User Guide

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Christie Twist

CHRISTIE

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Notation

Learn the hazard and information symbols used in the product documentation.

Caution messages indicate a hazardous situation which, if not avoided, could result in permanent loss of data.



Notice messages indicate a hazardous situation which, if not avoided, could impact the application.



Information messages provide additional information, emphasize or provide a useful tip.

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About Christie Twist™

The table below lists the available features of ChristieTwist™

Licenses are required to activate Twist™ features. To view the features that are active in your software version, in Twist™, at the top of the screen, select **Help** > **View Details**.

An individual projector can be licensed for Twist™ Pro or Premium, and any computer running Twist™ can connect to the projector. If using multiple licenses, only the features available with the lowest Twist™ software version are active.

Feature	Twist™	Twist™ Premium	Twist™ Pro
Maximum number of projectors	6	18	Unlimited
Control points	9 x 9	9 x 9	Unlimited
Brightness uniformity	No	Yes	Yes
Auto blending (wallpaper advanced)	No	Yes	Yes
Auto blending (field of view)	No	No	Yes
Arbitrary point placement	No	Yes - maximum 6	Yes - unlimited

What's new in the guide?

The following updates have been made to the guide.

-17 updates:

- Updated the release version from version 2.14 to 2.15.
- Added support for the Christie Eclipse G3 projector in the *Supported projectors* (on page 9) topic.

-16 updates

- Removed Windows references earlier than Windows® 11.
- Removed a *Troubleshooting* (on page 33) topic no longer required.

-15 updates

- Updated the release version from version 2.12 to 2.13.
- Updated the required firmware for Christie M RGB Series to version 1.3.8 in the *Supported projectors* (on page 9) topic.

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- Removed the Blends Only option from the *Applying warps and blends to a test pattern* (on page 16) topic.

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Installing and getting started with Christie Twist™

Learn how to install and open the Christie Twist™ software.

Hardware recommendations

Understand the hardware recommendations for Christie Twist™.

Computer

- Intel Core i5/i7/i9 or higher*, or a compatible processor
- At least 220 MB of free disk space
- At least 4 GB of RAM (8 GB is recommended)
- A 32 bit true color display with a minimum resolution of 1024 x 768
- 1 Ethernet port
- 1 free USB port

* These processors were selected due to their good single-threaded performance, which allows the application to work faster.

Network

- 1 network switch
- 1 Ethernet cable to connect the computer to the network switch
- 1 Ethernet cable for each projector

Supported projectors

Use Twist™ with one of the following supported projectors.

- Boxer® Series projectors, main software version 1.7.0 or later
- Crimson Series projectors, main software version 1.1.0 or later
- D4K40-RGB and Mirage 4K40-RGB projectors, main software version 1.2.0 or later
- 4K7-HS and 4K10-HS laser projectors, main software version 1.3.0 or later
- Mirage SST, main software version 1.0.1 or later

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- Griffyn℠ Series, main software version 1.3.6 or later
- Christie M RGB Series, main software 1.3.8 or later
- Sapphire® 4K40-RGBH, main software 1.0.1 or later
- Christie Eclipse G3, main software 1.1.0 or later
- D16WU-HS, D16HD-HS, D20WU-HS, and D20HD-HS laser projectors, main software version 1.6.0 or later
- D13WU2-HS and D13HD2-HS laser projectors, main software version 1.6.0 or later
- 4K7-HS and 4K10-HS laser projectors, main software version 1.3.0 or later
- DWU760-iS, DWU760A-iS, DWU860-iS, DWU960-iS, and DWU960ST-iS, main software 1.0.0 or later
- 4K860-IS, main software 1.0.0 or later
- DWU880-GS, DWU880A-GS, DWU1100-GS, DWU1400-GS, and DWU1400A-GS, main software 1.2.0 or later
- DWU15-HS, DWU19-HS, DWU23-HS, main software 1.1.0 or later
- 4K13-HS, 4K22-HS, main software 1.2.0 or later
- DWU1800-JS, DWU2400-JS, main software 1.1.0 or later
- 4K1600-JS, 4K2100-JS, main software 1.1.0 or later
- 4K1000-KS, 4K1000A-KS, 4K1400-KS, and 4K1400A-KS, main software 1.1.0 or later

Software recommendations

Understand the software requirements for Christie Twist™.

