NOTICES

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GENERAL
Every effort has been made to ensure accuracy, however in some cases changes in the products or availability could occur which may not be reflected in this document. Christie reserves the right to make changes to specifications at any time without notice. Performance specifications are typical, but may vary depending on conditions beyond Christie's control such as maintenance of the product in proper working conditions. Performance specifications are based on information available at the time of printing. Christie makes no warranty of any kind with regard to this material, including, but not limited to, implied warranties of fitness for a particular purpose. Christie will not be liable for errors contained herein or for incidental or consequential damages in connection with the performance or use of this material. Manufacturing facilities in Canada and China are ISO 9001 certified. Manufacturing facilities in Canada are also ISO 14001 certified.

WARRANTY
Products are warranted under Christie's standard limited warranty, the complete details of which are available by contacting your Christie dealer or Christie. In addition to the other limitations that may be specified in Christie's standard limited warranty and, to the extent relevant or applicable to your product, the warranty does not cover:

a. Problems or damage occurring during shipment, in either direction.
b. Problems or damage caused by combination of a product with non-Christie equipment, such as distribution systems, cameras, DVD players, etc., or use of a product with any non-Christie interface device.
c. Problems or damage caused by misuse, improper power source, accident, fire, flood, lightning, earthquake, or other natural disaster.
d. Problems or damage caused by improper installation/alignment, or by equipment modification, if by other than Christie service personnel or a Christie authorized repair service provider.
e. Use of third party product enclosures for environmental protection during outside use must be approved by Christie.
f. Problems or damage caused by use of a product on a motion platform or other movable device where such product has not been designed, modified or approved by Christie for such use.
g. Except where the product is designed for outdoor use, problems or damage caused by use of the product outdoors unless such product is protected from precipitation or other adverse weather or environmental conditions and the ambient temperature is within the recommended ambient temperature set forth in the specifications for such product.
h. Defects caused by normal wear and tear or otherwise due to normal aging of a product.

The warranty does not apply to any product where the serial number has been removed or obliterated. The warranty also does not apply to any product sold by a reseller to an end user outside of the country where the reseller is located unless (i) Christie has an office in the country where the end user is located or (ii) the required international warranty fee has been paid.

The warranty does not obligate Christie to provide any on site warranty service at the product site location.

PREVENTATIVE MAINTENANCE
Preventative maintenance is an important part of the continued and proper operation of your product. Failure to perform maintenance as required, and in accordance with the maintenance schedule specified by Christie, will void the warranty.

REGULATORY
The product has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the product is operated in a commercial environment. The product generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of the product in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at the user's own expense. Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

CANICES-3 (A) / NMB-3 (A)

ENVIRONMENTAL
The product is designed and manufactured with high-quality materials and components that can be recycled and reused. This symbol means that electrical and electronic equipment, at their end-of-life, should be disposed of separately from regular waste. Please dispose of the product appropriately and according to local regulations. In the European Union, there are separate collection systems for used electrical and electronic products. Please help us to conserve the environment we live in!
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Introduction

This manual is intended for professionally trained operators of Christie high-brightness projection systems.

Only Christie qualified technicians who are knowledgeable about the hazards associated with high-voltage, ultraviolet exposure, and the high temperatures generated by the projector are authorized to assemble, install, and service the projector.

For complete Mirage SST product documentation and technical support, go to www.christiedigital.com.

Third-party products

This projector is certified to work only with certain specified third-party components. Use only Christie approved third-party components with the projector. Using non-approved components with the projector can lead to potential safety hazards and void the projector warranty.

For detailed safety information on third-party components, refer to the product documentation provided by the manufacturer of the component.

Important safeguards

To prevent personal injury and to protect the device from damage, read and follow these safety precautions.

Safety and warning guidelines

Read all safety and warning guidelines before installing or operating the projector.

This projector must be operated in an environment that meets the operating range specification. Use only the attachments and/or accessories recommended by Christie. Use of others may result in the risk of fire, shock, or personal injury.
Warning! If not avoided, the following could result in death or serious injury.

