



# **Epson Projector Professional Tool Operation Guide**

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# Introduction to the Epson Projector Professional Tool Software

See the information here to learn more about the Epson Projector Professional Tool software.

## ►► Related Links

- "Epson Projector Professional Tool Features" [p.5](#)

The Epson Projector Professional Tool software allows you to adjust and control images projected from network projectors, and monitor the status of the projectors using your computer.



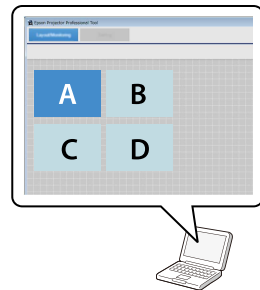
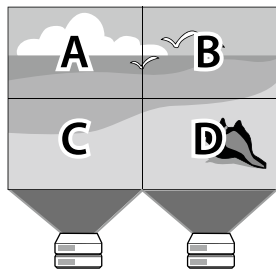
Depending on a projector's firmware version, you may encounter some limitations when using this software.

## ► Related Links

- "Projector Panel Feature" [p.5](#)
- "Lens Control Feature" [p.5](#)
- "Geometry Correction Feature" [p.5](#)
- "Edge Blending and Color Uniformity Features" [p.6](#)
- "Camera Assist Feature" [p.6](#)
- "Projector Operations or Settings" [p.7](#)
- "Apply Settings to Multiple Projectors Simultaneously" [p.7](#)
- "Monitoring Feature" [p.7](#)

## Projector Panel Feature

You can visually select the projector you want to adjust and control on your computer screen by arranging the projector panel according to the actual projected image.



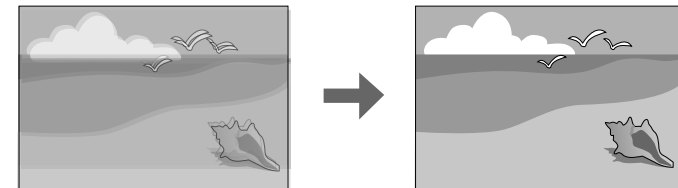
You can also specify a layout drawing for a background image on the adjustment screen, which helps you distinguish the projectors.

## ► Related Links

- "Adding a Projector to a Project" [p.13](#)
- "Adjusting the Layout of the Projector Panel" [p.15](#)

## Lens Control Feature

You can adjust the focus or the position of the lens installed on the projector.



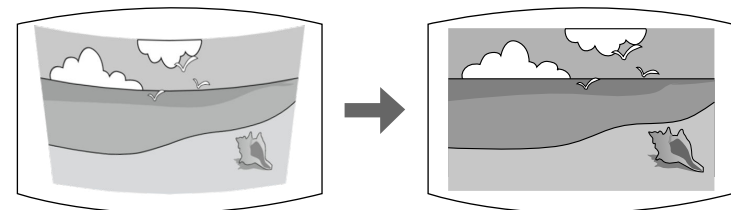
## ► Related Links

- "Lens Control" [p.20](#)

## Geometry Correction Feature

You can correct image distortion when projecting on a curved or right-angled screen using the Geometry Correction feature. You can also undo and redo the adjustment.

You can also export the current **Correction Type** setting value to a file and import it to another projector.

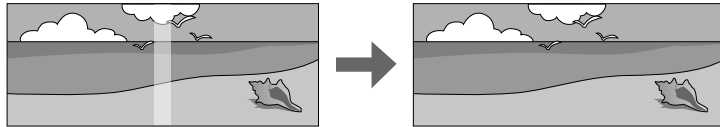


## ► Related Links

- "Geometry Correction" [p.22](#)

## Edge Blending and Color Uniformity Features

You can create a single seamless image from multiple projectors using the Edge Blending feature, and you can reduce color tone differences among images using the Color Uniformity feature.



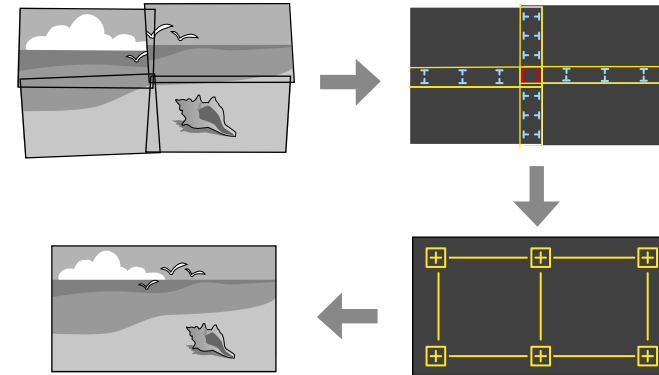
## ► Related Links

- "Edge Blending" [p.24](#)
- "Image" [p.25](#)

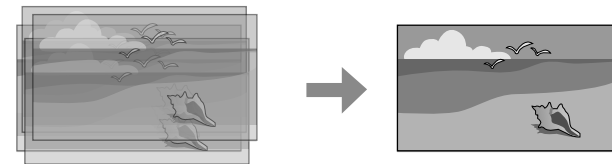
## Camera Assist Feature

You can automatically correct the projected image using the projector's built-in camera or optional external camera. The following camera assist features are available. Some features may not be available depending on the projector model.

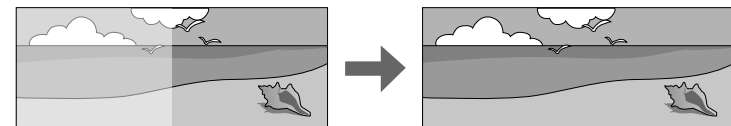
- The **Geometry Assist - Blending Function** wizard allows you to easily and quickly create a single seamless image from multiple projectors. By selecting the appropriate Edge Blending setting and adjusting the approximate size and position of your projected image, the projectors automatically combine these images and correct the image shape.



- The **Geometry Assist - Stacking Function** wizard allows you to easily and quickly create bright image by overlapping the images of multiple projectors. By adjusting the approximate size and position of your projected image, the projectors automatically overlap these images as one image.



- The **Geometry Assist - Stacking & Blending Function** wizard allows you to use the Blending function and Stacking function at the same time. You can easily and quickly create a single, large, bright, projected image by joining and overlapping the images of multiple projectors.
- The **Screen Matching** feature allows you to correct differences in the tint among projectors to optimize the display quality of the combined image. Brightness is corrected based on the darkest projector.





- You cannot perform Screen Matching on convex surfaces. If you are projecting onto a convex surface, adjust the color and brightness of the image manually.
- For models that support Camera Assist V200, you can select whether to perform Black Correction. You can also select appropriate adjustment results from the Black Correction adjustment parameters.

- The **Color Calibration** feature allows you to automatically correct color tone changes for the entire screen that occur over time based on the default color settings.

## ► Related Links

- "Camera Assist Function Version" [p.31](#)
- "Geometry Assist - Blending Function (Camera Assist V200/V150)" [p.36](#)
- "Geometry Assist - Blending Function (Camera Assist V100)" [p.41](#)
- "Geometry Assist - Stacking Function (Camera Assist V200)" [p.46](#)
- "Geometry Assist - Stacking Function (Camera Assist V150)" [p.58](#)
- "Geometry Assist - Stacking Function (Camera Assist V100)" [p.62](#)
- "Geometry Assist - Stacking & Blending Function (Camera Assist V200/V150)" [p.66](#)
- "Geometry Assist - Stacking & Blending Function (Camera Assist V100)" [p.72](#)
- "Screen Matching (Camera Assist V200)" [p.80](#)

## Projector Operations or Settings

You can control basic projector operations such as turning the power on or off, and displaying a Test Pattern from your computer screen.

You can also select projector settings necessary for the projector installation. After selecting settings, you can export the current projector setting values to a file and import it to another projector.

## Apply Settings to Multiple Projectors Simultaneously

You can apply the following settings to multiple projectors:

- **Power/Source**
- **Shutter**
- **On-Screen**
- **Test Pattern**
- All features in the **Initial Setting** tab
- All features in the **Edge Blending** tab
- All features in the **Image** tab

## Monitoring Feature

You can visually check the status of one or more projectors, such as the power, current input source, or other projector status information. This lets you monitor projector operations and receive alerts should any errors or warnings occur.

## ► Related Links

- "Monitoring Projectors" [p.83](#)

# Setting Up the Software for the First Time

Follow these instructions before connecting a computer to the projector over a network.

## ►► Related Links

- "Installing the Software" [p.9](#)



Check the system requirements necessary to run the software, and then install the software.



Some software features may not be available unless you are using the latest software version and the latest firmware for your projector. Read this guide for more information on software features and limitations.

## ► Related Links

- "System Requirements" [p.9](#)
- "Installing the Epson Projector Professional Tool Software (Windows/Mac)" [p.9](#)

## System Requirements

Your computer must meet the following system requirements to use the Epson Projector Professional Tool software.

| Requirement      | Windows   | Mac   |
|------------------|---|---|
| Operating system | Windows 10*   | macOS   |
|                  | <ul style="list-style-type: none"><li>• Windows 10 Home (32- and 64-bit)</li><li>• Windows 10 Pro (32- and 64-bit)</li><li>• Windows 10 Enterprise (32- and 64-bit)</li></ul> Windows 11* <ul style="list-style-type: none"><li>• Windows 11 Home (64-bit)</li><li>• Windows 11 Pro (64-bit)</li><li>• Windows 11 Enterprise (64-bit)</li><li>• Windows 11 Education (64-bit)</li></ul> | <ul style="list-style-type: none"><li>• macOS 12.00.x</li><li>• macOS 13.00.x</li><li>• macOS 14.00.x</li><li>• macOS 15.00.x</li></ul> |

| Requirement | Windows  | Mac  |
|-------------|--|--|
| CPU         | Intel Core2Duo 1.2GHz or faster<br>(Intel Core i3 or faster recommended) | Intel Core2Duo 1.2GHz or faster<br>(Intel Core i5 or faster, Apple M1 or faster recommended) |
| Memory      | 1GB or more<br>(2GB or more recommended)                                 | 2GB or more<br>(4GB or more recommended)   |
| Display     | Resolution between 1280 × 768 and 1920 × 1080                            |  |

\* Windows on Arm is not supported.

## Installing the Epson Projector Professional Tool Software (Windows/Mac)

Install the Epson Projector Professional Tool software on your computer.



You need administrator authority to install the Epson Projector Professional Tool software (Windows).

- 1** Turn on your computer.
- 2** Make sure all running applications are closed.
- 3** Download the software from the Epson Web site.
- 4** Follow the on-screen instructions.

# Creating and Adjusting Projector Projects

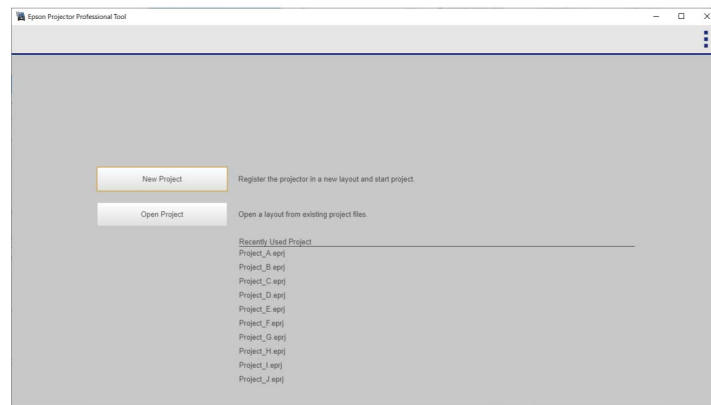
Follow these instructions to create a projector project, register projectors to the project, and adjust the image layout.

## ►► Related Links

- "Creating a Project" [p.11](#)
- "Adding a Projector to a Project" [p.13](#)
- "Adjusting the Layout of the Projector Panel" [p.15](#)

You can save projector connection information and the layout of the projected image as a project. Creating separate projects allows you to save projector settings depending on the installation environment.

When you start the Epson Projector Professional Tool software, the following screen is displayed.




- Select **New Project** to create a new project to register projectors you want to control.
- Select **Open Project** to open a previously saved project.
- Select a previously created project from the **Recently Used Project** list.

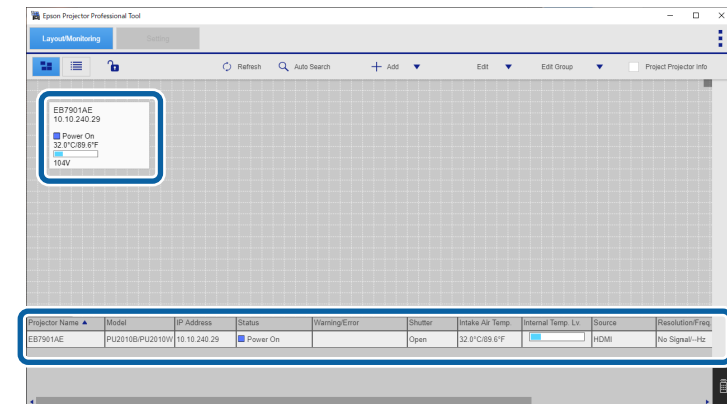
## Attention

- If you change your computer's network adapter settings before starting the Epson Projector Professional Tool software, the software may not start. Restart your computer first.
- If the MAC address is changed after creating a project, an unintended projector may appear in the project.



To change the language or color theme for the software, select  in the upper right corner and select the **Option** setting.

When you create a project, the software automatically searches for network projectors on the same subnet and displays up to 50 detected projectors as panels and a list on the **Layout/Monitoring** tab.




Each projector panel or the projector list on the bottom contains the following information:

- Projector name
- IP address
- Model name
- System error
- Shutter status
- Projector status
- Intake air temperature
- Internal temperature level
- Input source

- Signal/frequency
- AC voltage (supported models only)
- Status of optional external camera (supported models only)
- Serial number (supported models only)
- Group name (only when a projector group has been created)



- Depending on the software settings, the information displayed in a projector panel may vary.
- The information displayed in the projector panels or lists updates

automatically at an interval you set. To change the interval, select  in the upper right corner and select the **Option** setting. You can select an interval time from 5 to 60 seconds.

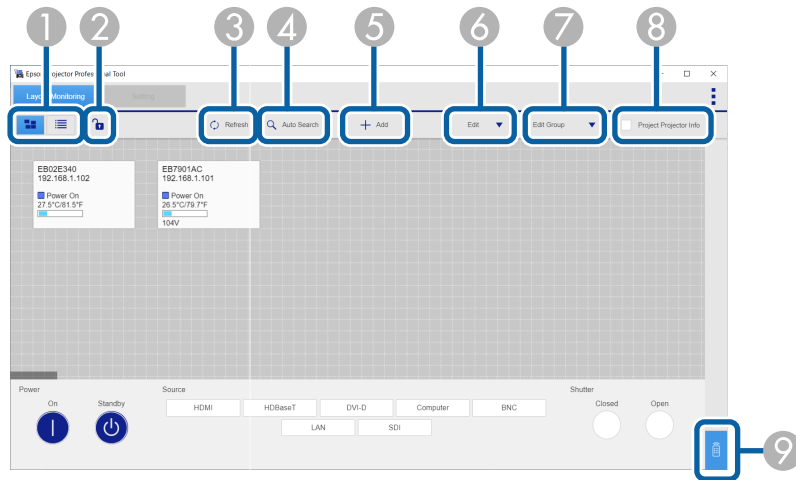
Select the projector panel you want to add to the project and select the following buttons as necessary.



You can select multiple projectors in the following ways:


- Select multiple projector panels by dragging them on your computer screen.
- Select each projector panel by pressing the Ctrl (command) + Enter keys, or the Ctrl (command) key + the spacebar on the keyboard. (You can select and deselect a projector panel by pressing the Enter key or the spacebar each time.)

You can zoom in or zoom out the projector panels by pressing the + or - keys, or the Ctrl (command) key + mouse wheel.

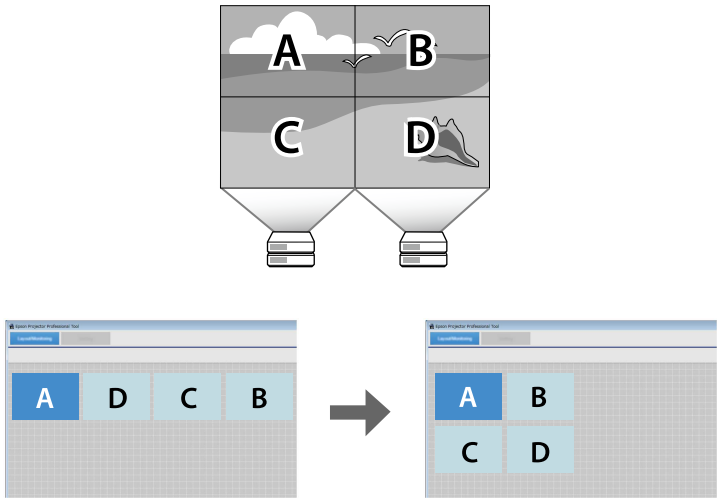



|   |  |  |
|---|--|--|
| 1 |  | Switches the view between one for arranging the projector panel and another for monitoring the projectors. |
| 2 |  | Locks/unlocks the layout of the projector panels.  |

|   |                        |   |
|---|------------------------|---|
| 3 | Refresh                | Updates the projector information.  |
| 4 | Auto Search            | Searches for network projectors on the same subnet.   |
| 5 | Add                    | <ul style="list-style-type: none"> <li>• <b>Projector:</b> Adds a projector manually by specifying the projector's IP address.</li> <li>• <b>Background image:</b> Lets you specify a background image (PNG/JPG/BMP) for the <b>Layout/Monitoring</b> tab. Using a layout drawing for the background helps you distinguish the projectors.</li> </ul>   |
| 6 | Edit                   | <p>Adjusts the projector's settings.</p> <ul style="list-style-type: none"> <li>• <b>Rename Projector:</b> Lets you edit the name of the selected projector.</li> <li>• <b>Remove:</b> Deletes the projector from the project. You can also delete the background image. Click the image and then select this menu.</li> <li>• <b>Authentication:</b> Performs authentication manually when the projector status is <b>Not Authenticated</b>. If you set the same password for multiple projectors, you can perform authentication for multiple projectors at one time by selecting multiple projector panels before selecting this button. If you set the Web Control password for the projector, the projector is automatically authenticated.</li> <li>• <b>Set Panel Items:</b> Lets you select the information which is displayed on the projector panel.</li> </ul> |
| 7 | Edit Group             | <p>Sets up projectors in a group so you can control them simultaneously.</p> <ul style="list-style-type: none"> <li>• <b>Group:</b> Creates a group of the projectors you selected. When you want to use the camera assist feature, you can also select projector's position or stacking settings.</li> <li>• <b>Ungroup:</b> Removes the group of the projector you selected.</li> <li>• <b>Re-edit Group:</b> Lets you edit the created projector group.</li> </ul>   |
| 8 | Project Projector Info | Projects the IP address and the name of the projector you selected.   |

|   |   |  |
|---|---|--|
| 9 |  | Opens the menu to control the projector power, input source, and shutter settings. |
|---|---|--|

You can adjust the layout of the projector panel by dragging and dropping the individual projector panels on your computer screens according to the actual projected image. When you select multiple projector panels, you can move them at one time.



When you have finished making adjustments of the layout, select  in the upper right corner and select the **Project** setting to select **Save Projector File**.

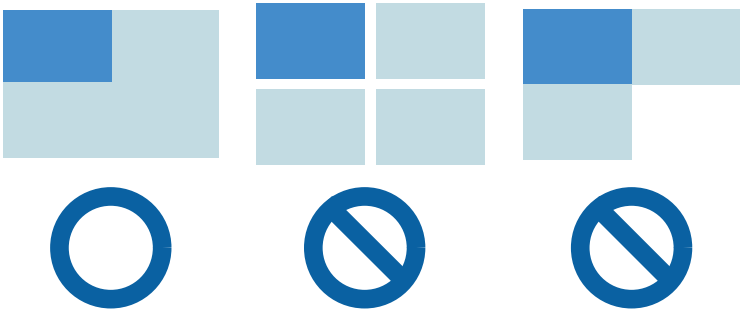
► **Related Links**

- "Blending and Stacking Group Settings" [p.15](#)

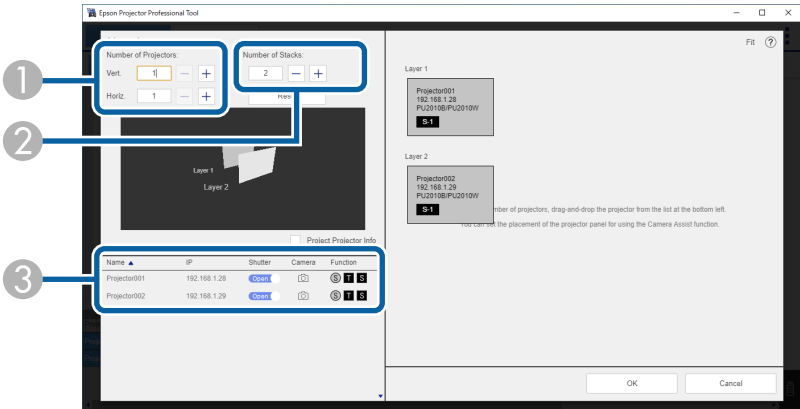
## Blending and Stacking Group Settings

When you need to group projectors so you can use the Camera Assist features, make sure you arrange the panels using the following criteria:

- All the projectors must support the Camera Assist features you want to use.
- There are no gaps between the panels.
- The shape of the selected panels forms a rectangle.



When you want to use the camera assist feature, you need to specify each projector's position or layer settings. Select **Edit Group** in the **Layout/Monitoring** tab and select **Blending and Stacking Settings**.



|   |                      |  |
|---|----------------------|--|
| ① | Number of Projectors | Specifies the number of projectors you want to arrange in the blending group.                                |
| ② | Number of Stacks     | Specifies the number of layers you want to overlap images to create one bright unified image.                |
| ③ | Projector List       | Displays the list of projectors in the group. Drag and drop the projector to the desired position and layer. |

## ► Related Links

- "Geometry Assist - Blending Function (Camera Assist V200/V150)" [p.36](#)
- "Geometry Assist - Blending Function (Camera Assist V100)" [p.41](#)
- "Geometry Assist - Stacking Function (Camera Assist V200)" [p.46](#)
- "Geometry Assist - Stacking Function (Camera Assist V150)" [p.58](#)
- "Geometry Assist - Stacking Function (Camera Assist V100)" [p.62](#)
- "Geometry Assist - Stacking & Blending Function (Camera Assist V200/V150)" [p.66](#)
- "Geometry Assist - Stacking & Blending Function (Camera Assist V100)" [p.72](#)
- "Screen Matching (Camera Assist V200)" [p.80](#)



# Adjusting Projected Images


See the following sections to select and adjust individual projector settings on the Epson Projector Professional Tool **Setting** tab.

## ►► Related Links

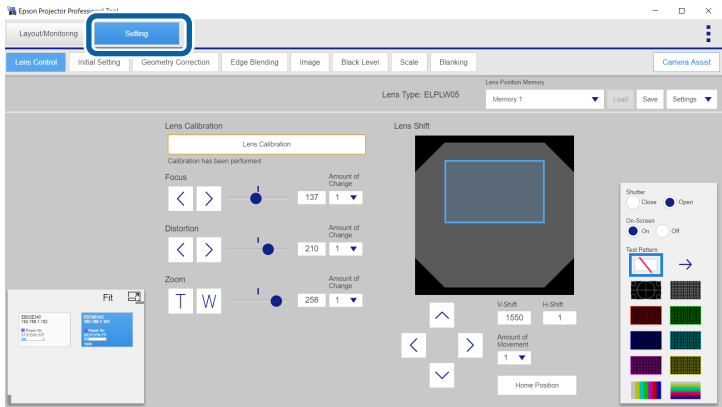
- "Projector Adjustment Options on the Software Screen" [p.18](#)
- "Screen Summary" [p.20](#)

When you select the **Setting** tab, the following screen is displayed.

Select the projector you want to adjust from the list in the lower left corner of the screen. Then adjust the settings for that projector.



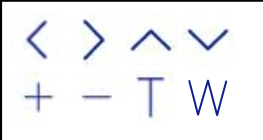

To select the projector using your keyboard, press the W key to move your selection upward, the S key to move it downward, the A key to move it to the left, or the D key to move it to the right.







The following controls can apply to multiple projectors:

- **Shutter**
- **On-Screen**
- **Test Pattern**


The following table describes the types and usage of main buttons on the **Setting** tab.

|   |   |
|---|---|
|  | Adjust the value of settings. Select and hold the button to continue adjustments until you release the button. You can also adjust the settings by moving the  button. |
|---|---|

|   |  |
|---|--|
|  | Adjusts each value on the <b>Setting</b> tab by entering the number.             |
|  | Selects a value from the options.  |
|  | Turns the setting on or off, or displays additional instructions or information. |



When you install the projector vertically, we recommend selecting **90 degrees to the right/90 degrees to the left** as the **Portrait Settings** to rotate the on-screen graphics according to the actual projected image while making adjustments. You will find **Portrait Settings** on the **Basic 2** tab of the **Initial Setting** tab.

You can select the Epson Projector Professional Tool software's general menu from  in the upper right.

|                          |  |
|--------------------------|--|
| Project                  | <ul style="list-style-type: none"><li>• Creates the project file using the <b>New Project</b> option.</li><li>• Opens the saved project file using the <b>Open Projector File</b> option.</li><li>• Saves the projector information and the layout of the projector panel to a file using the <b>Save Projector File</b> option.</li></ul>   |
| Geometry Correction File | <ul style="list-style-type: none"><li>• <b>Export:</b> Exports the geometry correction settings for the current correction type to a file. You can also select more than one projector to export multiple files at once. Lens type information is only exported for models that allow you to replace the lens.</li><li>• <b>Import:</b> Imports a geometry correction settings file. Only import a settings file to a projector of the same model with the same lens type, resolution, and firmware version.</li></ul> |

|                |  |
|----------------|--|
| Projector File | <p>Exports the projector settings to a file or imports a projector settings file. You can also export files from more than one projector at once. Note the following when exporting and importing settings:</p> <ul style="list-style-type: none"> <li>You can export all settings except for <b>Lens Control</b>, <b>Geometry Correction Memory</b>, and <b>Color Uniformity</b>.</li> <li>Settings for the current <b>Color Mode</b> and input source are exported. When importing, the <b>Color Mode</b> and input source of the receiving projector will automatically change.</li> <li>Importing a settings file from a different projector model or a different firmware version is not supported. If you do so, some settings may not be copied and different setting values may be applied.</li> </ul> |
| Shortcut       | <ul style="list-style-type: none"> <li><b>Settings:</b> You can register the setting for one of the following items and target projectors as a shortcut: <ul style="list-style-type: none"> <li><b>Shutter</b></li> <li><b>Power</b></li> <li><b>Test Pattern</b></li> <li><b>Fade-in (seconds)</b></li> <li><b>Fade-out (seconds)</b></li> <li><b>Display Background</b></li> <li><b>Lens Position Memory</b></li> <li><b>Geometry Correction Memory</b></li> <li><b>Source</b></li> </ul> </li> <li><b>Execute:</b> You can apply a shortcut to the target projectors at once.</li> </ul>  |
| Option         | Selects the Epson Projector Professional Tool software's general settings.   |
| Information    | Displays the Epson Projector Professional Tool software's information.   |

## Attention

- Do not adjust your projected image using the projector remote control or control panel at the same time that you adjust the image with this software. The settings displayed by the software may not reflect the actual settings. To update the displayed setting values, switch to a tab other than **Setting**, and then select the **Setting** tab again.
- Depending on the projector's status, the setting values may not be displayed on this software screen.
- If communication with the projector fails and the projector cannot receive the setting values you selected, the settings return to their original values.



If you want to adjust projector menu settings that cannot be set from this software, use the Epson Web Control software. To access Epson Web Control, double-click the projector panel, select the **Advanced** option, and then log in with the user name and password below. (Depending on a projector's firmware version, you may not be able to access Epson Web Control in this way.)

User name: EPSONWEB

Password: Web Control Password you set.

