the projector when the lens is not centered, the lens shift mechanism may be damaged.
- Do not put your finger in the moving parts of the projector's lens. Otherwise an injury could occur.



- When adjusting the image height, position the image lower than where you want it to be and then move it up. This will help prevent the image from moving down after adjustment.
- The image is clearest when the lens is at the home position.
- To move the lens to the home position, press and hold the [Lens] button on the control panel or remote control for three seconds.

If the projected image is tilted horizontally (the left and right sides of the projected image are at different heights) when the projector is setup on a table or other flat surface, adjust the front feet so that both sides are level with each other.

- 1** Turn on the projector and display an image.
- 2** If the image is tilted, rotate the front feet to adjust their height.



- 1** Extend the front foot
- 2** Retract the front foot

You can adjust the position up to approximately 3 degrees.

If the projected image is unevenly rectangular, you need to adjust the image shape.

► Related Links

- "Image Shape" [p.37](#)

You can project an even, rectangular image by placing the projector directly in front of the center of the screen and keeping it level. If you place the projector at an angle to the screen, or tilt it up or down, or off to the side, you may need to correct the image shape.

After correction, your image is slightly smaller.

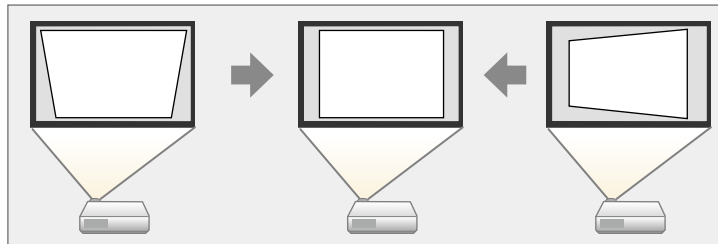
For the best quality images, we recommend adjusting the installation position of the projector to achieve the correct image size and shape.

► **Related Links**


- "Correcting Image Shape with H/V Keystone" [p.37](#)
- "Correcting the Image Shape with Quick Corner" [p.38](#)
- "Correcting Image Shape with Point Correction" [p.40](#)

Correcting Image Shape with H/V Keystone

You can use the projector's **H/V-Keystone** setting to correct the shape of an image that is unevenly rectangular on the sides.



You can correct images up to 30° right, left, up, or down.

 • You cannot combine with other correction methods (EH-LS12000B).

- 1** Turn on the projector and display an image.
- 2** Press the [Menu] button on the control panel or remote control.

- 3** Select the **Installation** menu and press [Enter].

Frequently Used Items	Installation	
Image	Test Pattern	
Signal I/O	Projection	Front/Ceiling
Installation	Geometry Correction	Point Correction
Display	Blanking	
Operation	High Altitude Mode	Off
Management	Reset Installation Settings	
Network	Display	
Memory	No-signal Screen	Blue
Initial/All Settings	Startup Screen	On
	Messages	On
	Menu Color	White
	Standby Confirmation	On
	Panel Alignment	Off
	Reset Display Settings	
	Operation	
	Direct Power On	Off
	Sleep Mode	On

- 4** Select **Geometry Correction** and press [Enter] (EH-LS12000B). You see the **Geometry Correction** screen.

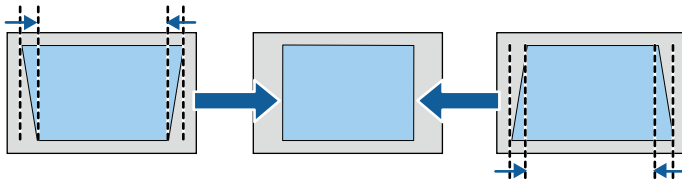
- 5** Select **H/V-Keystone** and press [Enter]. Then select **Yes** and press [Enter] if necessary.

You see the **H/V-Keystone** adjustment screen:

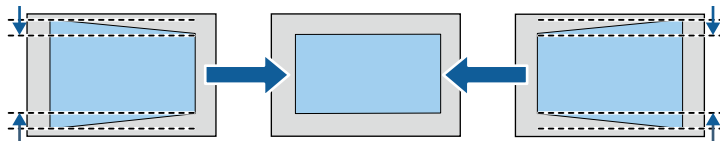
[Keystone]		
V-Keystone	50	▼ ———▶
H-Keystone	50	◀ ———▶

- 6** Use the arrow buttons on the projector or the remote control to select between vertical and horizontal keystone correction and to adjust the image shape as necessary.

- **V-Keystone**



- **H-Keystone**



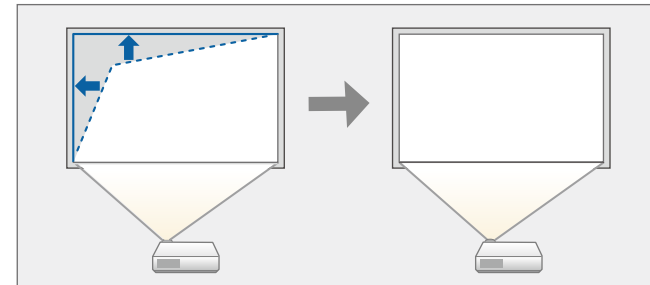
- 7** When you are finished, press [Esc].
After correction, your image is slightly smaller.



You can also access the previously used **Geometry Correction** screen (EH-LS12000B) or the **H/V-Keystone** adjustment screen (EH-LS11000W) by pressing the arrow buttons on the control panel.

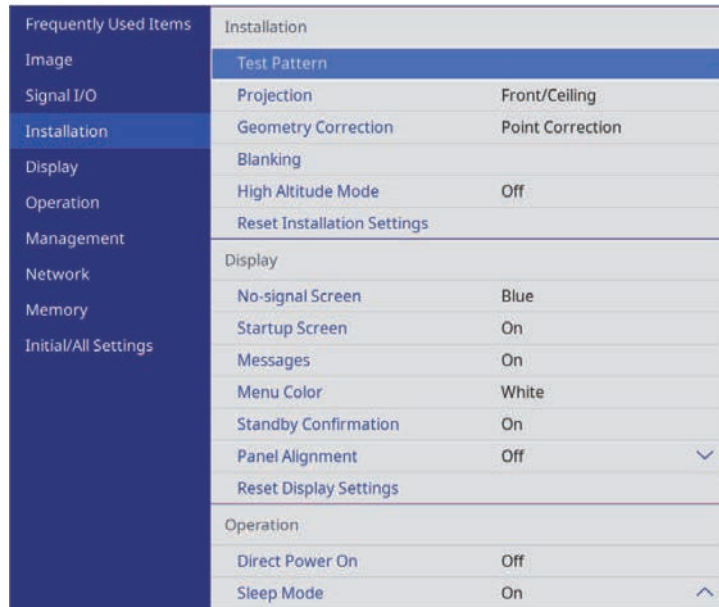
Correcting the Image Shape with Quick Corner

You can use the projector's **Quick Corner** setting to correct the shape and size of an image that is unevenly rectangular (EH-LS12000B).

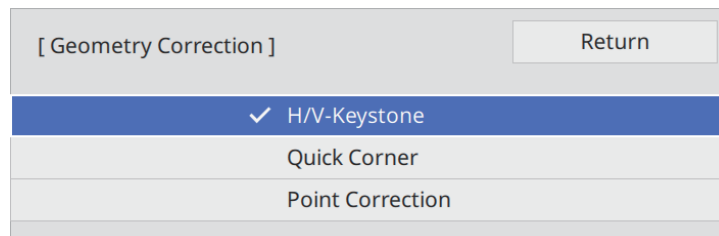


- 1** Turn on the projector and display an image.
- 2** Press the [Menu] button on the control panel or remote control.

3 Select the **Installation** menu and press [Enter].

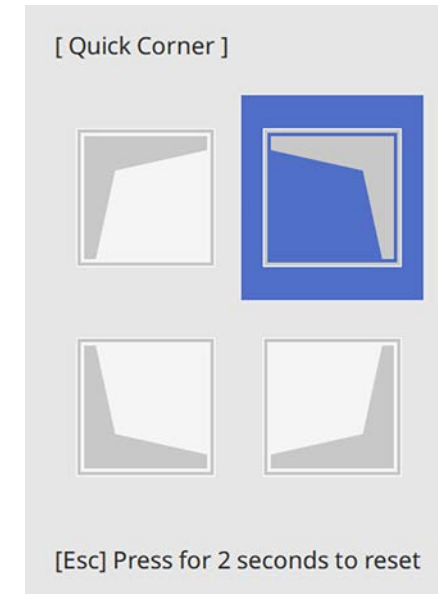



4 Select **Geometry Correction** and press [Enter].
You see the **Geometry Correction** screen.



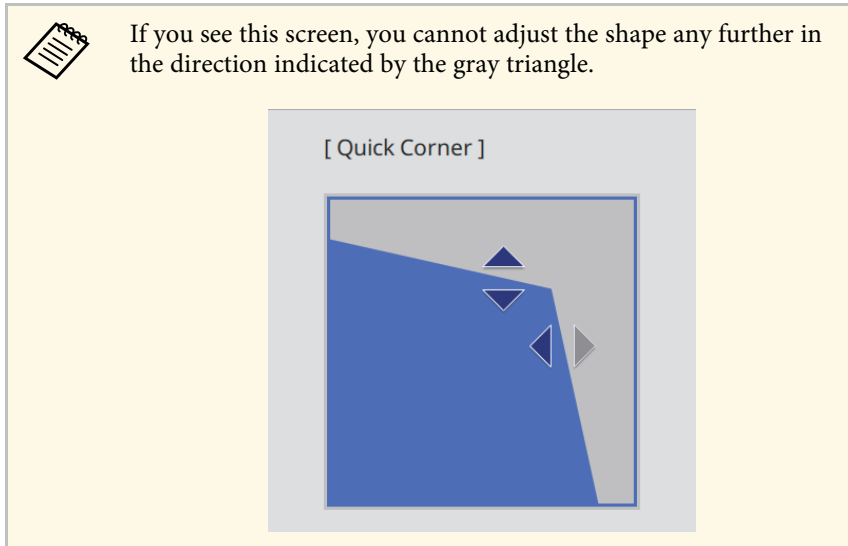
5 Select **Quick Corner** and press [Enter]. Then select **Yes** and press [Enter] if necessary.
You see the area selection screen.

6 Use the arrow buttons to select the area of the image you want to adjust. Then press [Enter].



 To reset the **Quick Corner** corrections, hold down [Esc] for about 2 seconds while the area selection screen is displayed, and then select **Yes**.

7 Press the arrow buttons to adjust the image shape as necessary.
To return to the area selection screen, press [Enter].



8 Repeat steps 6 and 7 as needed to adjust any remaining corners.

9 When you are finished, press [Esc].

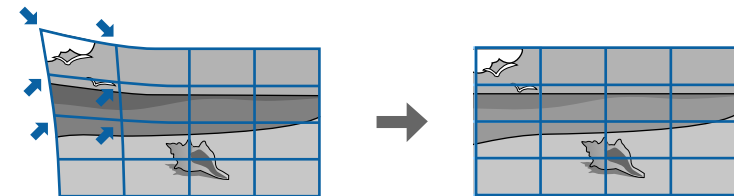
The **Geometry Correction** setting is now set to **Quick Corner** in the projector's **Installation** menu.

The next time you press the arrow buttons on the control panel, the area selection screen is displayed.

Correcting Image Shape with Point Correction

You can use the projector's **Point Correction** setting to fine-tune the image shape in portions of an image. The image is divided into a grid which allows

you to move intersection points on the grid as necessary to correct distortion (EH-LS12000B).

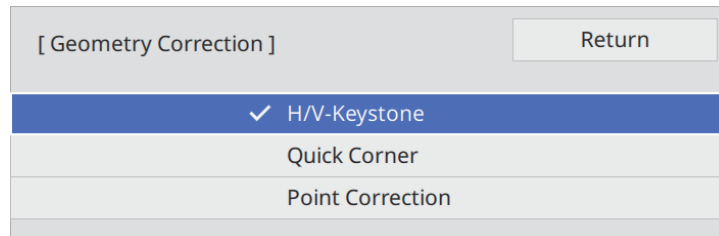


- 1** Turn on the projector and display an image.
- 2** Press the [Menu] button on the control panel or remote control.
- 3** Select the **Installation** menu and press [Enter].

Frequently Used Items	Installation
Image	Test Pattern
Signal I/O	Projection Front/Ceiling
Installation	Geometry Correction Point Correction
Display	Blanking
Operation	High Altitude Mode Off
Management	Reset Installation Settings
Network	Display
Memory	No-signal Screen Blue
Initial/All Settings	Startup Screen On
	Messages On
	Menu Color White
	Standby Confirmation On
	Panel Alignment Off
	Reset Display Settings
	Operation
	Direct Power On Off
	Sleep Mode On

- 4** Select **Geometry Correction** and press [Enter].

You see the **Geometry Correction** screen.



5 Select **Point Correction** and press [Enter]. Then select **Yes** and press [Enter] if necessary.

6 Select **Point Correction** and press [Enter].



For fine tuning, select **Quick Corner** to correct the shape and size of an image roughly, and then select **Point Correction** to adjust them precisely.

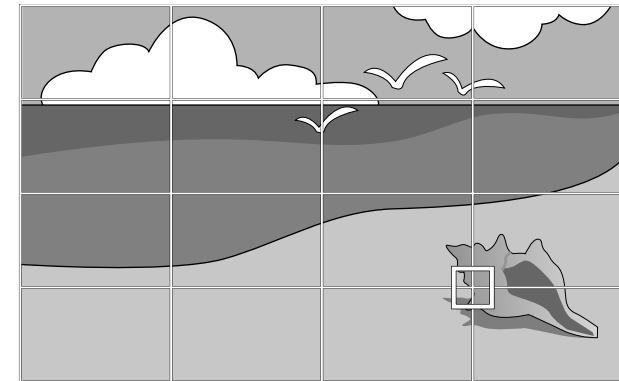
7 Select the point number and press [Enter].

You see the grid on the projected image.

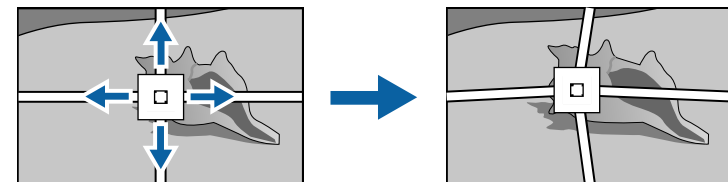


If you want to change the grid color for visibility, press [Esc], then select a different **Pattern Color** setting in the **Point Correction** menu.

8 Use the arrow buttons to move to the point you want to correct, then press [Enter].



9 Use the arrow buttons to correct distortion as necessary.



10 To correct any remaining points, press [Esc] to return to the previous screen, then repeat steps 8 and 9.

11 When you are finished, press [Esc].

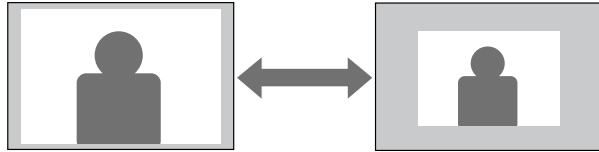


- To reset the **Point Correction** settings to their original positions, select **Reset** on the **Point Correction** screen.

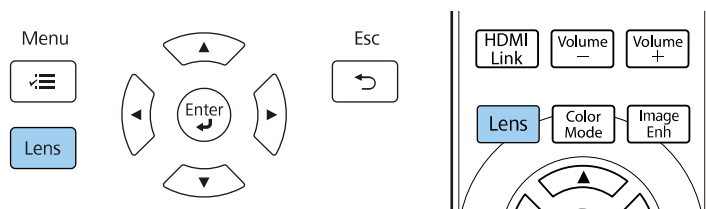
» Related Links

- "Correcting the Image Shape with Quick Corner" [p.38](#)

You can adjust the size of the projected image using the zoom feature.

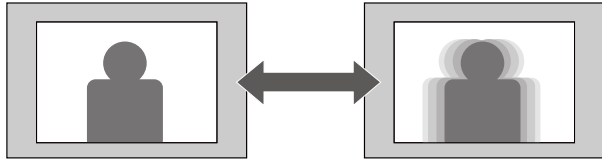


- 1** Turn on the projector and display an image.
- 2** Press the [Lens] button on the control panel or remote control.

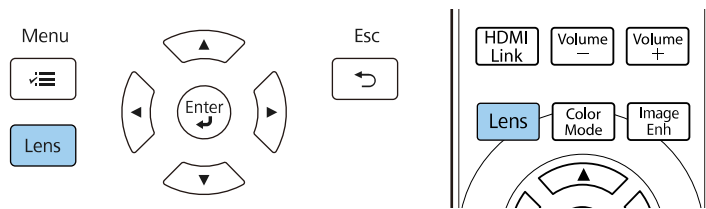


- 3** Press the [Lens] button repeatedly until **Adjust Zoom** is displayed on the screen.
- 4** Press and hold the left or right arrow button on the control panel or remote control to resize the image.
- 5** When you are finished, press [Esc].

You can adjust the sharpness of the projected image using the focus feature.



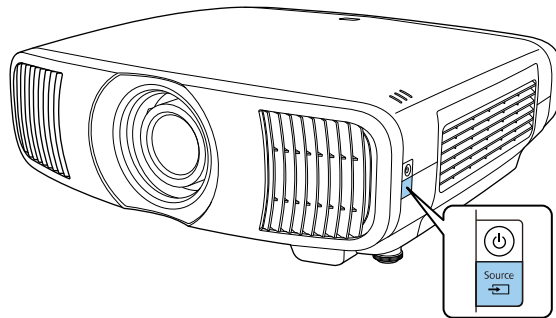
- 1** Turn on the projector and display an image.
- 2** Press the [Lens] button on the control panel or remote control.



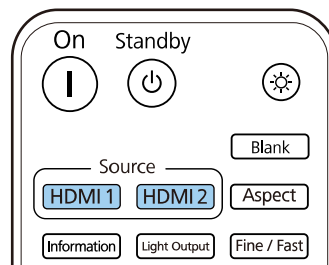
- 3** Press the [Lens] button repeatedly until **Adjust Focus** is displayed on the screen.
- 4** Press and hold the left or right arrow button on the control panel or remote control to focus the image.
- 5** When you are finished, press [Esc].

When multiple image sources are connected to the projector, such as a computer and DVD player, you can switch from one image source to the other.

- 1** Make sure the connected image source you want to use is turned on.
- 2** For video image sources, insert a DVD or other video media and press play.
- 3** Do one of the following:
 - Press the [Source] button on the projector until you select the source you want.



- Press the button for the source you want on the remote control.



The projector can display images in different width-to-height ratios called aspect ratios. Normally, the input signal from your video source determines the image's aspect ratio. However, you can change the aspect ratio for certain images to fit your screen.

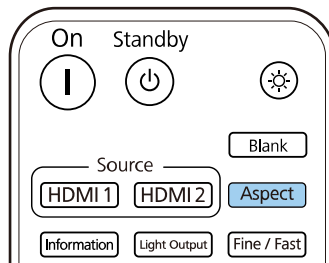
► Related Links

- "Changing the Image Aspect Ratio" [p.45](#)
- "Available Image Aspect Ratios" [p.45](#)

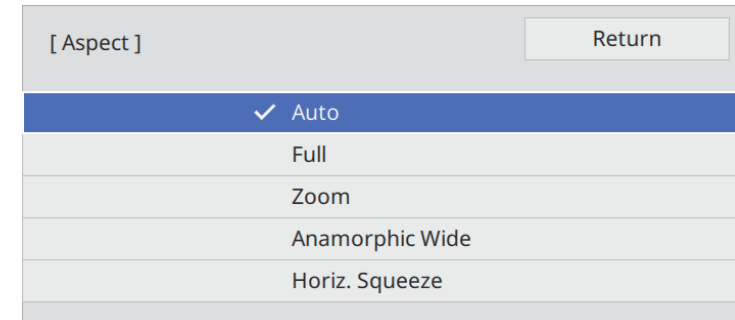
Changing the Image Aspect Ratio

You can change the aspect ratio of the displayed image.

- 1** Turn on the projector and switch to the image source you want to use.
- 2** Press the [Aspect] button on the remote control.



A list of the available aspect ratios appears.



- 3** Select the aspect ratio you want to use for your input signal and press [Enter].
- 4** Press [Menu] or [Esc] to exit the menus.



The available aspect ratio setting varies depending on the input signal.

Available Image Aspect Ratios

You can select the following image aspect ratios, depending on the input signal from your image source.



- Note that using the aspect ratio function of the projector to reduce, enlarge, or split the projected image for commercial purposes or for public viewing may infringe upon the rights of the copyright holder of that image based on copyright law.

Aspect mode	Description
Auto	Automatically sets the aspect ratio according to the input signal.
Full	Displays images using the full size of the projection area, but does not maintain the aspect ratio.
Zoom	Displays images using the full width of the projection area and maintains the aspect ratio of the image.
Anamorphic Wide *	Displays images that have a 2.40:1 aspect ratio when using a commercially available anamorphic lens. Set the Overscan setting in the projector's Signal I/O menu to Off or the image will not display correctly.
Horiz. Squeeze *	Displays images using the full width of the projection area when using a commercially available anamorphic lens.

* Available only for EH-LS12000B.

The projector offers different color modes to provide optimum brightness, contrast, and color for a variety of viewing environments and image types. You can select the mode designed to match your image and environment, or experiment with the available modes.