- This product must be operated in an environment that meets the operating range as specified in this document.
- Do not look directly into the lens when the light source is on. The extremely high brightness can cause permanent eye damage.
- ELECTRICAL and BURN HAZARD! Use caution when accessing internal components.
- FIRE HAZARD! Keep hands, clothes, and all combustible material away from the concentrated light beam of the projector.
- Keep fingers and other body parts away from the moving parts in the product. Tie back long hair, and remove jewelry and loose clothing before manually adjusting the product.
- FIRE AND SHOCK HAZARD! Use only the attachments, accessories, tools, and replacement parts specified by Christie.
- Do not operate the product without a lens installed.
- Always use a lens plug when installing or moving the product. This prevents contaminants from entering the product.
- FIRE AND SHOCK HAZARD! Use only the attachments, accessories, tools, and replacement parts specified by Christie.

Caution! If not avoided, the following could result in minor or moderate injury.

- TRIP OR FIRE HAZARD! Position all cables where they cannot contact hot surfaces, be pulled, be tripped over, or damaged by persons walking on or objects rolling over the cables.

Installation safety and warning guidelines

Read all safety and warning guidelines before installing the projector.

Warning! If not avoided, the following could result in death or serious injury.

- Possible hazardous optical radiation emitted from this product. (Risk group 3)
- Christie products must be installed and serviced by Christie qualified technicians.
- Do not operate the product without all of its covers in place.
- A minimum of two people or appropriately rated lift equipment is required to safely lift, install, or move the product.
- Always install safety straps when the frame and projector are installed overhead.
- Observe load ratings and applicable local safety codes.
- When installing the projector in portrait mode, the rigging device must have a sufficient load rating, as identified in this manual.
- This product must be installed within a restricted access location not accessible by the general public.
- Install the product so users and the audience cannot enter the restricted area at eye level.
- Only personnel who are trained on the precautions for the restricted access location can be granted entry to the area.
- Only Christie qualified technicians are permitted to open product enclosures.

Caution! If not avoided, the following could result in minor or moderate injury.

- ELECTRICAL and BURN HAZARD! Use caution when accessing internal components.
- Only Christie qualified technicians are authorized to use the tools provided in the toolbox.
AC power precautions

Read all safety and warning guidelines before connecting to AC power.

**Warning!** If not avoided, the following could result in death or serious injury.

- **SHOCK HAZARD!** Only use the AC power cord provided with the product or recommended by Christie.
- **FIRE AND SHOCK HAZARD!** Do not attempt operation unless the power cord, power socket, and power plug meet the appropriate local rating standards.
- **SHOCK HAZARD!** Do not attempt operation if the AC supply is not within the specified voltage and current, as specified on the license label.
- **SHOCK HAZARD!** The AC power cord must be inserted into an outlet with grounding.
- **SHOCK HAZARD!** A dedicated, protected ground or earth wire must be installed on the product by Christie qualified technicians or electricians before it can be connected to power.
- **SHOCK HAZARD!** Disconnect the product from AC before installing, moving, servicing, cleaning, removing components, or opening any enclosure.
- Install the product near an easily accessible AC receptacle.

**Caution!** If not avoided, the following could result in minor or moderate injury.

- **FIRE HAZARD!** Do not use a power cord, harness, or cable that appears damaged.
- **FIRE OR SHOCK HAZARD!** Do not overload power outlets and extension cords.
- **SHOCK HAZARD!** Power supply uses double pole/neutral fusing. Disconnect all power sources before opening the product.

Laser safety precautions

Read all safety and warning guidelines before operating the projector laser.

**Warning!** If not avoided, the following could result in death or serious injury.

- **LASER RADIATION HAZARD!** This projector has an external Class 4 laser module. Never attempt to disassemble or modify the laser module.
- Possible hazardous optical radiation emitted from this product. (Risk group 3)
- Only Christie qualified technicians who are knowledgeable about the hazards associated with laser use, high-voltage, and high temperatures generated by the product are authorized to assemble, install, and service the Christie Laser Projection System.
- **RADIATION HAZARD!** Use of controls or adjustments, or performing procedures other than those specified may result in hazardous radiation exposure.
- Do not look directly into the lens when the light source is on. The extremely high brightness can cause permanent eye damage.
- Do not operate the product without all of its covers in place.
- **LASER RADIATION!** Do not short the contact rings.
- Always keep a protective cap on disconnected fiber optic cables.
Light intensity hazard distance

This projector has been classified as Risk Group 3 as per the IEC 62471-5:2015 standard due to possible hazardous optical and thermal radiation being emitted.