## Keyboard Shortcuts

When you adjust settings on each tab, you can use the following keyboard commands:

| Keyboard command | Function                                 |
|------------------|--|
| Tab              | Move to the next setting.                |
| Shift + Tab      | Move to the previous setting.            |
| F1 - F12         | Selects a shortcut (1 to 12) to execute. |

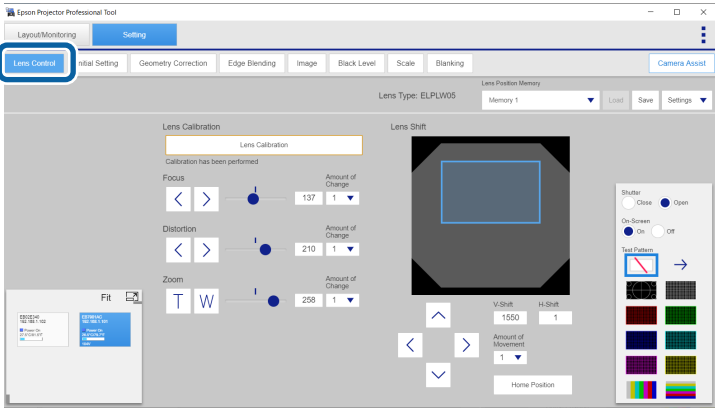
See the sections here to adjust the settings available on each tab of the **Setting** tab. See your projector *User's Guide* for details on the settings available for your projector.

► **Related Links**

- "Lens Control" [p.20](#)
- "Initial Setting" [p.20](#)
- "Geometry Correction" [p.22](#)
- "Edge Blending" [p.24](#)
- "Image" [p.25](#)
- "Black Level" [p.27](#)
- "Scale" [p.28](#)
- "Blanking" [p.29](#)

## Lens Control

You can adjust the projector's lens settings on the **Lens Control** tab. (Supported models only)



Depending on the type of lens you installed, the available features or adjustment ranges may vary. And depending on a projector's firmware version, the image may appear longer horizontally in the preview image than in the actual image.



- The **Lens Control** tab is only displayed for models that support motorized lens control.
- When adjusting the image height with the vertical lens shift, adjust it by moving the image from the bottom to the top. If you adjust it from the top to the bottom, the image position may move down slightly after adjusting.
- For best results, we recommend adjusting the **Focus**, **Zoom**, or **Lens Shift** settings only after projecting for several tens of minutes. This gives the image a chance to stabilize before you adjust it. See your projector *User's Guide* for details.
- You can register up to 10 memory settings to save adjustments for different lens types.
- You can adjust how much setting values change for each click using the **Amount of Change/Amount of Movement** setting.

## Keyboard Shortcuts

When you adjust settings on the **Lens Control** tab, you can use the following keyboard commands:

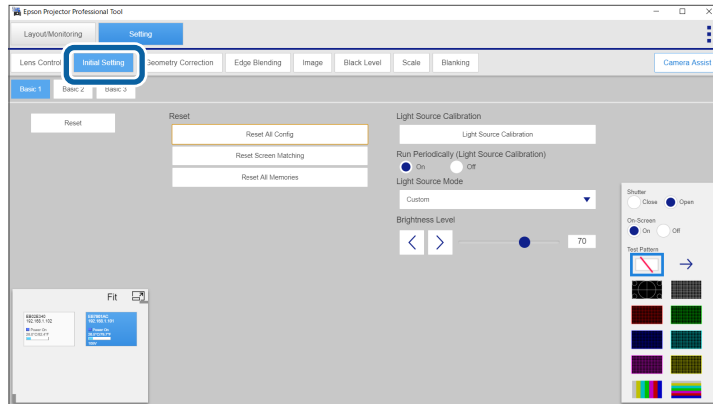
| Keyboard command                         | Function   |
|--|--|
| ↑ / ↓ / ← / →                            | Moves the cursor on the adjustment items.                          |
| Ctrl (command) + Shift + [↑ / ↓ / ← / →] | Changes the adjustment value by one step for the selected setting. |
| Alt + ↑ / ↓ / ← / →                      | Changes the adjustment value by 10 steps for the selected setting. |
| Ctrl (command) + [↑ / ↓ / ← / →]         | Changes the adjustment value using the increment you selected.     |

## Initial Setting

You can select the initial values for the following projector settings on the **Initial Setting** tab:



- You can adjust settings for multiple projectors or groups on the **Initial Setting** tab. If you select different projector models, you can only adjust settings that are available on all selected projectors.
- Select **Reset** to reset settings in each tab.
- If you perform the following functions, the **Test Pattern** setting is disabled.
  - Reset All Config**
  - Reset Color Uniformity**
  - Reset Screen Matching**
  - Reset All Memories**
  - Screen Type**
  - Screen Position**
  - EDID**
  - Reset**



## Basic 1 tab:

- Light Source Calibration**
- Run Periodically (Light Source Calibration)**

## • Light Source Mode

## • Brightness Level

In addition to the reset options in each tab, you can also reset settings using the following commands:

## • Reset All Config

## • Reset Color Uniformity (supported models only)

## • Reset Screen Matching (supported models only)

## • Reset All Memories

## Basic 2 tab:

## • Projection

## • Portrait Settings

## • Screen Type

## • Screen Position

## • EDID settings

## Basic 3 tab:

## • Display Background

## • Start Up Screen

## • Startup (Shutter)

## • Standby (Shutter)

## • Fade-in (seconds)/Fade-out (seconds)

## • Shutter Timer

## • Sleep Mode

## • Standby Confirmation

## • Indicators


## • Beep

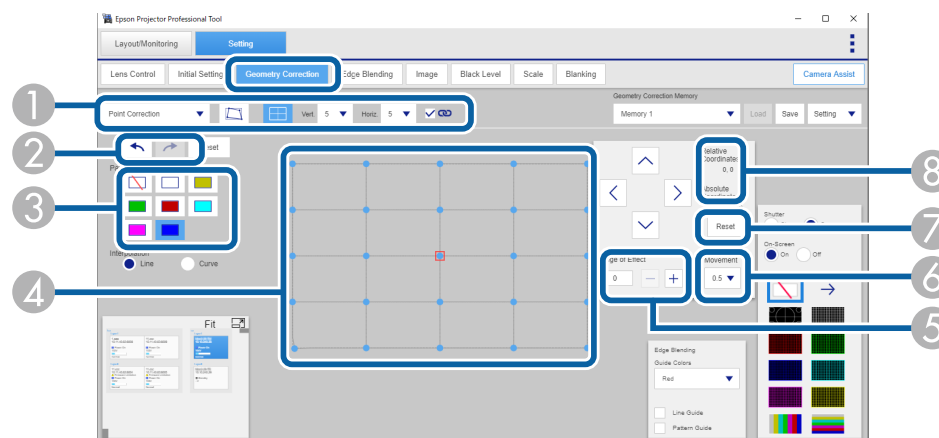
## • Messages





- When you set **Constant Brightness** to **On** in the projector's menu, you cannot change **Light Source Mode** settings. Double-click the projector panel in the software and change the settings in the Epson Web Control screen.
- You can change the **Brightness Level** settings only when you set **Light Source Mode** to **Custom**.
- If you change any setting values while performing the fade-in or fade-out function, a difference might occur between the image on your computer screen and the actual projected image. Move to the other tab and return to the original tab to fix the error.
- When you reset all settings using **Reset All Config**, the following settings are not reset. Depending on your projector model, settings for **Color Uniformity** and **Color Matching** may also not be reset.
  - Input Signal:**
  - Memory**
  - User's Logo**
  - All settings on the **Network** menu
  - Language**
  - Date & Time**
  - Panel Alignment**
  - Lens Calibration**
  - Color Calibration**
  - Projector Grouping**
  - Screen Matching**
  - HDBaseT** (supported models only)



- You can also use the **Geometry Assist** wizard to automatically correct an image shape projected from multiple projectors. Select the **Camera Assist** tab to start the wizard.
- You can import and export geometry correction settings you make in this screen. Select  in the upper right corner and select the Geometry Correction File option. Only import a settings files to a projector of the same model with the same lens type, resolution, and firmware version.
- Select **Reset** to reset the settings of the selected correction type or all correction types.



- You can select the correction type. If the selected correction type can be used with other correction types or has optional settings, you can adjust the settings using the buttons on the right.
- You can use  or  to undo or redo the adjustment.
- You can change the grid color of the projected pattern by selecting the **Pattern Color** option (for supported correction type).

## Geometry Correction

You can correct image distortion using the settings on the **Geometry Correction** tab.

- 4 When you use the **Quick Corner**, **Curved Surface** (Correct Shape), **Corner Wall** (Horizontal Corner, Vertical Corner), **Point Correction**, or **Arc Correction** settings, you can also make adjustments by dragging and dropping a point on your computer screen, either within or outside of the projection area.

When you use **Point Correction**, you can select and move up to 34 points simultaneously.

- 5 You can specify the number of points that move along with the specific point movement.
- 6 You can select the degree of the point movement to fine-tune your adjustments.
- 7 You can reset the correction values.
- 8 The relative coordinate value is the amount of point movement. The absolute coordinate value is the selected point in the panel.

For example, when you use **Quick Corner** and then switch to **Point Correction**, the relative coordinate value changes, but the absolute coordinate value does not change. In this state, if you perform **Point Correction**, the absolute coordinate value is the same in **Quick Corner** and **Point Correction**, but the relative coordinate value is different for each.

Depending on the projector model, an absolute coordinate value and a relative coordinate value may not be displayed. The amount of point movement may be displayed instead.

By using several correction types in combination, you can first make approximate corrections, and then make precise corrections as described in the examples below.

- After you use **Curved Surface** or **Corner Wall** adjustments, you can perform **Quick Corner**, and then **Point Correction**.
- After you use **Quick Corner**, you can perform **Point Correction**.



- If a large amount of adjustment is performed, the focus may not be uniform even after making adjustments.
- When **4K Enhancement** is activated or a 4K signal is input, you cannot use **Curved Surface**, **Corner Wall**, or **Point Correction**.
- When you adjust the **Linearity** setting in the **Curved Surface** correction, you may not be able to adjust the correction point to the maximum depending on other selected correction settings.
- You can register up to three **Memory** settings for each projector to save different types of adjustments.
- Depending on the projector model, the operation speed of **Point Correction** may be slow. To improve the operation speed, try selecting



as the **Pattern Color** setting.

## Keyboard Shortcuts

When you adjust settings on the **Geometry Correction** tab, you can use the following keyboard commands:

| Keyboard command        | Function  |
|-------------------------|---|
| ↑ / ↓ / ← / →           | Moves the cursor on the point or edge of the image in the up, down, left, or right direction. |
| Shift + [↑ / ↓ / ← / →] | Selects multiple points.  |
| Esc                     | Deselects the cursor on the point.  |

| Keyboard command                         | Function   |
|--|--|
| 0 - 7 (Num)                              | <p>Selects the amount by which you want each adjustment step to increment the changes.</p> <ul style="list-style-type: none"> <li>0 = [0.5]</li> <li>1 = [1]</li> <li>2 = [5]</li> <li>3 = [10]</li> <li>4 = [15]</li> <li>5 = [20]</li> <li>6 = [25]</li> <li>7 = [30]</li> </ul> |
| Ctrl (command) + [↑ / ↓ / ← / →]         | <ul style="list-style-type: none"> <li>Adjusts the point using the increment you selected using the 0 to 7 number keys. (Press and hold the buttons to adjust more quickly.)</li> <li>Adjusts the edge of the image.</li> </ul>  |
| Ctrl (command) + Shift + [↑ / ↓ / ← / →] | Adjusts the point by 0.5 step. (Press and hold the buttons to adjust more quickly.)  |
| Alt + [↑ / ↓ / ← / →]                    | Adjusts the point by 5 steps. (Press and hold the buttons to adjust more quickly.)   |
| i  | Initializes the point settings.  |
| Alt + s                                  | Registers the Memory settings.   |
| Alt + l                                  | Loads the Memory settings.   |
| Ctrl (command) + z                       | Undoes the adjustment.   |
| Ctrl + y (command + shift + z)           | Redoes the adjustment.   |

## ► Related Links

- "Geometry Assist - Blending Function (Camera Assist V200/V150)" [p.36](#)
- "Geometry Assist - Blending Function (Camera Assist V100)" [p.41](#)
- "Geometry Assist - Stacking Function (Camera Assist V200)" [p.46](#)
- "Geometry Assist - Stacking Function (Camera Assist V150)" [p.58](#)

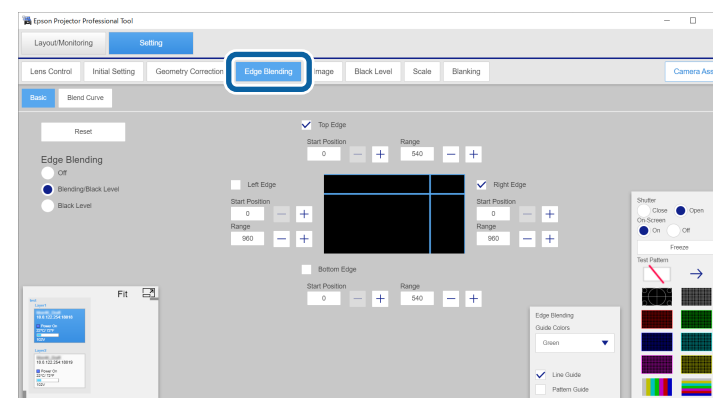
- "Geometry Assist - Stacking Function (Camera Assist V100)" [p.62](#)
- "Geometry Assist - Stacking & Blending Function (Camera Assist V200/V150)" [p.66](#)
- "Geometry Assist - Stacking & Blending Function (Camera Assist V100)" [p.72](#)

## Edge Blending

You can use the adjustments on the **Edge Blending** tab to create a single seamless image from multiple projectors. Adjust the values to overlap the image sides as necessary.



Select **Reset** to reset settings in the tab.




Before using the **Edge Blending** settings, select the **Image** tab and select **Multi-Projection** as the **Color Mode** setting.

Then select the **Edge Blending** tab, enable **Edge Blending**, and adjust the **Top Edge/Bottom Edge/Left Edge/Right Edge**, **Start Position**, and **Range** settings as necessary to blend the images together.



You can also use the **Geometry Assist - Blending Function** wizard to automatically create a single seamless image from multiple projectors. Select the **Camera Assist** tab to start the wizard.

- **Basic**
  - **Edge Blending**
  - **Top Edge/Bottom Edge/Left Edge/Right Edge**
    - **Start Position**
    - **Range**
- **Blend Curve**



When selecting multiple projectors, you can apply the **Blend Curve** setting to all projectors selected.

### Keyboard Shortcuts

When you adjust settings on the **Edge Blending** tab, you can use the following keyboard commands:

| Keyboard command                 | Function                      |
|----------------------------------|-------------------------------|
| ↑ / ↓ / ← / →                    | Selects a value to adjust.    |
| Ctrl (command) + [↑ / ↓ / ← / →] | Changes the adjustment value. |


### Related Links

- "Geometry Assist - Blending Function (Camera Assist V200/V150)" [p.36](#)
- "Geometry Assist - Blending Function (Camera Assist V100)" [p.41](#)

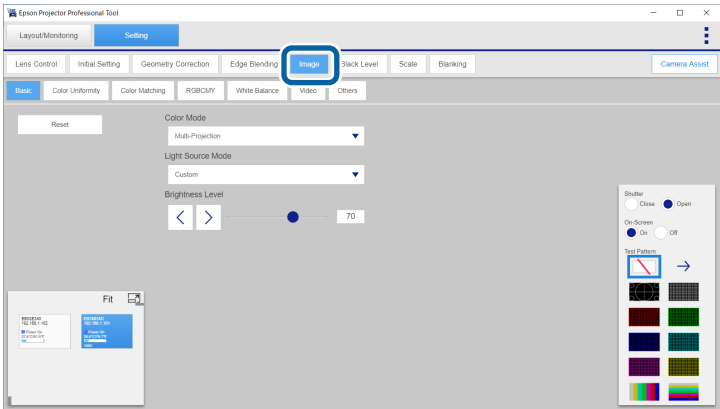
## Image

You can adjust the following image settings on the **Image** tab. You can also adjust the settings for multiple projectors or groups simultaneously on the

**Image** tab. If you select different projector models, you can only adjust settings that are available on all selected projectors.



- You can also perform the following automatic corrections on the projector or group you selected. Select the **Camera Assist** tab to perform the automatic correction.
  - **Screen Matching**
  - **Color Calibration**
- Select **Reset** to reset settings in each tab.
- If you perform the following functions, the **Test Pattern** setting is disabled.
  - **Color Uniformity**
  - **Image Processing**
  - **Frame Interpolation**
  - **Deinterlacing**
  - **Reset**



- **Basic** settings
  - **Color Mode**

- **Light Source Mode**
- **Brightness Level**
- **Color Uniformity**
- **Color Matching**
- **RGBCMY**
- **White Balance**
- **Video** settings
  - **Image Processing**
  - **Frame Interpolation**
  - **Deinterlacing**
- **Others** settings
  - **Brightness**
  - **Contrast**
  - **Color Saturation**
  - **Tint**
  - **Dynamic Contrast**
  - **Light Source Control**
  - **Response Speed**
  - **Black Level**
  - **Lights-Out Signal Level**
  - **Lights-Out Timer**



- When selecting multiple projectors, you can apply the **RGBCMY**, **Color Matching**, or **Color Uniformity** setting to all projectors selected.
- When adjusting the **Color Uniformity** settings, the image may become distorted. The image is restored once adjustments are complete.
- When you set **Constant Brightness** to **On** in the projector's menu, you cannot change the **Light Source Mode** setting and the **Brightness Level** settings.
- You can change the **Brightness Level** settings only when you set **Light Source Mode** to **Custom**.
- You can change the **Dynamic Contrast** settings only when you set **Color Mode** to **Dynamic** or **Cinema**.
- You can select **Fast 1** as the **Image Processing** setting only when you set **Deinterlacing** to **Video** or **Film/Auto**.
- You cannot change the **Frame Interpolation** settings in the following situations:
  - The input signal is higher than WUXGA.
  - **4K Enhancement** and **Scale** are enabled.
  - **Edge Blending** is set to **On**.
  - **Image Processing** is set to **Fast 1** or **Fast 2**.
- You cannot change the **Deinterlacing** settings in the following situations:
  - **Image Processing** is set to **Fast 2**.
  - The input signal is other than 480i, 576i, or 1080i.

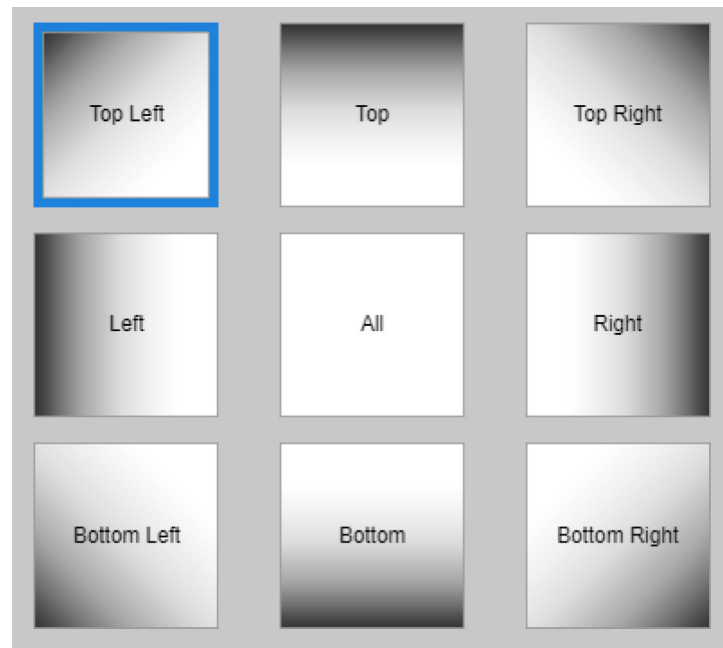
## » Related Links

- "Color Uniformity Option" [p.27](#)
- "Color Matching Option" [p.27](#)

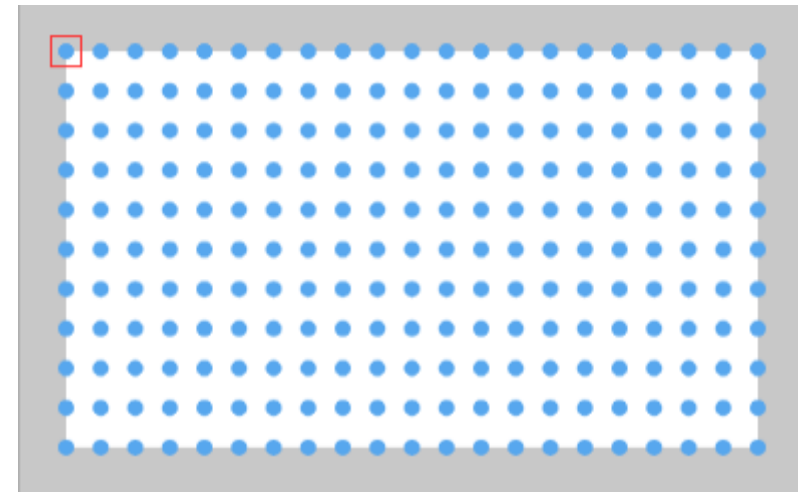
## Color Uniformity Option

You can select the adjustment area by using the **Adjustment method** settings in the **Color Uniformity** tab.

- **Gradation adjustment** allows you to select the adjustment area from nine regions.





- **Flexible adjustment** allows you to select the adjustment area flexibly by selecting the points.



## Color Matching Option

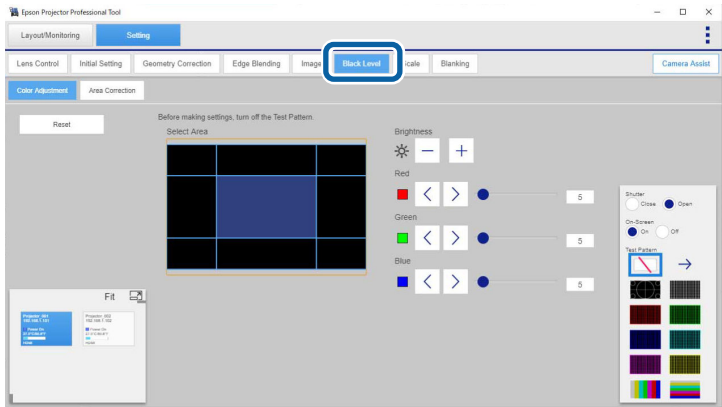
You can select the pattern type you want to view to confirm your settings by using the **Pattern Display** settings in the **Color Matching** tab.

- : Displays a smooth image with gradations applied to the overlapped image area.
- : Clearly displays the center of the overlapped image area.

---

## Black Level

You can adjust the brightness and color tone for the area where the images do not overlap to create a seamless image.



- When you turn off **Edge Blending** or have not selected the edge of the image, you cannot adjust the **Black Level** setting.
- When multiple screens are overlapping, adjust based on the area with the most overlap (the brightest area).
- If the **Geometry Correction** value is large, you may not be able to adjust the **Black Level** setting.
- If you change the **Top Edge/Bottom Edge/Right Edge/Left Edge** settings, the **Black Level** setting returns to its default value.
- During automatic Screen Matching adjustments, previously selected **Color Adjustment** settings may change.
- Select **Reset** to reset settings in each tab.
- If you adjust the **Black Level** setting, the **Test Pattern** setting is disabled.

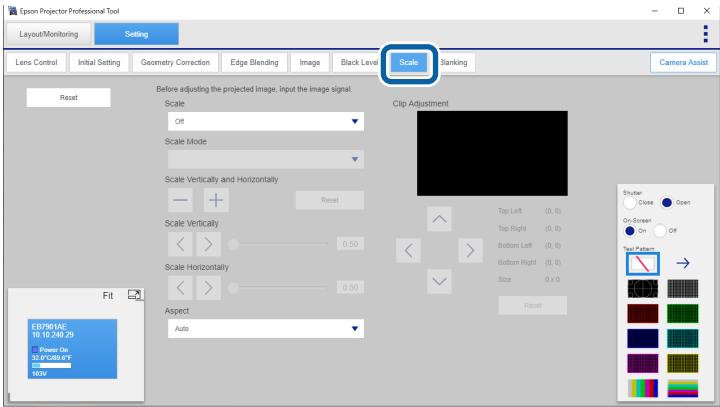
## Keyboard Shortcuts

When you adjust settings on the **Black Level** tab, you can use the following keyboard commands:

| Keyboard command                 | Function   |
|----------------------------------|--|
| ↑ / ↓ / ← / →                    | <ul style="list-style-type: none"><li>• Selects an image adjustment area ( <b>Color Adjustment</b> tab).</li><li>• Moves the cursor on a line or point of the image ( <b>Area Correction</b> tab).</li></ul> |
| Enter                            | Switches selection between a line and points ( <b>Area Correction</b> tab).  |
| Ctrl (command) + [↑ / ↓ / ← / →] | Moves a line or point ( <b>Area Correction</b> tab).   |

## Scale

You can crop and/or scale portions of the image that the projectors are combining together.



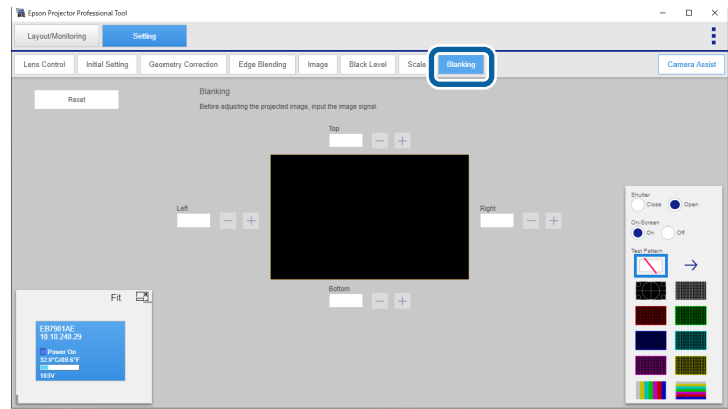


- Depending on a projector's firmware version, the **Aspect** setting may not be available.
- When no input signal is received, you cannot adjust the **Scale** settings.
- Select **Reset** to reset settings in the tab.
- If you adjust the **Scale** settings, the **Test Pattern** setting is disabled.

| Keyboard command                 | Function                      |
|----------------------------------|-------------------------------|
| ↑ / ↓ / ← / →                    | Selects an edge to adjust.    |
| Ctrl (command) + [↑ / ↓ / ← / →] | Changes the adjustment value. |

Blanking

You can hide a specific area of the projected image you select.



- When no input signal is received, you cannot adjust the **Blanking** settings.
- Select **Reset** to reset settings in the tab.
- If you adjust the **Blanking** settings, the **Test Pattern** setting is disabled.

Keyboard Shortcuts

When you adjust settings on the **Blanking** tab, you can use the following keyboard commands:

# Adjusting Projected Images with the Camera Assist Feature Automatically

You can automatically correct the projected image using the projector's built-in camera or optional external camera.

## ► Related Links

- "Camera Assist Function Version" [p.31](#)
- "Preparing to Use Geometry Assist" [p.32](#)
- "Geometry Assist - Blending Function (Camera Assist V200/V150)" [p.36](#)
- "Geometry Assist - Blending Function (Camera Assist V100)" [p.41](#)
- "Geometry Assist - Stacking Function (Camera Assist V200)" [p.46](#)
- "Geometry Assist - Stacking Function (Camera Assist V150)" [p.58](#)
- "Geometry Assist - Stacking Function (Camera Assist V100)" [p.62](#)
- "Geometry Assist - Stacking & Blending Function (Camera Assist V200/V150)" [p.66](#)
- "Geometry Assist - Stacking & Blending Function (Camera Assist V100)" [p.72](#)
- "Keyboard Shortcuts for the Geometry Assist" [p.78](#)
- "Operating Conditions for the Geometry Assist" [p.79](#)
- "Screen Matching (Camera Assist V200)" [p.80](#)
- "Operating Conditions for Screen Matching/Color Calibration" [p.81](#)
- "Solving Camera Assist Problems" [p.82](#)

The Camera Assist function will be added through a version upgrade. See the following for information on the functional differences between the versions of Camera Assist and supported models.