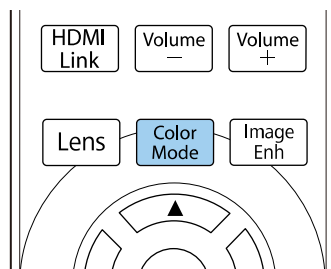
» **Related Links**

- "Changing the Color Mode" [p.47](#)
- "Available Color Modes" [p.47](#)

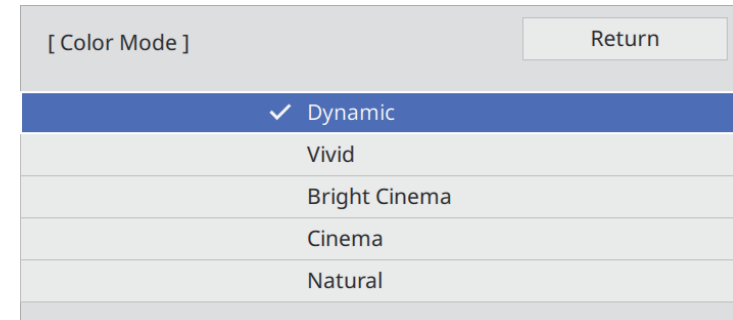
Changing the Color Mode

You can change the projector's Color Mode using the remote control to optimize the image for your viewing environment.


- 1** Turn on the projector and switch to the image source you want to use.
- 2** Press the [Color Mode] button on the remote control to change the Color Mode.



A list of available Color Modes appears.



- 3** Press the arrow buttons to select a color mode setting and press [Enter].
- 4** Press [Menu] or [Esc] to exit the menus.

 You can also set the **Color Mode** setting in the projector's **Image** menu.

Available Color Modes

You can set the projector to use these color modes, depending on the input source you are using:

Color mode	Description
Dynamic	This is the brightest mode. Best for prioritizing brightness.
Vivid	Best for enjoying various content in a bright environment.
Bright Cinema	Best for enjoying content such as movies in a bright environment.

Color mode	Description
Cinema	Best for enjoying content such as movies in a dark environment.
Natural	Best for adjusting the image color.

You can fine-tune various aspects of the quality of your projected images.

► Related Links

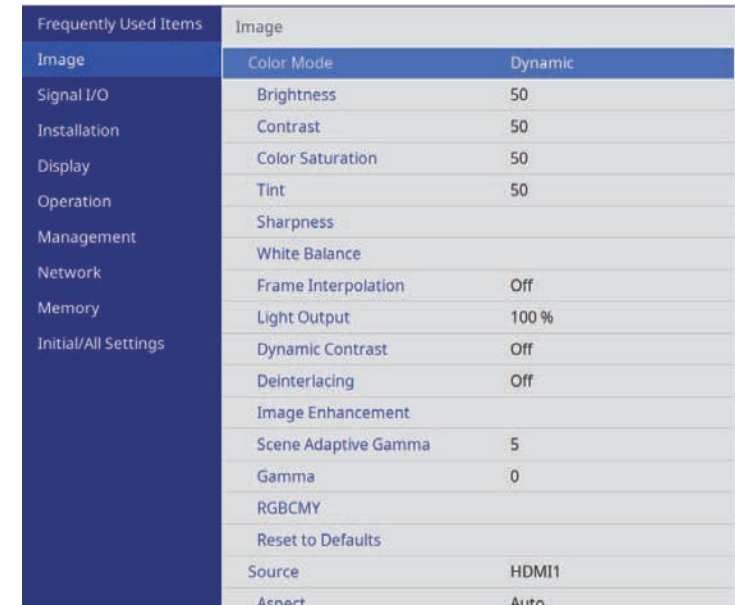
- "Adjusting the Sharpness" [p.49](#)
- "Setting Frame Interpolation" [p.50](#)
- "Adjusting the Light Source Brightness" [p.51](#)
- "Turning On Automatic Luminance Adjustment" [p.51](#)
- "Adjusting the Image Resolution" [p.52](#)

Adjusting the Sharpness

You can adjust the outline of the image using the **Sharpness** setting.

- 1** Turn on the projector and switch to the image source you want to use.
- 2** Press the [Menu] button on the control panel or remote control.

- 3** Select the **Image** menu and press [Enter].



Frequently Used Items	Image	
Image	Color Mode	Dynamic
Signal I/O	Brightness	50
Installation	Contrast	50
Display	Color Saturation	50
Operation	Tint	50
Management	Sharpness	
Network	White Balance	
Memory	Frame Interpolation	Off
Initial/All Settings	Light Output	100 %
	Dynamic Contrast	Off
	Deinterlacing	Off
	Image Enhancement	
	Scene Adaptive Gamma	5
	Gamma	0
	RGBCMY	
	Reset to Defaults	
	Source	HDMI1
	Aspect	Auto

- 4** Select **Sharpness** and choose one of the following:
 - **Standard:** enhances outlines for the entire image; adjusts the **Thin Line Enhancement** and **Thick Line Enhancement** settings as well (defaults to 5).
 - **Thin Line Enhancement:** enhances details such as hair and clothing patterns.
 - **Thick Line Enhancement:** enhances backgrounds and larger elements.

- 5 Press the left or right arrow button to adjust the sharpness of image.

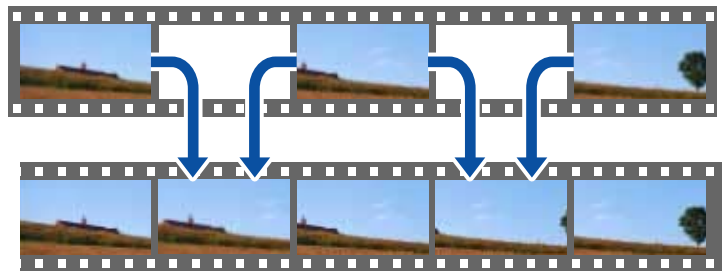


Higher values make the image sharper and lower values make the image softer.

- 6 Press [Menu] or [Esc] to exit the menus.

Setting Frame Interpolation

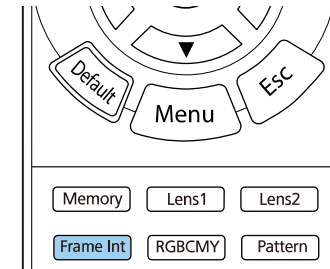
You can use the projector's **Frame Interpolation** feature to smooth fast-moving video by comparing consecutive image frames and inserting an intermediate image frame between them.



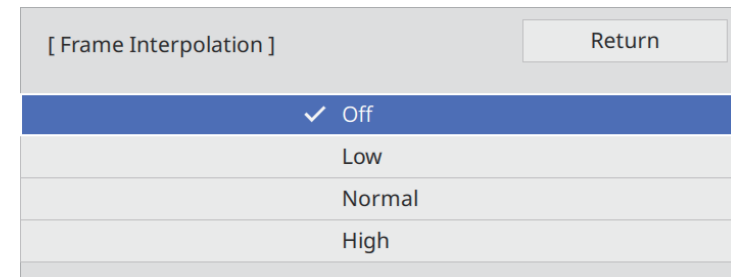
Frame Interpolation is available in these conditions:

- **Image Processing** is set to **Fine** in the projector's **Signal I/O** menu.
- 4K 100/120Hz signals are not input.

- 1 Turn on the projector and switch to the image source you want to use.
- 2 Press the [Frame Int] button on the remote control.



- 3 Select the level of interpolation and press [Enter].



- 4 When you are finished, press the [Frame Int] button.

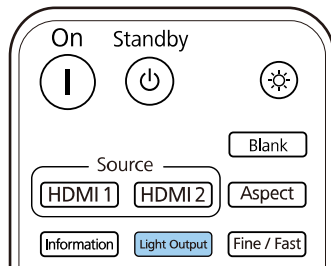


- If your resulting images contain noise, turn off the **Frame Interpolation** setting.
- You can also set the **Frame Interpolation** setting in the projector's **Image** menu.

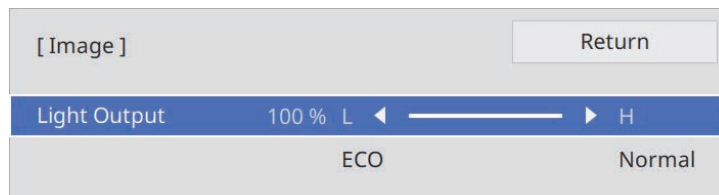
Adjusting the Light Source Brightness

You can adjust the brightness of your projector's light source.

- 1** Turn on the projector and switch to the image source you want to use.
- 2** Press the [Light Output] button on the remote control.



- 3** Use the left and right arrow buttons to select the brightness.



- 4** Press [Menu] or [Esc] to exit the menus.

 You can also set the **Light Output** setting in the projector's **Image** menu.

Turning On Automatic Luminance Adjustment

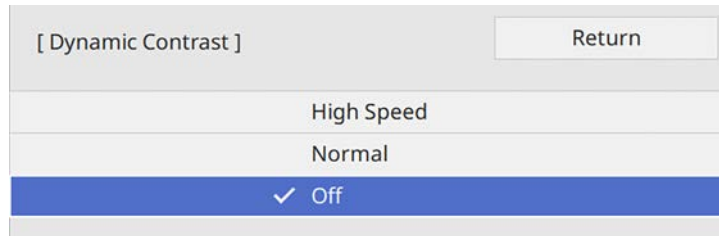
You can turn on Dynamic Contrast to automatically optimize the image luminance. This improves the image contrast based on the brightness of the content you project.

- 1** Turn on the projector and switch to the image source you want to use.
- 2** Press the [Menu] button on the control panel or remote control.
- 3** Select the **Image** menu and press [Enter].

Frequently Used Items	Image	
Image	Color Mode	Dynamic
Signal I/O	Brightness	50
Installation	Contrast	50
Display	Color Saturation	50
Operation	Tint	50
Management	Sharpness	
Network	White Balance	
Memory	Frame Interpolation	Off
Initial/All Settings	Light Output	100 %
	Dynamic Contrast	Off
	Deinterlacing	Off
	Image Enhancement	
	Scene Adaptive Gamma	5
	Gamma	0
	RGBCMY	
	Reset to Defaults	
	Source	HDMI1
	Aspect	Auto

- 4** Select **Dynamic Contrast** and press [Enter].
- 5** Choose one of the following options and press [Enter]:
 - **Normal** for standard brightness adjustment.

- **High Speed** to adjust brightness as soon as the scene changes.



- 6** Press [Menu] or [Esc] to exit the menus.

Adjusting the Image Resolution

You can adjust the resolution of the image to reproduce a clear image with an emphatic texture and material feel.

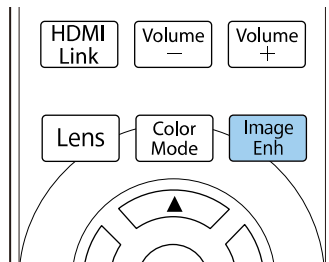


Noise Reduction and **MPEG Noise Reduction** are available when **Image Processing** is set to **Fine**.

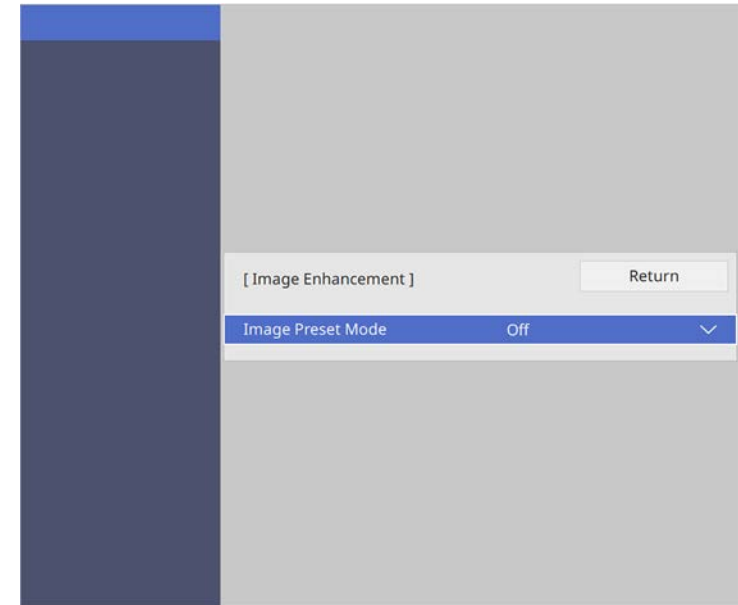
☛ **Signal I/O > Image Processing**

- 1** Turn on the projector and switch to the image source you want to use.

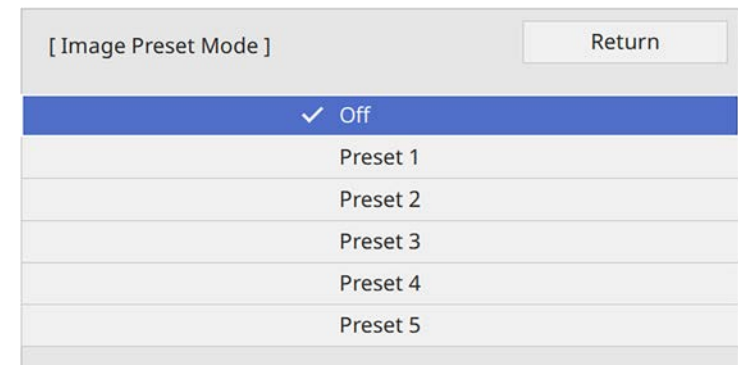
- 2** Press the [Image Enh] button on the remote control.



- 3** Select **Image Preset Mode** and press [Enter].



- 4** Select the preset option and press [Enter].



The following settings saved in the preset option are applied to the image.

- **Noise Reduction**
- **MPEG Noise Reduction**
- **Super-resolution**
- **Auto Contrast Enhancement**

5 Adjust each setting in the projector's **Image** menu individually as necessary.

- To reduce flickering in images, adjust the **Noise Reduction** setting.
- To reduce the noise or artifacts seen in MPEG video, adjust the **MPEG Noise Reduction** setting.
- To reduce blurring appeared when projecting low resolution image, adjust the **Super-resolution** setting.
- To create a clearer and sharper image by automatically adjusting the contrast, adjust the **Auto Contrast Enhancement** setting.



The settings value in the preset option are overwritten.

6 Press [Menu] or [Esc] to exit the menus.



You can also set the **Image Enhancement** setting in the projector's **Image** menu.

You can fine-tune various aspects of how colors are displayed in your projected images.

► Related Links

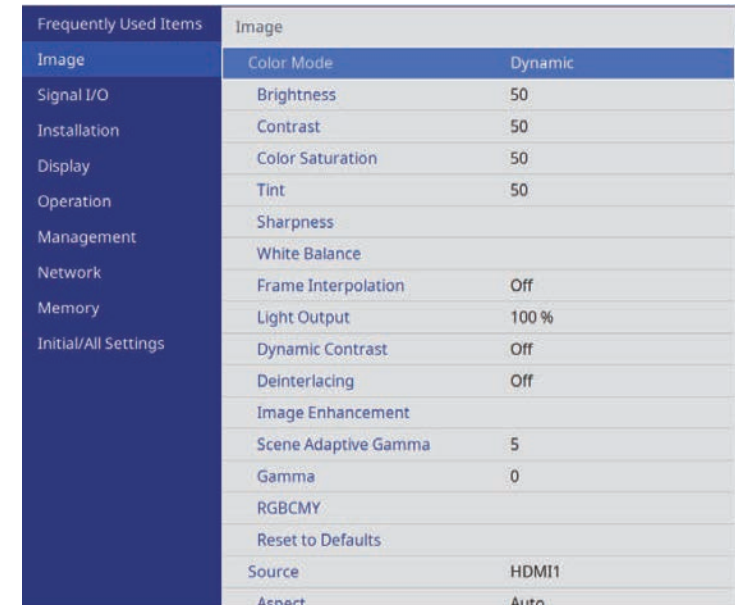
- "Adjusting the Color Temperature" [p.54](#)
- "Adjusting the RGB Offset and Gain" [p.55](#)
- "Adjusting the Gamma" [p.55](#)
- "Adjusting the Hue, Saturation, and Brightness" [p.57](#)

Adjusting the Color Temperature

You can set the overall color tone by adjusting the Color Temp. setting if the image is too bluish or reddish.

- 1** Turn on the projector and switch to the image source you want to use.
- 2** Press the [Menu] button on the control panel or remote control.

- 3** Select the **Image** menu and press [Enter].



Frequently Used Items	Image	
Image	Color Mode	Dynamic
Signal I/O	Brightness	50
Installation	Contrast	50
Display	Color Saturation	50
Operation	Tint	50
Management	Sharpness	
Network	White Balance	
Memory	Frame Interpolation	Off
Initial/All Settings	Light Output	100 %
	Dynamic Contrast	Off
	Deinterlacing	Off
	Image Enhancement	
	Scene Adaptive Gamma	5
	Gamma	0
	RGBCMY	
	Reset to Defaults	
	Source	HDMI1
	Aspect	Auto

- 4** Select **White Balance > Color Temp.** and press [Enter].
- 5** Use the left and right arrow buttons to adjust the color tone of the image.



Higher values tint the image blue and lower values tint the image red.



The temperature range is from 3200 K to 10000 K (for **Natural** color mode) or is from 0 to 13 (for other color modes).

- 6 Press [Menu] or [Esc] to exit the menus.

Adjusting the RGB Offset and Gain

You can adjust the brightness of dark and bright areas by adjusting the **Offset** and **Gain** settings for individual image colors.

- 1 Turn on the projector and switch to the image source you want to use.
- 2 Press the [Menu] button on the control panel or remote control.
- 3 Select the **Image** menu and press [Enter].

Frequently Used Items	Image	
Image	Color Mode	Dynamic
Signal I/O	Brightness	50
Installation	Contrast	50
Display	Color Saturation	50
Operation	Tint	50
Management	Sharpness	
Network	White Balance	
Memory	Frame Interpolation	Off
Initial/All Settings	Light Output	100 %
	Dynamic Contrast	Off
	Deinterlacing	Off
	Image Enhancement	
	Scene Adaptive Gamma	5
	Gamma	0
	RGBCMY	
	Reset to Defaults	
	Source	HDMI1
	Aspect	Auto

- 4 Select **White Balance** > **Custom** and press [Enter].

- 5 Do the following as necessary for each R (red), G (green), and B (blue):
 - To adjust the brightness of dark areas, adjust the **Offset** setting.
 - To adjust the brightness of bright areas, adjust the **Gain** setting.

[Custom]	Return
Offset R	50
Offset G	50
Offset B	50
Gain R	50
Gain G	50
Gain B	50

Higher values make the image brighter and lower values make the image darker.

- In the **Offset** setting, shading for the dark areas is more vividly expressed when you select a high value. When you select a low value, the image appears more full-bodied but shading for the dark areas is harder to distinguish.
- In the **Gain** setting, the bright areas become whiter and shading is lost when you select a high value. When you select a low value, shading for the bright areas is more vividly expressed.

- 6 Press [Menu] or [Esc] to exit the menus.

Adjusting the Gamma

You can correct differences in projected image colors that occur between different image sources by adjusting the Gamma setting.



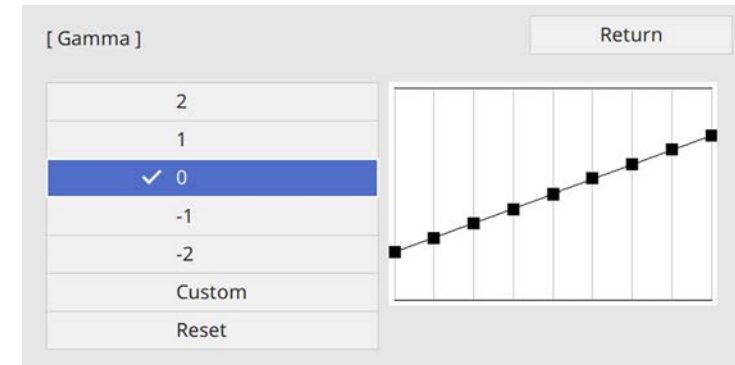
To optimize the color tone according to the scene, and to obtain a more vivid image, correct the image by adjusting the **Scene Adaptive Gamma** setting.

- 1** Turn on the projector and switch to the image source you want to use.
- 2** Press the [Menu] button on the control panel or remote control.
- 3** Select the **Image** menu and press [Enter].

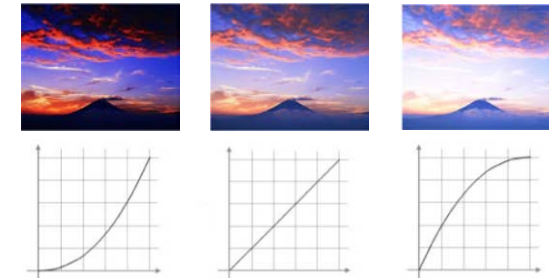
Frequently Used Items	Image	
Image	Color Mode	Dynamic
Signal I/O	Brightness	50
Installation	Contrast	50
Display	Color Saturation	50
Operation	Tint	50
Management	Sharpness	
Network	White Balance	
Memory	Frame Interpolation	Off
Initial/All Settings	Light Output	100 %
	Dynamic Contrast	Off
	Deinterlacing	Off
	Image Enhancement	
	Scene Adaptive Gamma	5
	Gamma	0
	RGBCMY	
	Reset to Defaults	
	Source	HDMI1
	Aspect	Auto

- 4** Select **Gamma** and press [Enter].

- 5** Select and adjust the correction value.