Computer operating systems

- Microsoft® Windows® 11 64-bit

Supported software

- Adobe® Reader 11 or later

Installing operating system patches

The following patches must be installed on the operating system before installing Twist™

Windows 11 64-bit

- No patches are recommended at this time.

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Installing Christie Twist™

Learn how to install Christie Twist™.

1. Insert the Twist™ dongle into the USB port of your computer, or download the latest software from *www.christiedigital.com*.
2. Run the Twist™ Setup Wizard.

Opening Christie Twist™

Learn how to open the Christie Twist™ application for the first time.

1. To open the Twist™ application, on your computer, select **Start** > **All Programs**.
2. Select **Christie** > **Twist™ <version>**.
3. Select **New**.
4. Enter the projectors you want to add.

   For more information on projectors, see the ***Managing Projectors*** (on page 13) section of this guide.
5. Complete the File Setup Wizard.
6. Select **Finish**.

Opening a new or an existing configuration file

Learn how to open a new or an existing .twistx file.

1. At the top of the screen, select **File**.
2. Do one of the following.
   - To open a new file, select **New**.
   - To open an existing file, select **Open** then browse to a .twistx file.

Saving a configuration file

Learn how to save a file you create or edit in Christie Twist™.

1. At the top of the screen, select **File**.
2. Do any of the following.
   - To save the file, select **Save** or **Save As**.
   - To change the name, or to update the memory location of a warp or a blend, select **Properties**.

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Modifying the settings for new configuration files

Learn how to modify the settings for new configuration files.

When you update these settings, the settings are saved and applied to each new file you create in Christie Twist™. The settings for existing files are not affected.

1. At the top of the screen, select **File** > **Options**.
2. Update any of the following.
   - **Initial Grid Size**—Choose a default size for the grids that appear on a projector window.
   - **Enable Spring Mode**—Linearly distribute the movement of a point to other points along its vertical and horizontal axes.
   - **Enable Offset Labels**—Show the displacement of a point from its original position in pixels.
   - **Show Selected Points**—Highlight a point when the point is selected.
   - **Auto Draw Test Pattern**—Choose a default test pattern.
   - **Show File Setup Wizard**—Display the File Setup Wizard when you create a new configuration file.

Zooming in to or out on the canvas

Learn how to zoom in or out on the canvas.

1. At the top of the screen, select **View**.
2. Do one of the following.
   - **In**—Zoom in on the canvas.
   - **Out**—Zoom out on the canvas.
   - **Fit**—Fit the canvas and projector windows to the screen.

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Managing projectors

Learn how to manage projectors using Twist™.

Working with an offline projector

You can work in Christie Twist™ even if one or more projectors in your configuration are offline.

If a projector is not found when you open a configuration file, a prompt appears with options to replace, remove, or open the projector offline. If you choose to open the projector offline, no communication with the offline projector is attempted by Twist™. Online projectors in the configuration continue to function normally.

While an offline projector cannot communicate with online projectors, you can still update its warp, blend, mask, and brightness uniformity settings.

If the configuration file is saved to the offline projector, all original projector communication attributes are maintained and can be used again when the projector is back online.

Connecting a projector to a computer

When you connect a projector to a computer, both must be connected to the same network and share the same subnet.

The first three octets in an IP address represents a subnet. Depending on the number of available ports on this subnet, you can connect one or more projectors to a computer running Twist™, up to a maximum of 256.

Christie does not recommend using WiFi connections.

1. Connect one end of an Ethernet cable to the Ethernet port on a computer and the other end to a network switch.
2. Connect a second Ethernet cable to the same network switch and the other end to the Ethernet port on a projector.
3. To connect additional projectors to a computer, repeat step 2.

   The subnet 255.255.255 is reserved within Twist™ for the simulated projectors used in Demo/Training mode. Physical projectors on this subnet cannot be added to Twist™.