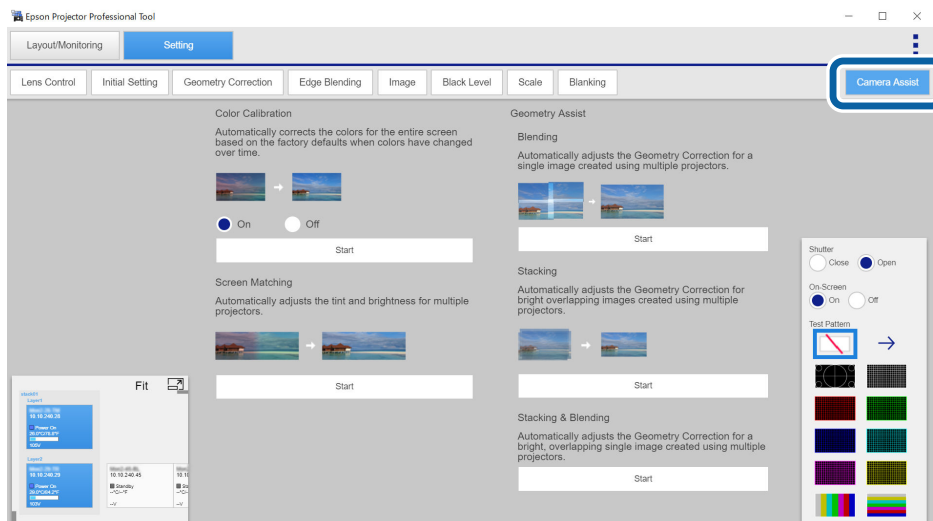
[https://download2.ebz.epson.net/sec\\_pubs\\_visual/camera\\_assist/EN](https://download2.ebz.epson.net/sec_pubs_visual/camera_assist/EN)



When adjusting images projected from multiple projectors, the projectors being used must meet all of the following conditions.

- The versions of Camera Assist are the same
- The native resolutions are the same

To use the **Camera Assist** features, go to the **Setting** tab and select the **Camera Assist** tab. You can perform the features by following the on-screen instructions.



This section explains the preparations you need to make before executing Geometry Assist.

## ► Related Links

- "Checking the Number of Markers Required for Linearity Adjustment" [p.32](#)
- "Attaching Markers Required for Linearity Adjustment" [p.33](#)

## Checking the Number of Markers Required for Linearity Adjustment

Before automatically adjusting the projected image using this software, determine the linearity position relative to the entire target projection area, and place stickers or other markers for linearity adjustment around the perimeter of the target projection area.



- This step is not necessary for stacking (Camera Assist V200).
- When starting Geometry Assist - Blending or Stacking & Blending, a screen is displayed showing the number of required markers.

## ► Related Links

- "When Projecting Onto a Flat Surface" [p.32](#)
- "When Projecting Onto a Curved Surface" [p.32](#)

## When Projecting Onto a Flat Surface

Use the following formulas to calculate the number of markers required in the vertical and horizontal directions.

| Projector Placement | Formula                             |
|---------------------|-------------------------------------|
| Vertical            | Number of vertical projectors + 1   |
| Horizontal          | Number of horizontal projectors + 1 |

## Example

- Stacking only (Camera Assist V100 or V150)  
Vertical:  $1 + 1 = 2$  markers  
Horizontal:  $1 + 1 = 2$  markers
- Blending 2 projections horizontally  
Vertical:  $1 + 1 = 2$  markers  
Horizontal:  $2 + 1 = 3$  markers
- Blending 2 projections vertically and 3 horizontally  
Vertical:  $2 + 1 = 3$  markers  
Horizontal:  $3 + 1 = 4$  markers

## When Projecting Onto a Curved Surface

When projecting onto a curved surface, you can set the number of correction points by projector. Calculate the number of markers required in the following steps.

**1**

Calculate the number of correction points for each projector.

For curved directions: 3, 5

For un-curved directions: 2, 3, 5



The greater the number of correction points for each projector, the more accurately it can project onto curved surfaces.

**2**

Use the following formulas to calculate the number of markers required for each direction with and without curvature.

The "number of correction points by projector" in the formula is the number of correction points calculated in the previous step.



| Projector Placement | Formula   |
|---------------------|---|
| Curved direction    | (Number of correction points by projector in the direction of curvature - 1) × Number of projectors in the curved direction + 1 |
| Un-curved direction | (Number of correction points by projector in an un-curved direction - 1) × Number of projectors in the un-curved direction + 1  |

## Example

- Stacking only  
Number of correction points by projector: 3 for curved direction and 2 for un-curved direction  
Curved direction:  $(3 - 1) \times 1 + 1 = 3$  markers  
Un-curved direction:  $(2 - 1) \times 1 + 1 = 2$  markers
- Blending 2 projections in a curved direction  
Number of correction points by projector: 3 for curved direction and 3 for un-curved direction  
Curved direction:  $(3 - 1) \times 2 + 1 = 5$  markers  
Un-curved direction:  $(3 - 1) \times 1 + 1 = 3$  markers
- Blending 2 projections in an un-curved direction  
Number of correction points by projector: 3 for curved direction and 2 for un-curved direction  
Curved direction:  $(3 - 1) \times 1 + 1 = 3$  markers  
Un-curved direction:  $(2 - 1) \times 2 + 1 = 3$  markers
- Blending 3 projections in a curved direction and 2 projections in an un-curved direction  
Number of correction points by projector: 5 for curved direction and 3 for un-curved direction  
Curved direction:  $(5 - 1) \times 3 + 1 = 13$  markers

Un-curved direction:  $(3 - 1) \times 2 + 1 = 5$  markers

## Attaching Markers Required for Linearity Adjustment

Attach markers for linearity adjustment at the following positions in the target projection area.

- Four corners
- Either the left or right
- Either the top or bottom

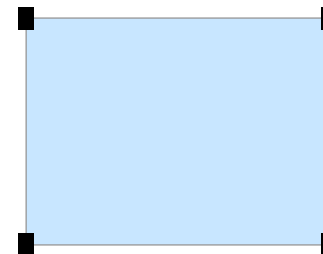
Attach the linearity adjustment stickers (■) at equal intervals along the outline of the projected image, as shown in the following example.

You do not need to attach stickers in the grayed-out positions shown in the figure (■). You can use the laser marker to locate the position during shape correction in the **Geometry Assist** wizard.

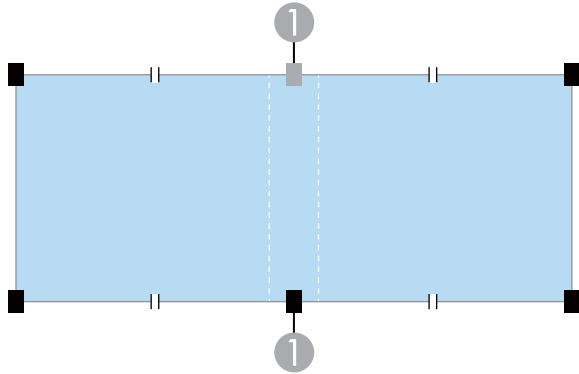


- This step is not necessary for stacking (Camera Assist V200).
- Use the smallest sticker size possible for linearity adjustment. This may affect the quality of the auto-adjustment.

- Stacking (flat surface)



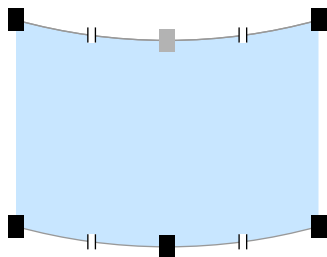
- Blending 2 projections horizontally (flat surface)



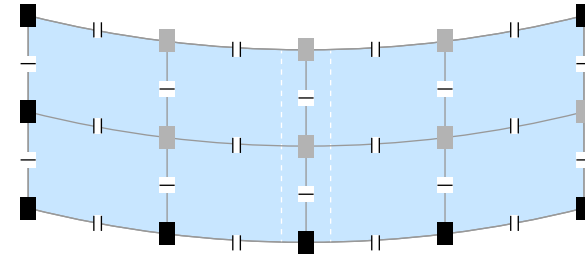
If your model is compatible with Camera Assist V100, the position of the stickers (●) on the blended area is different. Place them at the center of the blended area, not at evenly spaced positions from either end of the target projection area.

- Stacking (curved surface)

Number of correction points by projector: 3 for curved directions and 2 for un-curved directions



Number of correction points by projector: 3 for curved directions and 3 for un-curved directions

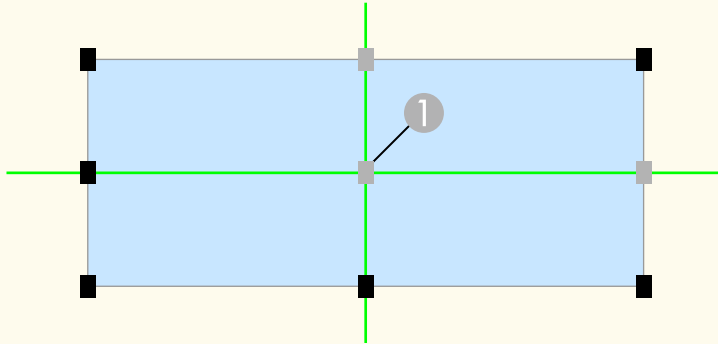


When correcting the shape in the **Geometry Assist** wizard, align the correction points [+] with the stickers for linearity adjustment.

- Blending 2 projections in a curved direction (curved surface)



- For areas where no stickers are attached, align the correction point [+] with the position at which lights from the laser marker intersect (1) as shown in the following illustration.



- When projecting onto a curved surface, select the number of correction points for the entire projection surface on the shape correction screen to display the correction points for the entire target projection area. Perform automatic adjustments using this software and check the results before removing the stickers.

## ►► Related Links

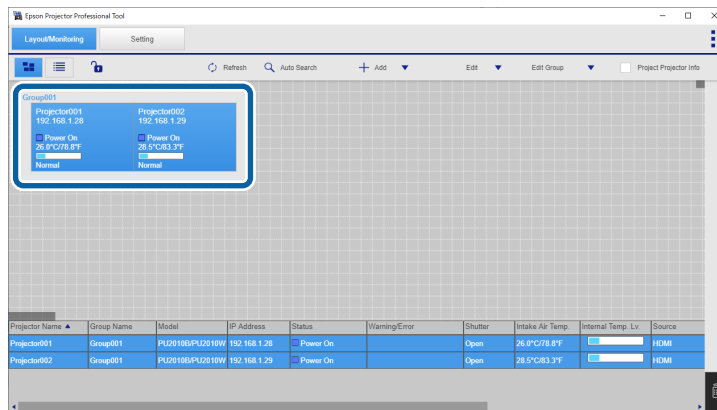
- "Checking the Number of Markers Required for Linearity Adjustment" [p.32](#)

You can use the **Geometry Assist - Blending Function** wizard to easily and quickly create a single seamless image from multiple projectors.

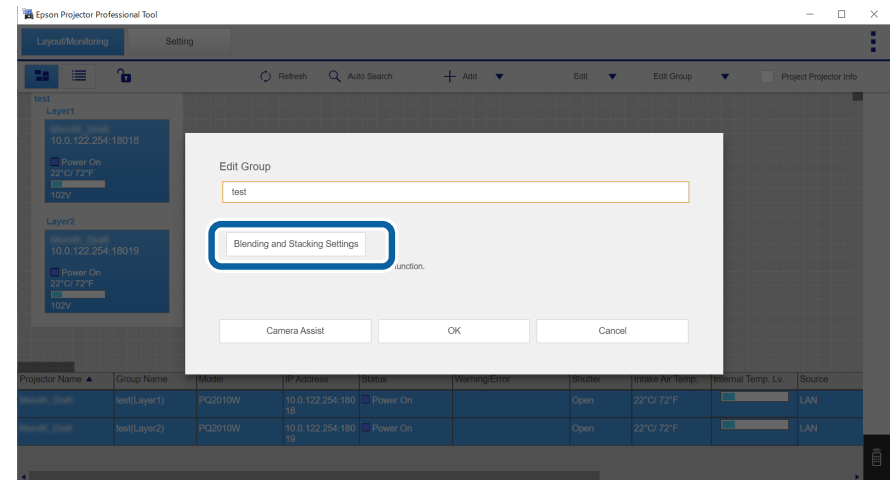
The procedure varies depending on the version of Camera Assist being used. See the following for more information on supported models.

[https://download2.ebz.epson.net/sec\\_pubs\\_visual/camera\\_assist/EN](https://download2.ebz.epson.net/sec_pubs_visual/camera_assist/EN)

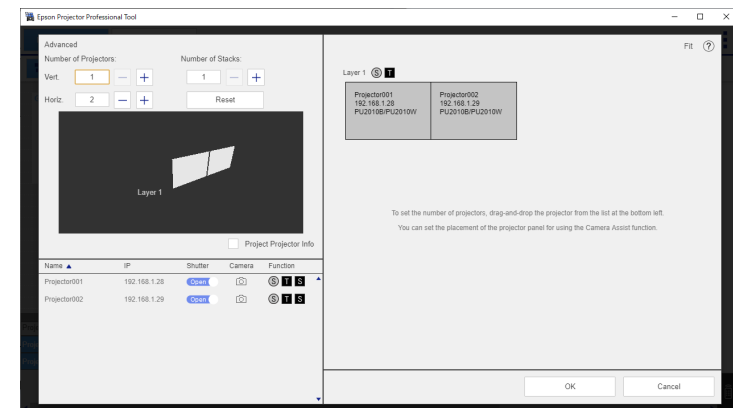
**1** Create a group of projectors that support Blending.



**2** Select **Blending and Stacking Settings** on the **Create Group** screen.



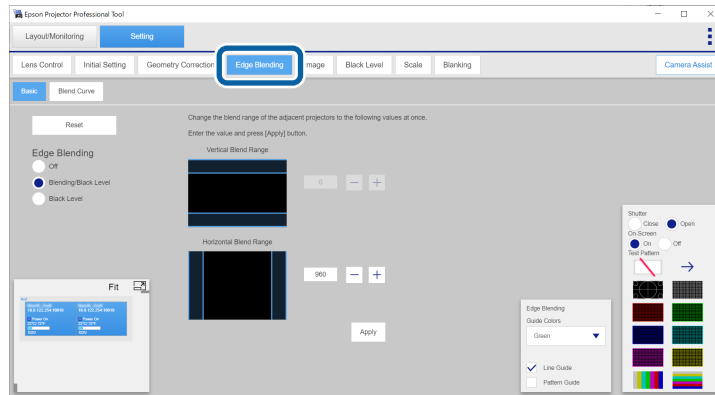
**3** Specify the projectors' positions in the **Blending and Stacking Settings**, and then click **OK**.



**4** Click **OK** on the **Create Group** screen.

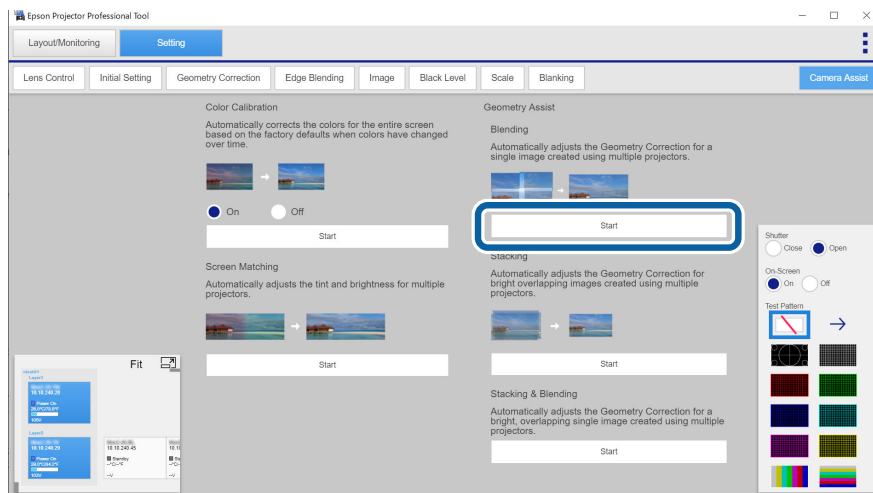
**5** Click the **Setting** tab.

**6** Adjust the Edge Blending values on the **Edge Blending** tab.

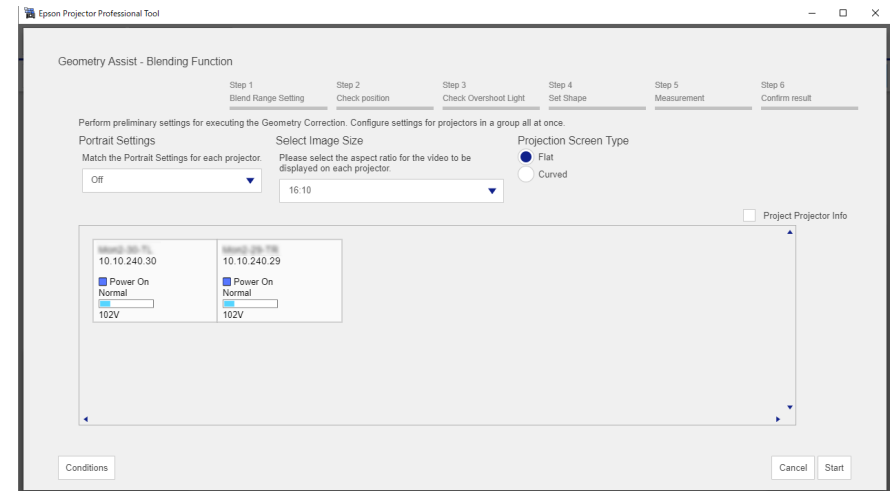


**7** Click the **Camera Assist** tab.

**8** Click **Start** in **Blending**.

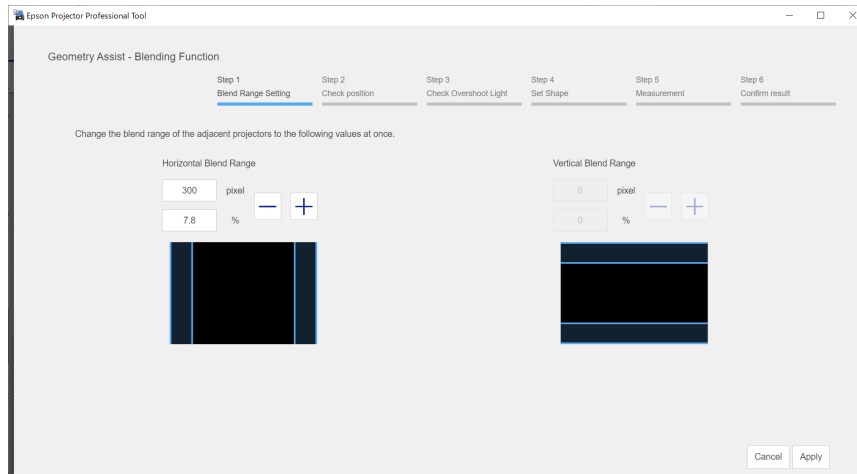


The **Geometry Assist - Blending Function** wizard starts.

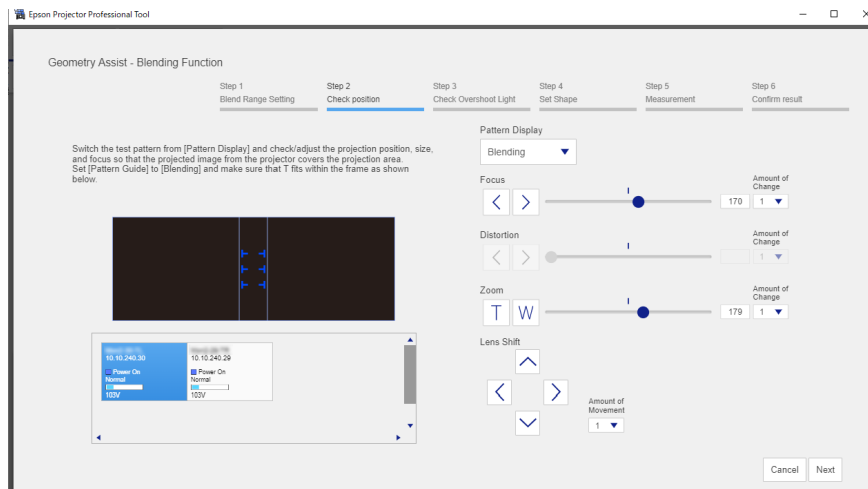


- When blending projections vertically, the **Select Image Size** menu is not displayed.
- You can change the value for **Select Image Size** only when **Portrait Settings** is set to **Off**.

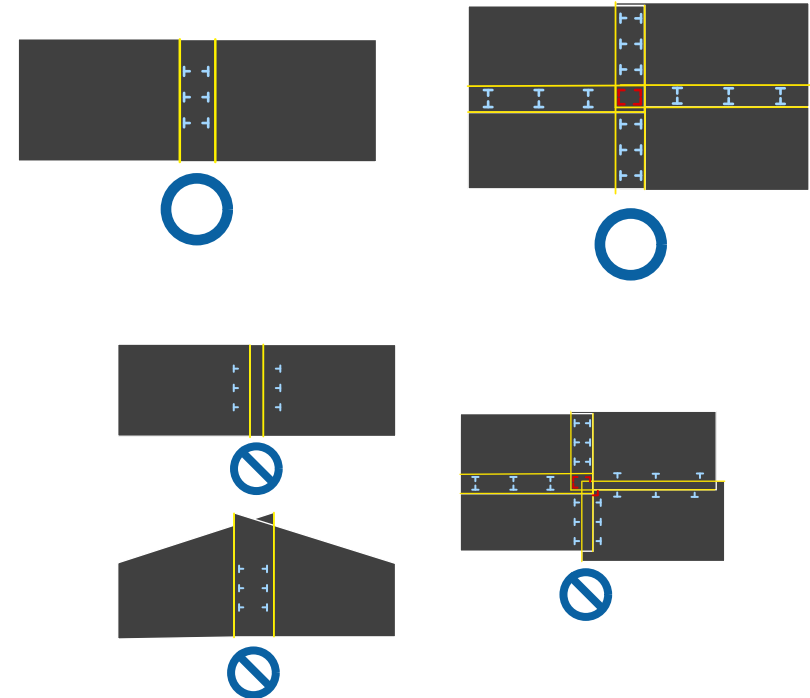
- 9** If no Edge Blending value has been set or the specified Edge Blending value is incorrect, adjust the Edge Blending values as necessary.



- 10** While checking the displayed pattern, adjust the focus, size, and position of your projected image so the image covers the target projection area.

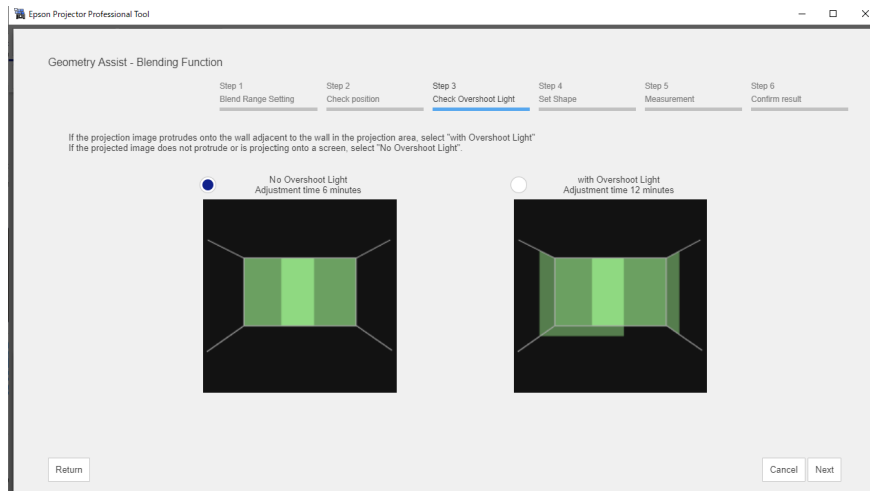


If you select **Flat** as the **Projection Screen Type**, T-shapes are displayed on the projection surface. See the following examples to adjust the projection position and size.

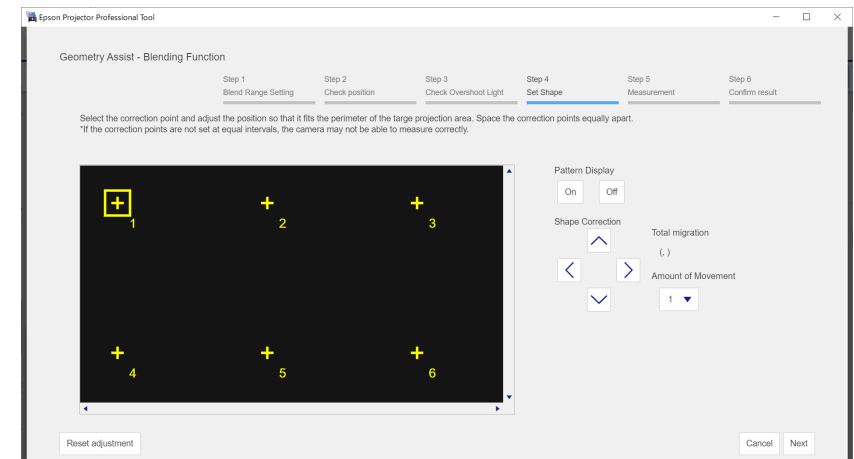


If you select **Curved** as the **Projection Screen Type**, no T-shapes are displayed on the projection surface. Adjust the projection position and size so that the overlapping width is the same as the design in advance.

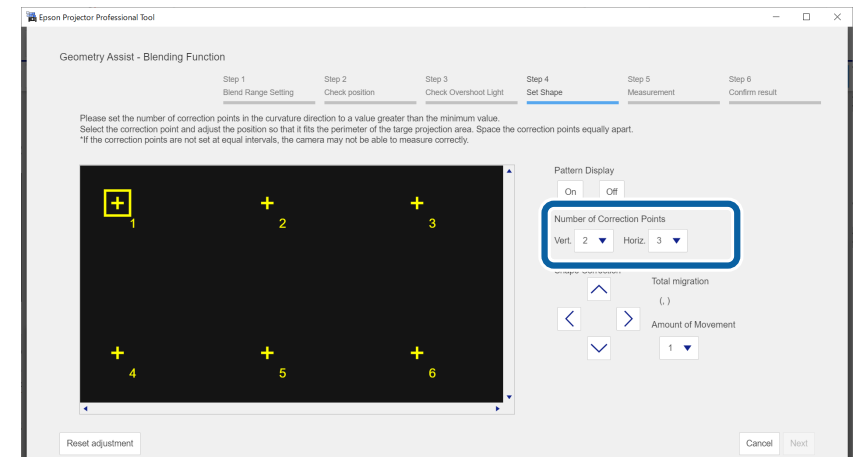
- 11** Select **with Overshoot Light** if the projected image extends onto the wall adjacent to the wall of the target projection area.



- 12** Set the shape of the projected image.
- Align the correction points [+] with the linearity adjustment stickers attached at the edges of the target projection area.
- For areas where no stickers are attached, align the correction point [+] with the position at which lights from the laser marker intersect using the positions of the stickers in each direction.
- When you have selected **Flat** as the **Projection Screen Type**



- When you have selected **Curved** as the **Projection Screen Type**  
Before moving the correction points [+], set the number of correction points for the entire projection surface in each direction (vertical and horizontal) to a pre-determined number.



- 13** Click **Next**.  
Calibration starts.



If the message "The adjustment limit of Geometry Correction has been exceeded." is displayed, take the following action.

- Go to **Shape Correction**, and adjust [+] in the screen reduction direction.
- If shape correction continues to fail, increase the physical overlap width and run the **Geometry Assist** wizard again.

- 14** Follow the on-screen instructions to check the results of the adjustment.  
If you want to correct the shape of the screen again, click **Shape Correction**.

- 15** If necessary, select To Screen Matching to start Screen Matching.



You cannot perform Screen Matching on convex surfaces. If you are projecting onto a convex surface, adjust the color and brightness of the image manually.



After using the **Geometry Assist - Blending Function** wizard, the following settings change automatically.

- **Correction Type** on the **Geometry Correction** tab changes to **Point Correction**.
- The **Area Correction** setting on the **Black Level** tab is set automatically.
- The **Color Adjustment** setting on the **Black Level** tab is set automatically.

If you want to change the **Color Adjustment** setting, perform Screen Matching.

## ►► Related Links

- "Blending and Stacking Group Settings" [p.15](#)
- "Geometry Correction" [p.22](#)
- "Keyboard Shortcuts for the Geometry Assist" [p.78](#)

This completes the **Geometry Assist - Blending Function** wizard. If the pixels or shape of the projected image are misaligned, make adjustments from **Point Correction** on the **Geometry Correction** tab for each projector.