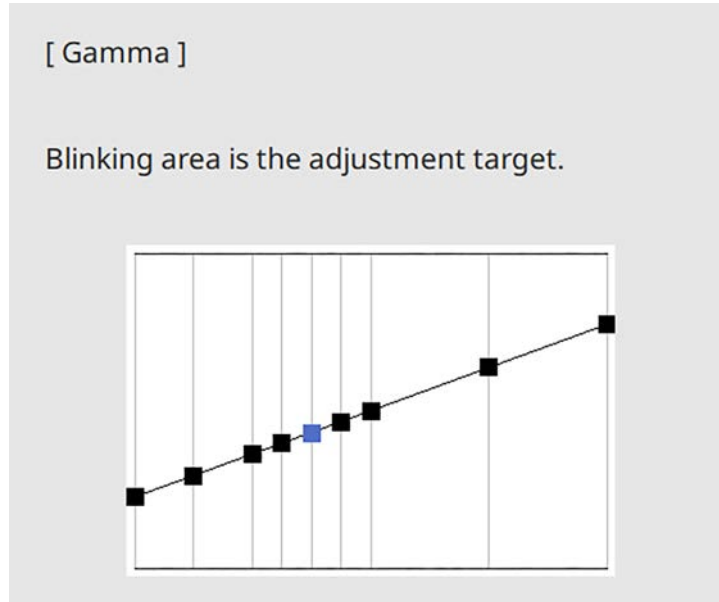


When you select a smaller value, you can reduce the overall brightness of the image to make the image sharper. When you select a larger value, the dark areas of images become brighter, but the color saturation for lighter areas may become weaker.



- 6** If you want to make finer adjustments, select **Custom** and press [Enter].

- Press the left or right arrow buttons to select the color tone you want to adjust on the gamma adjustment graph. Then press the up or down arrow button to adjust the value and press [Enter].



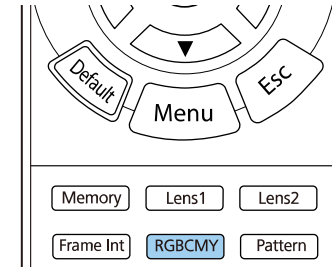
- Press [Menu] or [Esc] to exit the menus.

Adjusting the Hue, Saturation, and Brightness

You can adjust the Hue, Saturation, and Brightness settings for individual image colors.

- Turn on the projector and switch to the image source you want to use.

- Press the [RGBCMY] button on the remote control.



- Select the color to adjust, and press [Enter].

[RGBCMY] Return

	Hue	Saturation	Brightness
R	50 <input type="text"/>	50 <input type="text"/>	50 <input type="text"/>
G	50 <input type="text"/>	50 <input type="text"/>	50 <input type="text"/>
B	50 <input type="text"/>	50 <input type="text"/>	50 <input type="text"/>
C	50 <input type="text"/>	50 <input type="text"/>	50 <input type="text"/>
M	50 <input type="text"/>	50 <input type="text"/>	50 <input type="text"/>
Y	50 <input type="text"/>	50 <input type="text"/>	50 <input type="text"/>

The screenshot shows a menu titled "[RGBCMY]" with a "Return" button in the top right. Below the title is a table with three columns: "Hue", "Saturation", and "Brightness". Each column has six rows corresponding to colors: R, G, B, C, M, and Y. Each cell in the table contains the number "50" followed by a horizontal slider bar. The "Hue" column is highlighted with a blue background.

- Do the following as necessary for each setting:
 - To adjust the overall hue of the color, bluish - greenish - reddish, adjust the **Hue** setting.
 - To adjust the overall vividness of the color, adjust the **Saturation** setting.

- To adjust the overall color brightness of the color, adjust the **Brightness** setting.



- 5** Press [Menu] or [Esc] to exit the menus.



You can also set the **RGBCMY** setting in the projector's **Image** menu.

Adjusting Projector Features

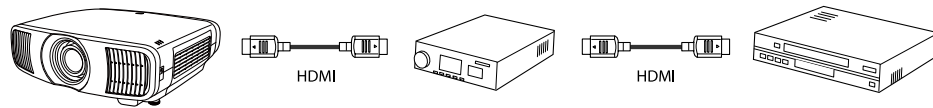
Follow the instructions in these sections to use your projector's adjustment features.

► **Related Links**

- "HDMI Link Features" [p.60](#)
- "Shutting Off the Image Temporarily" [p.62](#)
- "Saving Settings to Memory and Using Saved Settings" [p.63](#)
- "Using Advanced Image Adjustment Features" [p.65](#)
- "Projector Security Features" [p.67](#)

When an audio/video source that meets the HDMI CEC standard is connected to the projector's HDMI port, you can use the projector's remote control to control certain features of the linked device.

Example: Projector, audio/video system, and multi-media players connection



- As long as the connected device meets the HDMI CEC standard, you can use the HDMI Link features even if the audio/video system in-between does not meet the HDMI CEC standard.
- Up to 3 multi-media players that meet the HDMI CEC standard can be connected at the same time.

» **Related Links**

- "Operating the Connected Devices Using the HDMI Link Features" [p.60](#)

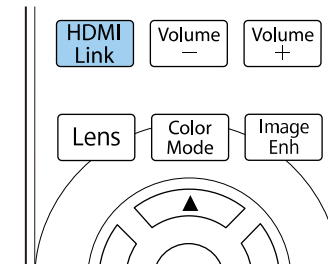
Operating the Connected Devices Using the HDMI Link Features

You can select the connected device that is available for HDMI Link and control the selected device using the HDMI Link features.



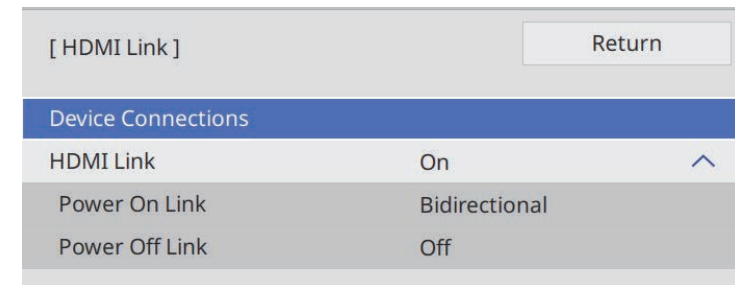
- When you use the HDMI Link features, set the **HDMI Link** setting to **On** in the projector's **Signal I/O** menu.
 - ☛ **Signal I/O > HDMI Link > HDMI Link**
- You must also configure the connected device. See the documentation supplied with the device for more information.
- Some connected devices or functions of those devices may not operate properly even if they meet the HDMI CEC standard. See the documentation supplied with the device for more information.
- Use a cable that supports the HDMI standard.

1 Press the [HDMI Link] button on the remote control.



2 Make sure **HDMI Link** is set to **On**.

3 Select **Device Connections** and press [Enter].



4 Select the device you want to control and project the image from, and press [Enter].



- A linked device is indicated by a blue mark.
- The device name is left blank if it cannot be acquired.

5 Press [Esc] to select the HDMI Link options as necessary.

- **Power On Link** lets you control what happens when you turn on the projector or linked device.



- Select **PJ** -> **Device** or **Bidirectional** to turn the linked device on when the projector is turned on.
- Select **Device** -> **PJ** or **Bidirectional** to turn the projector on when the linked device is turned on.

- **Power Off Link** lets you control whether linked devices are turned off when the projector is turned off.



- **Power Off Link** only works when the connected device's CEC power link function is enabled.
- Note that depending on the status of the connected device (for example, if it is recording), the device may not be turned off.

6 Press [HDMI Link] or [Esc] to exit the menus.

You can use the projector's remote control to control the linked device such as playback, stop, or adjust the volume.

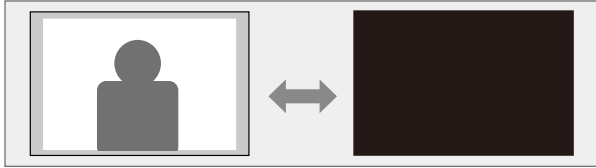


You can also set the **HDMI Link** setting in the projector's **Signal I/O** menu.

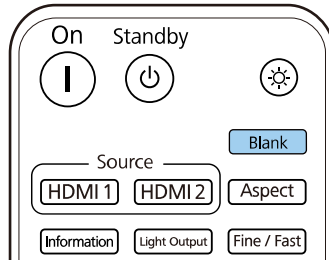
» Related Links

- "Input Signal Settings - Signal I/O Menu" [p.77](#)

You can temporarily turn off the projected image.



- 1** Press the [Blank] button on the remote control to temporarily stop projection.



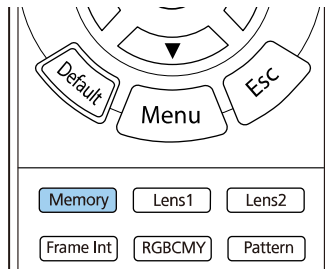
- 2** To turn the image back on, press the [Blank] button again.



Any video action continues to run, however, so you cannot resume projection at the point that you stopped it.

You can save customized settings and then select the saved settings whenever you want to use them.

- 1** Turn on the projector and display an image.
- 2** Press the [Memory] button on the remote control.




The **Memory** menu is displayed.

Frequently Used Items	Color Uniformity
Image	Log Save Destination USB and Internal Memory
Signal I/O	Batch Setup Range
Installation	Language English
Display	Information
Operation	Display Status
Management	Reset Management Settings
Network	Network
Memory	Wired LAN Info.
Initial/All Settings	Network Settings
	Reset Network Settings
	Memory
	Image
	Lens Position
	Reset Memory Settings
	Initial/All Settings
	Reset All
	Firmware Update


- 3** Select one of the following options:

- **Image** lets you save your current settings for the projected image to the projector's memory (10 memories with different names are available).



- You can save the following settings:
 - **Image** menu settings for each color mode
 - **Blanking** in the **Installation** menu
 - The saved Color Mode is displayed on the right of the memory name.

- **Lens Position** lets you save your current lens settings to the projector's memory (10 memories with different names are available).




- You can save your current focus, zoom, and lens shift settings.
- You can load the saved settings from **Memory1** or **Memory2** by pressing the [Lens1] or [Lens2] buttons on the remote control.

- **Reset Memory Settings** lets you reset all adjustment values on the **Memory** menu to their default settings.

- 4** Select one of the following options:

- **Save Memory** lets you save your current settings to the projector's memory (10 memories with different names are available).



A memory name that has already been used is indicated by a blue mark. Saving over a previously saved memory overwrites the settings with your current settings.

- **Load Memory** lets you overwrite your current settings with saved settings.
- **Rename Memory** lets you rename a saved memory.
- **Erase Memory** lets you erase the selected memory settings.

- **Reset** lets you reset the name and settings of a saved memory.

5 Press [Menu] or [Esc] to exit the menus.

» **Related Links**

- "Image Quality Settings - Image Menu" [p.75](#)
- "Projector Installation Settings - Installation Menu" [p.79](#)
- "Image Quality Memory Settings - Memory Menu" [p.86](#)

Follow the instructions in these sections to use your projector's advanced image adjustments.

► Related Links

- "Adjusting the Color Tone (Color Uniformity)" [p.65](#)

Adjusting the Color Tone (Color Uniformity)

You can use the Color Uniformity feature to manually adjust the color tone balance in the projected image.



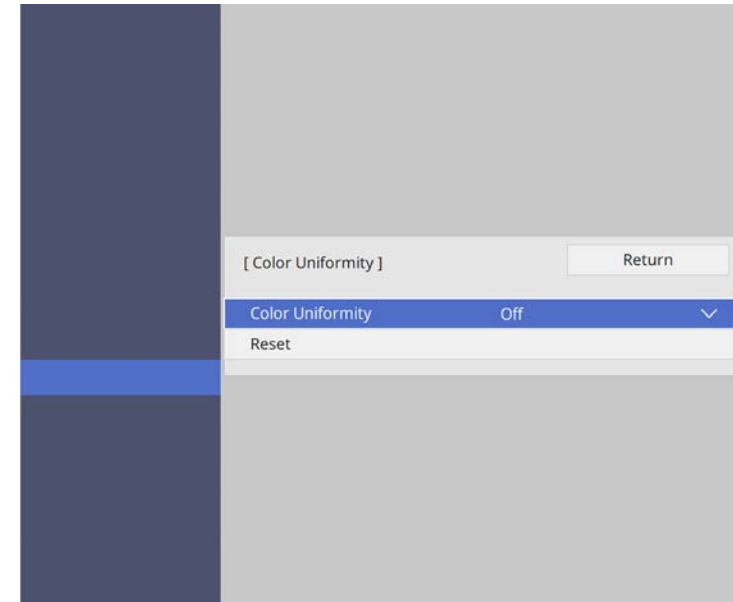
The color tone may not be uniform even after adjusting the color uniformity.

- 1** Press the [Menu] button, select the **Management** menu, and press [Enter].

Frequently Used Items	Management
Image	Lens Lock Off
Signal I/O	Child Lock Off
Installation	Control Panel Lock Off
Display	Color Uniformity
Operation	Log Save Destination USB and Internal Memory
Management	Batch Setup Range
Network	Language English
Memory	Information
Initial/All Settings	Display Status
	Reset Management Settings
	Network
	Wired LAN Info.
	Network Settings
	Reset Network Settings
	Memory
	Image
	Lens Position

- 2** Select **Color Uniformity** and press [Enter].

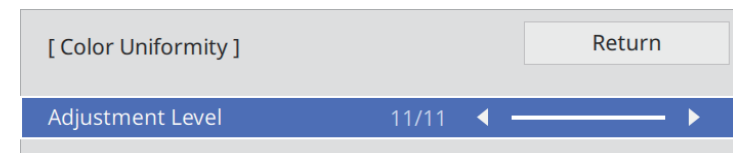
- 3** Select **Color Uniformity** again and press [Enter].



- 4** Select **On** and press [Enter]. Then press [Esc].

- 5** Select **Adjustment Level** and press [Enter].

- 6** Select the first adjustment level you want to adjust and press [Esc].





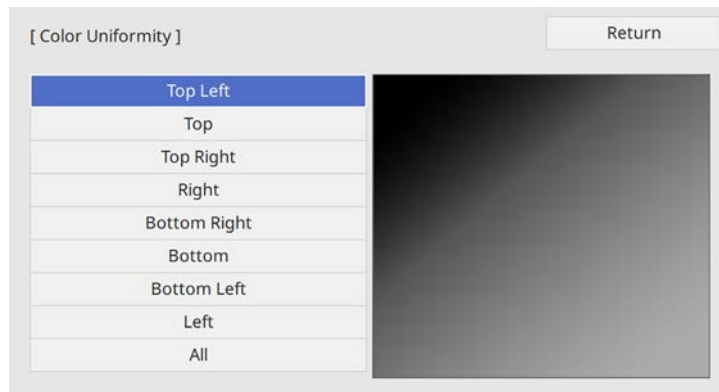
There are eleven adjustment levels, from white to gray to black. You can adjust each level individually.



The adjustment screen changes each time you press [Enter].

7 Select **Start Adjustments** and press [Enter].

8 Select the area of the image you want to adjust and press [Enter].



Adjust each area individually, then select **All** and adjust the entire screen.

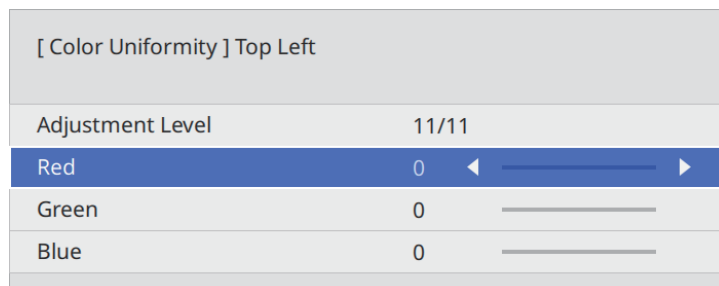
10 Press [Esc] to return to the area selection screen.

11 Repeat the color adjustments to each area.

12 Return to step 5 and repeat all steps to adjust other levels.

13 When you are finished, press [Menu] to exit.

9 Select **Red**, **Green**, or **Blue** and adjust the color tone, if necessary.



You can secure your projector to deter theft or prevent unintended use by setting up the following security features:

- Lens lock security to disable zoom, focus, and lens shift operations by locking the [Lens] button.
- Button lock security to block operation of the projector using the buttons on the projector.
- Security cabling to physically secure the projector in place.


» Related Links

- "Locking the Projector's Lens Settings and Buttons" [p.67](#)
- "Installing a Security Cable" [p.68](#)

Locking the Projector's Lens Settings and Buttons

You can lock the buttons on the projector to prevent anyone from using the projector. You can also lock the zoom, focus, and lens shift settings to prevent them from being adjusted.

- 1** Press the [Menu] button, select the **Management** menu, and press [Enter].

Frequently Used Items	Management
Image	Lens Lock Off
Signal I/O	Child Lock Off
Installation	Control Panel Lock Off
Display	Color Uniformity
Operation	Log Save Destination USB and Internal Memory
Management	Batch Setup Range
Network	Language  English
Memory	Information
Initial/All Settings	Display Status
	Reset Management Settings
	Network
	Wired LAN Info.
	Network Settings
	Reset Network Settings
	Memory
	Image
	Lens Position

- 2** Select one of these lock types and press [Enter]:
 - To lock the [Lens] button on the control panel and remote control to prevent the zoom, focus, and lens shift settings from being changed, select **Lens Lock**.
 - To lock the projector's power button, select **Child Lock**.

To turn the projector on, you must press the power button for longer than three seconds.



Child Lock does not prevent the projector from turning on when the power cord is connected if **Direct Power On** is set to **On** in the projector's **Operation** menu.

- To lock all buttons on the projector, select **Control Panel Lock > Full Lock**.



You can use the remote control to control the projector even when the buttons on the projector are locked.

- To lock all buttons on the projector except the power button, select **Control Panel Lock > Except for Power**.

3 If you see a confirmation prompt, select **Yes** and press [Enter].
The **Control Panel Lock** setting is applied.

4 Restart the projector to apply the **Child Lock** setting.

» Related Links

- "Unlocking the Projector's Buttons" [p.68](#)
- "Projector Feature Settings - Operation Menu" [p.81](#)
- "Projector Administration Settings - Management Menu" [p.82](#)

Unlocking the Projector's Buttons

If the projector's buttons have been locked, do one of the following to unlock them.

- Set **Lens Lock** to **Off** in the projector's **Management** menu.
- Set **Child Lock** to **Off** in the projector's **Management** menu.
- Set **Control Panel Lock** to **Off** in the projector's **Management** menu.



You can also release **Control Panel Lock** by holding down the [Enter] button on the control panel for seven seconds. A message is displayed and the lock is released.

» Related Links

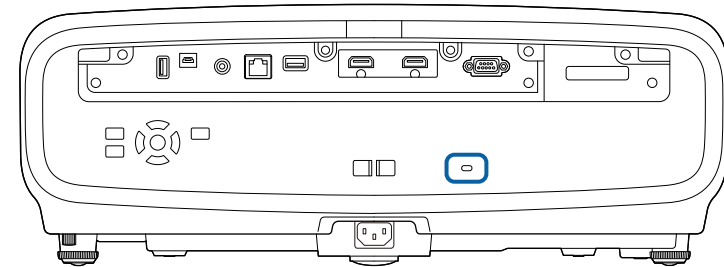
- "Projector Administration Settings - Management Menu" [p.82](#)

Use the security slot on the projector to attach a Kensington Microsaver Security system.



For more details on the Microsaver Security System, visit the Kensington Web site.

<https://www.kensington.com/>



Installing a Security Cable

You can install the security cable on the projector to deter theft.

Monitoring and Controlling the Projector

Follow the instructions in these sections to monitor and control the projector over a network.

► Related Links

- "PJLink Support" [p.70](#)

PJLink was established by the JBMIA (Japan Business Machine and Information System Industries Association) as a standard protocol for controlling network-compatible projector's as part of their efforts to standardize projector control protocols.

The projector complies with the PJLink Class2 standard established by the JBMIA.

The port number used for the PJLink search function is 4352 (UDP).

You need to make network settings before you can use PJLink.

It complies with all commands except for the following commands defined by PJLink Class2, and agreement was confirmed by the PJLink standard adaptability verification.

<http://pjlink.jbmia.or.jp/english/>

- Non-compatible commands

Function		PJLink command
Mute settings	Image muting set	AVMT 11
	Audio muting set	AVMT 21

- Input ports and corresponding input source number

Input port name	Input source number
HDMI1	32
HDMI2	33

- Manufacturer name displayed for "Manufacture name information query"
EPSON
- Model name displayed for "Product name information query"
 - EPSON LS12000B
 - EPSON LS11000W

Adjusting the Menu Settings

Follow the instructions in these sections to access the projector menu system and change projector settings.

► Related Links

- ["Using the Projector's Menus" p.72](#)
- ["Using the Displayed Keyboard" p.74](#)
- ["Image Quality Settings - Image Menu" p.75](#)
- ["Input Signal Settings - Signal I/O Menu" p.77](#)
- ["Projector Installation Settings - Installation Menu" p.79](#)
- ["Projector Display Settings - Display Menu" p.80](#)
- ["Projector Feature Settings - Operation Menu" p.81](#)
- ["Projector Administration Settings - Management Menu" p.82](#)
- ["Projector Network Settings - Network Menu" p.84](#)
- ["Image Quality Memory Settings - Memory Menu" p.86](#)
- ["Projector Initial Settings and Reset Options - Initial/All Settings Menu" p.87](#)
- ["Copying Menu Settings Between Projectors \(Batch Setup\)" p.88](#)

You can use the projector's menus to adjust the settings that control how your projector works. The projector displays the menus on the screen.

- 1 Press the [Menu] button on the control panel or remote control.
You see the menu screen.