Warning! If not avoided, the following could result in serious injury.


- PERMANENT/TEMPORARY BLINDNESS HAZARD! Operators must control access to the beam within the hazard distance or install the product at the height that prevents exposure of spectators' eyes within the hazard distance. The hazard zone must be no lower than 2.5 meters (US installations) or 2.0 meters (global installations) above any surface upon which any persons are permitted to stand and the horizontal clearance to the hazard zone must be a minimum 1.0 meters.

- EXTREME BRIGHTNESS! Do not place reflective objects in the product light path.

The following diagram and table show the zones for ocular and skin hazard distances:

- A—Hazard zone. The region of space where the projection light from the laser-illuminated projector is above emission limits for Risk Group 2. The light intensity may cause eye damage after a momentary or brief exposure (before a person can avert his or her eyes away from the light source). The light may cause skin burns to occur.

- B—Hazard distance. Operators must control access to the beam within the hazard distance or install the product preventing potential exposure of the spectators' eyes from being in the hazard distance.

- C—No access zone. Horizontal clearance of the no access zone must be a minimum of 1.0 meters.

- D—Vertical distance to hazard zone. The hazard zone must be no lower than 2.5 meters (US installations) or 2.0 meters (global installations) above any surface upon which any persons are permitted to stand.

- E—Represents the top view of the projector.

- F—Represents the side view of the projector.

<table>
<thead>
<tr>
<th>Projection lens</th>
<th>Part number</th>
<th>Hazard distance (m)</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.72:1 HB fixed</td>
<td>144-110103-XX</td>
<td>1</td>
</tr>
<tr>
<td>0.9:1 fixed lens</td>
<td>144-111014-XX</td>
<td>1.2</td>
</tr>
<tr>
<td>1.13-1.31:1 HB zoom</td>
<td>144-103105-XX</td>
<td>1.5</td>
</tr>
<tr>
<td>1.13-1.66:1 HB zoom</td>
<td>144-129103-XX</td>
<td>2.1</td>
</tr>
<tr>
<td>1.31-1.63:1 HB zoom</td>
<td>144-104106-XX</td>
<td>2.1</td>
</tr>
<tr>
<td>1.45-2.17:1 HB zoom</td>
<td>144-130105-XX</td>
<td>2.6</td>
</tr>
<tr>
<td>1.63-2.17:1 HB zoom</td>
<td>144-105107-XX</td>
<td>2.6</td>
</tr>
<tr>
<td>1.95-3.26:1 HB zoom</td>
<td>144-131106-XX</td>
<td>3.8</td>
</tr>
<tr>
<td>1.99-2.71:1 HB zoom</td>
<td>144-106108-XX</td>
<td>3.2</td>
</tr>
<tr>
<td>2.71-3.89:1 HB zoom</td>
<td>144-107109-XX</td>
<td>4.4</td>
</tr>
<tr>
<td>3.89-5.43:1 HB zoom</td>
<td>144-108100-XX</td>
<td>6.1</td>
</tr>
<tr>
<td>4.96-7.69:1 HB zoom</td>
<td>144-109101-XX</td>
<td>8.7</td>
</tr>
<tr>
<td>1.13-1.66 UHC zoom</td>
<td>163-118101-XX</td>
<td>1.8</td>
</tr>
<tr>
<td>1.45-2.17 UHC zoom</td>
<td>163-119102-XX</td>
<td>2.1</td>
</tr>
<tr>
<td>1.95-3.26 UHC zoom</td>
<td>163-120103-XX</td>
<td>3.2</td>
</tr>
</tbody>
</table>

For Installations in the United States

The following must be in place for laser-illuminated projector installations in the United States:

- Permanent show installations containing Risk Group 3 laser-illuminated projectors must meet the following conditions:
  - Installed by Christie or by Christie-authorized and trained installers.
    Refer to the Laser Illuminated Projector - Class 1 Risk Group 3 Installation training (Course code: CF-LIPI-01) on the [http://www.christieuniversity.com](http://www.christieuniversity.com) site.
  - Performed according to instructions provided by Christie.
  - Ensure the projection system is securely mounted or immobilized to prevent unintended movement or misalignment of the projections.
  - The projection room shall be clearly identified by the posting of laser warning and restricted access signs. The projection room sign must display the warning "Class 1 Risk Group 3 Laser Controlled Area No Direct Exposure to Beam Shall be Permitted".
  - The Christie Laser Projection System Installation Checklist must be fully completed after the installation and sent to lasercompliance@christiedigital.com. A copy can remain on-site. This checklist can be found as a separate document in the accessory box with the manual.
  - If installing in the US states of Arizona, Florida, Georgia, Illinois, and Massachusetts, go to [www.christiedigital.com](http://www.christiedigital.com) for additional regulatory requirements.
Product labels

Learn about the labels that may be used on the product. Labels on your product may be yellow or black and white.

General hazards

Hazard warnings also apply to accessories once they are installed in a Christie product that is connected to power.

<table>
<thead>
<tr>
<th>Fire and Shock Hazard</th>
</tr>
</thead>
<tbody>
<tr>
<td>To prevent fire or shock hazards, do not expose this product to rain or moisture.</td>
</tr>
<tr>
<td>Do not alter the power plug, overload the power outlet, or use it with extension cords.</td>
</tr>
<tr>
<td>Do not remove the product enclosure.</td>
</tr>
<tr>
<td>Only Christie qualified technicians are authorized to service the product.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Electrical Hazard</th>
</tr>
</thead>
<tbody>
<tr>
<td>Risk of electric shock.</td>
</tr>
<tr>
<td>Do not remove the product enclosure.</td>
</tr>
<tr>
<td>Only Christie qualified technicians are authorized to service the product.</td>
</tr>
</tbody>
</table>

General hazard.

Electric shock hazard. To avoid personal injury, disconnect all power sources before performing maintenance or service.

Electrocution hazard. To avoid personal injury, always disconnect all power sources before performing maintenance or service procedures.

Hot surface hazard. To avoid personal injury, allow the product to cool for the recommended cool down time before performing maintenance or service.

Optical radiation hazard. To avoid personal injury, never look directly at the light source.

Moving parts hazard. To avoid personal injury, keep hands clear and loose clothing tied back.

Fan hazard. To avoid personal injury, keep hands clear and loose clothing tied back. Always disconnect all power sources before performing maintenance or service procedures.

Laser hazard. To avoid personal injury, avoid eye or skin exposure to direct or scattered radiations.
Not for household use.

Mandatory action

Disconnect all power sources before performing maintenance or service procedures.

Consult the service manual.

Electrical labels

Indicates the presence of a protective earth ground.

Laser labels

FDA laser variance (US projectors only)

Indicates a light hazard. Do not look directly into the lens. The extreme high brightness can cause permanent eye damage. Class 1 Laser Product - Risk Group 3 according to IEC 60825-1: 2014 and IEC 62471-5:2015

Certified for use with IPG Photonics Model RGB-100-3P
Part number 168-101103-XX

Indicates the product is certified for use with IPG Photonics Model RGB-100-3P Part number 168-101103-XX laser.
Indicates a danger Class 4 laser radiation when open and interlocks are defeated. Avoid eye or skin exposure to direct or scattered radiation. Turn off power before removing the bracket.

Additional safety hazards

Do not look directly into the lens. The extremely high brightness can cause permanent eye damage.

Indicates high leakage current. Earth connection essential before connecting the power supply.

Product documentation

For installation, setup, and user information, see the product documentation available on the Christie website. Read all instructions before using or servicing this product.

1. Access the documentation from the Christie website:
   - Scan the QR code using a QR code reader app on a smartphone or tablet.