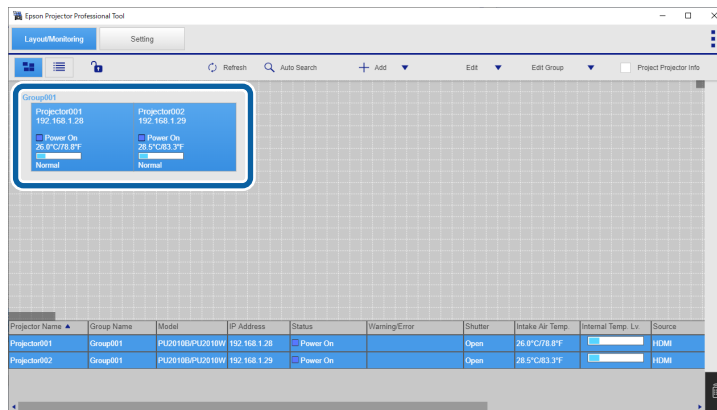


You can use the **Geometry Assist - Blending Function** wizard to easily and quickly create a single seamless image from multiple projectors.

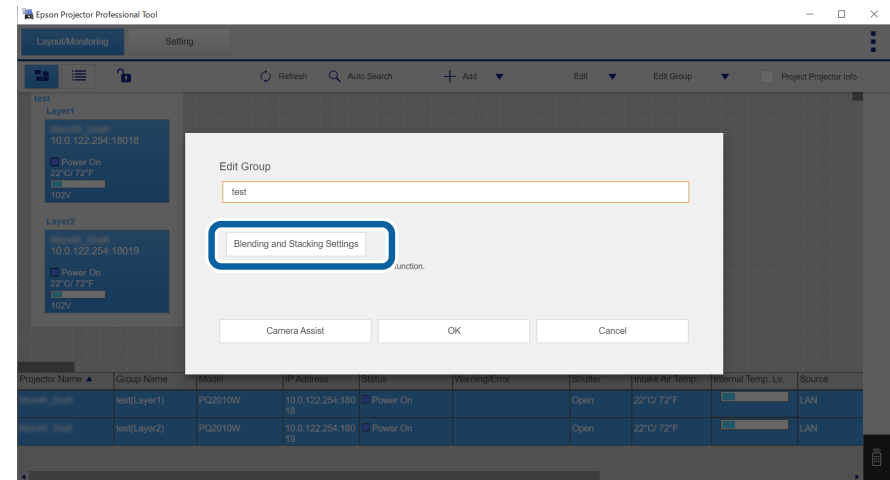
The procedure varies depending on the version of Camera Assist being used. See the following for more information on supported models.

[https://download2.ebz.epson.net/sec\\_pubs\\_visual/camera\\_assist/EN](https://download2.ebz.epson.net/sec_pubs_visual/camera_assist/EN)

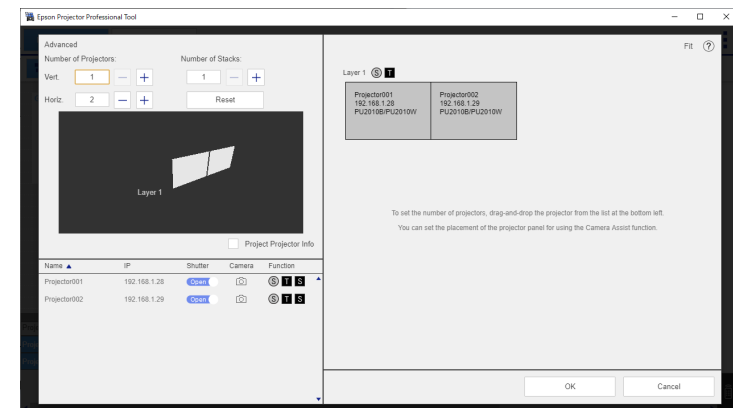
**1** Create a group of projectors that support Blending.



**2** Select **Blending and Stacking Settings** on the **Create Group** screen.



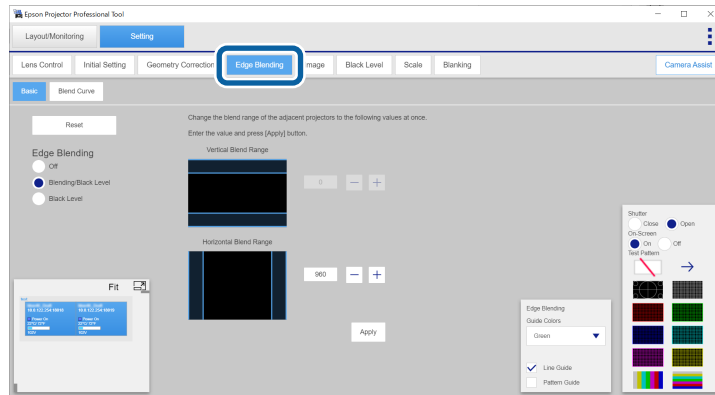
**3** Specify the projectors' positions in the **Blending and Stacking Settings**, and then click **OK**.



**4** Click **OK** on the **Create Group** screen.

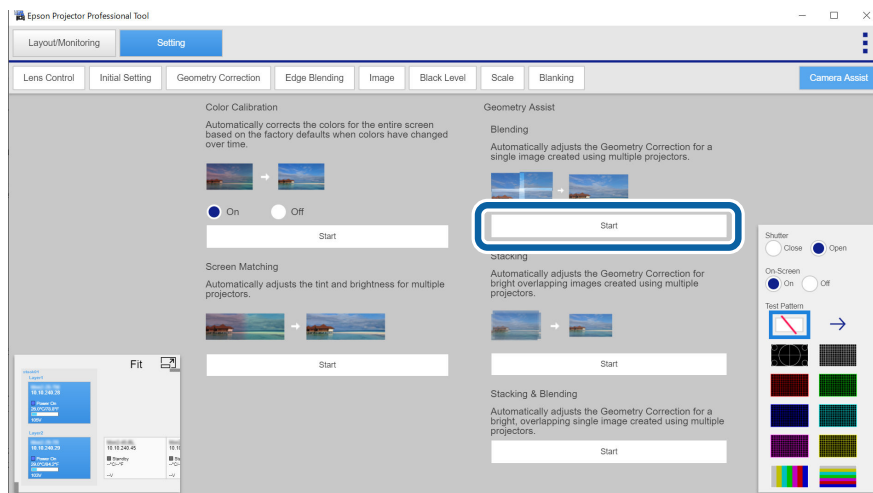
**5** Click the **Setting** tab.

**6** Adjust the Edge Blending values on the **Edge Blending** tab.

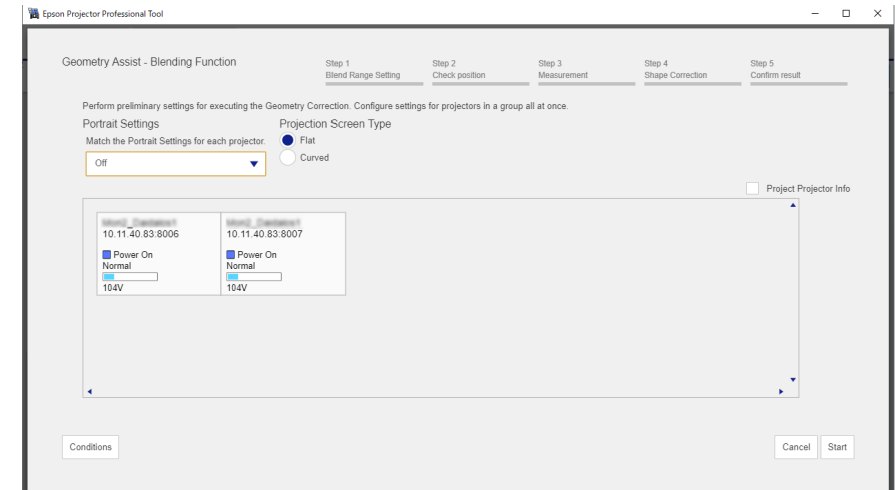


**7** Click the **Camera Assist** tab.

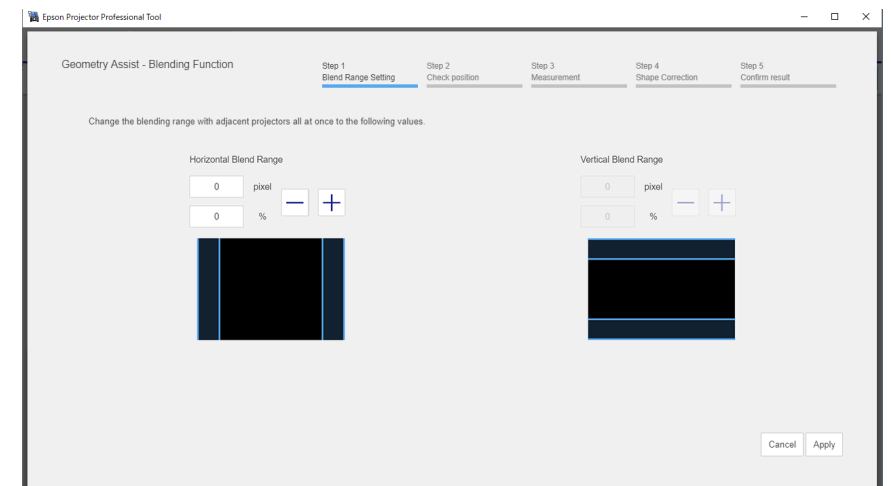
**8** Click **Start** in **Blending**.



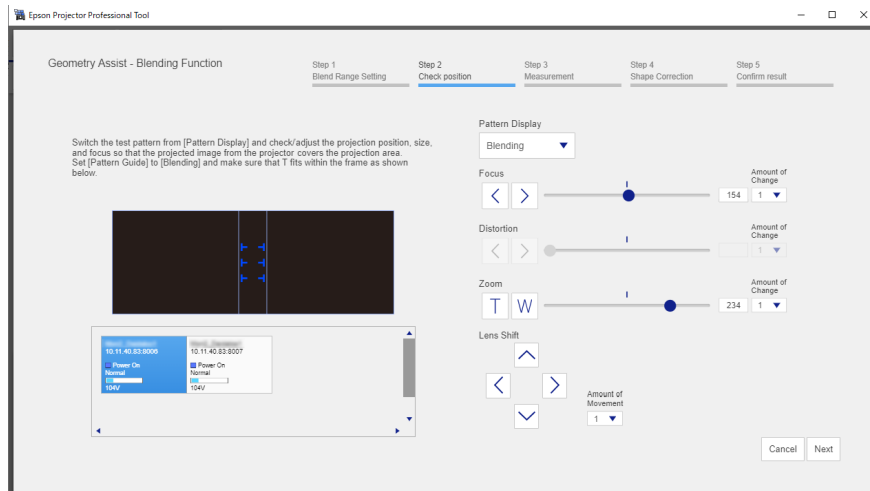
The **Geometry Assist - Blending Function** wizard starts.



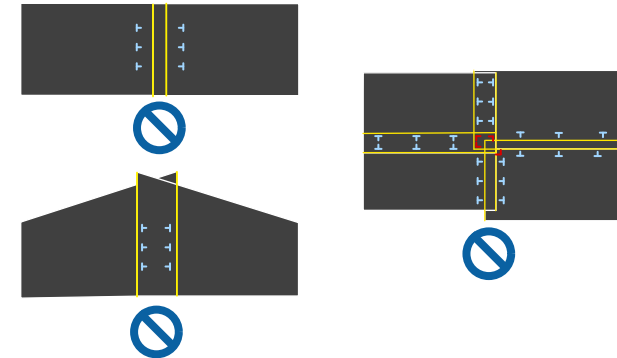
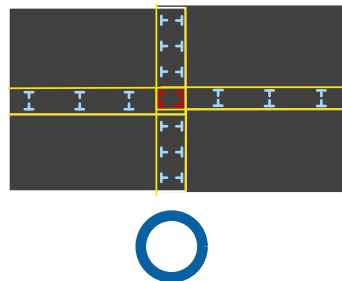
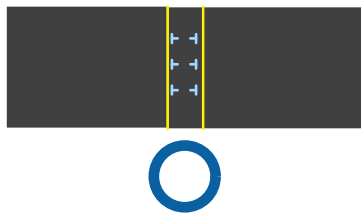
**9** If no Edge Blending value has been set or the specified Edge Blending value is incorrect, adjust the Edge Blending values as necessary.



- 10** While checking the displayed pattern, adjust the focus, size, and position of your projected image so the image covers the target projection area.



If you select **Flat** as the **Projection Screen Type**, T-shapes are displayed on the projection surface. See the following examples to adjust the projection position and size.



If you select **Curved** as the **Projection Screen Type**, no T-shapes are displayed on the projection surface. Adjust the projection position and size so that the overlapping width is the same as the design in advance.

- 11** Click **Next**.  
Calibration starts.



If the message "The adjustment limit of Geometry Correction has been exceeded." is displayed, take the following action.

- Go to **Shape Correction**, and adjust [+] in the screen reduction direction.
- If shape correction continues to fail, increase the physical overlap width and run the **Geometry Assist** wizard again.

- 12** Adjust the shape of the projected image.

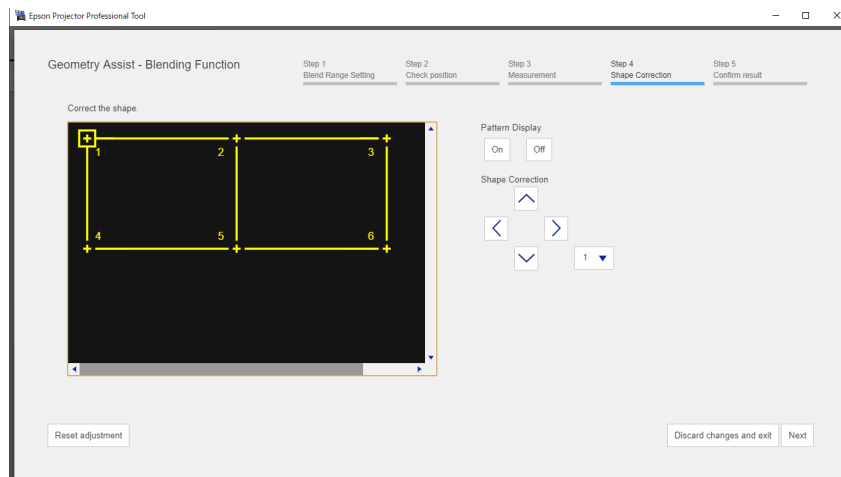
Align the correction points [+] with the linearity adjustment stickers attached at the edges of the target projection area.

For areas where no stickers are attached, align the correction point [+] with the position at which lights from the laser marker intersect using the positions of the stickers in each direction.

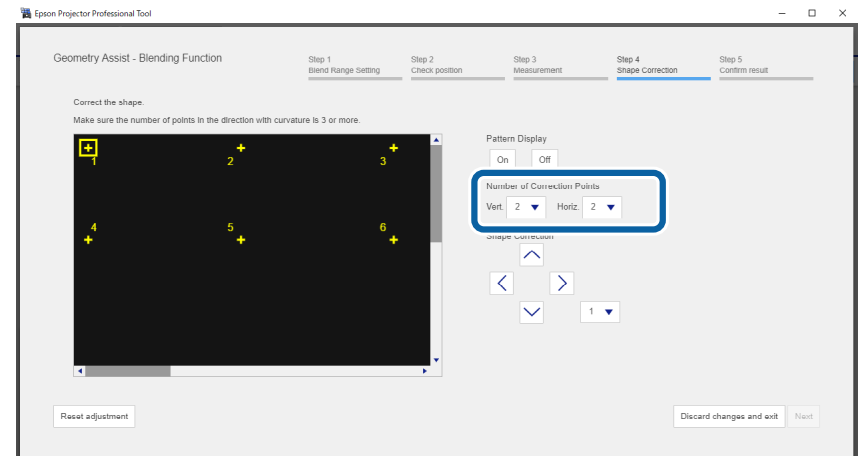


You can also make adjustments by dragging and dropping [+] on your computer screen. This function is only available for supported models. The keyboard commands are also available.

- When you have selected **Flat** as the **Projection Screen Type**



- When you have selected **Curved** as the **Projection Screen Type**  
Before moving the correction points [+], set the number of correction points for the entire projection surface in each direction (vertical and horizontal) to a pre-determined number.



- Follow the on-screen instructions to check the results of the adjustment.  
If you want to correct the shape of the screen again, click **Shape Correction**.

- If necessary, select To Screen Matching to start Screen Matching.



You cannot perform Screen Matching on convex surfaces. If you are projecting onto a convex surface, adjust the color and brightness of the image manually.

This completes the **Geometry Assist - Blending Function** wizard. If the pixels or shape of the projected image are misaligned, make adjustments from **Point Correction** on the **Geometry Correction** tab for each projector.



After using the **Geometry Assist - Blending Function** wizard, the following settings change automatically.

- **Correction Type** on the **Geometry Correction** tab changes to **Point Correction**.
- The **Area Correction** setting on the **Black Level** tab is set automatically.
- The **Color Adjustment** setting on the **Black Level** tab is set automatically.

If you want to change the **Color Adjustment** setting, perform Screen Matching.

## ► Related Links

- "Blending and Stacking Group Settings" [p.15](#)
- "Geometry Correction" [p.22](#)
- "Keyboard Shortcuts for the Geometry Assist" [p.78](#)

You can use the **Geometry Assist - Stacking Function** wizard to easily and quickly create a single bright, projected image by overlapping the images of multiple projectors.

This section explains the preparation and setup procedures required for stacking (Camera Assist V200).

See the following for more information on supported models.

[https://download2.ebz.epson.net/sec\\_pubs\\_visual/camera\\_assist/EN](https://download2.ebz.epson.net/sec_pubs_visual/camera_assist/EN)

## ► Related Links

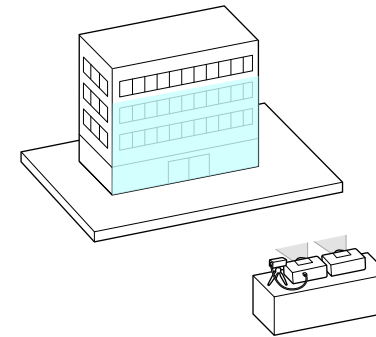
- "Stacking (Camera Assist V200) Features" [p.46](#)
- "Definition of Complex Surfaces" [p.46](#)
- "Installing the External Camera" [p.46](#)
- "Stacking (Camera Assist V200) Workflow and Main Tasks" [p.49](#)
- "Operating Stacking (Camera Assist V200)" [p.50](#)

## Stacking (Camera Assist V200) Features

- **Complex** has been added to the projection surface types for stacking (Camera Assist V200). Select **Complex** when projecting onto building walls or similar surfaces.
- We have improved installation and operation for all projection surface types.
  - You can perform with a single camera (connected to the projector set as layer 1)
  - You can mount an external camera on a tripod instead of a dedicated mount, allowing you to install the camera where you like.
  - You can set the camera's capture range to avoid automatic adjustment failures.
  - You can set the projection range of the special pattern displayed during automatic adjustment to avoid automatic adjustment failures.

## Definition of Complex Surfaces

Complex surfaces refer to projection surfaces with windows, steps, or fine irregularities, such as those found on building walls.



Even with automatic adjustment, errors may still occur at the outer perimeter of the projection surface, windows, low-reflectivity black walls, and their surroundings. After automatic adjustment, check the results and adjust manually as needed.



- There are no screen size limitations.
- The illuminance ratio on the projection surface when projecting an all-white screen and when projecting an all-black screen must be 8:1 or more.

## Installing the External Camera

Stacking (Camera Assist V200) allows you to mount the external camera on a commercially available tripod and install it in a position away from the projector. Mount the external camera on a tripod in any of the following situations.

- When projecting onto building walls and similar surfaces, set the projection surface type to **Complex**.

- When projecting through a transparent plate, such as glass or acrylic, and the projected light reflects off the plate and is captured by the camera.
- When there are obstacles in front of the camera when it is mounted on the mount supplied.

## Warning

- When mounting the external camera on a tripod, check that the leg locks and stoppers for the movable parts are not loose. If the tripod or external camera falls over and hits someone, it could cause injury or damage to the external camera.
- After connecting the external camera to the projector with a USB cable, be careful not to trip over the cable. There is a risk of people falling and getting injured, or the tripod falling over and damaging the tripod and external camera.

Be sure to read the user's guide for your tripod carefully.

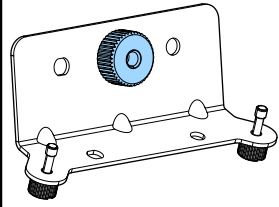
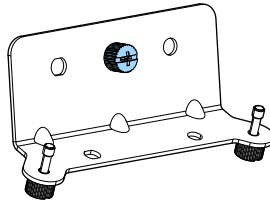
For precautions regarding the external camera itself, see the [External Camera User's Guide](#).

## ► Related Links

- "Screw Compatible with Tripod Mounting" [p.47](#)
- "Connection Cables for the Projector" [p.47](#)
- "Mounting the External Camera on a Tripod" [p.48](#)

## Screw Compatible with Tripod Mounting

Mount the external camera on the tripod using the screw included with the mounting bracket (for the ultra-short throw lens). Check whether the screw included with your external camera's mounting bracket (for the ultra-short throw lens) is compatible with tripod mounting.

| Screw compatible with tripod mounting   | Screw not compatible with tripod mounting  |
|---|--|
| <p>Has a tripod screw hole in the screw head</p>  <p>The tripod screw hole is compatible with UNC 1/4-20 screws (ISO1222).</p> | <p>Has a cross-cut in the screw head</p>  |

If your screw is not compatible with tripod mounting, contact your dealer or refer to the contact information in the projector's *Epson Projector Contact List*.

## Connection Cables for the Projector

Connect the camera to the projector with the USB cable supplied with an external camera.

If the supplied USB cable (1.5 m) is not long enough to reach where you want to install the camera, you can use one of the following methods to extend the communication distance.

- Supplied USB cable (micro B male - Type-A male) + commercially available USB 2.0 extension cable (Type-A female - Type-A male)
- Supplied USB cable (micro B male - Type-A male) + commercially available USB repeater cable (Type-A female - Type-A male) or USB extender



- When using commercially available cables to extend the communication distance, perform thorough operational testing beforehand, and use at your own risk.
- We cannot guarantee operation with all commercially available cables.
- The external camera needs to be installed in a position where it can capture the projection surface at an appropriate size. You may need to change the installation position by following the instructions in the **Geometry Assist - Stacking Function** wizard.

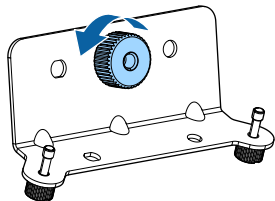
## Mounting the External Camera on a Tripod

Mount the external camera on the tripod using the screw included with the mounting bracket (for the ultra-short throw lens).



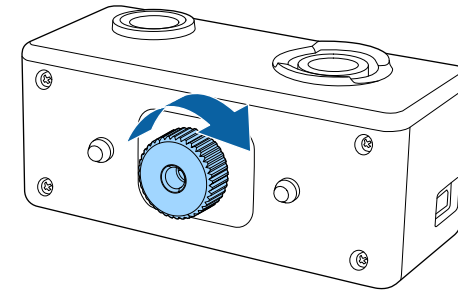
Be careful not to touch the lens of the external camera.

- 1** Take out the mounting bracket (for the ultra-short throw lens) from the packaging included with the external camera.
- 2** Remove the screw (with the tripod screw hole) from the mounting bracket (for the ultra-short throw lens).

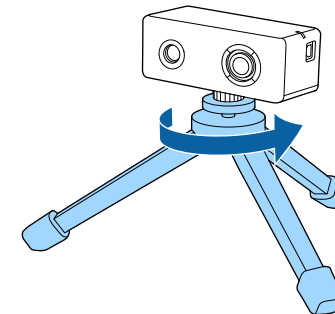


The mounting bracket is not used to attach the external camera.

- 3** Attach the screw to the external camera and tighten the screw head by hand.



- 4** Mount the external camera on the tripod.

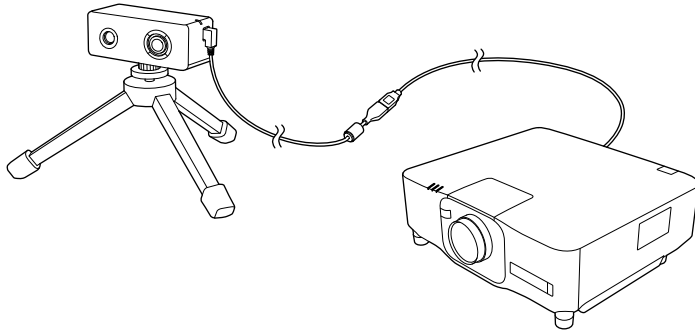


- 5** Using a USB cable, connect the external camera to the layer 1 projector, which serves as the reference for stacking.

### **Caution**

Connect the external camera when the projector's power cable is unplugged. If you connect the external camera while power is being supplied to the projector, the projector may not recognize the external camera.





- 6** Set up the tripod with the mounted external camera.
- If the camera moves during capture, it can reduce the accuracy of automatic adjustment or cause it to fail.
- Place the camera on a stable surface to prevent movement during capture. If the tripod has leg locks or stoppers for movable parts, check that they are not loose.

## Stacking (Camera Assist V200) Workflow and Main Tasks

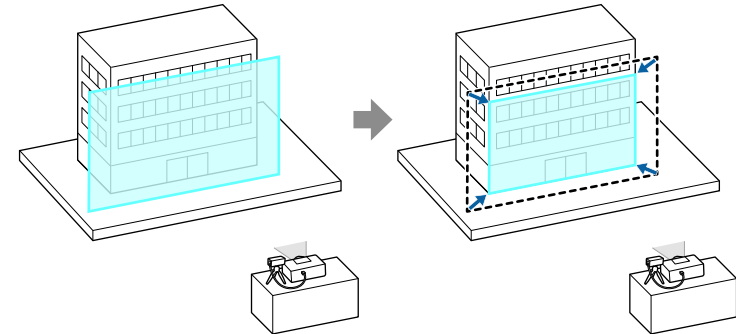
The workflow for the Stacking (Camera Assist V200) wizard proceeds in the following order.

- (1) Adjust the projection position/shape of the layer 1 projector, which serves as the reference for stacking.
- (2) Adjust the projection position of the projectors in other layers to be stacked.
- (3) Adjust the installation position and shooting range of the external camera.
- (4) Check the reflection of the projected light and create a measurement pattern mask.
- (5) Check the automatic adjustment results and perform manual adjustments.

### (1) Adjust the projection position/shape of the layer 1 projector

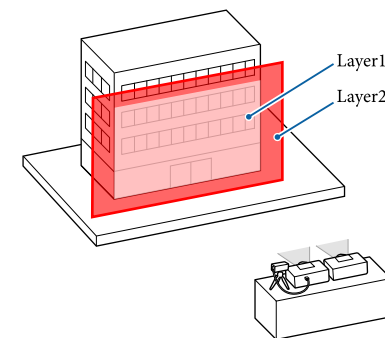
Adjust the layer 1 projector.

The adjustment results of layer 1 will serve as the reference for stacking.



### (2) Adjust the projection position of the layer 2 and subsequent projectors

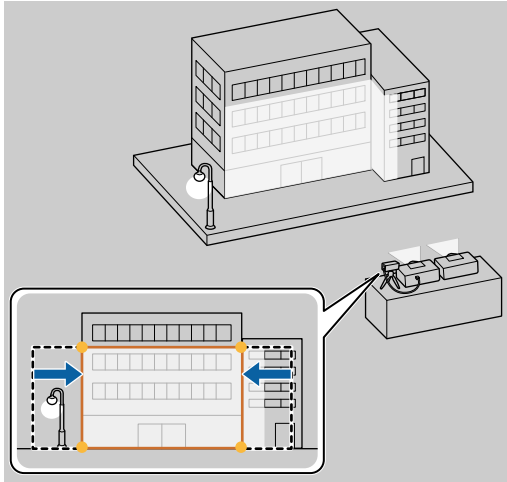
Adjust the projection position of layer 2 and subsequent projectors. For maximum brightness, adjust the projection range of the layer 2 and subsequent projectors so that it is slightly larger than the projection range (after geometry correction) of the layer 1 projector.