Frequently Used Items	Image	
Image	Color Mode	Dynamic
Signal I/O	Brightness	50
Installation	Contrast	50
Display	Color Saturation	50
Operation	Tint	50
Management	Sharpness	
Network	White Balance	
Memory	Frame Interpolation	Off
Initial/All Settings	Light Output	100 %
	Dynamic Contrast	Off
	Deinterlacing	Off
	Image Enhancement	
	Scene Adaptive Gamma	5
	Gamma	0
	RGBCMY	
	Reset to Defaults	
	Source	HDMI1
	Aspect	Auto




The projector's menu screens are displayed in black by default. All of the instructions in this guide are explained using white screens unless otherwise mentioned. You can change the color theme using **Menu Color** in the projector's **Display** menu.

Frequently Used Items	Image	
Image	Color Mode	Dynamic
Signal I/O	Brightness	50
Installation	Contrast	50
Display	Color Saturation	50
Operation	Tint	50
Management	Sharpness	
Network	White Balance	
Memory	Frame Interpolation	Off
Initial/All Settings	Light Output	100 %
	Dynamic Contrast	Off
	Deinterlacing	Off
	Image Enhancement	
	Scene Adaptive Gamma	5
	Gamma	0
	RGBCMY	
	Reset to Defaults	
	Source	HDMI1
	Aspect	Auto

- 2 Press the up or down arrow buttons to move through the menus listed on the left. The settings for each menu are displayed on the right.
- 3 To change settings in the displayed menu, press [Enter].
- 4 Press the up or down arrow button to move through the settings.
- 5 To return all the menu settings to their default values, select **Initial/All Settings**.
- 6 When you finish changing settings on a menu, press [Esc].
- 7 Press [Menu] or [Esc] to exit the menus.

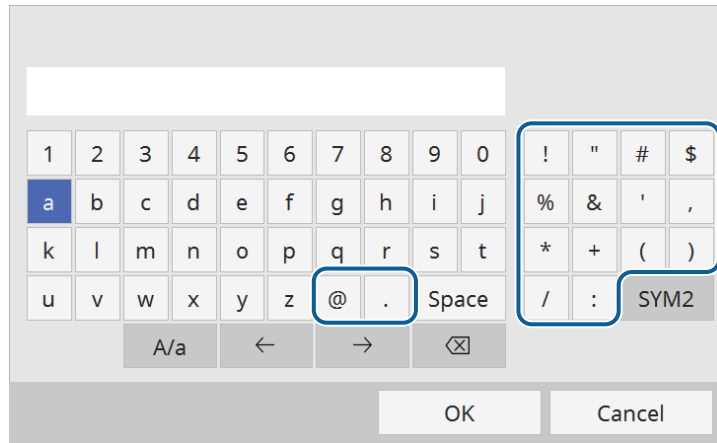



The  arrow indicates that the menu contains sub items. When you turn on a menu setting or select a specific value for it, the menu system displays the sub items.



You can use the displayed keyboard to enter numbers and characters.

- 1 Use the arrow buttons on the control panel or remote control to highlight the number or character you want to enter and press the [Enter] button.



 Each time you select the **A/a** key, the characters change between upper case and lower case. Each time you select the **SYM1/2** key, the symbols enclosed by the frame change.

- 2 After entering the text, select **OK** on the keyboard to confirm your entries. Select **Cancel** to cancel entering text.

» **Related Links**

- "Available Text Using the Displayed Keyboard" [p.74](#)

Text type	Details
Numbers	0123456789
Alphabet	ABCDEFGHIJKLMNOPQRSTUVWXYZ abcdefghijklmnopqrstuvwxyz
Symbols	!"#\$%&'()*+,-./:;<=>?@[\] ^_`{ }~

Available Text Using the Displayed Keyboard

You can enter the following text when using the displayed keyboard.

Settings on the **Image** menu let you adjust the quality of your image. The available settings depend on the currently selected color mode and input source.


Frequently Used Items	Image	
Image	Color Mode	Dynamic
Signal I/O	Brightness	50
Installation	Contrast	50
Display	Color Saturation	50
Operation	Tint	50
Management	Sharpness	
Network	White Balance	
Memory	Frame Interpolation	Off
Initial/All Settings	Light Output	100 %
	Dynamic Contrast	Off
	Deinterlacing	Off
	Image Enhancement	
	Scene Adaptive Gamma	5
	Gamma	0
	RGBCMY	
	Reset to Defaults	
	Source	HDMI1
	Aspect	Auto

Setting	Options	Description
Color Mode	See the list of available color modes	Adjusts the vividness of image colors for various image types and environments.
Brightness	Various levels available	Lightens or darkens the overall image.
Contrast	Various levels available	Adjusts the difference between light and dark areas of the image.
Color Saturation	Various levels available	Adjusts the intensity of the image colors.
Tint	Various levels available	Adjusts the balance of green to magenta tones in the image.

Setting	Options	Description
Sharpness	Standard Thin Line Enhancement Thick Line Enhancement	Adjusts the sharpness or softness of image details. Standard: enhances outlines for the entire image; adjusts the Thin Line Enhancement and Thick Line Enhancement settings as well (defaults to 5). Thin Line Enhancement: enhances details such as hair and clothing patterns. Thick Line Enhancement: enhances backgrounds and larger elements.
White Balance	Color Temp.	Sets the color temperature according to the color mode you selected. Higher values tint the image blue and lower values tint the image red.
	G-M Correction	Makes fine adjustments to the color tone. Higher values tint the image green and lower values tint the image red.
	Custom	Adjusts the individual R (red), G (green), and B (blue) components of the offset and gain.
	Grayscale	Adjusts the red, green, blue, and brightness for the selected adjustment level.
Frame Interpolation	Off Low Normal High	Adjusts the smoothness of image movement. This setting is only displayed when Image Processing is set to Fine . 🔊 Signal I/O > Image Processing
Light Output	Various levels available	Sets the brightness for the light source.
Dynamic Contrast	High Speed Normal Off	Adjusts the projected luminance based on the image brightness.

Setting	Options	Description
Deinterlacing	Off Video Film/Auto	Sets whether or not to convert interlaced-to-progressive signals for certain video image types. <ul style="list-style-type: none"> • Off: for fast-moving video images. • Video: for most video images. • Film/Auto: for movies, computer graphics, and animation. This setting is only displayed when Image Processing is set to Fine . 🖱️ Signal I/O > Image Processing
Image Enhancement	Image Preset Mode	Sets the Image Enhancement options as a batch using preset values.
	Noise Reduction	Reduces flickering in images. This setting is only displayed when Image Processing is set to Fine . 🖱️ Signal I/O > Image Processing
	MPEG Noise Reduction	Reduces the noise or artifacts seen in MPEG video. This setting is only displayed when Image Processing is set to Fine . 🖱️ Signal I/O > Image Processing
	Super-resolution	Reduces blurring when projecting low resolution images.
	Auto Contrast Enhancement	Creates a clearer and sharper image by automatically adjusting the contrast of the projected image.
	Reset	Resets all adjustment values on the Image Enhancement setting to their default settings.
Scene Adaptive Gamma	Various levels available	Adjusts the coloring according to the scene, and obtains a more vivid image. Select a large number to enhance contrast.

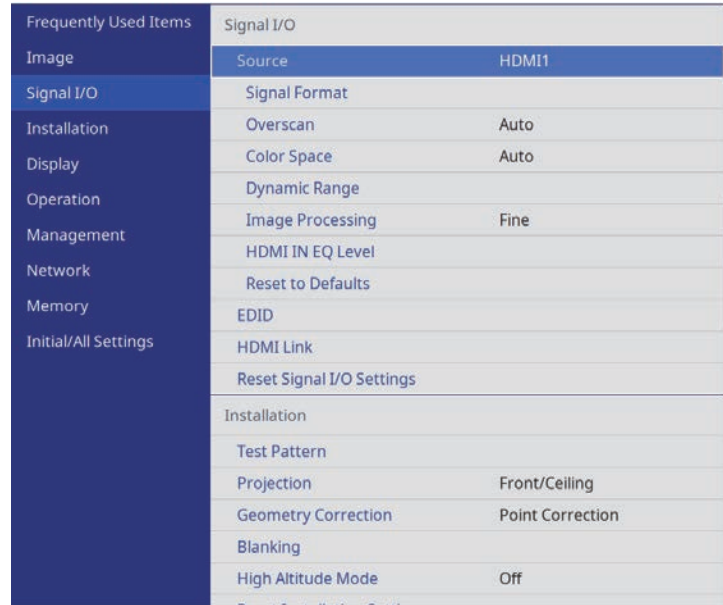
Setting	Options	Description
Gamma	-2 to 2 Custom	Adjusts the coloring by selecting one of the gamma correction values, or referring to a gamma graph.
RGBCMY	Various levels available	Adjusts the hue, saturation, and brightness of each color R (red), G (green), B (blue), C (cyan), M (magenta), Y (yellow) individually.
Reset to Defaults	—	Resets all settings for the current color mode.
Source	—	Displays settings saved for each input source. To change settings for an input source, make sure the source is connected and select that source.
Aspect	See the list of available aspect ratios	Sets the aspect ratio (width-to-height ratio) for the selected input source.
Reset to Defaults	—	Resets all settings for current input source.
Reset Image Settings	—	Resets all adjustment values on the Image menu to their default settings.

 The **Brightness** setting does not affect light source brightness. To change the light source brightness, select the **Light Output** setting.

» **Related Links**





- "Available Color Modes" [p.47](#)
- "Available Image Aspect Ratios" [p.45](#)
- "Adjusting the Image Quality" [p.49](#)
- "Adjusting the Image Color" [p.54](#)

Normally the projector automatically detects and optimizes the input signal settings. If you need to customize the settings, you can use the **Signal I/O** menu. The available settings depend on the currently selected input source.



Setting	Options	Description
Overscan	Auto Off 4% 8%	Changes the projected image ratio to make the edges visible by a selectable percentage or automatically.
Color Space	Auto BT.709 BT.2020	Sets the conversion system for the color space.
Dynamic Range	Dynamic Range	Changes the range of dark and bright areas in images; choose from Auto (recommended), SDR , HDR10/HDR10+ , or HLG .
	Signal Status	Displays the detected input image signal.
	HDR10/HDR10+ Setting	Changes the PQ (Perceptual Quantizer) curve of the dynamic range using the HDR PQ method. This setting is only displayed when Signal Status is HDR10 or HDR10+ , or Dynamic Range is set to HDR10/HDR10+ .
	HLG Setting	Changes the HLG (Hybrid Log Gamma) curve of the dynamic range using the HDR HLG method. This setting is only displayed when Signal Status is HLG , or Dynamic Range is set to HLG .

Setting	Options	Description
Source	—	Displays settings saved for each input source. To change settings for an input source, make sure the source is connected and select that source.
Signal Format	Video Range	Sets the video range to match the setting of input source. <ul style="list-style-type: none"> • Limited (16-235): for the brightness range 16 to 235. • Full (0-255): for the brightness range 0 to 255.

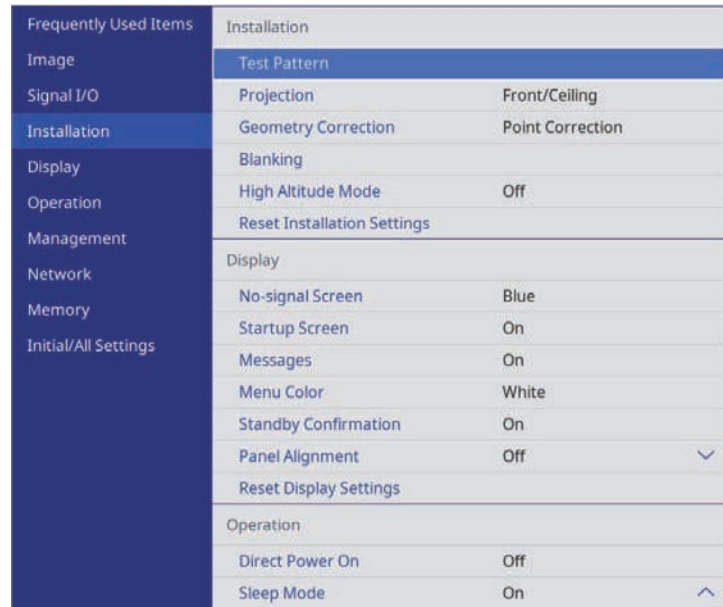
Setting	Options	Description
Image Processing	Fine Fast	Improves the response speed for images projected at high speed. <ul style="list-style-type: none"> • Fine: improves the response speed for images by selecting Off for Frame Interpolation.  Image > Frame Interpolation • Fast: disables the Frame Interpolation, Noise Reduction, and MPEG Noise Reduction settings.  Image > Frame Interpolation  Image > Image Enhancement > Noise Reduction  Image > Image Enhancement > MPEG Noise Reduction
HDMI IN EQ Level	HDMI1 HDMI2	Adjusts the HDMI input signal level depending on the devices connected to the HDMI port. If there is a lot of interference in the image, or if a problem such as no image being projected occurs, change the setting. You can select the settings for individual input sources without changing the input source.
Reset to Defaults	—	Resets all settings for current input source.
EDID	EDID (HDMI1) EDID (HDMI2)	Describes the display capabilities of your projector. If images are not displayed correctly, you may be able to display them correctly by changing this setting. <ul style="list-style-type: none"> • EDID Mode: change this setting as necessary according to the resolution of the image. • HDR10+: set to Off to display images correctly when the connected image source does not support HDR10+.

Setting	Options	Description
HDMI Link	Device Connections	Lists the devices connected to the HDMI ports. This setting is only displayed when HDMI Link is set to On .
	HDMI Link	Set to On to enable the HDMI Link features.
	Power On Link	Controls what happens when you turn on the projector or connected device. <ul style="list-style-type: none"> • Off: turns off the power link. • Bidirectional: automatically turns on the connected device when you turn on the projector, and vice versa. • Device -> PJ: automatically turns on the projector when you turn on the connected device. • PJ -> Device: automatically turns on the connected device when you turn on the projector.
	Power Off Link	Controls whether connected devices are turned off when you turn off the projector.
Reset Signal I/O Settings	—	Resets all adjustment values on the Signal I/O menu to their default settings.

» **Related Links**

- "HDMI Link Features" [p.60](#)

Settings on the **Installation** menu help you set up your projector in your installation environment.



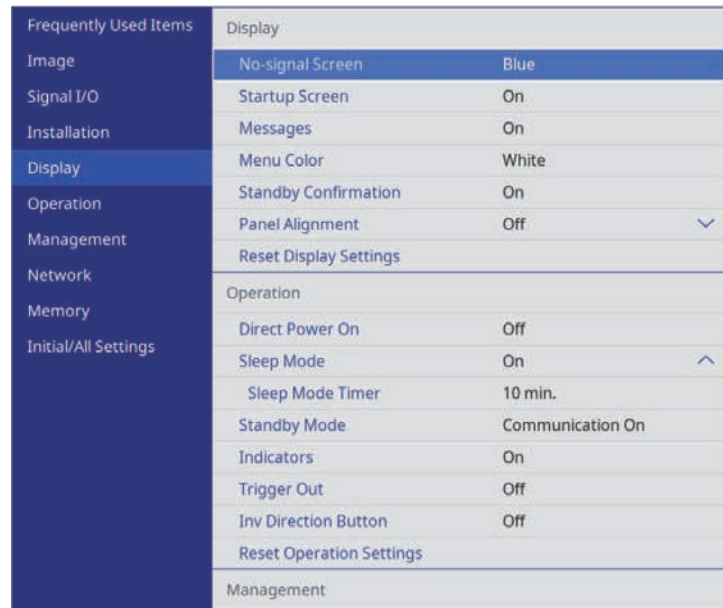
Setting	Options	Description
Test Pattern	Display Position Color Isolation: R Color Isolation: G Color Isolation: B Exit	Displays a test pattern to assist in focusing and zooming the image and correcting image shape (select Exit or press the [Pattern] button to cancel pattern display).
Projection	Front Rear Front/Ceiling Rear/Ceiling	Sets the way the projector faces the screen so the image is oriented correctly.

Setting	Options	Description
Geometry Correction (EH-LS12000B)	H/V-Keystone	Manually corrects horizontal and vertical sides. <ul style="list-style-type: none"> • V-Keystone: lets you manually correct vertical side. • H-Keystone: lets you manually correct horizontal side.
	Quick Corner	Corrects image shape and alignment using an on-screen display.
	Point Correction	Divides the projected image into a grid and corrects the distortion by moving the selected point of intersection from side to side and up and down.
H/V-Keystone (EH-LS11000W)	V-Keystone H-Keystone	Manually corrects horizontal and vertical sides. <ul style="list-style-type: none"> • V-Keystone: lets you manually correct vertical side. • H-Keystone: lets you manually correct horizontal side.
Blanking	Top Bottom Left Right	Hides an area of the projected image that you select using the arrow buttons.
High Altitude Mode	On Off	Regulates the projector's operating temperature at altitudes above 1500 m.
Reset Installation Settings	—	Resets all adjustment values on the Installation menu to their default settings.

» **Related Links**

- "Projection Modes" [p.34](#)
- "Image Shape" [p.37](#)
- "Projector Setup and Installation Options" [p.16](#)

Settings on the **Display** menu let you customize various projector display features.



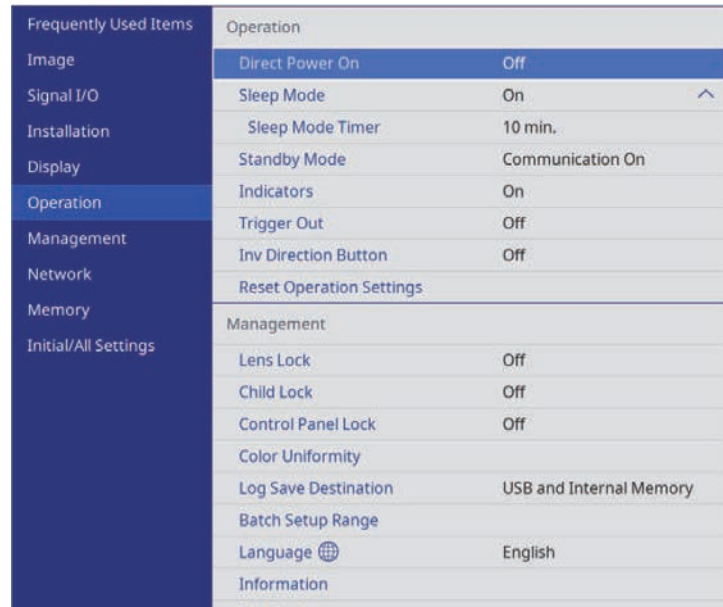
Setting	Options	Description
No-signal Screen	Black Blue Logo	Sets the screen color or logo to display when no signal is received.
Startup Screen	On Off	Set to On to display a logo when the projector starts up.
Messages	On Off	Set to On to display messages such as input source name, color mode name, aspect ratio, no signal message, or high temperature warning on your projected image.
Menu Color	Black White	Sets the color theme of the projector menu system.

Setting	Options	Description
Standby Confirmation	On Off	Set to On to display a confirmation screen before turning off the projector.
Panel Alignment	On Off	Set to On to correct color misalignment in the projected image.
	Select Color	Select the color to correct.
	Pattern Color	Select the pattern used for correction.
	Start Adjustments	Starts panel alignment.
	Memory	Manages saving and loading of the color convergence in the projected image you have adjusted. <ul style="list-style-type: none"> • Save Memory: saves your current Panel Alignment settings to the projector's memory (three memories with different names are available). • Load Memory: overwrites your current Panel Alignment settings with saved settings. • Rename Memory: renames a saved memory. • Erase Memory: erases the selected memory settings.
	Reset	Resets all adjustment values on the Panel Alignment setting to their default settings.
Reset Display Settings	—	Resets all adjustment values on the Display menu to their default settings.

» **Related Links**

- "Shutting Off the Image Temporarily" [p.62](#)
- "Adjusting the Color Convergence (Panel Alignment)" [p.100](#)

Settings on the **Operation** menu let you customize various projector features.



Setting	Options	Description
Trigger Out (EH-LS12000B)	Off Power Anamorphic Wide	Outputs a DC 12V signal at 200 mA maximum from the 3.5 mm mini-jack Trigger Out port whenever the projector is turned on. If you select Anamorphic Wide , voltage is only output from the Trigger Out port when the Aspect setting is set to Anamorphic Wide or Horiz.Squeeze .
Trigger Out (EH-LS11000W)	On Off	Outputs a DC 12V signal at 200 mA maximum from the 3.5 mm mini-jack Trigger Out port whenever the projector is turned on.
Inv Direction Button	On Off	When suspending the projector from a ceiling, set to On to invert the operation direction of the control panel arrow buttons.
Reset Operation Settings	—	Resets all adjustment values on the Operation menu to their default settings.

» **Related Links**

- "Turning On the Projector" [p.31](#)

Setting	Options	Description
Direct Power On	On Off	Set to On to turn on the projector by plugging it in without pressing the power button.
Sleep Mode	On Off	Set to On to automatically turns off the projector after an interval of inactivity.
Sleep Mode Timer	1 to 30 minutes	Sets the interval for Sleep Mode .
Standby Mode	Communication On Communication Off	Set to Communication On to allow monitoring and controlling the projector over a network when the projector is in standby mode.
Indicators	On Off	Set to Off to turn off the indicator lights on the projector except when an error or warning occurs.

Settings on the **Management** menu let you customize various projector administrative features.

Frequently Used Items	Management
Image	Lens Lock Off
Signal I/O	Child Lock Off
Installation	Control Panel Lock Off
Display	Color Uniformity
Operation	Log Save Destination USB and Internal Memory
Management	Batch Setup Range
Network	Language English
Memory	Information
Initial/All Settings	Display Status
	Reset Management Settings
	Network
	Wired LAN Info.
	Network Settings
	Reset Network Settings
	Memory
	Image
	Lens Position

Setting	Options	Description
Lens Lock	On Off	Locks the focus, zoom, and lens shift settings.
Child Lock	On Off	Locks the power button on the projector's control panel to prevent children from turning the projector on by accident. This setting is only displayed when Control Panel Lock is set to Except for Power or Off .