Adding a projector to a configuration by searching

Learn how to add a projector using the search feature.

1. At the top of the screen, select **Home**.
2. Select **Add**.
3. Select the **Broadcast** tab.

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4. Do one of the following:
   - To search for a projector with a default port setting, in the Port Number area, select **Default**.
   - To enter the custom port number for a projector, select **Custom**.
5. Select **Search**.
6. In the Search Results list, select a projector.
7. Select the projector and make sure the correct lens type is selected.
8. Select **OK**.

Adding a projector to a configuration manually

To manually add a projector, you must know the IP address and port of the projector you are adding.

If a projector is not detected automatically, or if a projector is not on the same subnet as your computer, you can manually add the projector to a configuration.

1. At the top of the screen, select **Home**.
2. Select **Add**.
3. Select the **Manual** tab.
4. Enter the **IP Address** of the projector.
5. Select **Search**.
6. In the Search Results list, choose a projector and select **OK**.
7. Select the projector and make sure the correct lens type is selected.

Identifying projectors on the canvas

Learn how to identify the projectors on the canvas.

1. At the top of the screen, select **Home**.
2. Select **Identify**.

   A number appears on the projector window, and also appears as a test pattern on the corresponding projector.

Viewing projector properties

Complete the following to view projector properties.

1. Click anywhere inside a projector window.
2. At the top of the projector window, select the projector name.

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Turning on or off a projector

For projectors that have an internal laser source, use ChristieTwist™ to turn on or off a projector.

For projectors that use an external laser source, the projection system must be turned on manually prior to using Twist™ for remote control.

1. On the home screen, select a projector name.
2. In the Power area, select **ON** or **OFF**.
3. Select **OK**.

Opening or closing a projector shutter

Open or close the shutter on selected projectors.

The command buttons are disabled until at least one projector is selected.

1. In the Shutter area, select **Open** or **Close**.
2. Select **OK**.

Changing a projector window name

Learn how to change a projector window name.

1. On the canvas, select a projector name.
2. In the Projector Name field, enter a new name for the projector.
3. Select **OK**.

Displaying a projector test pattern

Display a test pattern on screen for one or more selected projectors.

1. On the home screen, select one or more projectors currently turned on.
2. In the Test Pattern list, select a test pattern.
3. Select **OK**.

Customizing test patterns

Learn how to change the pattern, line color, and fill color of a test pattern.

1. At the top of the screen, select **Test Pattern**.
2. Select one of the following.
   - **Pattern**—Select a different test pattern.
   - **Line Color**—Change the color of the lines that appear on the test pattern.
   - **Fill Color**—Change the background color of the test pattern.

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Applying warps and blends to a test pattern

Learn how to apply saved warps and blends to a test pattern to see how a configuration will impact a projector.

1. Select **File** > **Properties** and select a warp and blend memory location.
2. In the Demo view, select the adjustments to apply to the test pattern.
   - **Native**—Display the projector image without warps or blends.
   - **Warps & Blends**—Display the configured warps and blends.
   - **Warps Only**—Display just the configured warps.

Activating a color field for color calibration

Learn how to activate a color field for color calibration.

1. On the canvas, select a projector name.
2. In the Color Enable list, select a color to display.
3. Select **OK**.

Moving a projector on the canvas

Learn how to move a projector on the canvas.

1. On the canvas, select a projector.
2. Drag the projector to a new location.

Selecting all projectors on the canvas

Learn how to select all of the projector windows on the canvas.

1. At the top of the screen, select **Home**.
2. Select **Select All**.

Removing a projector from the canvas

Learn how to remove a projector from the canvas.

1. At the top of the screen, select **Home**.
2. On the canvas, select a projector window.

   To select multiple projectors, on your keyboard, select and hold **CTRL** then select additional projectors.
3. At the top of the screen, select **Remove**.

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Displaying or hiding content in a layer tab

Learn how to display or to hide content in a layer tab.

1. To hide a layer, in the left pane, select the eye icon next to a layer.
2. To display a layer, in the left pane, select the eye icon again.