### (3) Adjust the installation position and shooting range of the external camera.

If the camera is mounted on a tripod, determine the camera position.

If there are strong or moving lights within the camera's capture range, exclude them from the capture range.

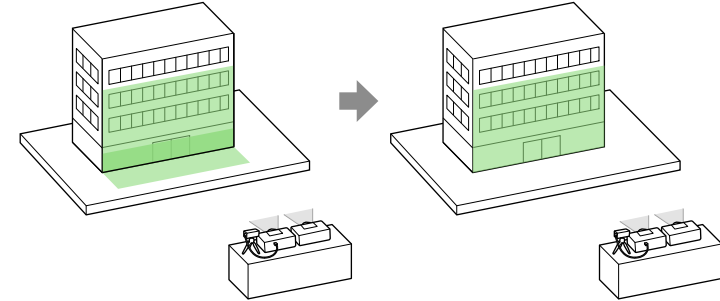


Be sure to exclude buildings or other objects in front of the projection surface that are not intended for projection from the capture range. If projected light falls on buildings or other objects in front of the projection surface that are not intended for projection, the camera's exposure or gain is adjusted to match the brightness of these objects during automatic adjustment. This may cause the projection surface to appear too dark when it is captured, which can reduce the accuracy of automatic adjustment or cause it to fail.

## (4) Check the reflection of the projected light and create a measurement pattern mask

Check if the projected light is reflecting off adjacent walls, water surfaces, highly reflective floors, and so on, and appearing in the projection range. If reflections are present, create a measurement pattern mask to mask the projected light that extends beyond the projection area. Creating a measurement pattern

mask reduces the likelihood that camera measurement errors will occur due to reflections of the measurement pattern.



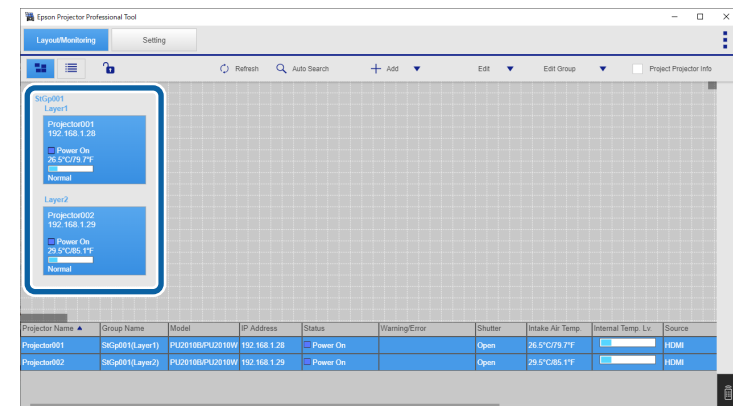
## (5) Check the automatic adjustment results and perform manual adjustments

Check the automatic adjustment results and adjust manually as needed.

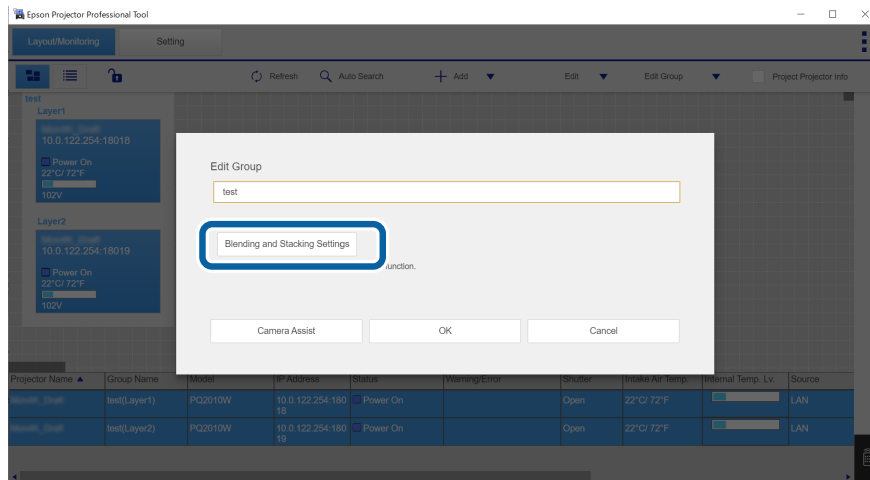
For complex surfaces, carefully check areas around steps, near boundaries with window glass, and the edges of the projection surface.

## Operating Stacking (Camera Assist V200)

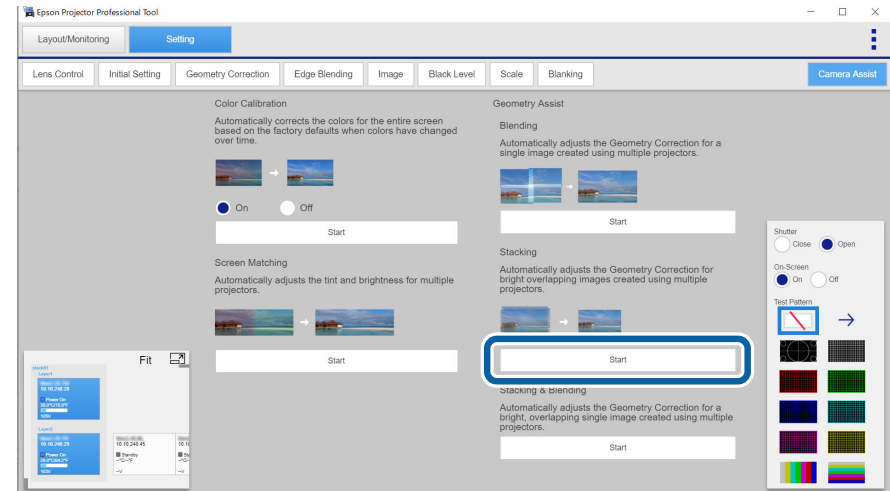
### 1 Create a group of projectors that support Camera Assist V200.



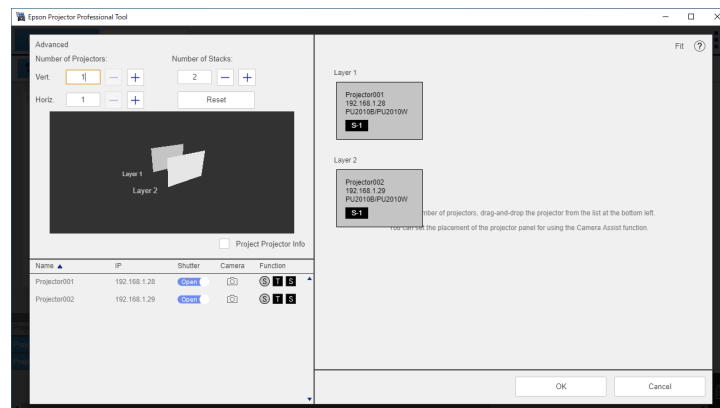
**2** Select **Blending and Stacking Settings** on the **Create Group** screen.



**5** Click **Start** in **Stacking**.

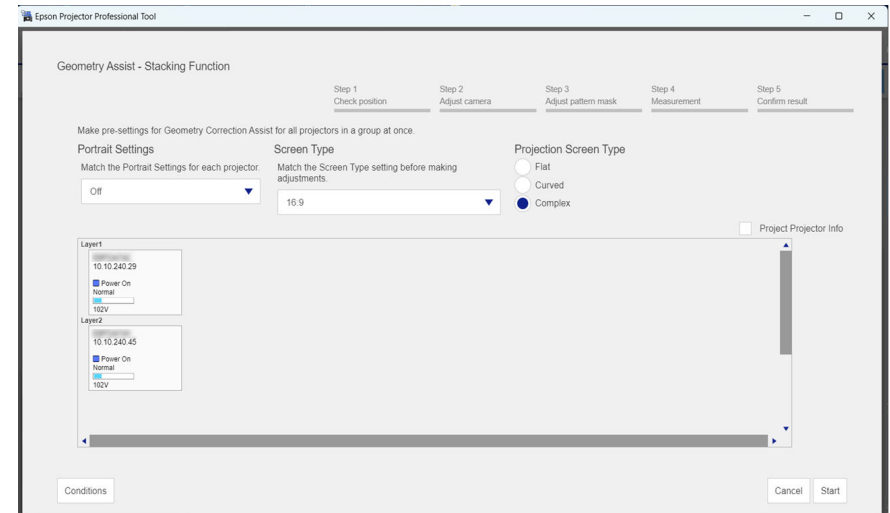


**3** Specify the projectors' positions in the **Blending and Stacking Settings**, and then click **OK**.



**4** Click **Camera Assist** on the **Create Group** screen.

The **Geometry Assist - Stacking Function** wizard starts.

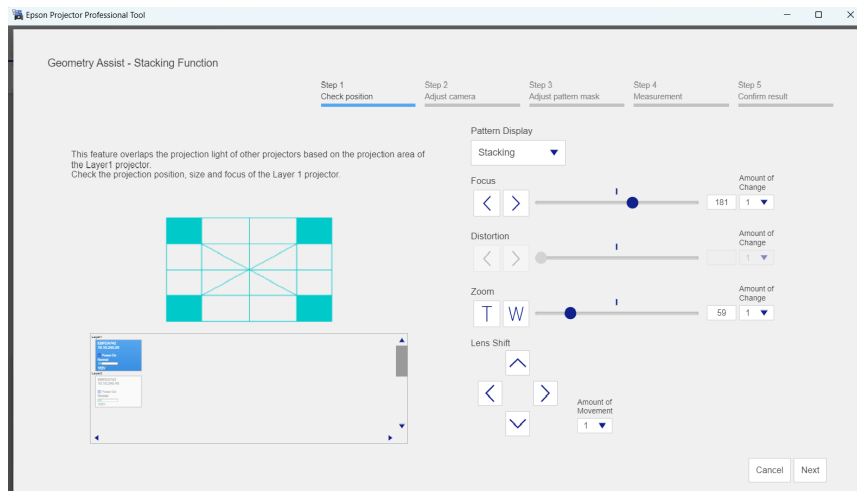
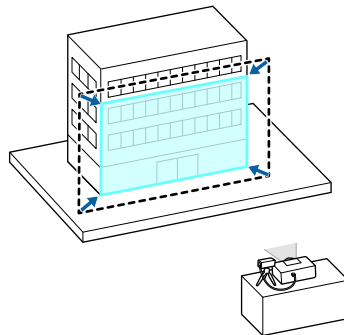




You can change the value for **Select Image Size** only when **Portrait Settings** is set to **Off**.

**6** Select the projection surface type, and then click **Start**.

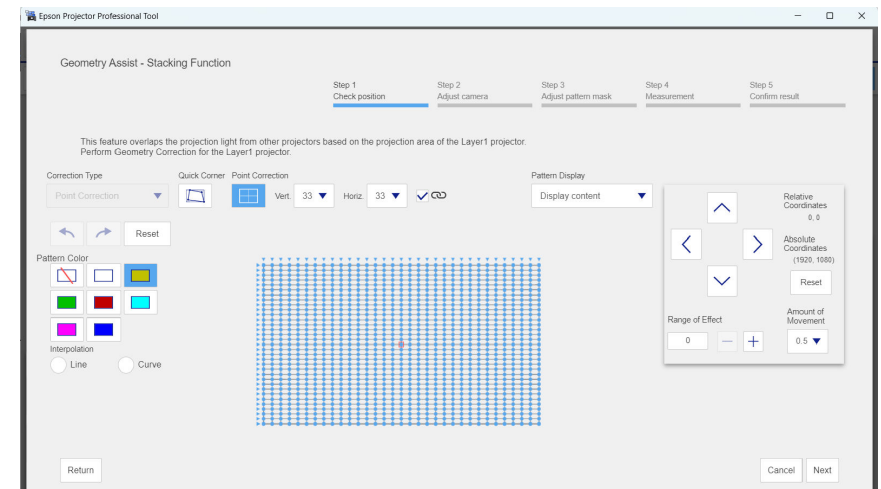
**7** Adjust the projection position of the layer 1 projector.



**8** Perform geometry correction for layer 1 to match the projection surface.

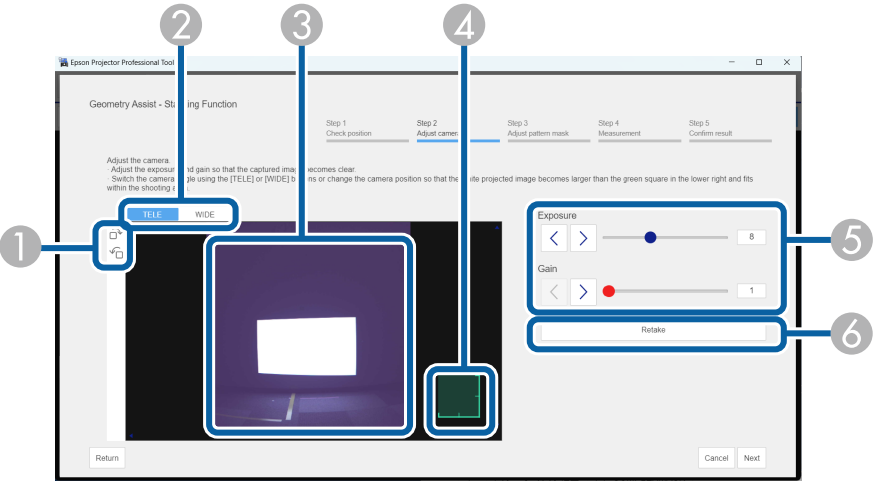
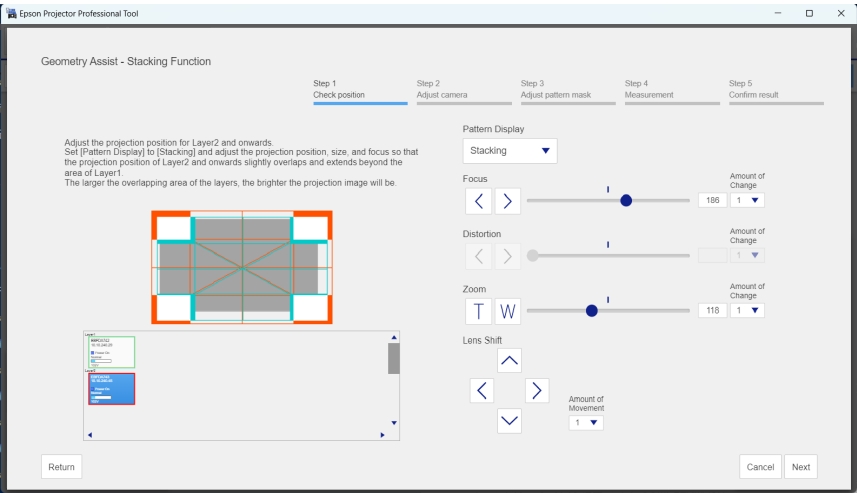
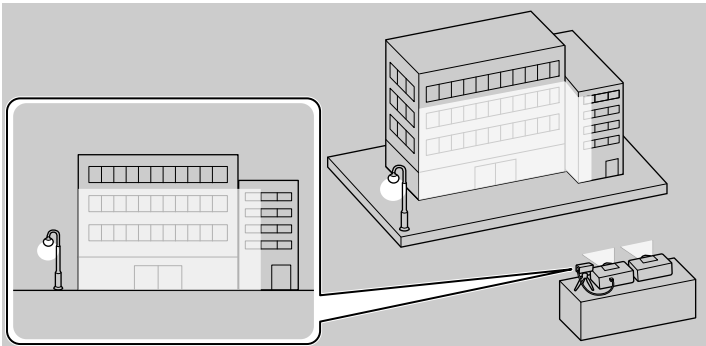
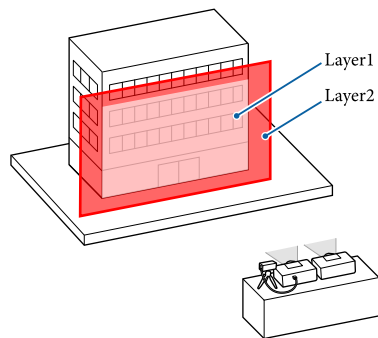


If you select **Complex** as the projection surface type, you do not need to perform this operation. Perform geometry correction using a device such as a media server.




**9** Adjust the projection position of layer 2 and subsequent projectors.

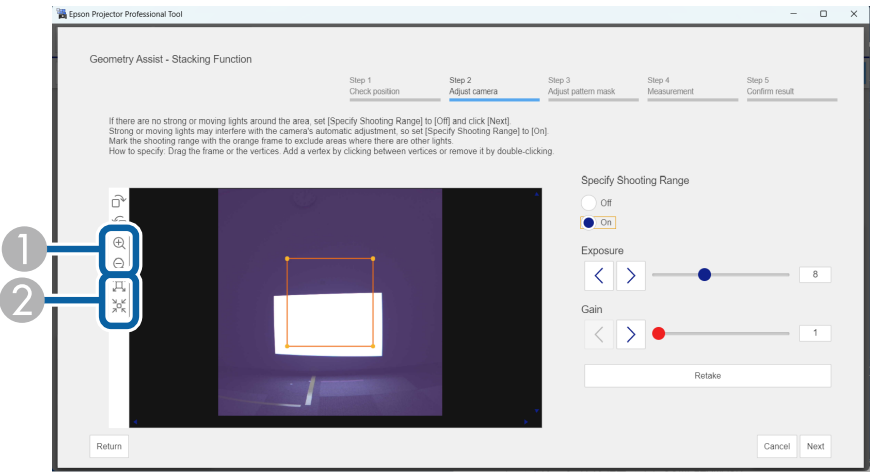
The pattern after geometry correction for layer 1 is projected onto the projection surface. For maximum brightness, adjust the projection range of the layer 2 and subsequent projectors so that it is slightly larger than layer 1.



- 10** Adjust the camera position.
- Adjust the white projection surface in the captured image to match the size indicated on the screen by following the on-screen instructions.

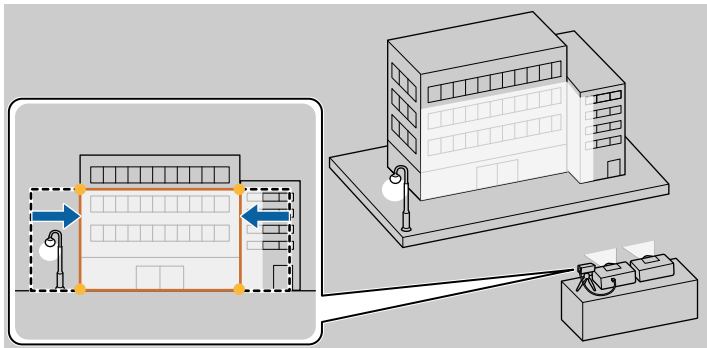
|   |   |
|---|---|
| 1 | Rotates the captured image.   |
| 2 | Switches the capture mode (TELE/WIDE). The image is recaptured after switching.   |
| 3 | Displays the captured image. An all-white pattern is projected when capturing the image, so the white part of the image becomes the projection surface. |

|   |   |
|---|---|
| 4 | Adjust the camera position and capture mode so that the white part of the captured image is larger than the green frame. You can move the green frame with the mouse.   |
| 5 | <p>If the white projection surface is not clearly visible in the captured image and you cannot check its size, adjust the exposure and gain values, and then click <b>Retake</b>.</p> <div><p>The exposure and gain values are automatically adjusted during auto-adjustment, so you do not need to set them precisely on this screen.</p></div> |
| 6 | Recaptures the image. Click this when you have changed the camera position or adjusted the exposure and gain values.  |



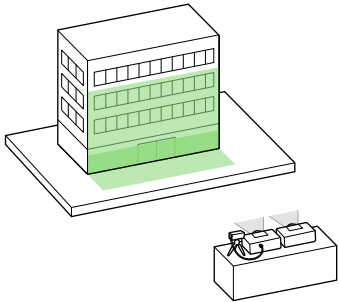
|   |   |
|---|---|
| 1 | Enlarges or reduces the captured image.           |
| 2 | Enlarges or reduces the orange frame or vertices. |

## 11 Specify the capture range.



If there are strong or moving lights in the captured image, set **Specify Shooting Range** to **On**. The orange frame on the captured image is the capture range. Exclude areas that contain other lights from the capture range.

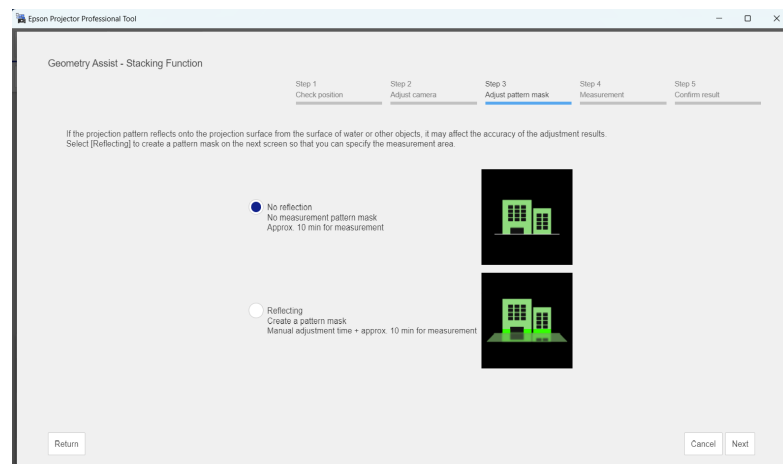
## 12 Check the area around the projection surface and select whether the projected pattern is reflecting onto the projection surface due to surfaces such as water.



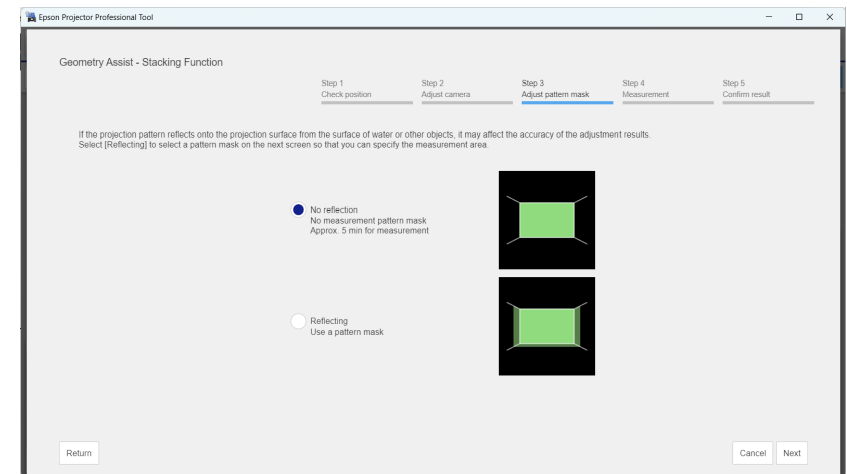


- In addition to surfaces such as water, if there are adjacent walls or highly reflective floors around the projection surface, the projected pattern may reflect onto the projection surface.
- In this step, the patterns are projected from all projectors.

- When **Complex** is selected as the **Projection Screen Type**



- When **Flat** or **Curved** is selected as the **Projection Screen Type**

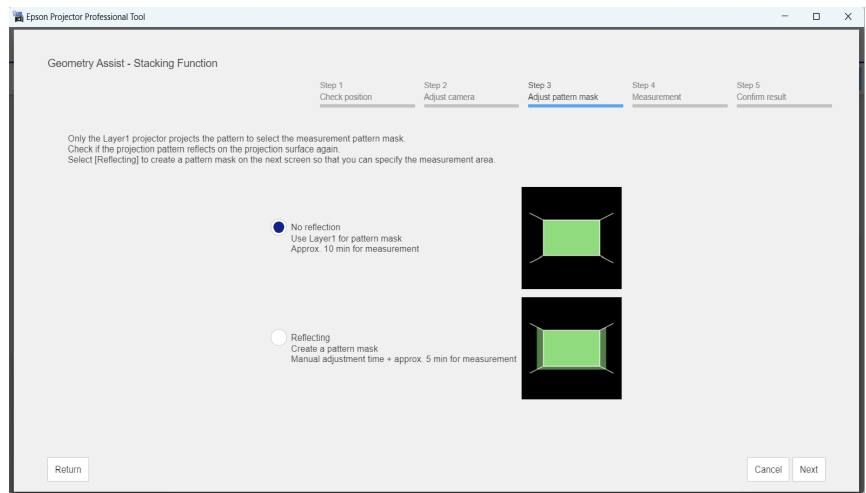


- If you select **No reflection** and click **Next**, click **OK** and go to step 16.
- If you select **Reflecting** and click **Next**, the next screen differs depending on the type of projection surface.
  - **Complex**: Go to step 14.
  - **Flat** or **Curved**: Go to step 13.

- 13 Check the area around the projection surface again and select whether the projected pattern is reflecting onto the projection surface due to surfaces such as water.

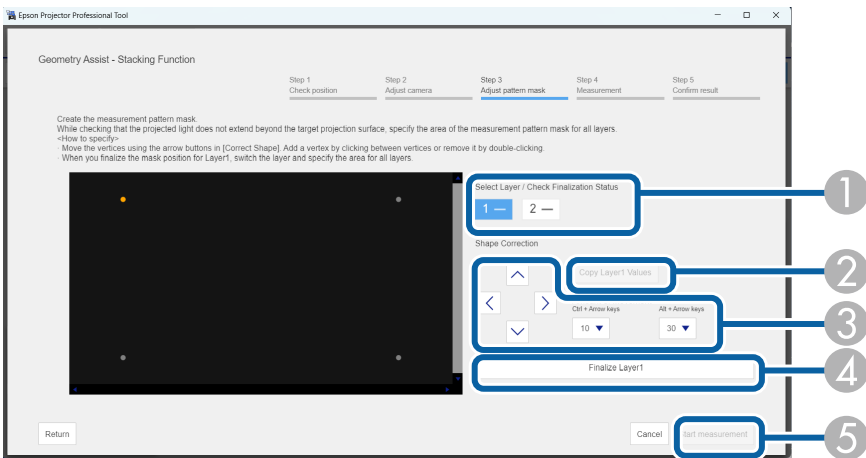
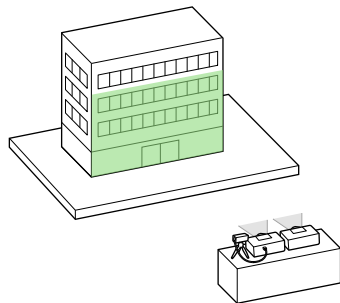


- In this step, the pattern is projected from only the projector in layer 1.
- This screen is not displayed if you select **Complex** as the type of projection surface.



- If you select **No reflection** and click **Next**, a measurement pattern mask is automatically created, and you can proceed with measuring. Click **OK** and go to step 16.
- If you select **Reflecting** and click **Next**, create the measurement pattern mask manually. Go to step 14.

## 14 Create a measurement pattern mask for all layers.

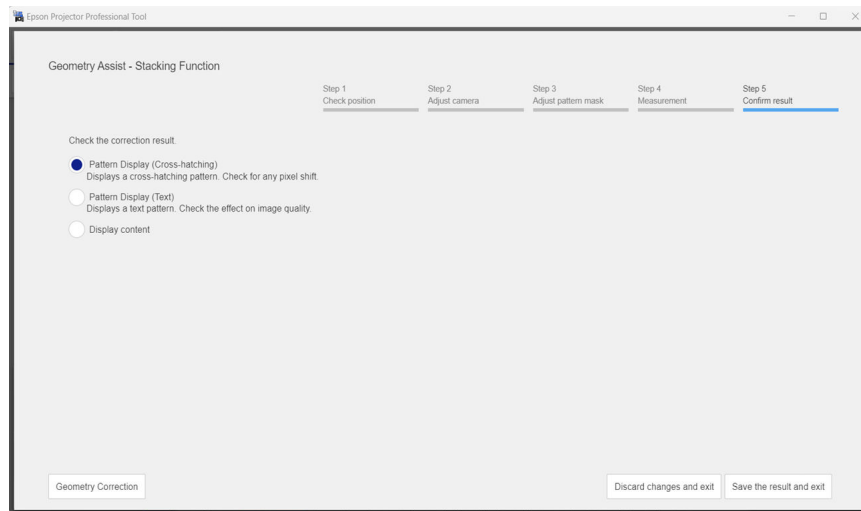


|   |   |
|---|---|
| 1 | Select layers and check the finalization status of the layers. A check mark (✓) is displayed for finalized layers.  |
| 2 | Copy the shape created in layer 1 to other layers.  |
| 3 | Select the amount of movement, and then click the cross cursor button. The shape of the measurement pattern mask on the projection surface will change. Vertices on the screen will not move. |
| 4 | Finalize the shape of the currently selected layer.   |
| 5 | After finalizing all layers, proceed with measuring.  |

**15** Once all layers have check marks in **Select Layer / Check Finalization Status**, click **Start measurement**, and then click **OK** to start automatic adjustment.