Setting	Options	Description
Control Panel Lock	Full Lock Except for Power Off	Controls projector button locking to secure the projector: <ul style="list-style-type: none"> • Full Lock: locks all buttons. • Except for Power: locks all buttons except the power button. • Off: no buttons locked. You can use the remote control to control the projector even when the buttons on the projector are locked.
Color Uniformity	Color Uniformity	Set to On to adjust the color tone balance for the whole screen.
	Adjustment Level	Sets the adjustment level.
	Start Adjustments	Adjusts the red, green, and blue color tones individually for the selected area.
	Reset	Resets all adjustment values on the Color Uniformity menu to their default settings.
Log Save Destination	Internal Memory USB and Internal Memory	Sets the location in which to save error and operation log files.
Batch Setup Range	All Limited	Select All to copy all of the projector menu settings using the batch setup feature. Select Limited , if you do not want to copy the following settings: <ul style="list-style-type: none"> • EDID in the Signal I/O menu • Network menu settings
Language	Various languages available	Select the language for projector menu and message displays.
Information	Various information	Displays information about the projector and input sources. The displayed items vary depending on the current input source.
Display Status	—	Displays the projector's status information.

Setting	Options	Description
Reset Management Settings	—	Resets all adjustment values on the Management menu to their default settings, except for the following: <ul style="list-style-type: none">• Language

► Related Links

- "Copying Menu Settings Between Projectors (Batch Setup)" [p.88](#)
- "Locking the Projector's Lens Settings and Buttons" [p.67](#)
- "Adjusting the Color Tone (Color Uniformity)" [p.65](#)

Settings on the **Network** menu let you view network information and set up the projector for controlling over a network.

Frequently Used Items	Color Uniformity	
Image	Log Save Destination	USB and Internal Memory
Signal I/O	Batch Setup Range	
Installation	Language	English
Display	Information	
Operation	Display Status	
Management	Reset Management Settings	
Network	Network	
Memory	Wired LAN Info.	
Initial/All Settings	Network Settings	
	Reset Network Settings	
	Memory	
	Image	
	Lens Position	
	Reset Memory Settings	
	Initial/All Settings	
	Reset All	
	Firmware Update	

Network Menu - Network Settings Menu

Settings on the **Network Settings** menu let you select the basic network settings.

Setting	Options	Description
Projector Name	Up to 16 alphanumeric characters (do not use " * + , / : ; < = > ? [\] ` spaces)	Enter a name to identify the projector over the network.
Wired LAN	—	See the Wired LAN menu table for details.
Projector Control	—	See the Projector Control menu table for details.

» Related Links

- "Network Menu - Wired LAN Menu" [p.84](#)
- "Network Menu - Projector Control Menu" [p.85](#)

Setting	Options	Description
Wired LAN Info.	Various information	Displays wired network status and details.
Network Settings	—	Configures your projector network settings. See the network menu table for details on the Network Settings .
Reset Network Settings	—	Resets all adjustment values on the Network menu to their default settings.

» Related Links

- "Network Menu - Network Settings Menu" [p.84](#)

Network Menu - Wired LAN Menu

Settings on the **Wired LAN** menu let you select the wired LAN settings.

Setting	Options	Description
IP Settings	DHCP IP Address Subnet Mask Gateway Address	Set DHCP to On if your network assigns addresses automatically; set to Off to manually enter the network's IP Address, Subnet Mask, and Gateway Address using 0 to 255 for each address field. Do not use these addresses: 0.0.0.0, 127.x.x.x, 192.0.2.x or 224.0.0.0 through 255.255.255.255 (where x is a number from 0 to 255) for IP Address, 255.255.255.255 or 0.0.0.0 through 254.255.255.255 for Subnet Mask, and 0.0.0.0, 127.x.x.x or 224.0.0.0 through 255.255.255.255 for Gateway Address.
IP Address Display	On Off	Set to On to display the IP address on the network information screen.

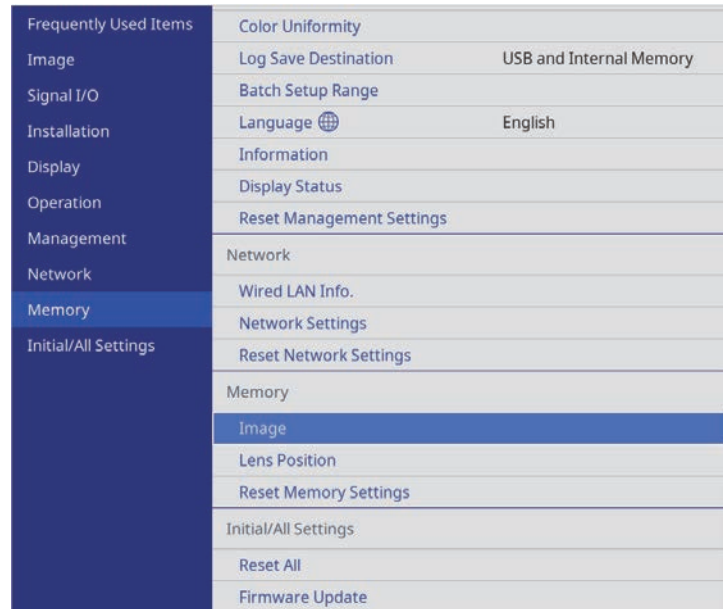
Setting	Options	Description
Notified IP Address	Various IP addresses	Enter the IP address to receive the projector's operating status when the PjLink notification function is enabled. Enter the addresses using 0 to 255 for each address field. Do not use these addresses: 127.x.x.x or 224.0.0.0 through 255.255.255.255 (where x is a number from 0 to 255).
AMX Device Discovery	On Off	Set to On when you want to allow the projector to be detected by AMX Device Discovery.
Control4 SDDP	On Off	Set to On to allow device information to be acquired using Control4 Simple Device Discovery Protocol (SDDP).

Network Menu - Projector Control Menu

Settings on the **Projector Control** menu let you select settings for controlling the projector over a network.

Setting	Options	Description
PjLink	On Off	Set to On to enable the PjLink notification function.
PjLink Password	Up to 32 alphanumeric characters (do not use spaces and any symbols other than @)	Enter a password for using the PjLink protocol for projector control.

Settings on the **Memory** menu let you save and load projector settings in the projector's memory.



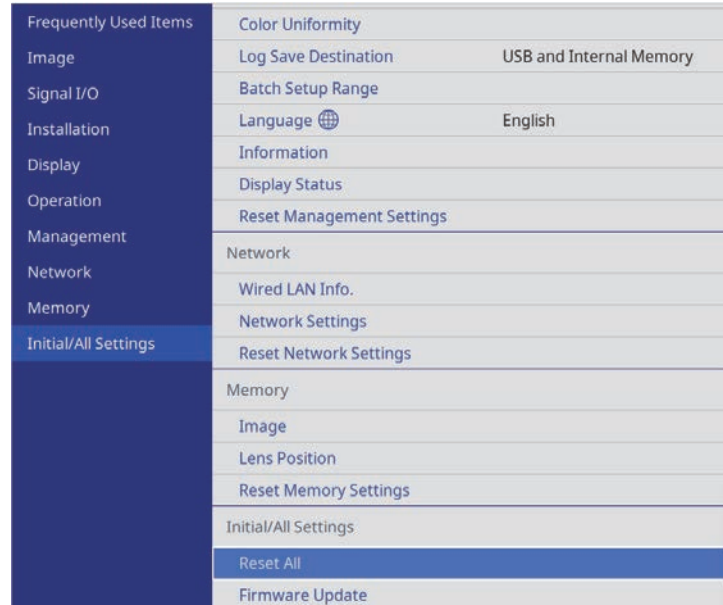
Setting	Options	Description
	Erase Memory	Deletes the saved lens position entry.
	Reset	Resets all saved lens position entries.
Reset Memory Settings	—	Resets all adjustment values on the Memory menu to their default settings.

» **Related Links**

- "Saving Settings to Memory and Using Saved Settings" [p.63](#)

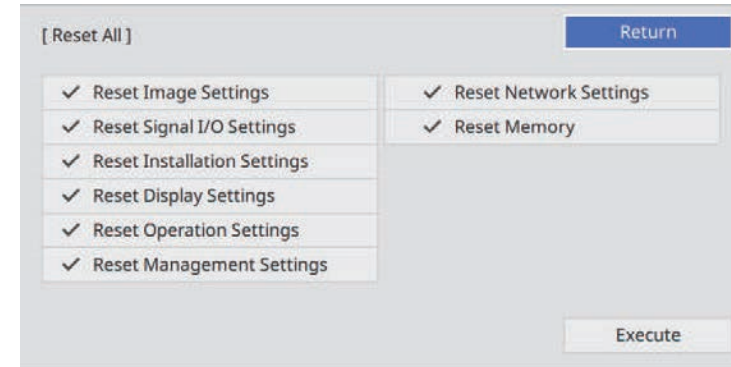
Setting	Options	Description
Image	Save Memory	Saves the current projector settings to the projector's memory.
	Load Memory	Loads saved memory settings and applies them to the current image.
	Rename Memory	Changes the name of the memory settings.
	Erase Memory	Deletes a saved memory.
	Reset	Resets all saved image memories.
Lens Position	Save Memory	Saves the focus, zoom, and lens shift adjustments as a lens position entry.
	Load Memory	Loads saved lens adjustment values.
	Rename Memory	Renames a saved lens position entry.

Settings on the **Initial/All Settings** menu let you reset certain projector settings to their default values and place the projector in firmware update mode so you can update the firmware.



Reset All options

When you select **Reset All**, you see the following screen.



If you do not want to reset values in particular menus, deselect the check box next to the menu name. When you are ready to reset setting values, select **Execute**.

You cannot reset the following settings:

- **Language**

» Related Links

- "Updating the Firmware" [p.102](#)

Setting	Options	Description
Reset All	—	Lets you select menus for resetting the settings to default values.
Firmware Update	—	Enters the firmware update mode and ready to update firmware using the USB-A or Service port.

After selecting the projector's menu settings for one projector, you can use the following methods to copy the settings to other projectors, as long as they are the same model.

- by using a USB flash drive
- by connecting a computer and projector using a USB cable



- Perform batch setup before adjusting the image settings such as keystone distortion correction. Since image adjustment values are also copied to another projector, the adjustments you made before performing the batch setup are overwritten and the projected screen you adjusted may change.
 - When copying the menu settings from one projector to another, user's logo is also copied. Do not register the information that you do not want to share between multiple projectors as a user's logo.
 - Make sure **Batch Setup Range** is set to **Limited** if you do not want to copy the following settings:
 - **EDID** in the **Signal I/O** menu
 - **Network** menu settings
- ☛ **Management > Batch Setup Range**

Caution

Epson takes no responsibility for batch setup failures and associated repair costs due to power outages, communication errors, or other problems that may cause such failures.

» Related Links

- "Transferring Settings From a USB Flash Drive" [p.88](#)
- "Transferring Settings From a Computer" [p.89](#)

Transferring Settings From a USB Flash Drive

You can copy menu settings from one projector to another of the same model using a USB flash drive.



The USB flash drive must use a FAT format and not incorporate any security function. Delete any files on the drive before using it for batch setup or the settings may not be saved correctly.

- 1** Disconnect the power cord from the projector, and check that all of the projector's indicators have turned off.
- 2** Connect an empty USB flash drive directly to the projector's USB-A port.
- 3** Hold down the [Esc] button on the remote control or the control panel and connect the power cord to the projector.
- 4** When all of the projector's indicators turn on, release the [Esc] button. The indicators start flashing and the batch setup file is written to the USB flash drive. When writing is finished, the projector turns off.

Caution

Do not disconnect the power cord or the USB flash drive from the projector while the file is being written. If the power cord or USB flash drive is disconnected, the projector may not start correctly.

- 5** Remove the USB flash drive.



The file name for the batch setup file is PJCONFDATA.bin. If you need to change the file name, add text after PJCONFDATA using only alphanumeric characters. If you change the PJCONFDATA section of the file name, the projector may not be able to recognize the file correctly.

- 6** Disconnect the power cord from the projector to which you want to copy settings, and check that all of the projector's indicators have turned off.

- 7 Connect the USB flash drive containing the saved batch setup file to the projector's USB-A port.
- 8 Hold down the [Menu] button on the remote control or the control panel and connect the power cord to the projector.
- 9 When all of the projector's indicators turn on, release the [Menu] button.

When all of the indicators start flashing, the settings are being written. When writing is finished, the projector turns off.

Caution

Do not disconnect the power cord or the USB flash drive from the projector while the file is being written. If the power cord or USB flash drive is disconnected, the projector may not start correctly.

- 10 Remove the USB flash drive.

Transferring Settings From a Computer

You can copy menu settings from one projector to another of the same model by connecting the computer and projector with a USB cable.



You can use this batch setup method with the following operating system versions:

- Windows 8.1 and later
- macOS 10.13.x and later

- 1 Disconnect the power cord from the projector, and check that all of the projector's indicators have turned off.
- 2 Connect a USB cable to the computer's USB port and to the projector's Service port.

- 3 Hold down the [Esc] button on the remote control or the control panel and connect the power cord to the projector.
- 4 When all of the projector's indicators turn on, release the [Esc] button. The computer recognizes the projector as a removable disk.
- 5 Open the removable disk icon or folder, and save the batch setup file to the computer.



The file name for the batch setup file is PJCONFDATA.bin. If you need to change the file name, add text after PJCONFDATA using only alphanumeric characters. If you change the PJCONFDATA section of the file name, the projector may not be able to recognize the file correctly.

- 6 Eject the USB device (Windows) or drag the removable disk icon to the Trash (Mac).
- 7 Disconnect the USB cable. The projector turns off.
- 8 Disconnect the power cord from the projector to which you want to copy settings, and check that all of the projector's indicators have turned off.
- 9 Connect the USB cable to the computer's USB port and to the projector's Service port.
- 10 Hold down the [Menu] button on the remote control or the control panel and connect the power cord to the projector.
- 11 When all of the projector's indicators turn on, release the [Menu] button. The computer recognizes the projector as a removable disk.

12 Copy the batch setup file (PJCONFDATA.bin) that you saved to your computer to the top level folder of the removable disk.

 Do not copy any files or folders other than the batch setup file to the removable disk.

13 Eject the USB device (Windows) or drag the removable disk icon to the Trash (Mac).

14 Disconnect the USB cable.

When all of the indicators start flashing, the settings are being written. When writing is finished, the projector turns off.

⚠ Caution

Do not disconnect the power cord from the projector while the file is being written. If the power cord is disconnected, the projector may not start correctly.

► **Related Links**

- "Batch Setup Error Notification" [p.90](#)

Batch Setup Error Notification

The projector's indicators notify you if an error occurs during a batch setup operation. Check the status of the projector's indicators and follow the instructions described in the table here.

Indicator status	Problem and solutions
<ul style="list-style-type: none"> • Power: Blue - flashing fast • Status: Blue - flashing fast • Laser: Orange - flashing fast • Temp: Orange - flashing fast 	<p>Writing the settings may have failed and an error may have occurred in the projector's firmware.</p> <p>Stop using the projector, remove the power plug from the electrical outlet. Contact Epson for help.</p>

Indicator status	Problem and solutions
<ul style="list-style-type: none"> • Laser: Orange - flashing fast • Temp: Orange - flashing fast 	<p>The batch setup file may be corrupt, or the USB flash drive may not be connected correctly.</p> <p>Disconnect the USB flash drive, unplug and then plug in the projector's power cord, and then try again.</p>

Maintaining the Projector

Follow the instructions in these sections to maintain your projector.

► Related Links

- "Projector Maintenance" [p.92](#)
- "Cleaning the Lens" [p.93](#)
- "Cleaning the Projector Case" [p.94](#)
- "Air Filter and Vent Maintenance" [p.95](#)
- "Adjusting the Color Convergence (Panel Alignment)" [p.100](#)
- "Updating the Firmware" [p.102](#)

You may need to clean the projector's lens periodically, and clean the air filter and air vents to prevent the projector from overheating due to blocked ventilation.

The only parts you should replace are the air filter and remote control batteries. If any other part needs replacing, contact Epson or an authorized Epson servicer.

Warning

Before cleaning any part of the projector, turn it off and unplug the power cord. Never open any cover on the projector, except as specifically explained in this manual. Dangerous electrical voltages in the projector can injure you severely.

Clean the projector's lens periodically, or whenever you notice dust or smudges on the surface.

- To remove dust or smudges, gently wipe the lens with clean and dry lens-cleaning paper.
- If the lens is dusty, blow off dust using a blower, and then wipe the lens.

Warning

- Before cleaning the lens, turn off the projector and unplug the power cord.
- Do not use a lens cleaner that contains flammable gas. The high heat generated by the projector may cause a fire.

Attention

- Do not wipe the lens right after you turn off the projector. Doing so could damage the lens.
- Do not use any harsh materials to clean the lens and do not subject the lens to any impacts; otherwise, it could be damaged.



Before cleaning the lens, open the lens shutter by gently moving it to the side. After cleaning, close the shutter.

Before cleaning the projector case, turn off the projector and unplug the power cord.

- To remove dust or dirt, use a soft, dry, lint-free cloth.
- To remove stubborn dirt, use a soft cloth moistened with water and mild soap. Do not spray liquid directly on the projector.

Attention

Do not use wax, alcohol, benzene, paint thinner, or other chemicals to clean the projector case. These can damage the case. Do not use canned air, or the gases may leave a flammable residue.

Regular filter maintenance is important to maintain your projector. Clean the air filter when a message appears telling you the temperature inside the projector has reached a high level. It is recommended that you clean these parts over a 5,000 hour period. Clean them more often than this if you use the projector in an environment that is dustier than expected. (Assuming the projector is used in an atmosphere in which airborne particulate matter is less than 0.04 to 0.2 mg/m³.)

Attention

If regular maintenance is not performed, your Epson projector will notify you when the temperature inside the projector has reached a high level. Do not wait until this warning appears to maintain your projector filter as prolonged exposure to high temperatures may reduce the life of your projector.

► Related Links

- "Cleaning the Air Filters and Intake Vents" [p.95](#)
- "Replacing the Air Filter" [p.97](#)

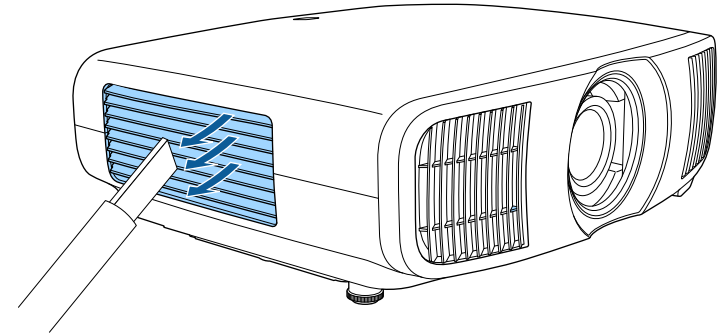
Cleaning the Air Filters and Intake Vents

You need to clean the projector's air filters in the following situations:

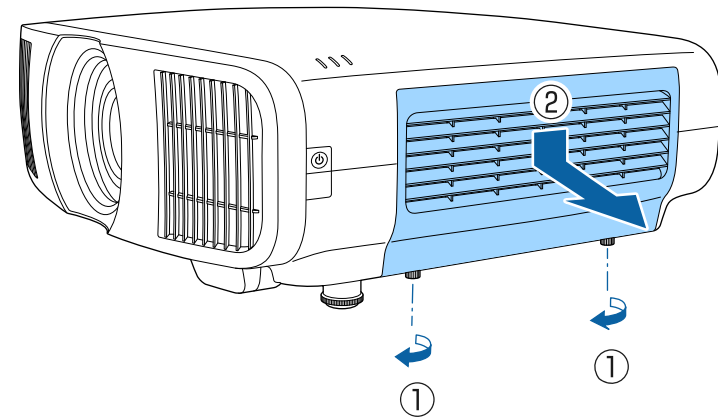
- The filter or vents get dusty.
- You see a message telling you to clean it.

1 Turn off the projector and unplug the power cord.

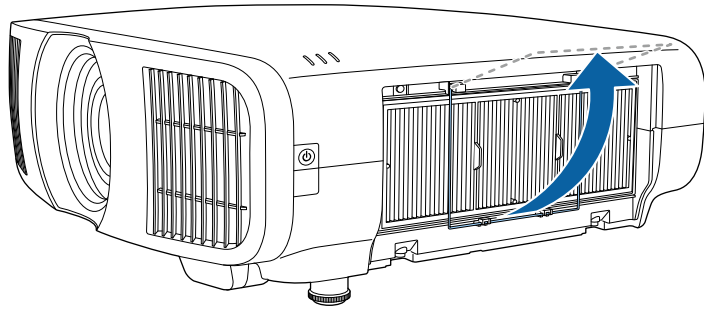
2 Carefully remove the dust using a vacuum cleaner or a brush.



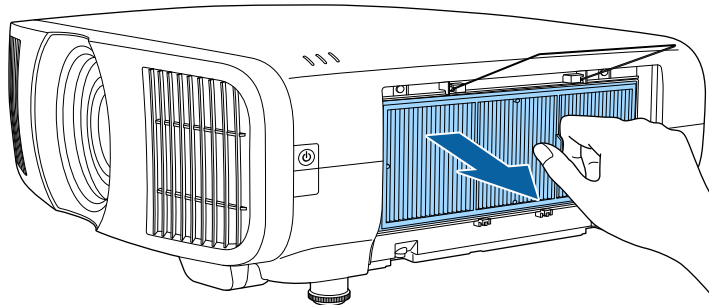
3 Loosen the screws and remove the air filter cover.