Sending layer changes to a projector

Learn how to send changes you make to a layer in Christie Twist™ to a projector.

Using the layer tabs in the left pane, you can select whether to allow changes you make to Twist™ settings to be sent to a projector.

1. To allow sending changes to layer to a projector, in the left pane, select the arrow icon next to a layer.
2. To stop sending changes to a layer to a projector, select the arrow icon again.

Copying and pasting a layer from one projector to another

Learn how to copy a layer from a projector and paste it to another projector.

The current layer state can be copied and pasted from projector windows within a single Christie Twist™ session, or from one Twist™ session to another. Only manual blends can be copied between projectors. Copying and pasting a layer cannot be undone.

Pasted layer data is scaled up or down when the resolution of the destination projector is different than the resolution of the source projector.

1. Right-click anywhere on the source projector window and select **Copy**.
2. Right-click anywhere on the destination projector window and select **Paste**.

Inverting a projector configuration

Learn how to flip a projector configuration vertically or horizontally.

1. Right-click on a projector window.
2. Select one of the following.
   - **Flip Vertically**
   - **Flip Horizontally**

Uploading a license file to a projector

Learn how to upload a license file to a Christie projector.

1. At the top of the screen, select **Help**.
2. Select **License Utility**.

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3. To browse to the location of a license file, select **Browse**.
4. Select a license file, and select **Open**.
5. Select the projectors you want to apply the license to.
6. Select **Apply**.

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Managing points

Each point represents a specific location on a projected image.

Moving a single point

Learn how to move points one at a time.

To move a single point, do any of the following.

1. Select a point.
2. Do one of the following.
   - Drag the point to a new location.
   - To move a point one pixel at a time, on your keyboard, select **Ctrl** + **Up**, **Down**, **Left**, or **Right**.
   - To move a point 10 pixels at a time, on your keyboard, select **Alt** + **Up**, **Down**, **Left**, or **Right**.
   - To move a point one-tenth of a pixel at a time, on your keyboard, select **Ctrl** + **Alt** + **Up**, **Down**, **Left**, or **Right**.

Moving a line of points

Learn how to move a line of points.

When you move a line of points, the line maintains its shape.

1. To select an entire line, in a projector window, select and hold anywhere on a grid line.
2. Drag the line to a new position.

Moving a group of points

Learn how to move a group of points.

1. To select a group of points, click and drag your mouse over a group of points.
2. When your selection is complete, release the mouse button.
3. Click and drag the group of points to a new location.

Adding a point

Learn how to add a point to a projector window.

1. In a projector window, right-click anywhere.

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2. Select **Add Point**.

Removing a point

Learn how to remove a point.

There are some points that cannot be removed. For example, you cannot remove the corner points of a warp mesh.

1. Do one of the following.
   - To remove a single point, in the projector window, select a point.
   - To remove a group of points, click and drag your mouse over a group of points then release the mouse button.
2. Right-click the **selection** > **Delete Points**.

Moving a point along its vertical or horizontal axes

Learn how to activate Spring Mode.

Spring Mode linearly distributes the movement of a point to other points along its vertical and horizontal axes. This can reduce point grouping and can smooth the image.

Spring Mode is only available when you warp an image and, when enabled, is applied to all projector windows on the canvas.

1. In the left pane, select the **Warp** layer tab.
2. Select **Spring Mode**.
3. In the projector window, select a single point or a group of points.
4. Drag your selection to a new location.

Adjusting interior points

Learn how to activate Keystone Mode.

If you adjust the position of projector window corner points, you can use Keystone Mode to automatically adjust the projector window interior points and maintain their perspective.

When Keystone Mode is selected, you cannot modify the grid resolution. To avoid image distortion, set the warp resolution to 5x5 or higher.

Keystone Mode is only available when you warp an image and, when enabled, is applied to all projector windows on the canvas.

1. In the left pane, select the **Warp** layer tab.
2. Select **Keystone Mode**.
3. Drag a corner point to a new location.

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Activating offset labels

Learn how to activate offset labels.