**16** Follow the on-screen instructions to check the results of the adjustment. If manual adjustments are needed, click **Geometry Correction**. If adjustments are complete, click **Check result** to check the results again.





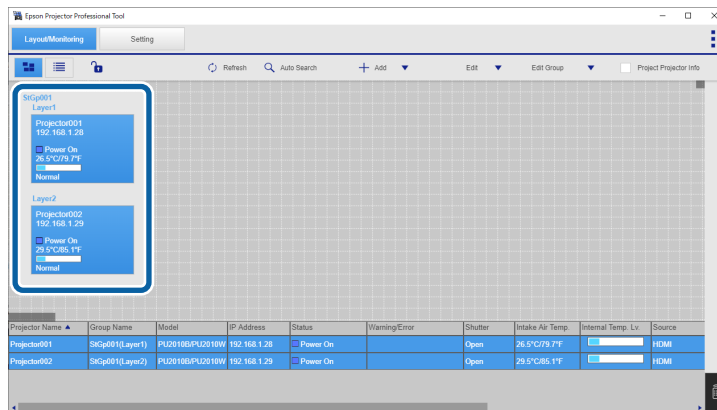
This completes the **Geometry Assist - Stacking Function** wizard.

You can use the **Geometry Assist - Stacking Function** wizard to easily and quickly create a single bright, projected image by overlapping the images of multiple projectors.

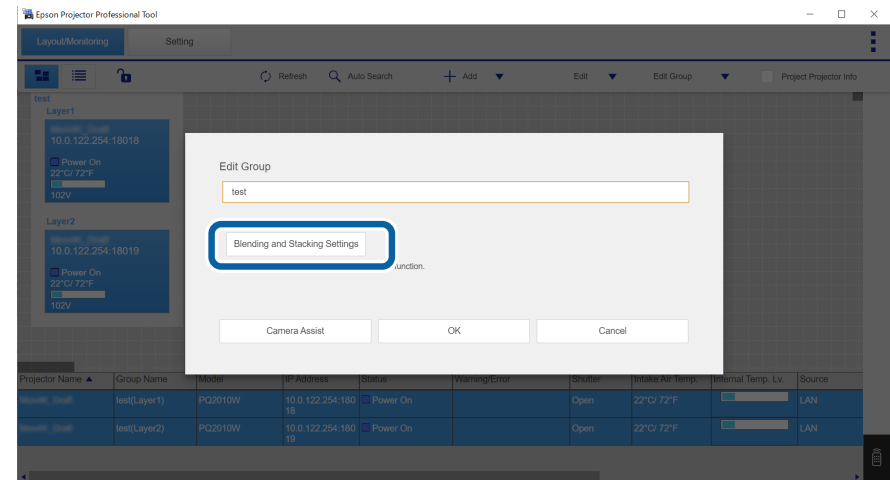
The procedure varies depending on the version of Camera Assist being used. See the following for more information on supported models.

[https://download2.ebz.epson.net/sec\\_pubs\\_visual/camera\\_assist/EN](https://download2.ebz.epson.net/sec_pubs_visual/camera_assist/EN)

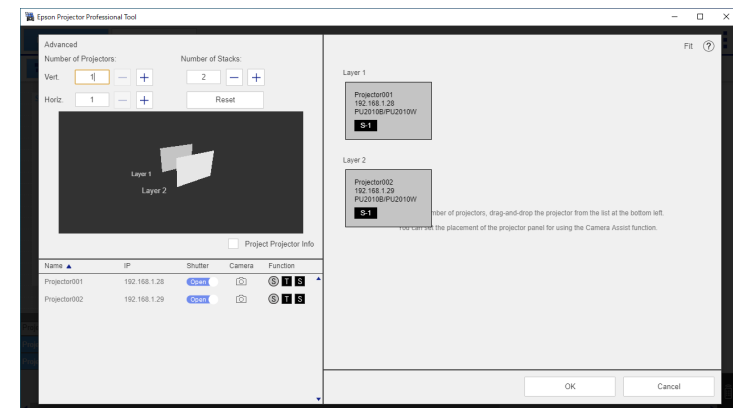
**1** Create a group of projectors that support Stacking.



**2** Select **Blending and Stacking Settings** on the **Create Group** screen.

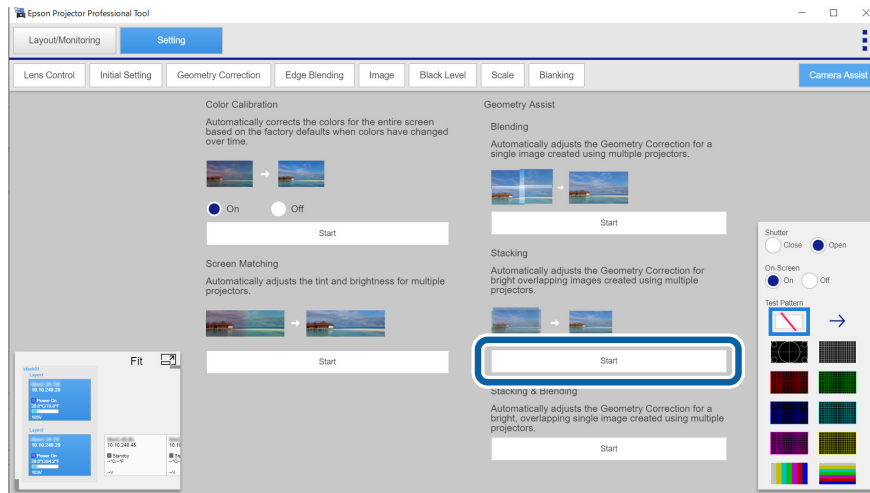


**3** Specify the projectors' positions in the **Blending and Stacking Settings**, and then click **OK**.

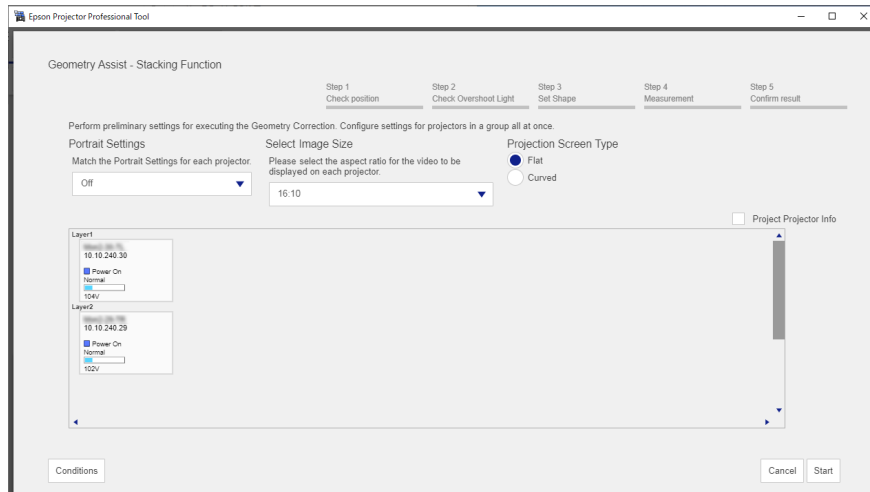


**4** Click **Camera Assist** on the **Create Group** screen.

## 5 Click Start in Stacking.

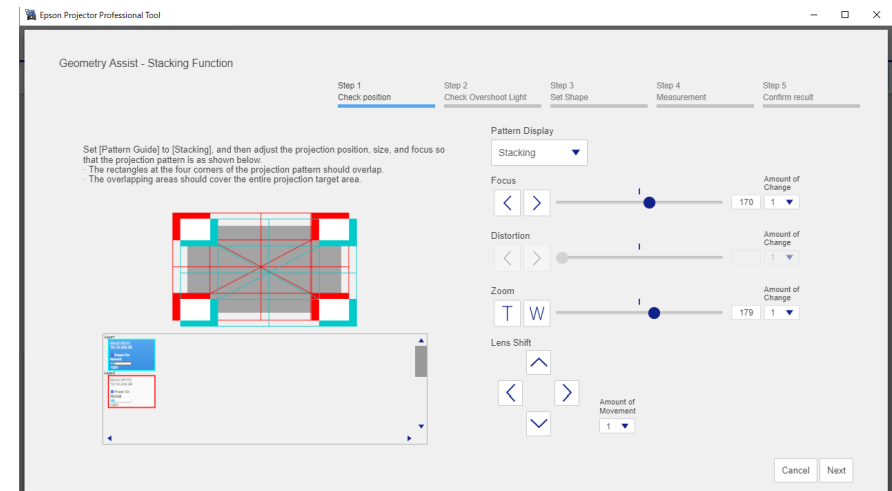


The Geometry Assist - Stacking Function wizard starts.

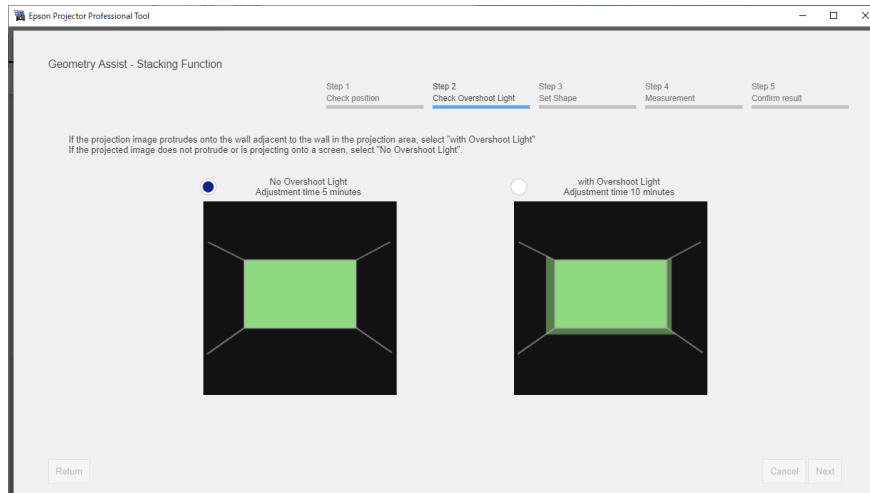


You can change the value for **Select Image Size** only when **Portrait Settings** is set to **Off**.

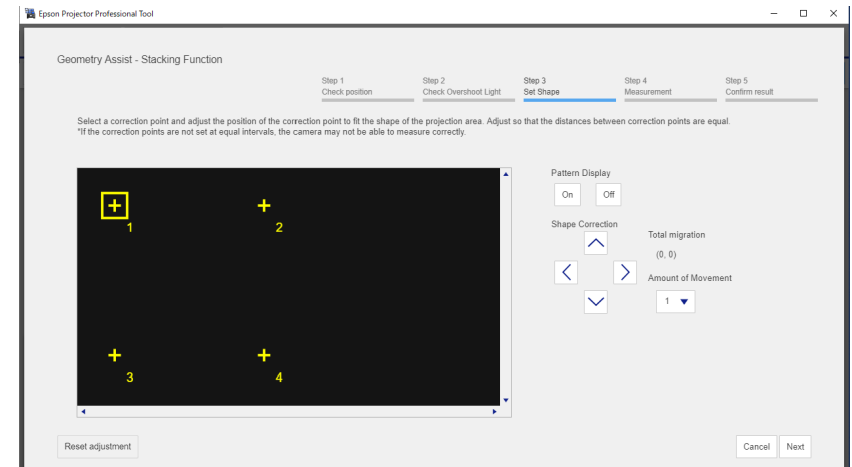
## 6 Follow the on-screen instructions to adjust the image positions using the Lens Control options so that images projected from multiple projectors roughly overlap.



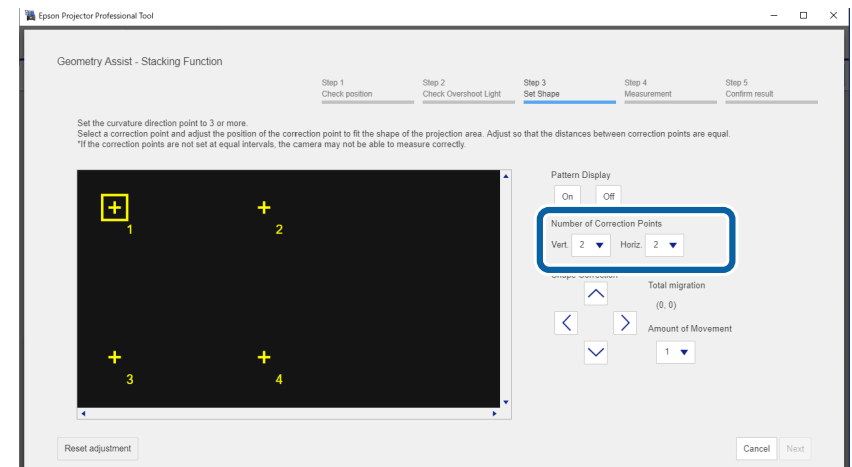
- 7** Select **with Overshoot Light** if the projected image extends onto the wall adjacent to the wall of the target projection area.



- 8** Set the shape of the projected image.
- Align the correction points [+] with the linearity adjustment stickers attached at the edges of the target projection area.
- For areas where no stickers are attached, align the correction point [+] with the position at which lights from the laser marker intersect using the positions of the stickers in each direction.
- When you have selected **Flat** as the **Projection Screen Type**



- When you have selected **Curved** as the **Projection Screen Type**
- Before moving the correction points [+], set the number of correction points for the entire projection surface in each direction (vertical and horizontal) to a pre-determined number.





Make sure the number of points in the direction with curvature is 3 or more.

- "Geometry Correction" [p.22](#)
- "Keyboard Shortcuts for the Geometry Assist" [p.78](#)

**9**

Click **Next**.

Calibration starts.



If the message "The adjustment limit of Geometry Correction has been exceeded." is displayed, take the following action.

- Go to **Shape Correction**, and adjust [+] in the screen reduction direction.
- If shape correction continues to fail, increase the physical overlap width and run the **Geometry Assist** wizard again.

**10**

Follow the on-screen instructions to check the results of the adjustment.

If you want to correct the shape of the screen again, click **Shape Correction**.

This completes the **Geometry Assist - Stacking Function** wizard. If the pixels or shape of the projected image are misaligned, make adjustments from **Point Correction** on the **Geometry Correction** tab for each projector.



After using the **Geometry Assist - Stacking Function** wizard, the following settings change automatically.

- **Correction Type** on the **Geometry Correction** tab changes to **Point Correction**.
- The **Area Correction** setting on the **Black Level** tab is set automatically.
- The **Color Adjustment** setting on the **Black Level** tab is set automatically.

## ►► Related Links

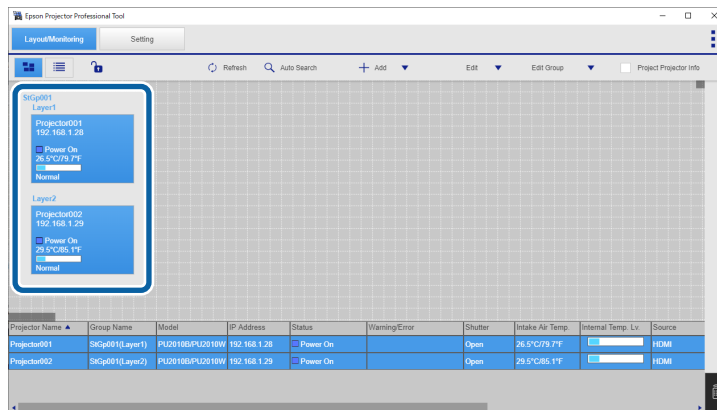
- "Blending and Stacking Group Settings" [p.15](#)

You can use the **Geometry Assist - Stacking Function** wizard to easily and quickly create a single bright, projected image by overlapping the images of multiple projectors.

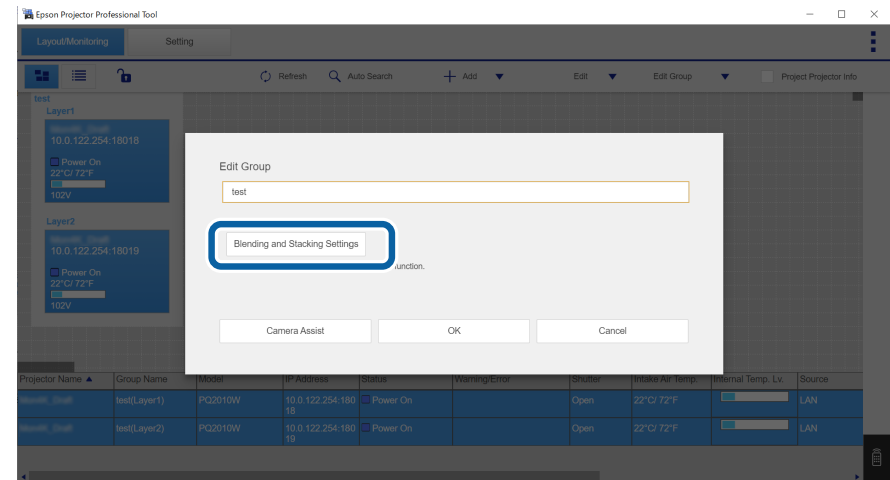
The procedure varies depending on the version of Camera Assist being used. See the following for more information on supported models.

[https://download2.ebz.epson.net/sec\\_pubs\\_visual/camera\\_assist/EN](https://download2.ebz.epson.net/sec_pubs_visual/camera_assist/EN)

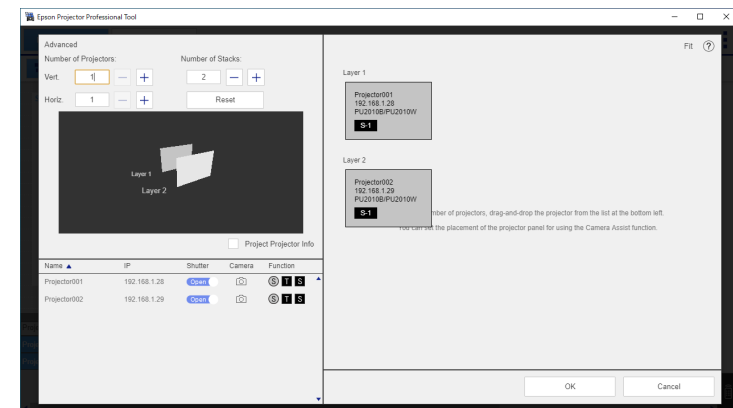
**1** Create a group of projectors that support Stacking.



**2** Select **Blending and Stacking Settings** on the **Create Group** screen.

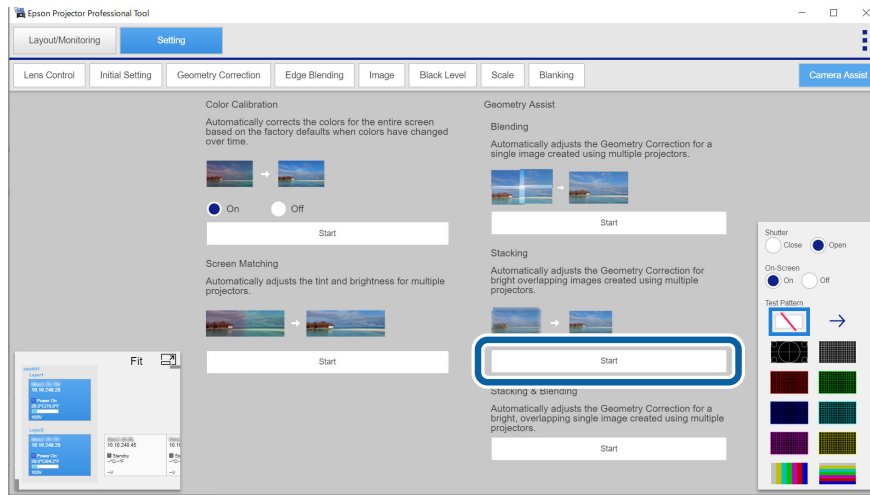


**3** Specify the projectors' positions in the **Blending and Stacking Settings**, and then click **OK**.

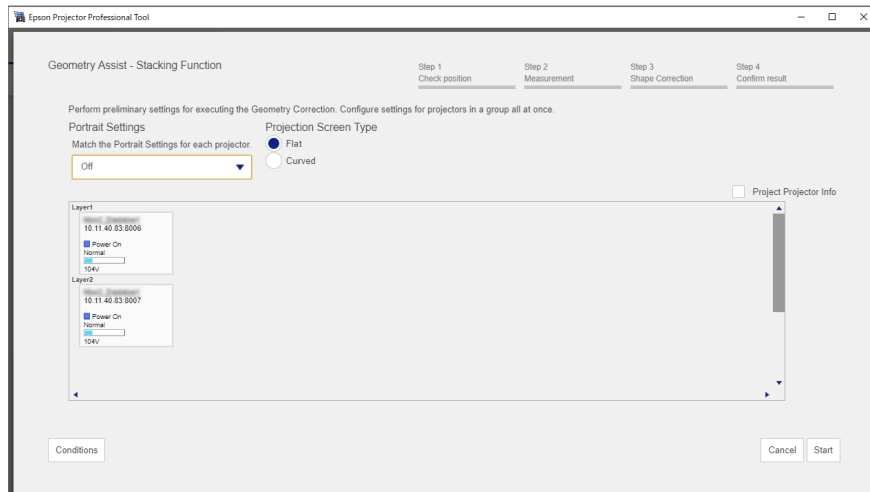


**4** Click **Camera Assist** on the **Create Group** screen.

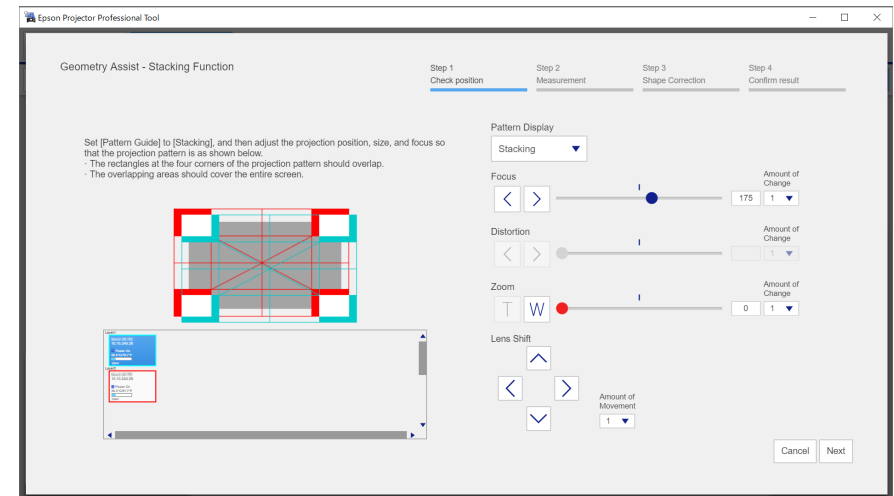
## 5 Click Start in Stacking.



The Geometry Assist - Stacking Function wizard starts.



## 6 Follow the on-screen instructions to adjust the image positions using the Lens Control options so that images projected from multiple projectors roughly overlap.



## 7 Click Next. Calibration starts.



If the message "The adjustment limit of Geometry Correction has been exceeded." is displayed, take the following action.

- Go to **Shape Correction**, and adjust [+] in the screen reduction direction.
- If shape correction continues to fail, increase the physical overlap width and run the **Geometry Assist** wizard again.

## 8 Adjust the shape of the projected image.

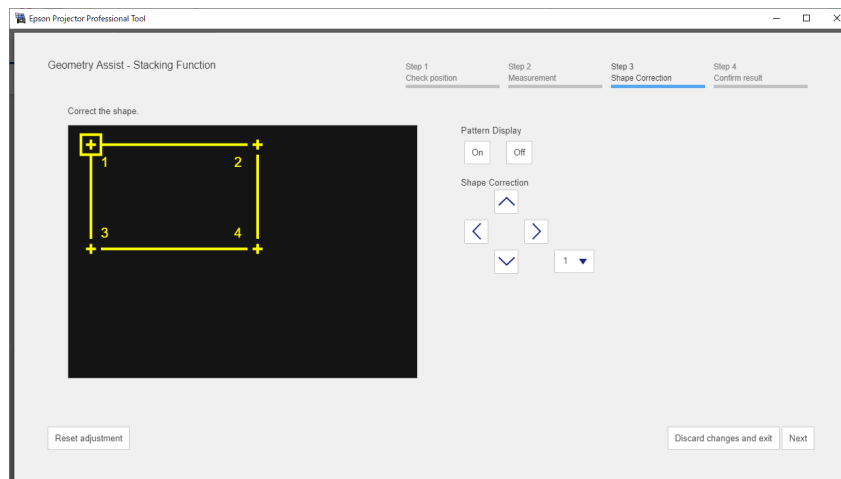
Align the correction points [+] with the linearity adjustment stickers attached at the edges of the target projection area.

For areas where no stickers are attached, align the correction point [+] with the position at which lights from the laser marker intersect using the positions of the stickers in each direction.

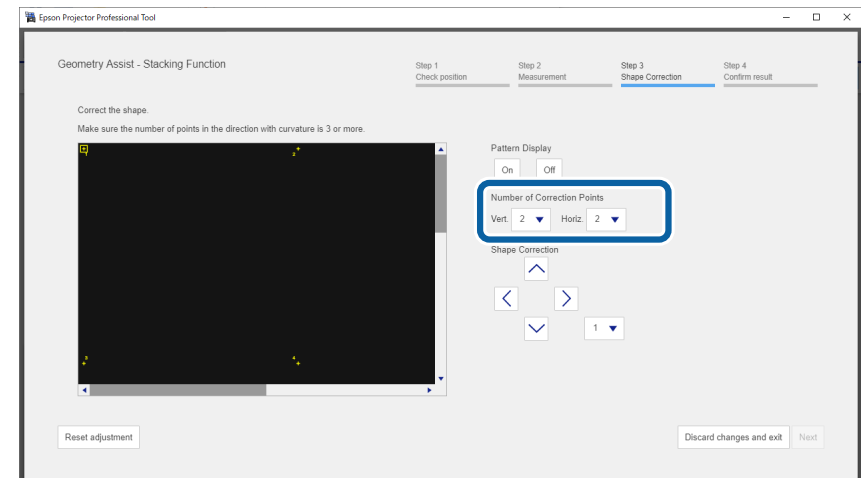


You can also make adjustments by dragging and dropping [+] on your computer screen. This function is only available for supported models. The keyboard commands are also available.

- When you have selected **Flat** as the **Projection Screen Type**



- When you have selected **Curved** as the **Projection Screen Type**  
Before moving the correction points [+], set the number of correction points for the entire projection surface in each direction (vertical and horizontal) to a pre-determined number.



Make sure the number of points in the direction with curvature is 3 or more.

- 9 Follow the on-screen instructions to check the results of the adjustment.  
If you want to correct the shape of the screen again, click **Shape Correction**.

This completes the **Geometry Assist - Stacking Function** wizard. If the pixels or shape of the projected image are misaligned, make adjustments from **Point Correction** on the **Geometry Correction** tab for each projector.





After using the **Geometry Assist - Stacking Function** wizard, the following settings change automatically.

- **Correction Type** on the **Geometry Correction** tab changes to **Point Correction**.
- The **Area Correction** setting on the **Black Level** tab is set automatically.
- The **Color Adjustment** setting on the **Black Level** tab is set automatically.