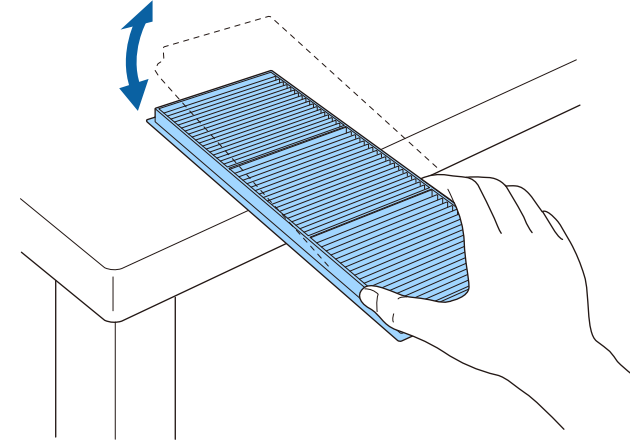
4 Open the stopper.



5 Pull the air filter out of the projector.



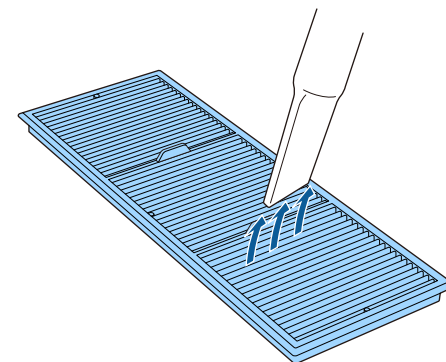
6 Tap each side of the air filter 4 to 5 times to shake off any excess dust.



Attention

Do not use excessive force when tapping the air filter, or it may crack and become unusable.

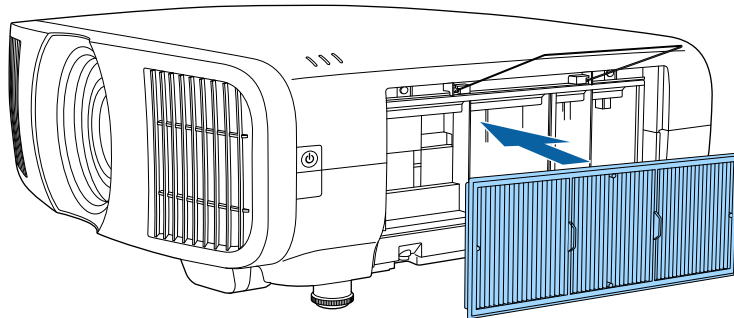
7 Vacuum the front of the air filter (the side with the tabs) to remove any remaining dust.



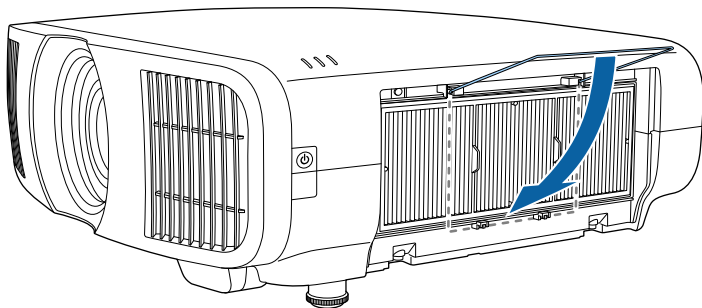
Attention

- Do not rinse the air filter in water, or use any detergent or solvent to clean it.
- Do not use canned air. The gases may leave a flammable residue or push dust and debris into the projector's optics or other sensitive areas.

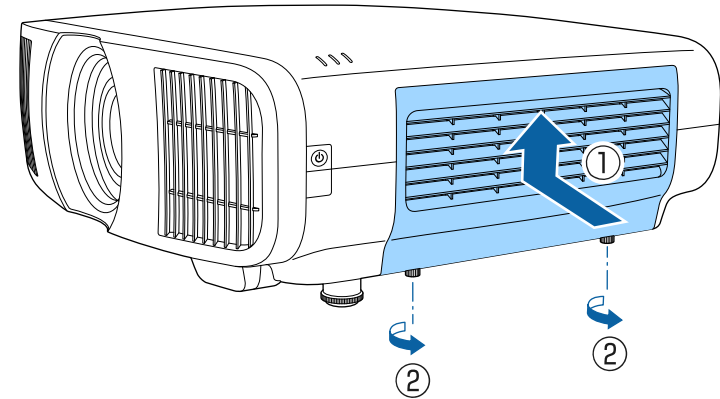
- 8** Place the air filter in the projector as shown.



- 9** Close the stopper until it clicks into place.



- 10** Close the air filter cover and tighten the screws.



Replacing the Air Filter

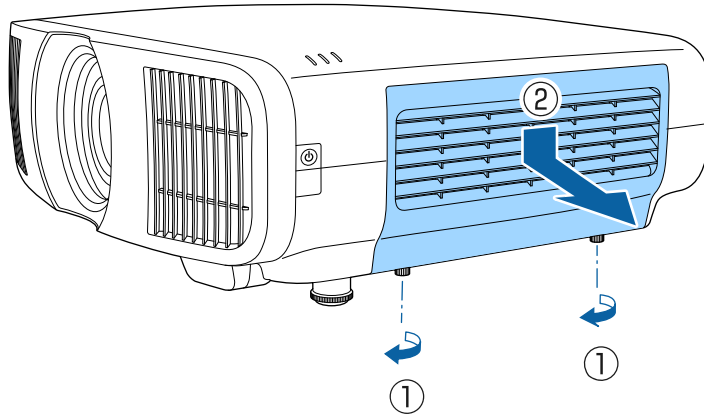
You need to replace the air filter in the following situations:

- After cleaning the air filter, you see a message telling you to clean or replace it.
- The air filter is torn or damaged.

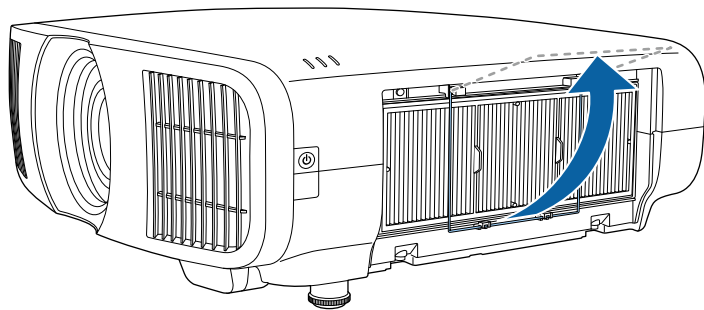
You can replace the air filter while the projector is mounted to the ceiling or placed on a table.

- 1** Turn off the projector and unplug the power cord.

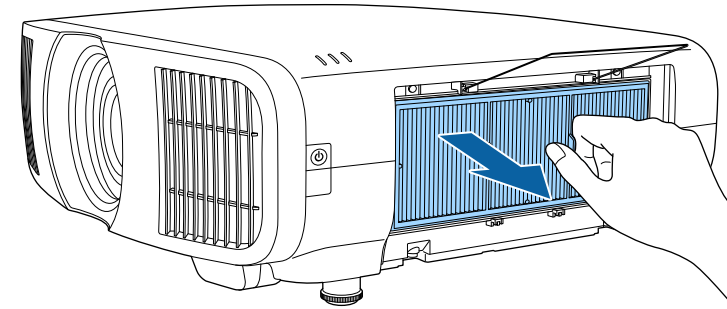
2 Loosen the screws and remove the air filter cover.



3 Open the stopper.



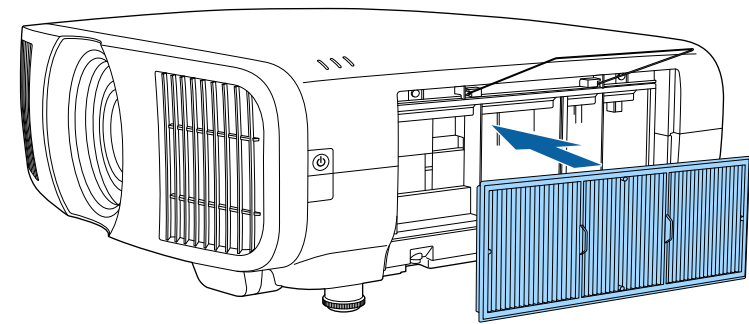
4 Pull the air filter out of the projector.



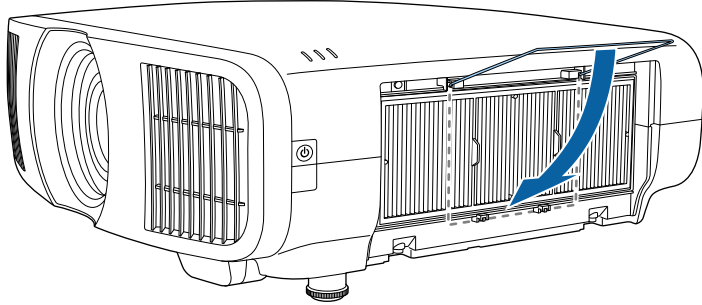
Dispose of used air filters according to local regulations.

- Filter frame: Polypropylene
- Filter: Polypropylene

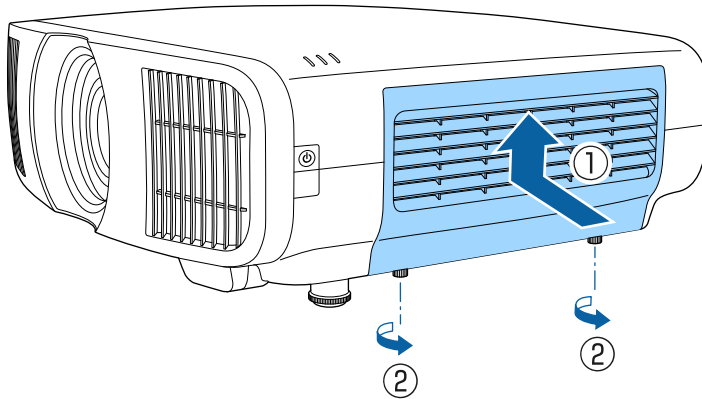
5 Place the new air filter in the projector as shown.



6 Close the stopper until it clicks into place.



7 Close the air filter cover and tighten the screws.



You can use the Panel Alignment feature to manually adjust the color convergence (the alignment of the red and blue colors) in the projected image. You can adjust the pixels horizontally and vertically in increments of 0.125 pixels within a range of ± 3 pixels.



- You can adjust only the red or blue color convergence. Green is the standard color panel and cannot be adjusted.
- Image quality may decline after performing Panel Alignment.
- Images for pixels that extend beyond the edge of the projected screen are not displayed.

1 Press the [Menu] button, select the **Display** menu, and then press [Enter].

Frequently Used Items	Display	
Image	No-signal Screen	Blue
Signal I/O	Startup Screen	On
Installation	Messages	On
Display	Menu Color	White
Operation	Standby Confirmation	On
Management	Panel Alignment	Off
Network	Reset Display Settings	
Memory	Operation	
Initial/All Settings	Direct Power On	Off
	Sleep Mode	On
	Sleep Mode Timer	10 min.
	Standby Mode	Communication On
	Indicators	On
	Trigger Out	Off
	Inv Direction Button	Off
	Reset Operation Settings	
	Management	

2 Select **Panel Alignment** and press [Enter].

3 Select **Panel Alignment** and set it to **On**.

Frequently Used Items	Display	
Image	No-signal Screen	Blue
Signal I/O	Startup Screen	On
Installation	Messages	On
Display	Menu Color	White
Operation	Standby Confirmation	On
Management	Panel Alignment	On
Network	Select Color	R
Memory	Pattern Color	R/G/B
Initial/All Settings	Start Adjustments	
	Memory	
	Reset	
	Reset Display Settings	
	Operation	
	Direct Power On	Off
	Sleep Mode	On
	Sleep Mode Timer	10 min.
	Standby Mode	Communication On

4 Select **Select Color** and choose one of the following:

- **R** to adjust the red color convergence.
- **B** to adjust the blue color convergence.

5 Select **Pattern Color** and choose the grid color displayed when making adjustments. The available color varies depending on the **Select Color** setting.

- **R/G/B** to display the grid color in white.
- **R/G** to display the grid color in yellow.
- **G/B** to display the grid color in cyan.

6 Select **Start Adjustments** and press [Enter].

- 7** Select one of the following options:
- Select **Shift the whole panel** to adjust the entire panel at the same time and go to the next step.
 - Select **Adjust the four corners** to adjust the corners of the panel one at a time and go to step 10.

- 8** Use the arrow buttons on the remote control to adjust the color alignment selected in **Select Color**, and then press [Enter].



Adjustment affects the grid lines in the entire screen.

- 9** Select one of the following options:
- Select **Adjust the four corners** to fine-tune your adjustments.
 - Select **Exit** to finish adjustments.
- 10** Use the arrow buttons on the remote control to adjust the color alignment of the screen corner highlighted by the orange box, and then press [Enter].

- 11** When you are finished adjusting each corner of the screen, press [Enter].

- 12** Select one of the following options:
- If your projector needs additional panel alignment, select **Select intersection and adjust**. Use the arrow buttons on the remote control to highlight the corner of any misaligned box on the screen, press [Enter], make any necessary adjustments, and then press [Enter] again. Repeat this step as necessary for the other intersections.
 - Select **Exit** to finish adjustments.

- 13** If you want to save the color convergence in the projected image you have adjusted, select **Memory > Save Memory**.


When you select the **Firmware Update** option in the projector's **Initial/All Settings** menu, the projector enters firmware update mode and is ready to perform a firmware update using the USB-A or Service port.

» **Related Links**

- "Updating Firmware Using a USB Storage Device" [p.102](#)
- "Updating Firmware Using a Computer and USB Cable" [p.103](#)


Updating Firmware Using a USB Storage Device

You can update the projector's firmware using a USB storage device.


 Responsibility for updating the firmware lies with the customer. If a firmware update fails due to problems such as a power failure or communication problems, a fee will be charged for any necessary repairs.

1 Download the projector firmware file from the Epson Web site.

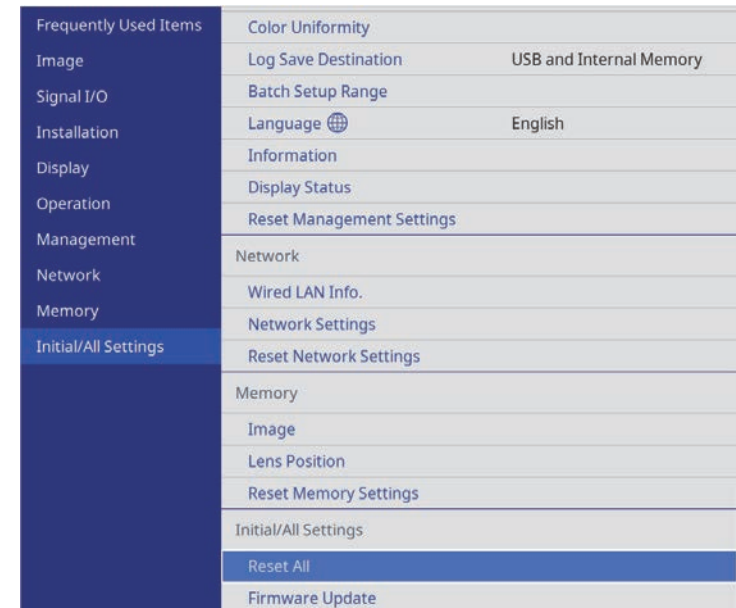
2 Copy the downloaded firmware file to the root folder (highest folder in the hierarchy) of the USB storage device.

- 
- The USB storage device must be formatted in FAT format.
 - Do not copy any other files to the USB storage device.
 - Do not change the firmware's file name. If the file name is changed, the firmware update will not start.
 - Check that the firmware file you copied is the correct file for your projector model. If the firmware file is not correct, the firmware update will not start.

3 Connect the USB storage device to the projector's USB-A port.


 Connect the USB storage device directly to the projector. If the USB storage device is connected using a USB hub, the firmware update may not be applied correctly.

4 Press the [Menu] button, select the **Initial/All Settings** menu, and press [Enter].



5 Select **Firmware Update** and press [Enter].

6 Select **Yes** to start the firmware update.

- 
- Do not disconnect the power cord from the projector while the firmware is updating. If the power cord is disconnected, the projector may not start correctly.
 - Do not disconnect the USB storage device from the projector while the firmware is updating. If the USB storage device is disconnected, the update may not be applied correctly.

All of the projector's indicators start flashing and the firmware update starts. When the update finishes normally, the projector enters standby status (only the power indicator is lit blue). If **Direct Power On** is set to

On in the projector's **Operation** menu, the projector turns back on again.

When the update finishes, check the **Information** menu in the projector's **Management** menu to make sure that the **Version** information has been updated to the correct firmware version.



When all indicators flash rapidly, the firmware update may have failed. Disconnect the power cord from the projector, and then reconnect it to the projector. If the indicators continue to flash even after reconnecting the power cord, remove the power plug from the electrical outlet and contact Epson.



- Do not change the firmware's file name. If the file name is changed, the firmware update will not start.
- Check that the firmware file you copied is the correct file for your projector model. If the firmware file is not correct, the firmware update will not start.

2

Connect the USB cable to the computer's USB port and to the projector's Service port.

3

Press the [Menu] button, select the **Initial/All Settings** menu, and press [Enter].

Updating Firmware Using a Computer and USB Cable

You can update the projector's firmware using a computer and a USB cable.



- Responsibility for updating the firmware lies with the customer. If a firmware update fails due to problems such as a power failure or communication problems, a fee will be charged for any necessary repairs.
- Your computer must be running one of the following operating systems to update the firmware.
 - Windows 8.1 (32- and 64-bit)
 - Windows 10 (32- and 64-bit)
 - macOS 10.13.x (64-bit)
 - macOS 10.14.x (64-bit)
 - macOS 10.15.x (64-bit)

Frequently Used Items	Color Uniformity	
Image	Log Save Destination	USB and Internal Memory
Signal I/O	Batch Setup Range	
Installation	Language	English
Display	Information	
Operation	Display Status	
Management	Reset Management Settings	
Network	Network	
Memory	Wired LAN Info.	
Initial/All Settings	Network Settings	
	Reset Network Settings	
	Memory	
	Image	
	Lens Position	
	Reset Memory Settings	
	Initial/All Settings	
	Reset All	
	Firmware Update	

1

Download the projector firmware file from the Epson Web site.

4

Select **Firmware Update** and press [Enter].

5

Select **Yes** to start the firmware update.



Do not disconnect the power cord from the projector while the firmware is updating. If the power cord is disconnected, the projector may not start correctly.

All of the projector's indicators turn on and the projector enters firmware update mode. The computer recognizes the projector as a removable disk.

- 6** On the computer, copy the firmware file to the root folder (highest folder in the hierarchy) of the removable disk.



- Do not copy any other files or folders to the removable disk. Otherwise, the files or folders may be lost.
- The projector turns off automatically if the USB cable or the power cord are disconnected before the firmware file can be copied to the removable disk. If this occurs, perform the procedure again.

- 7** Perform the steps to safely remove a USB device from the computer and disconnect the USB cable from the projector.

All of the projector's indicators start flashing and the firmware update starts. When the update finishes normally, the projector enters standby status (only the power indicator is lit blue). If **Direct Power On** is set to **On** in the projector's **Operation** menu, the projector turns back on again.

When the update finishes, check the **Information** menu in the projector's **Management** menu to make sure that the **Version** information has been updated to the correct firmware version.



- When all indicators flash rapidly, the firmware update may have failed. Disconnect the power cord from the projector, and then reconnect it to the projector. If the indicators continue to flash even after reconnecting the power cord, remove the power plug from the electrical outlet and contact Epson.
- If no operations are performed for 20 minutes in update mode, the projector turns off automatically. If this occurs, perform the procedure again.

Solving Problems

Check the solutions in these sections if you have any problems using the projector.

► Related Links

- "Projection Problems" [p.106](#)
- "Projector Indicator Status" [p.107](#)
- "Viewing the Status Display" [p.109](#)
- "Solving Projector Power-On or Power-Off Problems" [p.111](#)
- "Solving Image Problems" [p.112](#)
- "Solving Sound Problems" [p.116](#)
- "Solving Remote Control Operation Problems" [p.117](#)
- "Solving HDMI Link Problems" [p.118](#)

If the projector is not working properly, turn it off, unplug it, and then plug it back in and turn it on.

If this does not solve the problem, check the following:

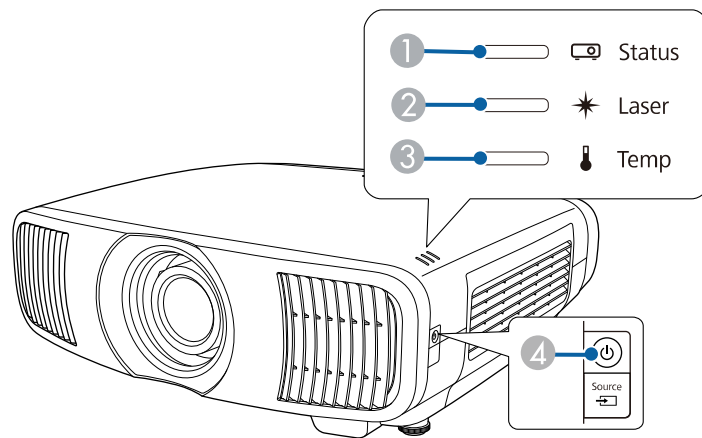
- The indicators on the projector may indicate the problem.
- The solutions in this manual can help you solve many problems.