Offset labels display the displacement of a point from its original position in pixels. If Keystone Mode is selected, offset labels only appear in the corners of the projector window.

Offset labels can only be selected when you warp an image and, when selected, are applied to all projector windows on the canvas.

1. In the left pane, select the **Warp** layer tab.
2. Select **Offset Labels**.

Changing the color of selected points

Learn how to change the color of points selected in a projector window.

1. Right-click on a projector window.
2. Select **Selected Points Color**.
3. Select a color.

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Warping

Use image warping to correct image distortion and make images appear as expected on curved screens.

Changing the warp grid resolution

Learn how to increase or decrease the warp grid resolution.

A significant increase to the resolution can impact the performance of Christie Twist™.

1. In the left pane, select the **Warp** layer tab.
2. Select a projector window.
3. In the top-right corner of the projector window, select the **Grid Size** icon.
4. Increase or decrease the **X Resolution** or **Y Resolution** values.
5. Select **OK**.

Warping an image

Learn how to warp an image.

1. In the left pane, select the **Warp** layer tab.
2. Select a projector window.
3. To warp an image, move one or more points.
4. To send the warp to a projector, right-click the projector window then select **Send Warp**.
5. To save the warp as a configuration file, select **File** > **Save**.

Downloading a warp from projector memory

Learn how to download a warp from the memory of a projector.

1. On the canvas, select a projector window.
2. At the top of the screen, select **File**.
3. Select **Warp**.
4. In the Download from Memory Location list, select the memory location of the warp.
5. Select **OK**.

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Manual warp adjustments

As of Twist™ 2.12, when the twist warp is generated by Mystique, Twist™ displays the warp in **Manual Adjustment Mode**.

The Mystique-generated warp is visible behind the warp. Any adjustments you make to the warp are saved and there is an option to automatically re-apply them in Mystique for future alignments. After a Mystique re-alignment both the Mystique-generated warp and the warp with manual adjustments are updated with the new results from Mystique.

To enable manual warp adjustments in Mystique, see the *Applying manual warp adjustments* section in the *Mystique User guide (P/N: 020-001134-XX)*.

- Use of this feature with Mystique requires Mystique 2.12 or later.
- The warp grid size is not editable in this mode as it is determined by Mystique.
- Resetting the warp in this mode resets it to the Mystique-generated warp.

Sending a Mystique-generated warp to the projector without adjustments

Follow these steps to send a Mystique-generated warp to the projector without adjustments.

1. At the top of the screen, select **Home**.
2. Select **Warp and Blend** > **Send without manual warp adjustment**.

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Blending

Use blending to increase or decrease the borders of an image so it blends with a neighboring image.

When creating a blend, you create a single, seamless image from multiple images. Christie recommends completing your warp settings before creating a blend.

Creating a simple wallpaper blend

Learn how to create a Wallpaper (Simple) blend.

Use a wallpaper blend when the image overlap between projectors is regular. When this option is selected, stacks imported from Mystique™ are recognized by Christie Twist™.

1. In the left pane, select the **Blend** layer tab.
2. Select **Blend Mode**.
3. In the Blend Mode Editor, select **Wallpaper (Simple)**.
4. In the Overlaps area, enter the values for the horizontal and vertical blends.
5. Enable or disable **Smart Undershoot Handling**.

   When you perform blend calculations and Smart Undershoot Handling is enabled, the projector undershoot on the image borders is ignored.
6. Select **OK**.
7. On the canvas, move the projector windows to match your configuration.

   When you move a projector window on the canvas, the blend is automatically updated.
8. To save the blend as a configuration file, select **File** > **Save**.

Creating an advanced wallpaper blend

Learn how to create a Wallpaper (Advanced) blend.

Use the Wallpaper (Advanced) blend to define the overlap for each projected image.

1. In the left pane, select the **Blend** layer tab.
2. Select **Blend Mode**.
3. In the Blend Mode Editor, select **Wallpaper (Advanced)**.
4. In the Options table, for each projector, modify the **Left**, **Right**, **Top**, and **Bottom** fields.
5. Enable or disable **Smart Undershoot Handling**.