2. On the product page, switch to the Downloads tab.

Related documentation

Additional information on this product is available in the following documents.

- Mirage SST Product Safety Guide (P/N: 020-102992-XX)
- Mirage SST Installation and Setup Guide (P/N: 020-102956-XX)
- Mirage SST Projector Head Specifications Guide (P/N: 020-102994-XX)
- Mirage SST Status System Guide (P/N: 020-103007-XX)
- Mirage SST Serial Commands Guide (P/N: 020-103005-XX)
- Mirage SST Projector Head Service Guide (P/N: 020-103039-XX)
Projector overview

Learn about the Mirage SST projector. Mirage SST is a professional quality projector using Digital Light Processing (DLP™) technology from Texas Instruments. Mirage SST is engineered specifically for complex, high-end applications like planetariums, dome theaters, and theme park attractions to offer stunning wide screen, high resolution 4K images at 120 frames per second.

 Mirage SST provides several design and installation advantages. Its small form factor allows it to be installed independently, or as part of a multi-projector array, into tight, challenging environments. The remote light source also allows the chilling equipment to be located away from the projector head where its noise will not impact the audience’s enjoyment of the show.

Contact your dealer

Record the information about your projector and keep this information with your records to assist with the servicing of your projector. If you encounter a problem with your Christie projector, contact your dealer.

<table>
<thead>
<tr>
<th>Purchase record</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dealer:</td>
</tr>
<tr>
<td>Dealer or Christie Sales/Service contact phone number:</td>
</tr>
<tr>
<td>Projector serial number:</td>
</tr>
<tr>
<td>The serial number can be found on the license label located on the display panel</td>
</tr>
<tr>
<td>Purchase date:</td>
</tr>
<tr>
<td>Installation date:</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Ethernet settings</th>
</tr>
</thead>
<tbody>
<tr>
<td>Default gateway</td>
</tr>
<tr>
<td>Projector IP address</td>
</tr>
<tr>
<td>Subnet mask</td>
</tr>
</tbody>
</table>

Key features

Understand the important features of the projector.

- Built in warp and blend of projected images
- Improved lens mount with bayonet style insertion
- Single phase 100-240 V
- Side access to optical adjustments
- 4K resolution for flexibility and future proofing
- Omnidirectional operation
- TruLife electronics
How the projector works

The Mirage SST accepts a variety of input signals for projection on front or rear projection screens, typical in commercial or other large screen applications.

High-brightness light is generated by a laser illumination source, then fed to the projector through a fiber optic cable, where it is modulated by three Digital Micromirror Device (DMD) panels responding to incoming data streams of digitized red, green and blue color information. Based on digital signals from the source, light from the responding on pixels of each panel is reflected, converged and then projected to the screen through a projection lens, where all pixel reflections are superimposed into a sharp full-color image.

The Mirage SST projector head provides all configuration and control for the laser illumination source. Never connect a laptop to the laser illumination source unless directed by Technical Support.

List of components

Verify all components were received with the projector.

- Power cord
- IR remote keypad
- Network cable
- Tools
- Fiber optic support
- Laser illumination source interlock jumper for J33 harness (P/N: 001-114198-XX)
- Fiber connector safety cover

Display panel components

Identify the main components of the display panel (also known as the home page).

<table>
<thead>
<tr>
<th>ID</th>
<th>Component</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>Projector Information</td>
<td>Provides information about the projector such as the projector name, serial number, software version, and projector ID.</td>
</tr>
<tr>
<td>B</td>
<td>Projector and Component Controls</td>
<td>Indicates the states of the projector and its components.</td>
</tr>
<tr>
<td>C</td>
<td>Power and Temperature</td>
<td>Indicates the light source mode, power mode, and intake temperature.</td>
</tr>
<tr>
<td>D</td>
<td>Status</td>
<td>Contains information about the health of the projector including the number of warnings and errors. Provides access to the status system.</td>
</tr>
<tr>
<td>E</td>
<td>IP Settings</td>
<td>Displays the IP address and subnet values. Provides access to changing the IP settings.</td>
</tr>
<tr>
<td>ID</td>
<td>Component</td>
<td>Description</td>
</tr>
<tr>
<td>----</td>
<td>-----------</td>
<td>-------------</td>
</tr>
<tr>
<td>F</td>
<td>Test Pattern</td>
<td>Displays the currently selected test pattern. If no test pattern is selected, Off is displayed. Provides access to the list of test patterns.</td>
</tr>
<tr>
<td>G</td>
<td>Input</td>
<td>Displays the signal for the currently selected input. Provides access to the list of input signals.</td>
</tr>
</tbody>
</table>
IR remote keypad