If none of these solutions help, contact Epson for technical support.

The indicators on the projector indicate the projector status and let you know when a problem occurs. Check the status and color of the indicators and then refer to this table for a solution.



- If the indicators display a pattern not listed in the table below, turn the projector off, unplug it, and contact Epson for help.
- When the **Indicators** setting is set to **Off** in the projector's **Operation** menu, all indicators are off under normal projection conditions.



- ① Status indicator
- ② Laser indicator
- ③ Temp (temperature) indicator
- ④ On/Standby (power) indicator

Projector status

Indicator and status	Problem and solutions
Power: Lit blue Status: Lit blue Laser: Off Temp: Off	Normal operation.
Power: Lit blue Status: Flashing blue Laser: Off Temp: Off	Warming up, shutting down, or cooling down. When warming up, wait about 30 seconds for an image to appear. All buttons are disabled during warm-up, shutting down, and cooling down.
Power: Off Status: Off Laser: Off Temp: Off	Standby or sleep mode. When you press the power button, projection starts.
Power: Flashing blue Status: Off Laser: Off Temp: Off	Preparing for monitoring and all features are disabled.
Power: Lit blue Status: Off Laser: Off Temp: Off	Monitoring.
Power: Flashing blue Status: Indicator status varies Laser: Indicator status varies Temp: Flashing orange	Projector is too hot. <ul style="list-style-type: none"> • Make sure that the vents and air filter are not clogged with dust or obstructed by nearby objects. • Clean or replace the air filter. • Make sure the environmental temperature is not too hot.

Indicator and status	Problem and solutions
Power: Off Status: Flashing blue Laser: Off Temp: Lit orange	Projector has overheated and turned off. Leave it turned off to cool down for 5 minutes. <ul style="list-style-type: none"> • Make sure that the vents and air filter are not clogged with dust or obstructed by nearby objects. • Make sure the environmental temperature is not too hot. • Clean or replace the air filter. • If operating the projector at high altitude, set the High Altitude Mode setting to On in the projector's Installation menu. • If the problem persists, unplug the projector and contact Epson for help.
Power: Flashing blue Status: Indicator status varies Laser: Flashing orange Temp: Indicator status varies	Laser warning. Turn the projector off, unplug it, and contact Epson for help.
Power: Off Status: Flashing blue Laser: Lit orange Temp: Off	Laser has a problem. Turn the projector off, unplug it, and contact Epson for help.
Power: Off Status: Flashing blue Laser: Off Temp: Flashing orange	A fan or sensor has a problem. Turn the projector off, unplug it, and contact Epson for help.
Power: Off Status: Flashing blue Laser: Flashing orange Temp: Off	Internal projector error. Turn the projector off, unplug it, and contact Epson for help.

- "Cleaning the Air Filters and Intake Vents" [p.95](#)
- "Replacing the Air Filter" [p.97](#)

» **Related Links**

- "Projector Feature Settings - Operation Menu" [p.81](#)
- "Projector Installation Settings - Installation Menu" [p.79](#)

You can monitor the projector's status and view error information from the status display.

- 1** Turn on the projector.
- 2** Press the [Menu] button on the control panel or remote control.
- 3** Select the **Management** menu and press [Enter].

Frequently Used Items	Management
Image	Lens Lock Off
Signal I/O	Child Lock Off
Installation	Control Panel Lock Off
Display	Color Uniformity
Operation	Log Save Destination USB and Internal Memory
Management	Batch Setup Range
Network	Language English
Memory	Information
Initial/All Settings	Display Status
	Reset Management Settings
	Network
	Wired LAN Info.
	Network Settings
	Reset Network Settings
	Memory
	Image
	Lens Position

- 4** Select **Display Status** and press [Enter].
- 5** Press the left or right arrow buttons to view different categories of information.

» **Related Links**

- "Projector Status Display Messages" [p.109](#)

Projector Status Display Messages

Categories on the status display let you view information about the projector and its operation. See the *Supplemental Guide for Display Status Menu* for details.

Status messages are available only in English.

System category: Displays the system status.

Information	Description
<1/3>	Displays the main status.
System Status	Displays the operating status of the system.
Laser Status	Displays the operating status of the light source.
Last Event	Displays the latest warnings or errors.
Intake Air Temp	Displays the air intake temperature.
Internal Temp Lv	Displays the projector's internal temperature in five levels.
<2/3>	Displays the operation time and light source information.
Operation Time	Displays the projector's total operation time.
Laser Op. Time	Displays the total operation time of the laser light source.
<3/3>	Displays the status of the current input source.
Source	Displays the current source.
Signal Status	Displays the identification results of signals.
Resolution	Displays the resolution.
Refresh Rate	Displays the refresh rate and scanning method.
ColorSamp./Depth	Displays the color sampling and bit depth.
Color Space	Displays the color space.
Dynamic Range	Displays the dynamic range.
Video Range	Displays the video range.
Frame Interp.	Displays the status of Frame Interpolation.

Version category: Displays the serial number and firmware version.

Information	Description
Serial Number	Displays the serial number.
Main	Displays the main version information.
Video2	Displays the embedded software version.
Sub	Displays the embedded software version.
HDMI	Displays the embedded software version.
Pixel Shift	Displays the embedded software version.

Network Wired category: Displays the wired network status.

Information	Description
Projector Name	Displays the name used to identify the projector when connected to a network.
Connection Mode	Displays the connection path for a wired network.
DHCP	Displays the DHCP settings.
IP Display	Displays the IP address display settings.
IP Address	Displays the IP address.
MAC Address	Displays the MAC address.

Input Signal category: Displays the signal status of the current input source.

Information	Description
<1/3>	-
Sync Detect(5V)	Displays the detection results of signals.
Signal Status	Displays the identification results of signals.
Resolution	Displays the resolution.
Refresh Rate	Displays the refresh rate and scanning method.
ColorSamp./Depth	Displays the color sampling and bit depth.

Information	Description
Color Space	Displays the color space.
Dynamic Range	Displays the dynamic range.
Video Range	Displays the video range.
HDCP Status/Ver	Displays the HDCP status and version.
Trans. Type	Displays the transmission method.
Stable Time	Displays the amount of operating time since the signal changed.
<2/3>	-
Signal Mode	Displays the signal mode.
AVI VIC/Chk.Sum	Displays the VIC code and checksum for AVI InfoFrame.
CLK-MHz/Frame-Hz	Displays the actual measurement value of the pixel clock frequency and refresh rate.
Total-H/V	Displays the total number of pixels and lines including the number of effective pixels and blanking.
Sync Polarity	Displays the sync polarity of the horizontal and vertical sync signals.
EDID Mode	Displays the EDID mode.
Equalizer Level	Displays the equalizer level.
<3/3>	-
Audio Type	Displays the audio signal type input to the source device from the HDMI port.
Audio Freq/Depth	Displays the audio signal frequency and bit depth input to the source device from the HDMI port.
GCP A/V Mute	Displays the A/V Mute status of GCP packets.
DDC Status	Displays the source device and DDC communication status.

» **Related Links**

- "Getting the Latest Version of the Documents" [p.7](#)

Check the solutions in these sections if the projector does not turn on when you press the power button or it turns off unexpectedly.

» **Related Links**

- "Solving Projector Power Problems" [p.111](#)
- "Solving Projector Shutdown Problems" [p.111](#)

Solving Projector Power Problems

If the projector does not turn on when you press the power button, try the following steps until the problem is solved.

- 1** Make sure the power cord is securely connected to the projector and to a working electrical outlet.
- 2** If you are using the remote control, check the batteries of the remote control.
- 3** The projector's buttons may be locked for security. Unlock the buttons in **Control Panel Lock** or **Child Lock** in the projector's **Management** menu, or use the remote control to turn on the projector.
- 4** The power cord may be defective. Disconnect the cord and contact Epson for help.

» **Related Links**

- "Projector Administration Settings - Management Menu" [p.82](#)

Solving Projector Shutdown Problems

If the projector's light source turns off unexpectedly, try the following steps until the problem is solved.

- 1** The projectors may have entered sleep mode after a period of inactivity. Perform any operation to wake the projector. To turn off sleep mode, set **Sleep Mode** to **Off** in the projector's **Operation** menu.
- 2** If the projector's light source turns off, the status indicator is flashing, and the temp (temperature) indicator is lit, the projector has overheated and turned off.

» **Related Links**

- "Projector Feature Settings - Operation Menu" [p.81](#)

Check the solutions in these sections if you have any problems with projected images.

» Related Links

- "Solving Missing Image Problems" [p.112](#)
- "Adjusting an Image that is not Rectangular" [p.113](#)
- "Adjusting a Fuzzy or Blurry Image" [p.113](#)
- "Fixing Partial Image Problems" [p.113](#)
- "Adjusting an Image that Contains Noise or Static" [p.114](#)
- "Adjusting an Image with Incorrect Brightness or Colors" [p.114](#)
- "Adjusting an Upside-down Image" [p.115](#)
- "Synchronizing Image and Sound" [p.115](#)

Solving Missing Image Problems

If no image is displayed, try the following steps until the problem is solved.

- 1** Check the projector's status:
 - Press the [Blank] button on the remote control to see if the image was temporarily turned off.
 - Check the status indicator to confirm that the projector is in normal operating status.
 - Press the projector's power button to wake it from standby or sleep mode. Also, check if the connected computer is in sleep mode or displaying a blank screen saver.
To turn off sleep mode, set **Sleep Mode** to **Off** in the projector's **Operation** menu.

- 2** Check the cable connection:
 - Make sure all necessary cables are securely connected and the power is on for the projector.
 - Connect the video source directly to the projector.
 - Replace the HDMI cable with the shorter one.

- Make sure you selected the correct **Signal Format** or **EDID** setting in the projector's **Signal I/O** menu, if available for your image source.

- 3** Check the status of your video source:
 - Turn on the connected video source, and press the play button to start a video, if necessary.
 - If you are projecting from a streaming media player, make sure it is powered by the power supply USB cable on the projector.
 - Make sure the connected device meets the HDMI CEC standard. See the documentation supplied with the device for more information.
 - If you are projecting from a laptop computer, make sure it is set up to display on an external monitor.
- 4** Check the following items:
 - Turn off the projector and the connected video source, and then turn them back on.
 - Set the CEC function for the connected device again and restart the device.
 - Make sure the computer's display resolution does not exceed the projector's resolution and frequency limits. If necessary, select a different display resolution for your computer. (See your computer manual for details.)
 - If the other solutions do not solve the problem, reset all of the projector settings using **Reset All Config** on the **Initial/All Settings** menu.

» Related Links

- "Projector Feature Settings - Operation Menu" [p.81](#)
- "Projector Initial Settings and Reset Options - Initial/All Settings Menu" [p.87](#)

Adjusting an Image that is not Rectangular

If the projected image is not evenly rectangular, try the following steps until the problem is solved.

- 1** Place the projector directly in front of the center of the screen, facing it squarely, if possible.
- 2** Adjust the image shape using the **Geometry Correction** settings (EH-LS12000B) or the **H/V-Keystone** setting (EH-LS11000W) in the projector's **Installation** menu.
 - Adjust the **H/V-Keystone** setting to correct the image shape.
 - ☛ **Installation > Geometry Correction > H/V-Keystone**
 - ☛ **Installation > H/V-Keystone**
 - Adjust the **Quick Corner** setting to correct the image shape (EH-LS12000B).
 - ☛ **Installation > Geometry Correction > Quick Corner**
 - Adjust the **Point Correction** setting to correct slight distortion which occurs partially (EH-LS12000B).
 - ☛ **Installation > Geometry Correction > Point Correction**

» Related Links

- "Projector Installation Settings - Installation Menu" [p.79](#)

Adjusting a Fuzzy or Blurry Image

If the projected image is fuzzy or blurry, try the following steps until the problem is solved.

- 1** Adjust the image focus using the [Lens] button on the control panel or remote control.
- 2** Position the projector close enough to the screen.

- 3** Clean the projector's lens.



To avoid condensation on the lens after bringing the projector in from a cold environment, let the projector warm up to room temperature before using it.

- 4** Adjust the **Sharpness** setting in the projector's **Image** menu to improve image quality.
- 5** If you are projecting from a computer, use a lower resolution or select a resolution that matches the projector's native resolution.

» Related Links

- "Image Quality Settings - Image Menu" [p.75](#)
- "Focusing the Image with the Lens Button" [p.43](#)

Fixing Partial Image Problems

If only a partial image is displayed, try the following steps until the problem is solved.

- 1** Adjust the size of the projected image using the [Lens] button on the control panel or remote control.
- 2** Press the [Aspect] button on the remote control to select a different image aspect ratio.
- 3** Make sure you selected the correct projection mode. You can select this using the **Projection** setting in the projector's **Installation** menu.
- 4** If you are projecting from a computer, check your computer display settings to disable dual display and set the resolution within the projector's limits. (See your computer manual for details.)

» Related Links

- "Changing the Image Aspect Ratio" [p.45](#)
- "Projector Installation Settings - Installation Menu" [p.79](#)
- "Resizing the Image with the Zoom Feature" [p.42](#)

Adjusting an Image that Contains Noise or Static

If the projected image contains electronic interference (noise) or static, try the following steps until the problem is solved.

- 1** Check the cables connecting your video source to the projector. They should be:
 - Separated from the power cord to prevent interference
 - Securely connected at both ends
 - Not connected to an extension cable
- 2** Adjust the **Noise Reduction**, **MPEG Noise Reduction**, and **Deinterlacing** settings in the projector's **Image** menu.
 - ☛ **Image** > **Image Enhancement** > **Noise Reduction**
 - ☛ **Image** > **Image Enhancement** > **MPEG Noise Reduction**
 - ☛ **Image** > **Image Enhancement** > **Deinterlacing**
- 3** If you adjusted the image shape using the projector controls, try decreasing the **Sharpness** setting in the projector's **Image** menu to improve image quality.
- 4** Make sure you selected the correct **Signal Format** or **EDID** setting in the projector's **Signal I/O** menu.
- 5** Change the **HDMI IN EQ Level** setting in the projector's **Signal I/O** menu.
- 6** If you connected an extension power cable, try projecting without it to see if it caused interference in the signal.

- 7** If you are projecting from a computer, select a computer video resolution and refresh rate that are compatible with the projector.

- 8** If you connected an A/V system that does not support eARC/ARC to the HDMI2 (eARC/ARC) port, the image may be distorted.

» Related Links

- "Image Quality Settings - Image Menu" [p.75](#)
- "Input Signal Settings - Signal I/O Menu" [p.77](#)

Adjusting an Image with Incorrect Brightness or Colors

If the projected image is too dark or bright, or the colors are incorrect, try the following steps until the problem is solved.

- 1** Press the [Color Mode] button on the remote control to try different color modes for the image and environment.
- 2** Check your video source settings.
- 3** Adjust the available settings in the projector's **Image** menu for the current input source, such as **Brightness**, **Contrast**, **Tint**, **Color Saturation**, and **RGBCMY**.
- 4** Make sure you selected the correct **Dynamic Range** setting in the projector's **Signal I/O** menu.
- 5** Make sure you selected the correct **Signal Format** or **EDID** setting in the projector's **Signal I/O** menu.
- 6** Make sure all the cables are securely connected to the projector and your video equipment. If you connected long cables, try connecting shorter cables.

7 Position the projector close enough to the screen.

» **Related Links**

- "Image Quality Settings - Image Menu" [p.75](#)
- "Input Signal Settings - Signal I/O Menu" [p.77](#)

Adjusting an Upside-down Image

If the projected image is upside-down, select the correct projection mode.

☛ **Installation > Projection**

» **Related Links**

- "Projector Installation Settings - Installation Menu" [p.79](#)

Synchronizing Image and Sound

If the projected image and the output sound are not in sync, try the following steps until the problem is solved.

- 1** When **Image Processing** is set to **Fine** in the projector's **Signal I/O** menu, set **Frame Interpolation** to **Off** in the projector's **Image** menu.
- 2** Set **Image Processing** to **Fast** in the projector's **Signal I/O** menu.
- 3** Select the sound output settings of the video devices connected to the projector. For details, see the documentation supplied with your video device.

If there is no sound or the volume is too low, try the following steps until the problem is solved.

- 1** Check the cable connections between the projector and your video/audio source.
- 2** Check your video/audio source to make sure the volume is turned up and the audio output is set for the correct source.
- 3** If you are using an eARC/ARC-compatible A/V system, check the following items:
 - Make sure your A/V system is connected to the projector's eARC/ARC compatible HDMI port. See the *Supplemental A/V Support Specification* for eARC/ARC audio supported formats.
 - Make sure the cable meets the HDMI CEC standard.
 - Make sure the connected A/V system meets the HDMI CEC standard. See the documentation supplied with the device for more information.

If the projector does not respond to remote control commands, try the following steps until the problem is solved.



If you lose the remote control, you can order another one from Epson.

- 1** Check that the remote control batteries are installed correctly and have power. If necessary, replace the batteries.
- 2** Check to see if a button on the remote control is stuck down, causing it to enter sleep mode. Release the button to wake the remote control up.
- 3** If the image is projected from the projector, make sure you are operating the remote control within the reception angle and range of the projector.
- 4** Check the indicators to confirm that the projector is in normal operating status.
- 5** Strong fluorescent lighting, direct sunlight, or infrared device signals may be interfering with the projector's remote receivers. Dim the lights or move the projector away from the sun or interfering equipment.

» Related Links

- "Remote Control Operation" [p.29](#)
- "Projector Indicator Status" [p.107](#)
- "Installing Batteries in the Remote Control" [p.28](#)

If you cannot operate the connected devices using the HDMI Link features, try the following steps until the problem is solved.

- 1** Make sure the cable meets the HDMI CEC standard.
- 2** Make sure the connected device meets the HDMI CEC standard. See the documentation supplied with the device for more information.
- 3** Check if the device is available in the **Device Connections** list.
If the device does not appear in the **Device Connections** list, it does not meet the HDMI CEC standards. Connect a different device.
☛ **Signal I/O > HDMI Link > Device Connections**
- 4** Check that all cables required for HDMI Link are securely connected.
- 5** Make sure the connected devices are turned on and in standby status. See the documentation supplied with the device for more information.
- 6** If you connect a new device or change the connection, set the CEC function for the connected device again and restart the device.

» **Related Links**

- "Input Signal Settings - Signal I/O Menu" [p.77](#)
- "Operating the Connected Devices Using the HDMI Link Features" [p.60](#)

Appendix

Check these sections for the technical specifications and important notices about your product.

► **Related Links**

- "Optional Accessories and Replacement Parts" [p.120](#)
- "Screen Size and Projection Distance" [p.121](#)
- "Supported Monitor Display Resolutions" [p.123](#)
- "Projector Specifications" [p.124](#)
- "External Dimensions" [p.126](#)
- "List of Safety Symbols and Instructions" [p.127](#)
- "Laser Safety Information" [p.129](#)
- "Glossary" [p.131](#)
- "Notices" [p.132](#)

The following optional accessories and replacement parts are available. Please purchase these products as and when needed.

The following list of optional accessories and replacement parts is current as of: July 2021.

Details of accessories are subject to change without notice and availability may vary depending on the country of purchase.

► Related Links

- "Mounts" [p.120](#)
- "External Devices" [p.120](#)
- "Replacement Parts" [p.120](#)

Mounts

Ceiling mount ELPMB22

Ceiling mount (Low profile) ELPMB30

Use when installing the projector on a ceiling.

Safety Wire Set ELPWR01

Use when connecting the projector to the installation mount to prevent the projector from falling down.

Ceiling pipe (450 mm) ELPFP13

Ceiling pipe (700 mm) ELPFP14

Use when installing the projector on a high ceiling.



Special expertise is required to suspend the projector from a ceiling. Contact Epson for help.

External Devices

Android TV™ device ELPAP12

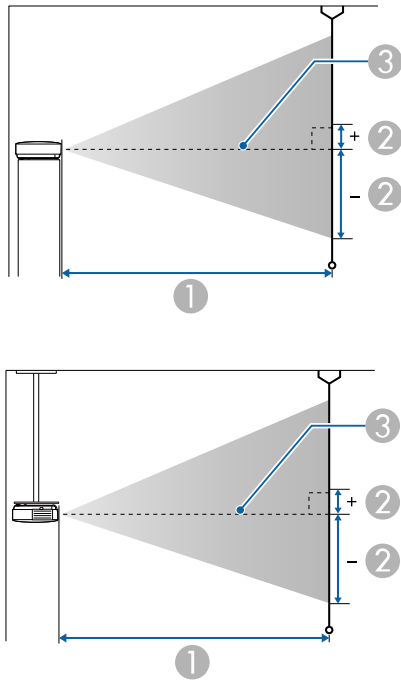
Use this streaming media player to watch online content.

Replacement Parts

Air filter ELPAF62

Use as a replacement for used air filters.

Check the table here to determine how far to place the projector from the screen based on the size of the projected image.