   When you perform blend calculations and Smart Undershoot Handling is enabled, the projector undershoot on the image borders is ignored.
6. Select **OK**.
7. To send a blend to a projector, on the canvas, right-click a projector window then select **Send Blend**.

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8. To save the blend as a configuration file, select **File** > **Save**.

Creating a Fields of View blend

Learn how to create a Fields of View blend.

Use a Fields of View blend if creating a configuration for a simulation environment.

1. In the left pane, select the **Blend** layer tab.
2. Select **Blend Mode**.
3. In the Blend Mode Editor, select **Fields of View**.
4. In the Options table, for each projector, modify the **Yaw**, **Pitch**, **Roll**, and **Left FOV**, **Right FOV**, **Top FOV**, and **Bottom FOV** fields.
5. Select **OK**.
6. To send a blend to a projector, on the canvas, right-click a projector window then select **Send Blend**.
7. To save the blend as a configuration file, select **File** > **Save**.

Creating a Manual blend

Learn how to create a blend manually.

1. In the left pane, select the **Blend** layer tab.
2. Select **Blend Mode**.
3. In the Blend Mode Editor, select **Manual**.
4. Select **OK**.
5. On the canvas, right-click the top, bottom, or sides of a projector window then select **Add Blend**.
6. To modify the blend properties, move a point.
7. To add additional points to a blend, right-click the blend border then select **Add Point**.
8. To send a blend to a projector, on the canvas, right-click a projector window then select **Send Blend**.
9. To save the blend as a configuration file, select **File** > **Save**.

Importing a blend created in Christie Mystique

If you save a blend you created in Christie Mystique™, you can import it in to Christie Twist™ as a .twistx file.

When you import a .twistx file you created in Mystique, you might not be able to make changes to some of its parameters.

1. Select **File** > **Open**.
2. Browse to the .twistx file you created in Mystique and select **Open**.
3. To send a blend to a projector, on the canvas, right-click a projector window and select **Send Blend**.

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Downloading a blend from projector memory

Learn how to download a blend from the memory of a projector.

When you save a blend to the projector memory, the file includes blend, mask, and uniformity settings. If you create a Projector Centric blend using Christie Mystique™, this feature might not work as expected.

1. On the canvas, select a projector window.
2. Select **File** > **Blend/Mask/B.U.**
3. In the Download Blend dialog, select the memory location of a blend.
4. Select **OK**.
5. To send a blend to a projector, on the canvas, right-click a projector window then select **Send Blend**.

Adjusting a blend drop-off curve

Learn how to adjust the drop-off curve for a blend.

To adjust a drop off curve, Manual blend mode must be enabled.

1. In the left pane, select the **Blend** layer tab.
2. On the canvas, select a projector window then select a blend region.
3. In the left pane, select **Custom Drop-Off**.
4. To make the blend area darker or lighter, adjust the midpoint.
5. To make the transition more linear, adjust the shape.
6. Select **OK**.
7. To send a blend to a projector, on the canvas, right-click a projector window then select **Send Blend**.

Resetting a blend drop-off curve

Learn how to reset a blend drop-off curve.

1. In the left pane, select the **Blend** layer tab.
2. On the canvas, select a projector window then select a blend region.
3. In the left pane, select **Custom Drop-Off**.
4. Select **Reset**.
5. To send a blend to a projector, on the canvas, right-click a projector window then select **Send Blend**.

Editing settings for a blend

Learn how to change the settings for an existing blend.

1. In the left pane, select the **Blend** layer tab.

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2. Select **Blend Mode** then select a blend type.
3. Adjust the settings for a blend.
4. Select **OK**.
5. To send a blend to a projector, on the canvas, right-click a projector window then select **Send Blend**.

Removing a blend

Learn how to remove a blend.

1. In the left pane, select the **Blend** layer tab.
2. Select **Blend Mode**.
3. Select **None** > **OK**.
4. At the top of the screen, select **Home**.
5. Select **Select All**.
6. Select **Warp and Blend**.