## ►► Related Links

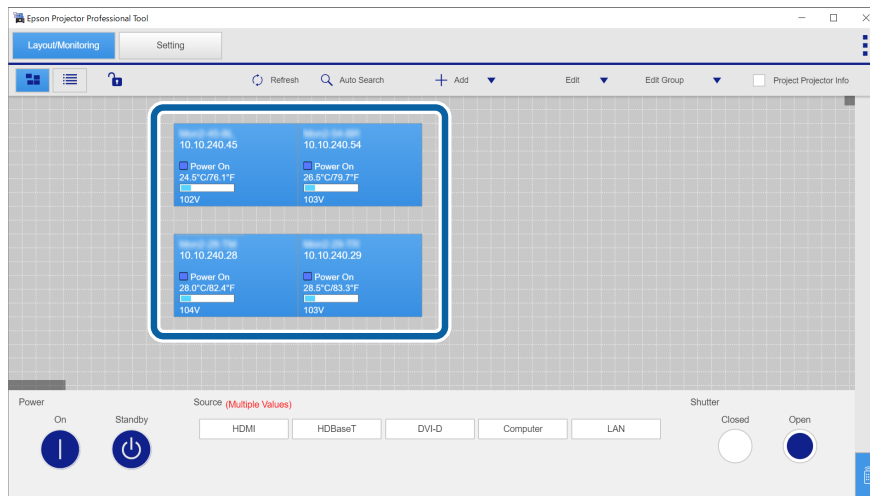
- "Blending and Stacking Group Settings" [p.15](#)
- "Geometry Correction" [p.22](#)
- "Keyboard Shortcuts for the Geometry Assist" [p.78](#)

You can use the **Geometry Assist - Stacking & Blending Function** wizard to easily and quickly create a single large, bright, projected image by joining and overlapping the images of multiple projectors.

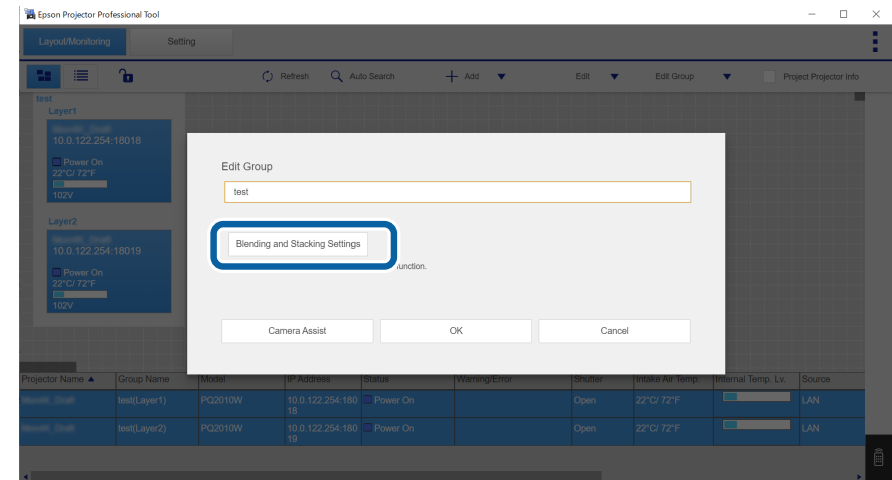
The procedure varies depending on the version of Camera Assist being used. See the following for more information on supported models.

[https://download2.ebz.epson.net/sec\\_pubs\\_visual/camera\\_assist/EN](https://download2.ebz.epson.net/sec_pubs_visual/camera_assist/EN)

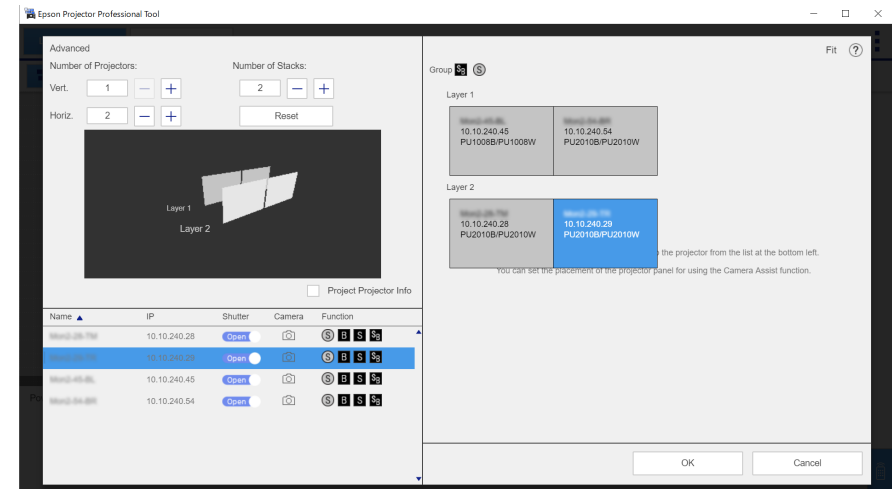
## 1 Create a group of projectors that support Stacking & Blending.



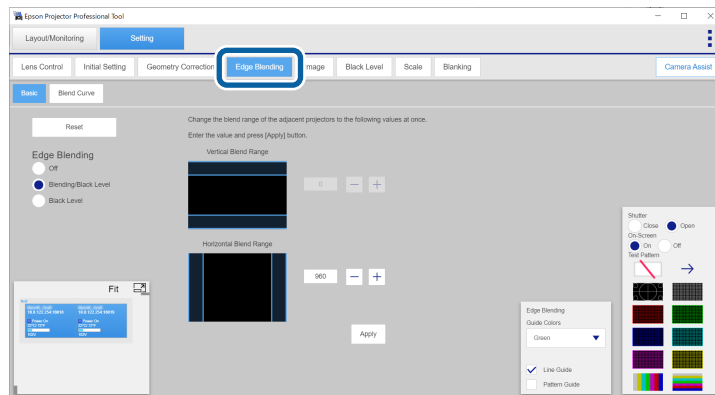
## 2 Select Blending and Stacking Settings on the Create Group screen.



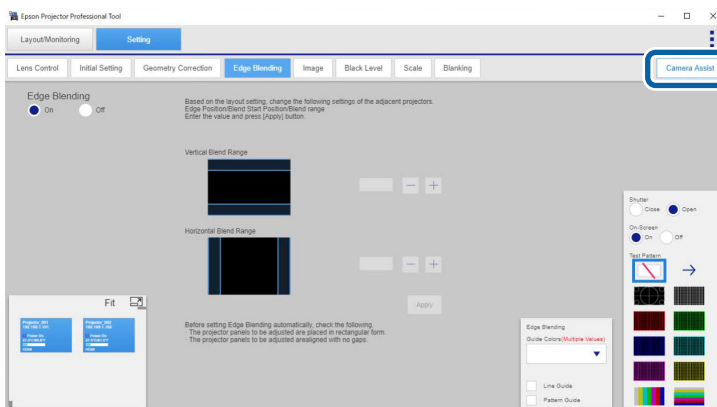
## 3 Specify the projectors' positions in the Blending and Stacking Settings, and then click OK.



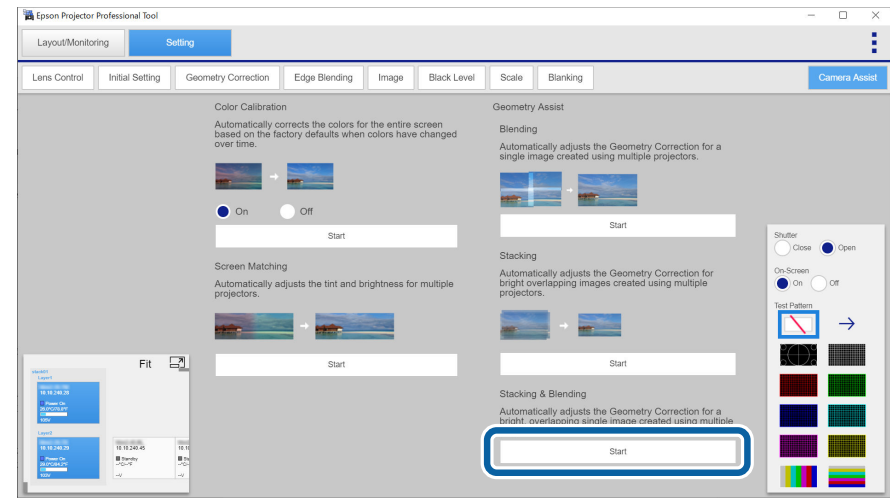
- 4 Click OK on the **Create Group** screen.
- 5 Click the **Setting** tab.
- 6 Adjust the Edge Blending values on the **Edge Blending** tab.



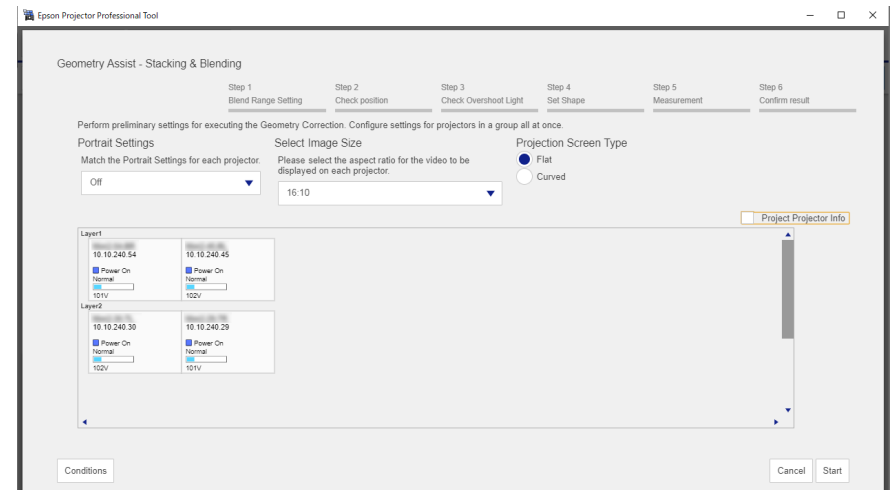
- 7 Click the **Camera Assist** tab.



- 8 Click **Start** in **Stacking & Blending**.



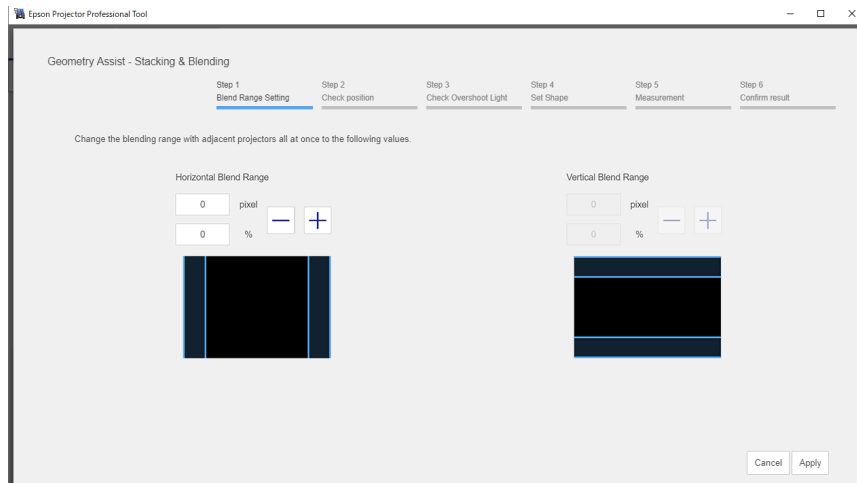
The **Geometry Assist - Stacking & Blending** Function wizard starts.





- When blending projections vertically, the **Select Image Size** menu is not displayed.
- You can change the value for **Select Image Size** only when **Portrait Settings** is set to **Off**.

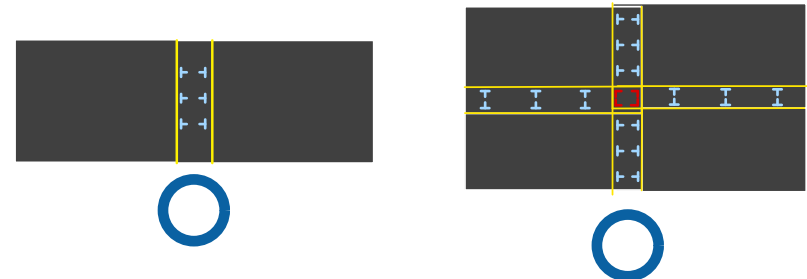
**9** If no Edge Blending value has been set or the specified Edge Blending value is incorrect, adjust the Edge Blending values as necessary.

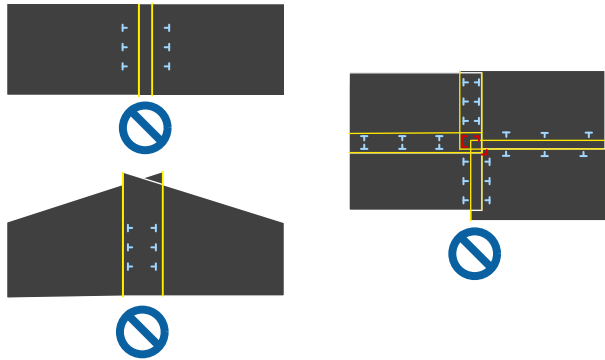


**10** While checking the displayed pattern, adjust the focus, size, and position of your base layer (Layer 1) so that the projected image covers the target projection area.



If you select **Flat** as the **Projection Screen Type**, T-shapes are displayed on the projection surface. See the following examples to adjust the projection position and size.

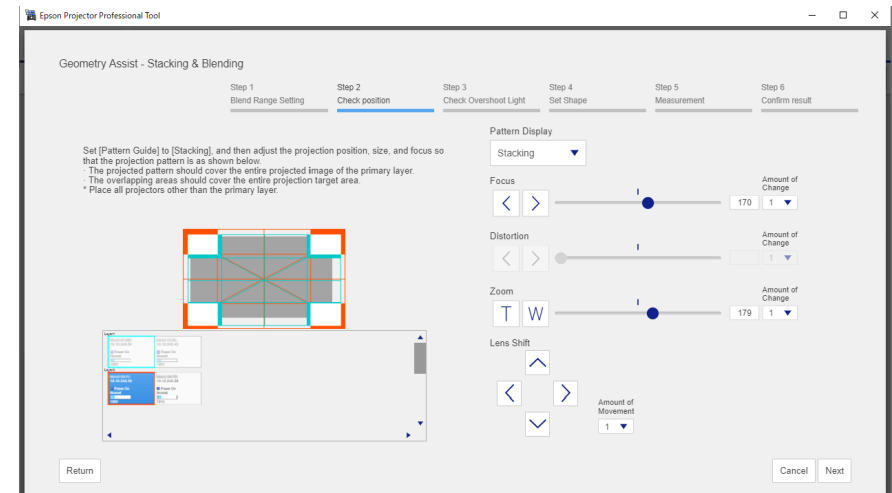




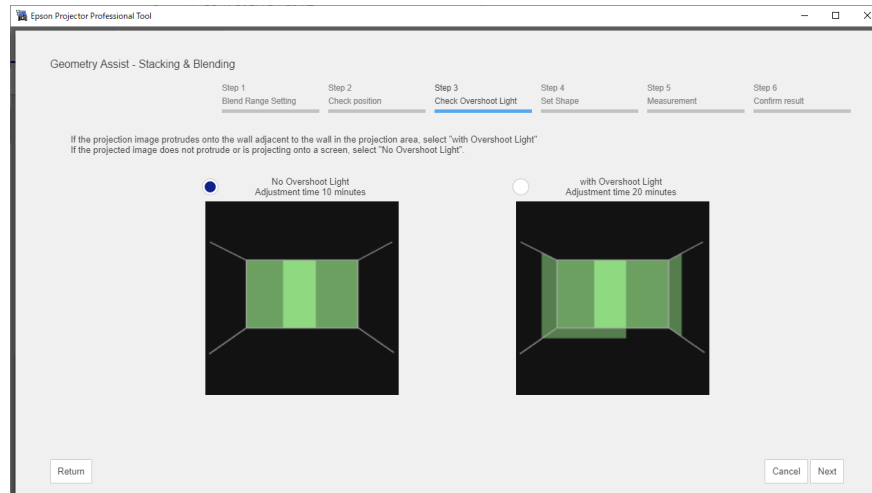
If you select **Curved** as the **Projection Screen Type**, no T-shapes are displayed on the projection surface. Adjust the projection position and size so that the overlapping width is the same as the design in advance.

**11** Click **Next**.

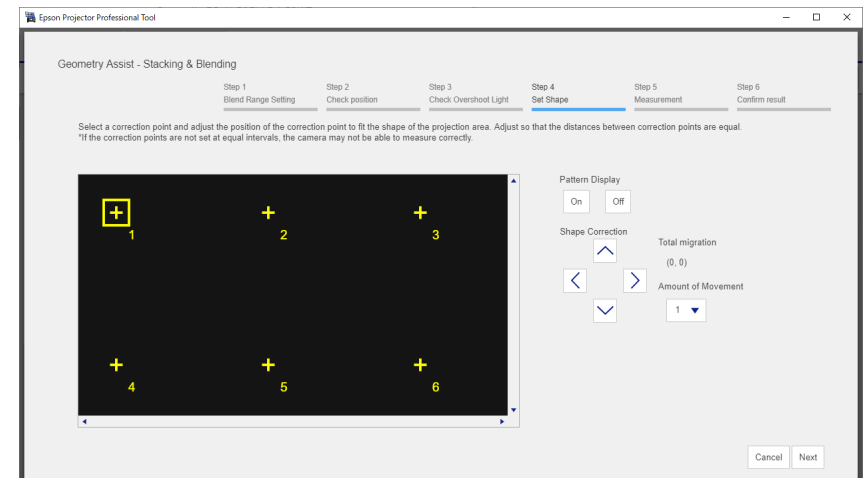
**12** Follow the on-screen instructions to adjust the image positions using the Lens Control options so that the images projected from all projectors, except for the base layer, roughly overlap.



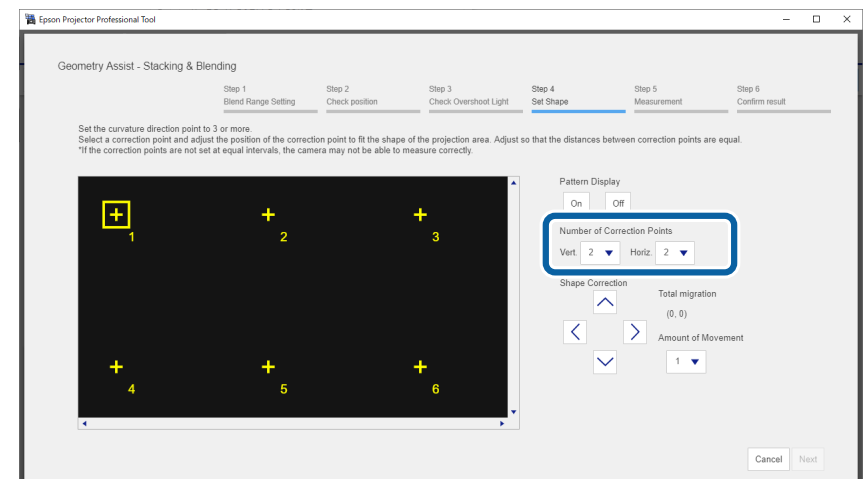
- 13** Select **with Overshoot Light** if the projected image extends onto the wall adjacent to the wall of the target projection area.



- 14** Set the shape of the projected image.
- Align the correction points [+] with the linearity adjustment stickers attached at the edges of the target projection area.
- For areas where no stickers are attached, align the correction point [+] with the position at which lights from the laser marker intersect using the positions of the stickers in each direction.
- When you have selected **Flat** as the **Projection Screen Type**



- When you have selected **Curved** as the **Projection Screen Type**
- Before moving the correction points [+], set the number of correction points for the entire projection surface in each direction (vertical and horizontal) to a pre-determined number.



- 15** Click **Next**.  
Calibration starts.



If the message "The adjustment limit of Geometry Correction has been exceeded." is displayed, take the following action.

- Go to **Shape Correction**, and adjust [+] in the screen reduction direction.
- If shape correction continues to fail, increase the physical overlap width and run the **Geometry Assist** wizard again.

- 16** Follow the on-screen instructions to check the results of the adjustment.  
If you want to correct the shape of the screen again, click **Shape Correction**.

- 17** If necessary, select **To Screen Matching** to start Screen Matching.



You cannot perform Screen Matching on convex surfaces. If you are projecting onto a convex surface, adjust the color and brightness of the image manually.



After using the **Geometry Assist - Stacking & Blending Function** wizard, the following settings change automatically.

- **Correction Type** on the **Geometry Correction** tab changes to **Point Correction**.
- The **Area Correction** setting on the **Black Level** tab is set automatically.
- The **Color Adjustment** setting on the **Black Level** tab is set automatically. If you want to change the **Color Adjustment** setting, perform Screen Matching.

## ►► Related Links

- "Blending and Stacking Group Settings" [p.15](#)
- "Geometry Correction" [p.22](#)
- "Keyboard Shortcuts for the Geometry Assist" [p.78](#)

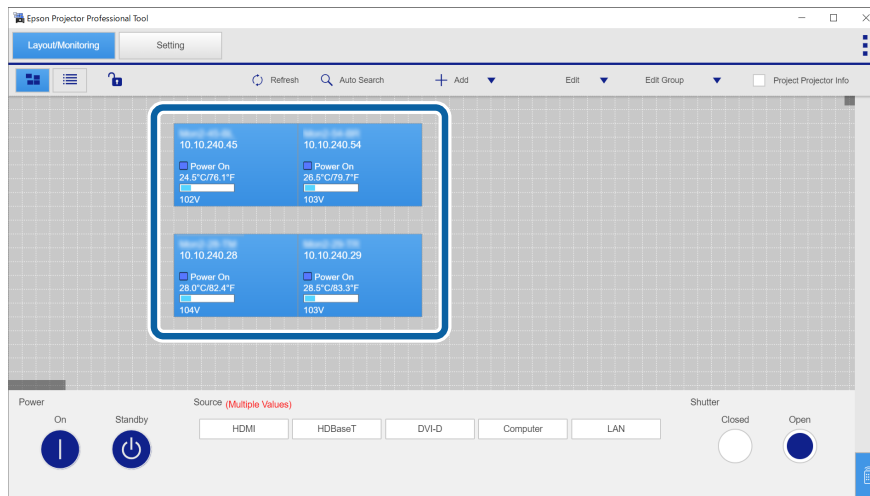
This completes the **Geometry Assist - Stacking & Blending Function** wizard.  
If the pixels or shape of the projected image are misaligned, make adjustments from **Point Correction** on the **Geometry Correction** tab for each projector.

You can use the **Geometry Assist - Stacking & Blending Function** wizard to easily and quickly create a single large, bright, projected image by joining and overlapping the images of multiple projectors.

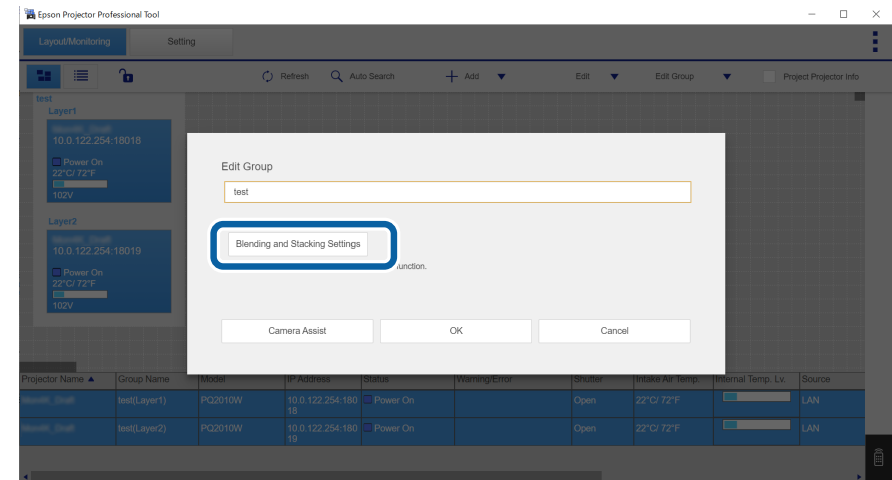
The procedure varies depending on the version of Camera Assist being used. See the following for more information on supported models.

[https://download2.ebz.epson.net/sec\\_pubs\\_visual/camera\\_assist/EN](https://download2.ebz.epson.net/sec_pubs_visual/camera_assist/EN)

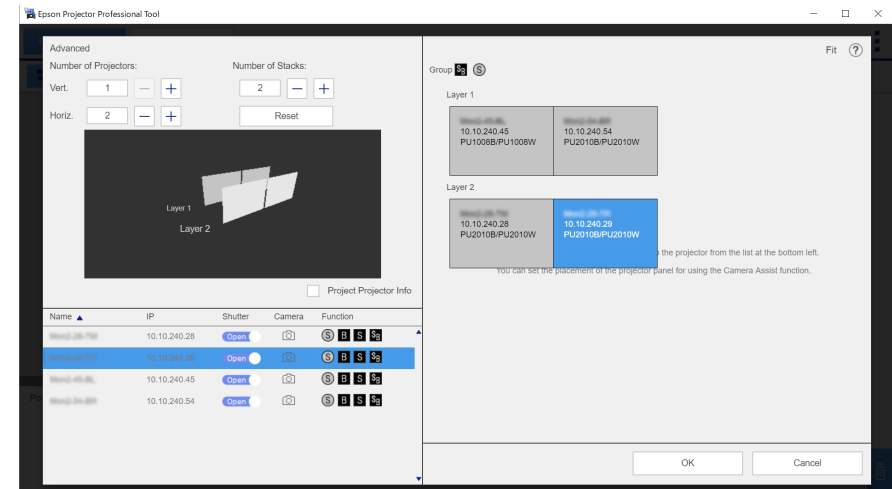
## 1 Create a group of projectors that support Stacking & Blending.



## 2 Select Blending and Stacking Settings on the Create Group screen.

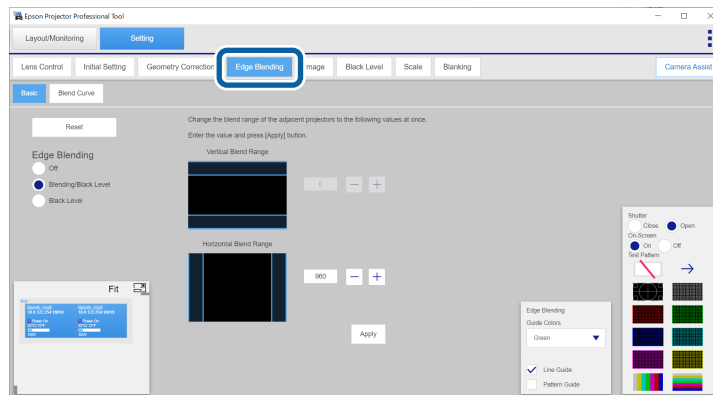


## 3 Specify the projectors' positions in the Blending and Stacking Settings, and then click OK.



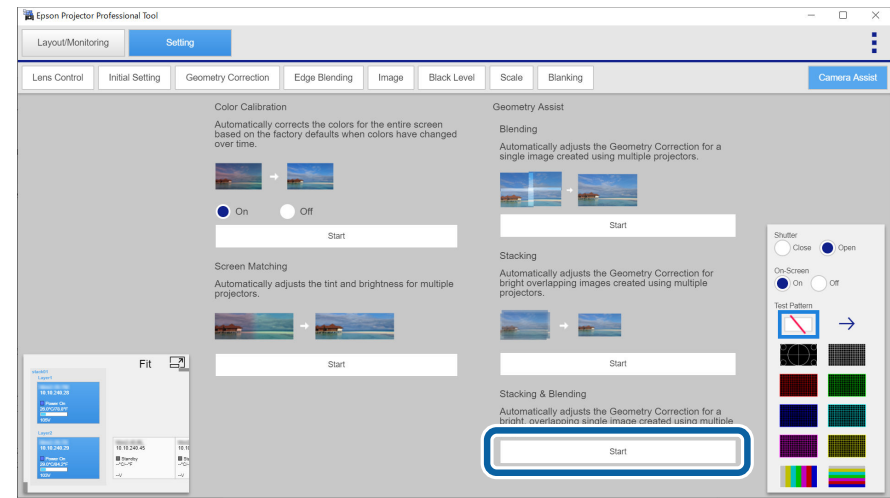


- 4 Click **OK** on the **Create Group** screen.
- 5 Click the **Setting** tab.
- 6 Adjust the Edge Blending values on the **Edge Blending** tab.