- ① Projection distance (cm)
- ② Distance from the center of the lens to the base of the screen (This changes depending on the setting for vertical lens shift.) (cm)
- ③ Center of lens

16:9 screen size		①	②
		Minimum (Wide) to Maximum (Tele)	Vertical Lens Shift Bottom to Top
80"	177 × 100	239 - 503	-146 - 46
100"	221 × 125	300 - 630	-182 - 58
150"	332 × 187	452 - 947	-273 - 86
200"	443 × 249	604 - 1264	-364 - 115
250"	553 × 311	756 - 1582	-455 - 144
300"	664 × 374	908 - 1899	-547 - 173

4:3 screen size		①	②
		Minimum (Wide) to Maximum (Tele)	Vertical Lens Shift Bottom to Top
50"	102 × 76	182 - 384	-111 - 35
60"	122 × 91	219 - 462	-134 - 42
80"	163 × 122	293 - 617	-178 - 56
100"	203 × 152	368 - 772	-223 - 71
120"	244 × 183	442 - 927	-268 - 85
150"	305 × 229	554 - 1160	-334 - 106
200"	406 × 305	740 - 1548	-446 - 141
220"	447 × 335	814 - 1704	-491 - 155
244.8"	497 × 373	906 - 1896	-546 - 173

16:10 screen size		①	②
		Minimum (Wide) to Maximum (Tele)	Vertical Lens Shift Bottom to Top
50"	108 × 67	160 - 339	-98 - 31
60"	129 × 81	193 - 407	-118 - 37
80"	172 × 108	259 - 544	-158 - 50

16:9 screen size		①	②
		Minimum (Wide) to Maximum (Tele)	Vertical Lens Shift Bottom to Top
50"	111 × 62	148 - 313	-91 - 29
60"	133 × 75	178 - 376	-109 - 35

16:10 screen size		①	②
		Minimum (Wide) to Maximum (Tele)	Vertical Lens Shift Bottom to Top
100"	215 × 135	324 - 682	-197 - 62
120"	258 × 162	390 - 819	-236 - 75
150"	323 × 202	489 - 1024	-295 - 93
200"	431 × 269	653 - 1367	-394 - 125
250"	538 × 337	817 - 1710	-492 - 156
277.2"	597 × 373	907 - 1897	-546 - 173

See the *Supplemental A/V Support Specification* for detailed information on compatible refresh rates and resolutions for each compatible video display format.

► **Related Links**

- "Getting the Latest Version of the Documents" [p.7](#)

Product name	EH-LS12000B/EH-LS11000W
Dimensions	520 (W) × 169 (H) × 447 (D) mm (not including raised section)
LCD panel size	0.74"
Display method	Poly-silicon TFT active matrix
Resolution	2,073,600 pixels Full HD (1,920 (W) × 1,080 (H) dots) × 3
Focus adjustment	Powered
Zoom adjustment	1.0 to 2.1 (Optical Zoom)
Lens Shift	Powered Maximum vertical direction: Approx. ±96.3% Maximum horizontal direction: Approx. ±47.1%
Light source	Laser diode
Light source output power	EH-LS12000B: Up to 80 W EH-LS11000W: Up to 72 W
Wavelength	449 to 461 nm
Laser class	Class 4
Light source operation time *	Up to about 20,000 hours
Speaker	N/A
Power supply	EH-LS12000B: 100-240V AC±10% 50/60Hz 3.2 - 1.5 A EH-LS11000W: 100-240V AC±10% 50/60Hz 3.2 - 1.5 A
Operating power consumption (100 to 120 V area)	311 W
Operating power consumption (220 to 240 V area)	302 W

Standby power consumption	Communication On: 2.0 W Communication Off: 0.4 W
Operating altitude	Altitude 0 to 3,048 m
Operating temperature **	Altitude of 0 to 2,286 m: +5 to +35°C (Humidity of 20 to 80%, No condensation) Altitude of 2,287 to 3,048 m: +5 to +30°C (Humidity of 20 to 80%, No condensation)
Storage temperature	-10 to +60°C (Humidity of 10 to 90%, No condensation)
Mass	Approx. 12.7 kg

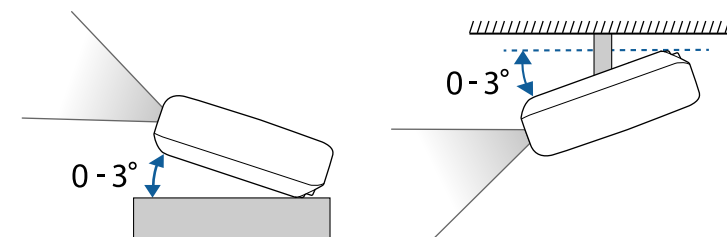
* Approximate time until the light source brightness decreases to half of its original value. (Assuming the projector is being used in an environment containing airborne particles of 0.04 to 0.2 mg/m³. This is an approximate guide only and may change depending on the projector's usage and surroundings.)

** Light source brightness automatically dims if the surrounding temperature gets too high. (Approximately 35°C at an altitude of 0 to 2,286 m, and approximately 30°C at an altitude of 2,287 to 3,048 m; however, this may vary depending on the surrounding environment.)

This product is also designed for IT power distribution system with phase-to-phase voltage 230V.

Angle of tilt

If you use the projector tilted at an angle greater than the one shown in the following illustration, it could be damaged and cause an accident.



» Related Links

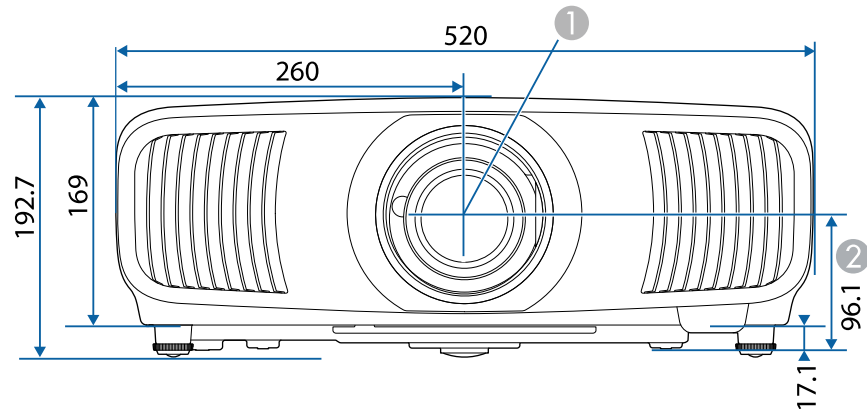
- "Connector Specifications" [p.125](#)

Connector Specifications

USB-A port	1	USB connector (Type A)
Service port	1	USB connector (Type B)
Trigger Out port	1	Stereo mini pin jack
LAN port	1	RJ-45
Opt.HDMI (300mA) port	1	Power supply connector for optical HDMI cable
HDMI1 port	1	HDMI
HDMI2 (eARC/ARC) port	1	HDMI
RS-232C port	1	Mini D-Sub 9-pin (male)

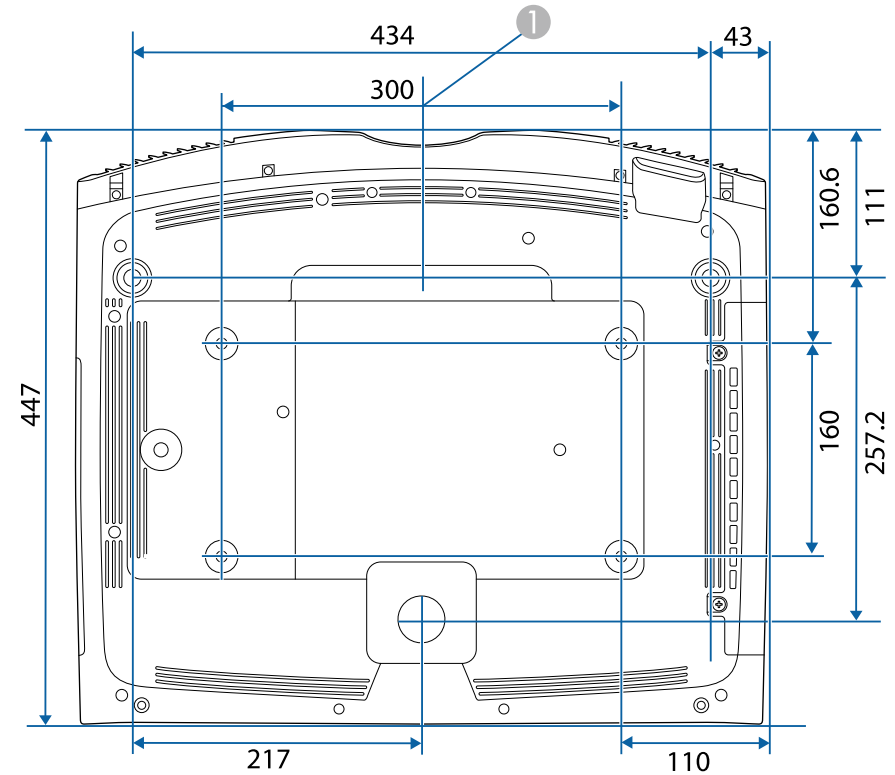


- USB-A and USB-B port supports USB 2.0. However, USB ports are not guaranteed to operate all devices that support USB.
- USB-B port does not support USB 1.1.











1 Center of lens (when the lens is positioned in the center)









2 Distance from center of lens to suspension bracket fixing point




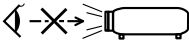











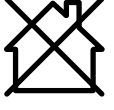
The unit in these illustrations is mm.

The following table lists the meaning of the safety symbols labeled on the equipment.

No.	Symbol mark	Approved standards	Description
1		IEC60417 No. 5007	"ON" (power) To indicate connection to the mains.
2		IEC60417 No. 5008	"OFF" (power) To indicate disconnection from the mains.
3		IEC60417 No. 5009	Stand-by To identify the switch or switch position by means of which part of the equipment is switched on in order to bring it into the stand-by condition.
4		ISO7000 No. 0434B, IEC3864-B3.1	Caution To identify general caution when using the product.
5		IEC60417 No. 5041	Caution, hot surface To indicate that the marked item can be hot and should not be touched without taking care.
6		IEC60417 No. 6042 ISO3864-B3.6	Caution, risk of electric shock To identify equipment that has risk of electric shock.
7		IEC60417 No. 5957	For indoor use only To identify electrical equipment designed primarily for indoor use.
8		IEC60417 No. 5926	Polarity of d.c. power connector To identify the positive and negative connections (the polarity) on a piece of equipment to which a d.c. power supply may be connected.

No.	Symbol mark	Approved standards	Description
9		—	The same as No. 8.
10		IEC60417 No. 5001B	Battery, general On battery powered equipment. To identify a device for instance a cover for the battery compartment, or the connector terminals.
11		IEC60417 No. 5002	Positioning of cell To identify the battery holder itself and to identify the positioning of the cell(s) inside the battery holder.
12		—	The same as No. 11.
13		IEC60417 No. 5019	Protective earth To identify any terminal which is intended for connection to an external conductor for protection against electric shock in case of a fault, or the terminal of a protective earth electrode.
14		IEC60417 No. 5017	Earth To identify an earth (ground) terminal in cases where neither the symbol No. 13 is explicitly required.
15		IEC60417 No. 5032	Alternating current To indicate on the rating plate that the equipment is suitable for alternating current only; to identify relevant terminals.
16		IEC60417 No. 5031	Direct current To indicate on the rating plate that the equipment is suitable for direct current only; to identify relevant terminals.

No.	Symbol mark	Approved standards	Description
17		IEC60417 No. 5172	Class II equipment To identify equipment meeting the safety requirements specified for Class II equipment according to IEC 61140.
18		ISO 3864	General prohibition To identify actions or operations that are prohibited.
19		ISO 3864	Contact prohibition To indicate injury that could occur due to touching a specific part of the equipment.
20		—	Never look into the optical lens while the projector is on.
21		—	To indicate that the marked item don't place anything on projector.
22		ISO3864 IEC60825-1	Caution, laser radiation To indicate the equipment has a laser radiation part.
23		ISO 3864	Disassembly prohibition To indicate a risk of injury, such as electric shock, if the equipment is disassembled.
24		IEC60417 No. 5266	Standby, partial standby To indicate that part of the equipment is in the ready status.
25		ISO3864 IEC60417 No. 5057	Caution, movable parts To indicate that you must keep away from movable parts according to protection standards.
26		IEC60417 No. 6056	Caution (Moving Fan Blades) As a safety precaution, stay away from the moving fan blades.

No.	Symbol mark	Approved standards	Description
27		IEC60417 No. 6043	Caution (Sharp Corners) To indicate sharp corners that should not be touched.
28		—	To indicate that looking into the lens while projecting is prohibited.
29		ISO7010 No. W027 ISO 3864	Warning, Optical radiation (such as UV, visible radiation, IR) Taking care to avoid injury to eyes and skin when in the vicinity of optical radiation.
30		IEC60417 No. 5109	Not to be used in residential areas. To identify electrical equipment which is not suitable for a residential area.

This projector is a Class 1 laser product that complies with the IEC/EN60825-1:2014 international standard for lasers.

Follow these safety instructions when using the projector.

Warning

- Do not open the projector's case. The projector contains a high-powered laser.
- Possibly hazardous optical radiation emitted from this product. Do not look at operating light source. Eye injury may result.
- As with any bright source, do not stare into the beam, RG2 IEC/EN 62471-5:2015.

Caution

Do not disassemble the projector when disposing of it. Dispose according to your local or national laws and regulations.



The projector uses a laser as the light source. The laser has the following characteristics.

- Depending on the surroundings, the brightness of the light source may decline. The brightness declines a lot when the temperature gets too high.
- The brightness of the light source declines the longer it is used. You can change the relationship between usage time and decline in brightness settings.

» Related Links

- "Laser Warning Labels" [p.129](#)

Laser Warning Labels

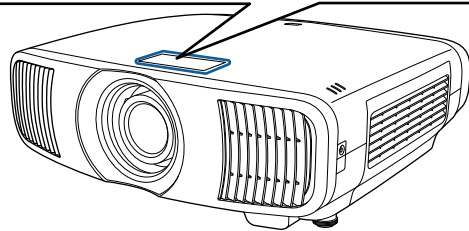
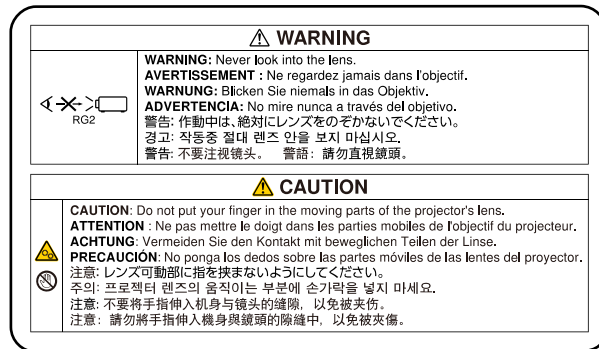
Laser warning labels are attached on the projector.

Inside



Top

As with any bright source, do not stare into the beam, RG2 IEC/EN 62471-5:2015.



- Never look into the projector lens when the laser is on. This can damage your eyes and is especially dangerous for children and pets.
- When turning on the projector at a distance using the remote control, make sure there is no one looking into the lens.
- Do not allow small children to operate the projector. Children must be accompanied by an adult.
- Do not look into the lens during projection. Also, do not look into the lens using optical devices, such as a magnifying glass or telescope. This could cause visual impairment.

For North/South America

Warning

MOUNT ABOVE THE HEADS OF CHILDREN. The use of a ceiling mount is recommended with this product to place it above the eyes of children.

Complies with FDA performance standards for laser products except for conformance as a Risk Group 2 LIP as defined in IEC 62471-5: Ed. 1.0. For more information see Laser Notice No. 57, dated May 8, 2019.

This section briefly explains the difficult terms that are not explained in the text of this guide. For details, refer to other commercially available publications.

Aspect Ratio	The ratio between an image's length and its height. Screens with a horizontal:vertical ratio of 16:9, such as HDTV screens, are known as wide screens. SDTV and general computer displays have an aspect ratio of 4:3.
Contrast	The relative brightness of the light and dark areas of an image can be increased or decreased to make text and graphics stand out more clearly, or to make them appear softer. Adjusting this particular property of an image is called contrast adjustment.
DHCP	An abbreviation of Dynamic Host Configuration Protocol, this protocol automatically assigns an IP address to equipment connected to a network.
Full HD	A screen size standard with a resolution of 1,920 (horizontal) × 1,080 (vertical) dots.
Gateway Address	This is a server (router) for communicating across a network (subnet) divided according to subnet mask.
HDCP	HDCP is an abbreviation for High-bandwidth Digital Content Protection. It is used to prevent illegal copying and protect copyrights by encrypting digital signals sent over DVI and HDMI ports. Because the HDMI port on this projector supports HDCP, it can project digital images protected by HDCP technology. However, the projector may not be able to project images protected with updated or revised versions of HDCP encryption.
HDMI™	An abbreviation for High Definition Multimedia Interface. HDMI™ is a standard aimed at digital consumer electronics and computers. This is the standard by which HD images and multichannel audio signals are digitally transmitted. By not compressing the digital signal, the image can be transferred at the highest quality possible. It also provides an encryption function for the digital signal.

HDTV	An abbreviation for High-Definition Television that refers to high-definition systems which satisfy the following conditions: <ul style="list-style-type: none"> • Vertical resolution of 720p or 1080i or greater (p = Progressive, I = Interlace) • Screen aspect ratio of 16:9
Interlace	Transmits information needed to create one screen by sending every other line, starting from the top of the image and working down to the bottom. Images are more likely to flicker because one frame is displayed every other line.
IP Address	A number to identify a computer connected to a network.
Progressive	Projects information to create one screen at a time, displaying the image for one frame. Even though the number of scan lines is the same, the amount of flicker in images decreases because the volume of information has doubled compared with an interlace system.
Refresh Rate	The light-emitting element of a display maintains the same luminosity and color for an extremely short time. Because of this, the image must be scanned many times per second to refresh the light-emitting element. The number of refresh operations per second is called the Refresh rate and is expressed in hertz (Hz).
SDTV	An abbreviation for Standard Definition Television that refers to standard television systems which do not satisfy the conditions for HDTV High-Definition Television.
sRGB	An international standard for color intervals that was formulated so that colors that are reproduced by video equipment can be handled easily by computer operating systems (OS) and the Internet. If the connected source has an sRGB mode, set both the projector and the connected signal source to sRGB.
Subnet Mask	This is a numerical value that defines the number of bits used for the network address on a divided network (subnet) from the IP address.

Check these sections for important notices about your projector.

► **Related Links**

- "FCC Compliance Statement" [p.132](#)
- "Indication of the manufacturer and the importer in accordance with requirements of EU directive" [p.133](#)
- "Indication of the manufacturer and the importer in accordance with requirements of United Kingdom directive" [p.133](#)
- "Restriction of Use" [p.133](#)
- "Operating System References" [p.133](#)
- "Trademarks" [p.134](#)
- "Copyright Notice" [p.134](#)
- "Copyright Attribution" [p.134](#)

FCC Compliance Statement

Supplier's DECLARATION of CONFORMITY

According to 47CFR, Part 2 and 15

Class B Personal Computers and Peripherals; and/or

CPU Boards and Power Supplies used with Class B Personal Computers

We: Epson America, Inc.

Located at: 3131 Katella Avenue, Los Alamitos, CA

Tel: 562-981-3840

Declare under sole responsibility that the product identified herein, complies with 47CFR Part 2 and 15 of the FCC rules as a Class B digital device. Each product marketed, is identical to the representative unit tested and found to be compliant with the standards. Records maintained continue to reflect the equipment being produced can be expected to be within the variation accepted, due to quantity production and testing on a statistical basis as required by 47CFR 2.906. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

Trade Name: EPSON

Type of Product: LCD Projector

Model: HA47B/HA48B

FCC Compliance Statement For United States Users

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

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

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

WARNING

The connection of a non-shielded equipment interface cable to this equipment will invalidate the FCC Certification or Declaration of this device and may cause interference levels which exceed the limits established by the FCC for this equipment. It is the responsibility of the user to obtain and use a shielded equipment interface cable with this device. If this equipment has more than one interface connector, do not leave cables connected to unused interfaces. Changes or modifications not expressly approved by the manufacturer could void the user's authority to operate the equipment.

Statement for Canadian EMC Rules

CAN ICES-3 (B) / NMB-3 (B)

Importer: Epson (UK) Ltd.

Address: Westside, London Road, Hemel Hempstead, Hertfordshire, HP3 9TD,
United Kingdom<http://www.epson.co.uk>**Indication of the manufacturer and the importer in accordance with requirements of EU directive**

Manufacturer: SEIKO EPSON CORPORATION

Address: 3-5, Owa 3-chome, Suwa-shi, Nagano-ken 392-8502 Japan

Telephone: 81-266-52-3131

<http://www.epson.com/>

Importer: EPSON EUROPE B.V.

Address: Atlas Arena, Asia Building, Hoogoorddreef 5,1101 BA Amsterdam
Zuidoost

The Netherlands

Telephone: 31-20-314-5000

<http://www.epson.eu/>**Indication of the manufacturer and the importer in accordance with requirements of United Kingdom directive**

Manufacturer: SEIKO EPSON CORPORATION

Address: 3-5, Owa 3-chome, Suwa-shi, Nagano-ken 392-8502 Japan

Telephone: 81-266-52-3131

<http://www.epson.com/>**Restriction of Use**

When this product is used for applications requiring high reliability/safety such as transportation devices related to aviation, rail, marine, automotive etc.; disaster prevention devices; various safety devices etc; or functional/precision devices etc, you should use this product only after giving consideration to including fail-safes and redundancies into your design to maintain safety and total system reliability. Because this product was not intended for use in applications requiring extremely high reliability/safety such as aerospace equipment, main communication equipment, nuclear power control equipment, or medical equipment related to direct medical care etc, please make your own judgment on this product's suitability after a full evaluation.

Operating System References

- Microsoft® Windows® 8.1 operating system
- Microsoft® Windows® 10 operating system

In this guide, the operating systems above are referred to as "Windows 8.1" and "Windows 10". Furthermore, the collective term "Windows" is used to refer to them all.

- macOS 10.13.x
- macOS 10.14.x
- macOS 10.15.x
- macOS 11.0.x

In this guide, the collective term "Mac" is used to refer to all of the operating systems above.

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