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Masking

Use masking to conceal the unused edges of an image.

Adding a mask

Learn how to add a mask.

1. In the left pane, select the **Mask** layer tab.
2. On the canvas, select a projector window.
3. To adjust the shape of a mask, move one or more points toward the center of the projector window.
4. To add a point, right-click a grid line then select **Add Point**.
5. To send a mask to a projector, on the canvas, right-click a projector window then select **Send Mask**.
6. To save the mask as a configuration file, select **File** > **Save**.

Downloading a mask from projector memory

Learn how to download a mask from the memory of a projector.

When you save a mask to the projector memory, the file includes blend, mask, and uniformity settings.

1. On the canvas, select a projector window.
2. Select **File** > **Blend/Mask/B.U.**
3. In the Download Blend dialog, select the memory location of a mask.
4. Select **OK**.

Applying a mask to a blend

Use the Blend Mask layer to extend a blend to the blend mask edge rather than to the edge of a projected image.

1. In the left pane, expand the **Blend Mask** layer tab.
2. Select **Blend Mask**.
3. On the canvas, select a projector window.
4. Do any of the following.
   - To adjust the shape of a mask, move one or more points toward the center of the projector window.
   - To add a point, right-click a grid line then select **Add Point**.

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- To mask the area inside the mask control points, right-click the projector window then select **Invert Mask**.

5. To view the updates you make to a blend image, in the left pane, select the **Blend** layer tab.

Applying a mapper mask

When connected to Christie Mystique™, use the Mapper Mask layer to remove the calibration test pattern from a masked area of a projection surface.

The Mapper Mask layer does not appear when a system calibration is run in Mystique and content uploaded to the projector is not impacted.

1. In the left pane, expand the **Mapper Mask** layer tab.
2. Select **Mapper Mask**.
3. On the canvas, select a projector window.
4. Do any of the following.
   - To adjust the shape of a mask, move one or more points toward the center of the projector window.
   - To add a point, right-click a grid line then select **Add Point**.
   - To mask the area inside the mask control points, right-click the projector window then select **Invert Mask**.
5. To send the mapper mask to the projector, on the keyboard, select **Enter**.

   Sending a mapper mask to a projector overwrites any saved blends in the projector.

Applying a screen mask

This layer is used by Christie Mystique™ 2.6 (and later) when Automatic mask to screen is enabled. It complements the mask layer with the difference being, any changes made to this layer in Twist™ are overwritten by Mystique when a system calibration is performed. Previous to Mystique 2.6, screen masks were written to the mask layer in Twist.

1. In the left pane, expand the **Screen Mask** layer tab.
2. Select **Screen Mask**.
3. On the canvas, select a projector window.
4. To adjust the shape of a screen mask, move one or more points toward the center of the projector window.
5. To send a screen mask to a projector, on the canvas, right-click a projector window then select **Send Mask**.
6. To save the screen mask as a configuration file, select **File** > **Save**.

Removing a mask

Learn how to remove a mask.

1. In the left pane, select the **Mask** layer tab.
2. On the canvas, right-click a projector window then select **Reset Mask**.

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Brightness uniformity

Learn how to make changes to the brightness uniformity settings so all areas of an image are equally bright.

You can adjust the value of each point on a blend layer anywhere from 0 to 125%. If you select a value greater than 100%, you do not increase the maximum brightness of a projector, but instead increase the brightness of any dark spots on the blend layer. You can adjust the global brightness value within a range of 0 to 100%.

Adjusting brightness uniformity

Learn how to increase or decrease brightness uniformity.

1. In the left pane, select the **Brightness** layer tab and select **Point Mode**.
2. On the canvas, select a projector window.
3. Select one or more points.
4. Right-click **selection** > **Edit Brightness**.
5. To send updated brightness settings to a projector, on the canvas, right-click a projector window and select **Send Brightness Uniformity**.
6. To save the updated brightness settings as a configuration file, select **File** > **Save**.

Downloading brightness uniformity settings from projector memory

Learn how to download brightness uniformity settings from the memory of a projector.