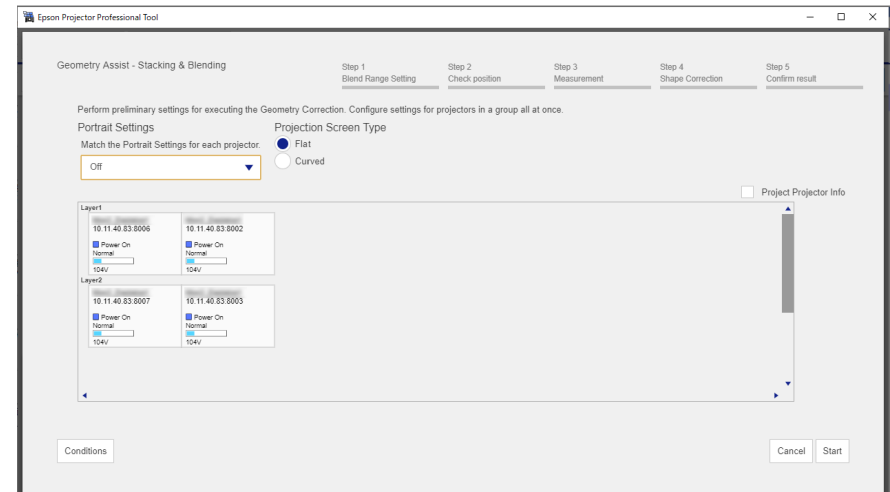


- 7 Click the **Camera Assist** tab.

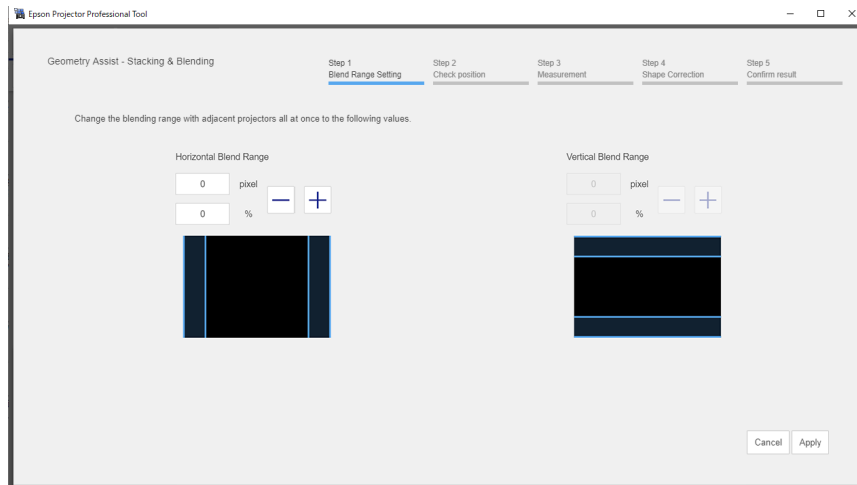
- 8 Click **Start** in **Stacking & Blending**.



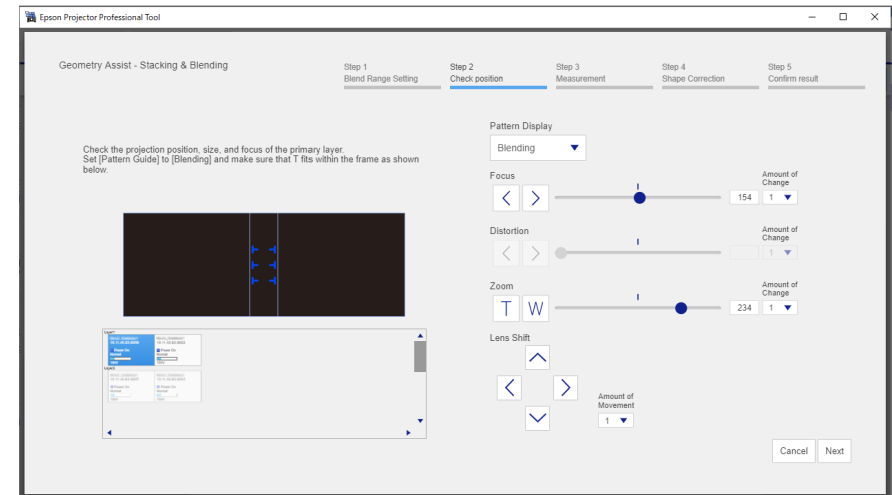
The **Geometry Assist - Stacking & Blending** wizard starts.



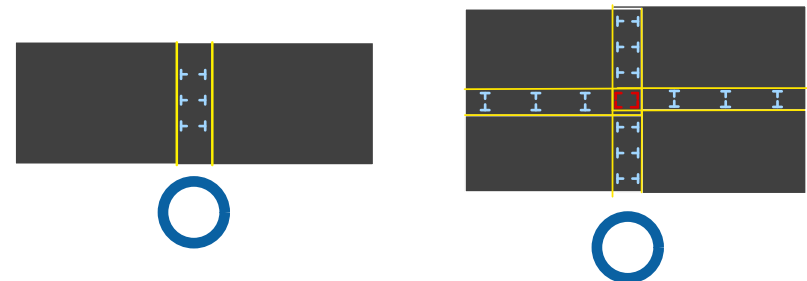
- 9** If no Edge Blending value has been set or the specified Edge Blending value is incorrect, adjust the Edge Blending values as necessary.

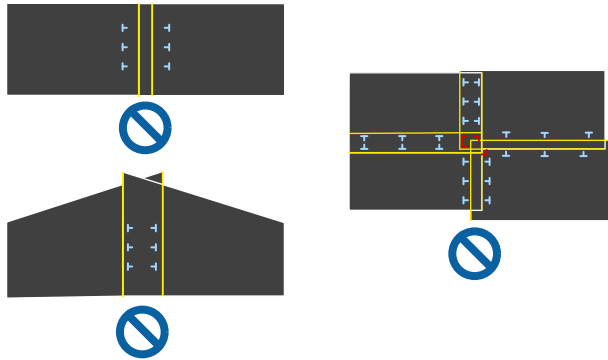


- 10** While checking the displayed pattern, adjust the focus, size, and position of your base layer (Layer 1) so that the projected image covers the target projection area.



If you select **Flat** as the **Projection Screen Type**, T-shapes are displayed on the projection surface. See the following examples to adjust the projection position and size.

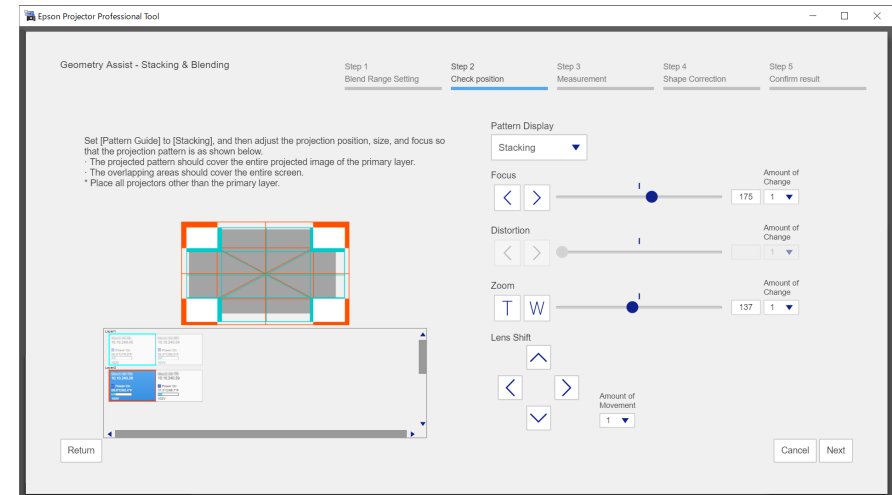




If you select **Curved** as the **Projection Screen Type**, no T-shapes are displayed on the projection surface. Adjust the projection position and size so that the overlapping width is the same as the design in advance.

**11** Click **Next**.

**12** Follow the on-screen instructions to adjust the image positions using the Lens Control options so that the images projected from all projectors, except for the base layer, roughly overlap.



**13** Click **Next**.  
Calibration starts.



If the message "The adjustment limit of Geometry Correction has been exceeded." is displayed, take the following action.

- Go to **Shape Correction**, and adjust [+] in the screen reduction direction.
- If shape correction continues to fail, increase the physical overlap width and run the **Geometry Assist** wizard again.

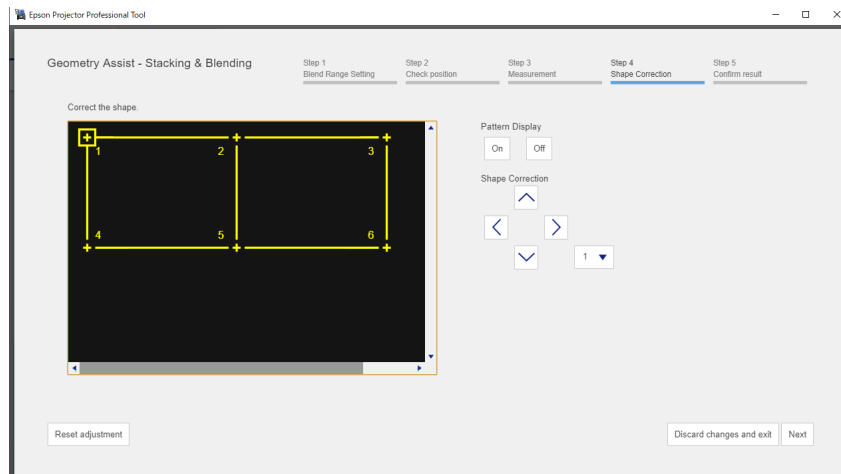
**14** Adjust the shape of the projected image.  
Align the correction points [+] with the linearity adjustment stickers attached at the edges of the target projection area.

For areas where no stickers are attached, align the correction point [+] with the position at which lights from the laser marker intersect using the positions of the stickers in each direction.

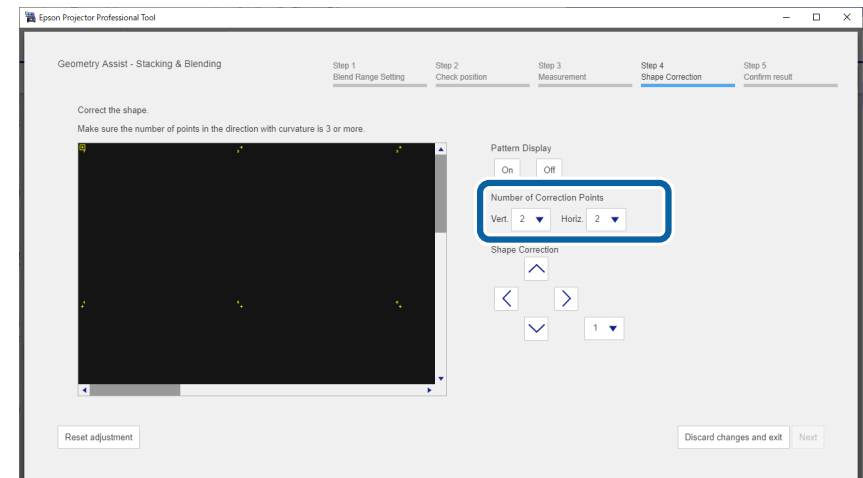


You can also make adjustments by dragging and dropping [+] on your computer screen. This function is only available for supported models. The keyboard commands are also available.

- When you have selected **Flat** as the **Projection Screen Type**



- When you have selected **Curved** as the **Projection Screen Type**  
Before moving the correction points [+], set the number of correction points for the entire projection surface in each direction (vertical and horizontal) to a pre-determined number.



- Follow the on-screen instructions to check the results of the adjustment.  
If you want to correct the shape of the screen again, click **Shape Correction**.

- If necessary, select **To Screen Matching** to start Screen Matching.



You cannot perform Screen Matching on convex surfaces. If you are projecting onto a convex surface, adjust the color and brightness of the image manually.

This completes the **Geometry Assist - Stacking & Blending Function** wizard. If the pixels or shape of the projected image are misaligned, make adjustments from **Point Correction** on the **Geometry Correction** tab for each projector.



After using the **Geometry Assist - Stacking & Blending Function** wizard, the following settings change automatically.

- **Correction Type** on the **Geometry Correction** tab changes to **Point Correction**.
- The **Area Correction** setting on the **Black Level** tab is set automatically.
- The **Color Adjustment** setting on the **Black Level** tab is set automatically. If you want to change the **Color Adjustment** setting, perform Screen Matching.

## ►► Related Links

- "Blending and Stacking Group Settings" [p.15](#)
- "Geometry Correction" [p.22](#)
- "Keyboard Shortcuts for the Geometry Assist" [p.78](#)

In the **Geometry Assist - Blending Function**, **Geometry Assist - Stacking Function**, or **Geometry Assist - Stacking & Blending Function** wizard, you can use the following keyboard commands to adjust the shape of the projected image.

| Keyboard command                         | Function  |
|--|---|
| ↑ / ↓ / ← / →                            | Moves the cursor on the point of the image up, down, left, or right.  |
| 1 - 8 (Num)                              | Selects the amount by which you want each adjustment step to increment the changes. <ul style="list-style-type: none"><li>• 1 = [1]</li><li>• 2 = [2]</li><li>• 3 = [3]</li><li>• 4 = [5]</li><li>• 5 = [10]</li><li>• 6 = [15]</li><li>• 7 = [20]</li><li>• 8 = [30]</li></ul> |
| Ctrl (command) + [↑ / ↓ / ← / →]         | Adjusts the point using the increment you selected using the 1 to 8 number keys. (Press and hold the buttons to adjust more quickly.)   |
| Ctrl (command) + Shift + [↑ / ↓ / ← / →] | Adjusts the point by one step. (Press and hold the buttons to adjust more quickly.)   |
| Alt + [↑ / ↓ / ← / →]                    | Adjusts the point by 10 steps. (Press and hold the buttons to adjust more quickly.)   |

You can use the **Geometry Assist - Blending Function**, **Geometry Assist - Stacking Function**, or **Geometry Assist - Stacking & Blending Function** wizard in the following situations:



For the operating conditions of Stacking (Camera Assist V200), also see "Geometry Assist - Stacking Function (Camera Assist V200)".

- The image is projected in front of the screen.
- You are adjusting the following number of projectors:
  - Blending: up to 15
  - Stacking: up to 6
  - Stacking & Blending: up to 15\*

\*The maximum number of stacks is 6.
- You have grouped the projectors you want to adjust.
- All projector panels in a group are positioned with no gaps and formed in a rectangular shape.
- When **Flat** is selected as the **Projection Screen Type**, the screen surface is flat and not skewed or warped.
- When **Curved** is selected as the **Projection Screen Type**, the screen surface is not warped.
- All of the projectors are connected to the same network and projecting using the same resolution.
- The width of the overlapping area is adjusted as follows:
  - Blending: 15 to 43%
  - For stacking: 70% or more
- All the projectors are installed parallel to the projected image.
- A matte white diffusion screen is used. (Except when **Complex** is selected as the **Projection Screen Type**)

- The illuminance ratio of the screen when projecting an all-white screen and when projecting an all-black screen is 8:1 or more.
- The illuminance on the screen is 20 cd/m<sup>2</sup> or higher when projecting an all-white screen.

Illuminance is an indicator of the intensity of the light reflected from the screen. It can be calculated by taking into account the screen's reflectance (gain).

- The **Projection** setting is set to **Front** or **Front/Ceiling** for all projectors.
- Do not use these features at the same time. When stacking blended screens, use **Geometry Assist - Stacking & Blending Function**.
- The projector has a built-in camera or an optional external camera installed.



If the pixels or shape of the projected image are misaligned after performing Geometry Assist, make adjustments from **Point Correction** on the **Geometry Correction** tab for each projector.

## ►► Related Links

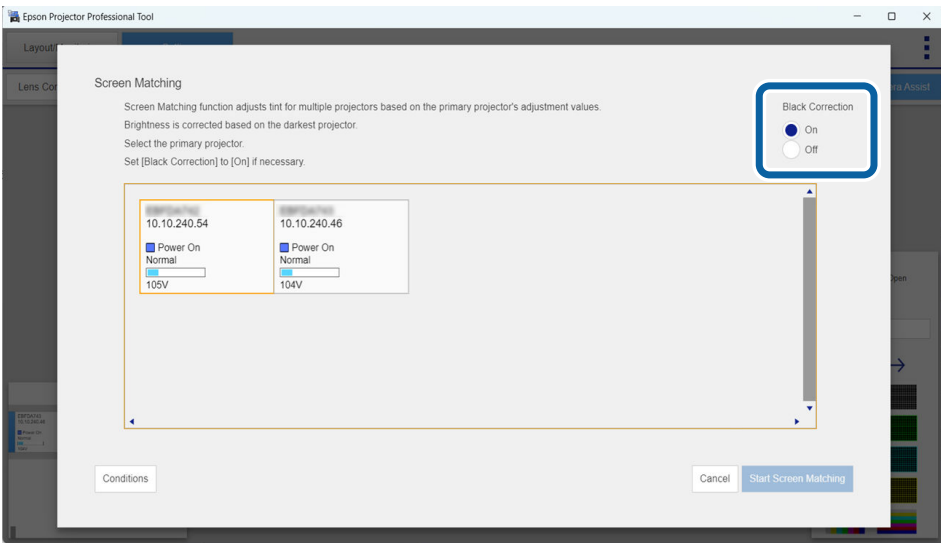
- "Geometry Correction" [p.22](#)
- "Geometry Assist - Stacking Function (Camera Assist V200)" [p.46](#)

For models that support Camera Assist V200, you can select whether or not to perform Black Correction. You can also select the appropriate adjustment result from among the Black Correction adjustment parameters.

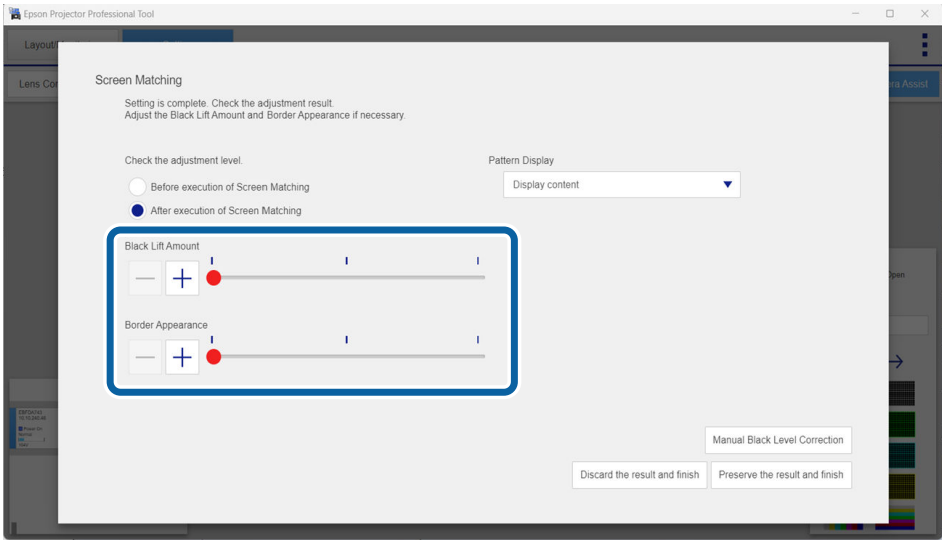
**Black Correction** is a function that maintains a consistent black level across the entire projection surface, and corrects any unevenness in black areas.




To adjust the black level automatically, set the **Black Correction** to **On**.



When automatic Black Correction is complete, the parameters for adjusting the black level are displayed. You can adjust the parameters to correct the adjustment results to suit the installation environment.



|                   |   |
|-------------------|---|
| Black Lift Amount | Move to the left to prioritize contrast or to the right to match the black tone between projectors.   |
| Border Appearance | Adjust this parameter when the boundary between the blended and non-blended areas is noticeable. Select the best one from the three adjustment results. |



- Black Correction adjustment parameters cannot be changed after leaving this screen. If you want to change the adjustment parameters, perform screen matching again.
- In bright environments, even if screen matching is successful, Black Correction may not be performed, and a black level (fixed value) based on projector specifications may be set. If necessary, adjust the black level manually or follow the on-screen instructions to review the environment and then perform screen matching again.



You can perform **Screen Matching** and **Color Calibration** in the following situations:

- The automatic correction is available in all projectors in a group.
- All projector panels in a group are positioned with no gaps and formed in a rectangular shape.
- When **Flat** is selected as the **Projection Screen Type**, the screen surface is flat and not skewed or warped.
- When **Curved** is selected as the **Projection Screen Type**, the screen surface is not warped.
- When the ambient illuminance during Screen Matching or Color Calibration is 40 lux or less.
- A matte white diffusion screen is used.
- The illuminance on the screen is  $20 \text{ cd/m}^2$  or higher when projecting an all-white screen.

Illuminance is an indicator of the intensity of the light reflected from the screen. It can be calculated by taking into account the screen's reflectance (gain).

- After you perform Blending, the projected image is formed in a rectangular shape.
- All projected images are lined up with no gaps. (Adjust the width of the overlapping area to 15 to 45%.)
- The projector is installed parallel to the projected image.



- Automatic correction may not be available depending on the projector lens. See your projector *User's Guide* for details.
- After you perform automatic correction, the adjustment range of the lens shift may be reduced, depending on the projector lens.
- We recommend waiting for several tens of minutes before performing automatic correction after turning on the projector or canceling the Shutter function. See your projector *User's Guide* for details.
- To increase the accuracy of corrections, we recommend making adjustments with the room lighting at the same level as, or darker than, the actual usage environment.
- Automatic correction uses the projector's built-in camera or optional external camera. Make sure nothing is blocking the camera or the projected image while performing automatic correction.
- You cannot perform Screen Matching on convex surfaces. If you are projecting onto a convex surface, adjust the color and brightness of the image manually.
- If any of the following conditions apply, the brightness of the images may not match when performing screen matching while projecting onto a curved surface.
  - Combinations of an ultra short-throw zoom lens and a normal lens.
  - Combinations of different models. (Performing screen matching again may improve the results of the brightness adjustments.)
- After performing screen matching, manually adjust the color and brightness of the image as necessary.

Try these solutions if you experience problems while using Blending or Stacking features.

- If the message "The adjustment limit of Geometry Correction has been exceeded." is displayed, take the following action.
  - Go to **Shape Correction**, and adjust [+] in the screen reduction direction.
  - If shape correction continues to fail, increase the physical overlap width and run the **Geometry Assist** wizard again.
- If the wizard stops while adjusting the shape of the projected image, the adjustment limit of geometric correction has been reached. Try adjusting the shape again and be careful to stay within the allowed range.
- If an error occurs and the wizard stops when starting calibration, make sure that the cover is removed from the built-in camera.
- If an error occurs during calibration, try the following solutions:
  - Make sure that no objects are in front of the built-in camera.
  - Make sure that at least one third of the center of the each projector's projection range fits into the projection surface.
  - Make sure that any bright objects, such as bright lighting, are not placed near the projection surface.
  - Geometry Assist - Stacking Function (Camera Assist V200) allows you to exclude strong or moving lights from the camera's capture range. Set the camera's capture range again by using the wizard.
- Check the "Operating Conditions for the Geometry Assist" and review your installation environment.
- A communication error may occur while using the Camera Assist function. As this may be a temporary error, try again.

## ►► Related Links

- "Operating Conditions for the Geometry Assist" [p.79](#)


# Monitoring Projectors

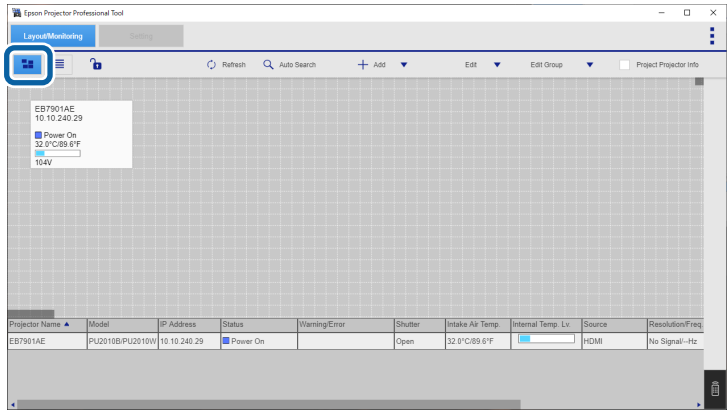
Follow these instructions to monitor the registered projectors.


## ►► Related Links


- "Projector Monitoring Views" [p.84](#)

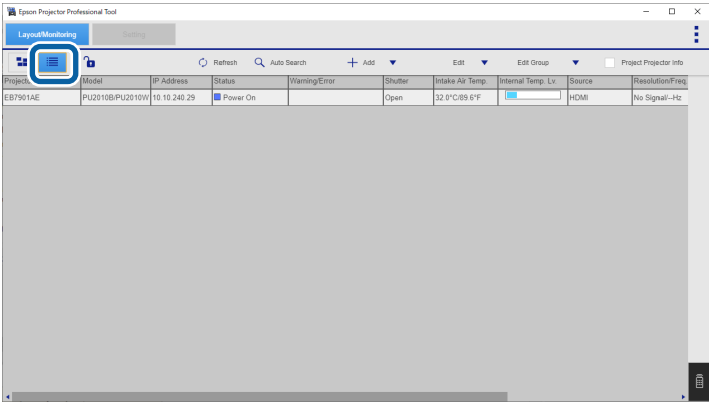
To monitor projectors, select the **Layout/Monitoring** tab.  
You can select the type of monitoring window you want to view from the following windows on the **Layout/Monitoring** tab.

-  **Layout view**  
You can check projector statuses in individual panels and in the list at the bottom of the window. The status of up to four projectors are displayed in the list.







 You can select the information that is displayed in the projector panels by selecting **Set Panel Items** from the **Edit** menu.

-  **List view**  
You can check projector statuses as a list.



The **Internal Temp Lv.** indicator shows the following conditions:

|   |  |
|---|--|
|  | The projector is too hot.                    |
|  | The projector is overheated.                 |
|  | The projector's temperature level is normal. |

 Depending on a projector's firmware version, its status may not be displayed correctly.

- » **Related Links**
- "Adding a Projector to a Project" [p.13](#)

# Appendix

See these sections to learn more about the Epson Projector Professional Tool software.

## ►► Related Links

- "Updating and Uninstalling the Software" [p.86](#)
- "Notices" [p.87](#)

Follow these instructions to update or uninstall the Epson Projector Professional Tool software.

## ► Related Links

- "Getting the Latest Version of the Software" [p.86](#)
- "Uninstalling the Epson Projector Professional Tool Software (Windows 10/Windows 11)" [p.86](#)
- "Uninstalling the Epson Projector Professional Tool Software (Mac)" [p.86](#)

## Getting the Latest Version of the Software


Updates to this software and its guide may be available on the Epson Web site. Visit [epson.sn](http://epson.sn).

## Uninstalling the Epson Projector Professional Tool Software (Windows 10/Windows 11)

Follow the instructions below to uninstall the Epson Projector Professional Tool software.



You need administrator authority to uninstall the software.

- 1** Turn on your computer.
- 2** Make sure all running applications are closed.
- 3** Press the  key on the keyboard to display all apps.

- 4** Right-click (press and hold) **Epson Projector Professional Tool Ver.X.XX**, and then select **Uninstall**.

- 5** Follow the on-screen instructions.

## Uninstalling the Epson Projector Professional Tool Software (Mac)

For Mac, follow the instructions below to uninstall the Epson Projector Professional Tool software.

- 1** Turn on your computer.
- 2** Make sure all running applications are closed.
- 3** Open the **Applications** folder.
- 4** Open the **Epson Projector Professional Tool - Tools** folder, and then double-click **Epson Projector Professional Tool Uninstaller**.
- 5** Follow the on-screen instructions.

Check these sections for important notices about your software.

## ► Related Links

- "Copyright Notice" [p.87](#)
- "About Notations" [p.87](#)
- "Trademarks" [p.87](#)
- "Copyright Attribution" [p.87](#)

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## About Notations

- Microsoft® Windows® 10 operating system
- Microsoft® Windows® 11 operating system

In this guide, the operating systems above are referred to as "Windows 10" and "Windows 11". Furthermore, the collective term "Windows" is used to refer to them all.

- macOS 12.00.x
- macOS 13.00.x
- macOS 14.00.x
- macOS 15.00.x

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

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