1. On the canvas, select a projector window.
2. At the top of the screen, select **File** > **Blend/Mask/B.U.**
3. In the Download Blend dialog, select the memory location for the brightness uniformity settings.
4. Select **OK**.

Resetting brightness uniformity

Learn how to reset brightness uniformity settings.

1. In the left pane, select the **Brightness Uniformity** layer tab.
2. On the canvas, right-click a projector window then select **Reset Brightness Uniformity**.

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Adjusting the brightness of an entire image

Learn how to adjust the brightness setting for an entire image.

1. In the left pane, select the **Brightness** layer tab.
2. On the canvas, select a projector window.
3. In the top-right corner of the projector window, select the **Global Intensity** box.
4. To increase or decrease the brightness of the entire image, move the slider up or down.
5. To close the Global Intensity box, select the projector window.

Adjusting the brightness of a circular area

Use Boundary Mode to adjust the brightness of a small area on a projected image.

1. In the left pane, select the **Brightness** layer tab.
2. On the canvas, select a projector window and select **Boundary Mode**.
3. In the projector window, remove any points that are outside of the region requiring brightness adjustment.
4. In the left pane, in the Circle Diameter field, select the diameter each point should cover relative to the screen height.

   The boundary of each point is indicated by a dash.
5. To tune the brightness profile, adjust the intensity value of a point.
6. To achieve the correct brightness level, repeat steps 3 to 5 as necessary on other regions.

Adjusting the brightness of a user-defined area

Learn how to adjust the brightness of an area you define.

Create a user-defined boundary if a circular boundary does not adequately cover the shape of an area you want to adjust.

1. In the left pane, select the **Brightness** layer tab.
2. On the canvas, select a projector window then select **Boundary Mode**.
3. In the projector window, remove any points that are outside of the region requiring brightness adjustment.
4. Add or adjust points as necessary.
5. To select points within the boundary, on your keyboard, select and hold **CTRL** then select each point in the sequence.
6. Right-click a selected point then select either **Create Polyline Boundary** or **Create Polygon Boundary**.
7. To tune the brightness profile, adjust the intensity value of a point.
8. To achieve the correct brightness level, repeat steps 4 to 7 as necessary on other regions.

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Removing a boundary

Learn how to select and remove an unnecessary boundary.

1. On the canvas, select a projector window.
2. Do one of the following.
   - To select all polyline segments, select the polyline.
   - To select a single polyline segment, select the polyline then select the segment.

   If you want to select a single polyline segment, make sure you pause between the first and second click. A double-click does not select a single segment.
3. To remove your selection, right-click then select **Remove Polyline Segment(s)**.

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Troubleshooting

Learn how to resolve common issues you may experience when using Christie Twist™.

I cannot download settings from a projector

In some cases, the Energy Efficient Ethernet setting on some network adapters may interfere with the ability to download settings from a projector.

Before you begin, verify the Energy Efficient Ethernet setting is turned off for all network adapters listed in the Device Manager. This setting might not be available on all network adapters.

1. On your computer, navigate to **Control Panel** > **Device Manager**.
2. Expand the **Network Adapters** area.
3. Right-click a network adapter and select **Properties**.
4. Disable the **Energy Efficient Ethernet** setting.
   This setting might appear on either the Advanced tab or the Power Management tab.

Viewing and exporting diagnostics

Each time Twist™ is run, a new folder for diagnostics files (such as log files or images) is created.

When helping troubleshoot issues with Twist™, Christie Technical Support may ask you to open and read diagnostic files, or to send those files to Christie for further analysis.

Viewing diagnostic files

Learn how to view diagnostic files.

1. Select **Help** > **Diagnostics** > **View**.
2. Select one of the following:
   - Crash
   - Data
   - Images
   - Logs

Exporting diagnostic files

Learn how to export diagnostic files.

1. Switch to the **Help** tab.
2. Select **Export**.

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3. Select a Twist™ session and select **Export Diagnostics**.
4. Browse to where the .zip archive file is to be saved and select **Save**.
5. Find the file on your computer.
6. Send the .zip archive file to Christie Technical Support.

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