The IR remote keypad controls the projector by way of wireless communications from a battery-powered infrared (IR) transmitter.

<table>
<thead>
<tr>
<th>Button</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>Powers on the projector light source.</td>
</tr>
<tr>
<td>B</td>
<td>Opens the aspect ratio dialog.</td>
</tr>
<tr>
<td>Button</td>
<td>Description</td>
</tr>
<tr>
<td>--------</td>
<td>-------------</td>
</tr>
<tr>
<td>C</td>
<td>Turns off the light source and puts the projector in standby.</td>
</tr>
<tr>
<td>D</td>
<td>Selects an active or inactive input on any slot.</td>
</tr>
<tr>
<td>E</td>
<td>Not supported.</td>
</tr>
<tr>
<td>F</td>
<td>Enter a number, such as menu, item index or value.</td>
</tr>
<tr>
<td>G</td>
<td>Use the arrows to navigate within a menu or to adjust settings.</td>
</tr>
<tr>
<td>H</td>
<td>Selects a highlighted menu item and changes or accepts a value.</td>
</tr>
<tr>
<td>I</td>
<td>Toggles the menus on/off.</td>
</tr>
<tr>
<td>J</td>
<td>Not supported.</td>
</tr>
<tr>
<td>K</td>
<td>Opens the keystone dialog.</td>
</tr>
<tr>
<td>L</td>
<td>Adjusts the lens focus.</td>
</tr>
<tr>
<td>M</td>
<td>Not supported.</td>
</tr>
<tr>
<td>N</td>
<td>Displays a test pattern.</td>
</tr>
<tr>
<td>O</td>
<td>Not supported.</td>
</tr>
<tr>
<td>P</td>
<td>Optimizes the image automatically.</td>
</tr>
<tr>
<td>Q</td>
<td>Opens or closes the shutter.</td>
</tr>
<tr>
<td>R</td>
<td>Not supported.</td>
</tr>
<tr>
<td>S</td>
<td>Initiates a custom action when a number is selected.</td>
</tr>
<tr>
<td>T</td>
<td>Selects a projector in multi-projector installations.</td>
</tr>
<tr>
<td>U</td>
<td>Returns to the previous menu level or exits menus if at the top level.</td>
</tr>
<tr>
<td>V</td>
<td>Displays context-sensitive help.</td>
</tr>
<tr>
<td>W</td>
<td>Arrows adjust the lens offset.</td>
</tr>
<tr>
<td>X</td>
<td>Adjust the lens zoom.</td>
</tr>
<tr>
<td>Y</td>
<td>Opens the on-screen display position menu.</td>
</tr>
<tr>
<td>Z</td>
<td>Shows or hides the on-screen display menus.</td>
</tr>
<tr>
<td>AA</td>
<td>Turns the remote backlight on.</td>
</tr>
<tr>
<td>AB</td>
<td>Male 3-pin XLR connector for wired option.</td>
</tr>
<tr>
<td>AC</td>
<td>Lock/unlock the keypad.</td>
</tr>
<tr>
<td>AD</td>
<td>Battery door.</td>
</tr>
</tbody>
</table>
Operating the projector

Learn how to turn on and off the projector and the meaning of the status indicators.

Performing initial system start-up

Learn how to turn on all components of the Mirage SST system for the first time: chiller, laser illumination source, and projector head.

**Warning!** If not avoided, the following could result in death or serious injury.

- **SHOCK HAZARD!** Do not attempt operation if the AC supply is not within the specified voltage and current, as specified on the license label.

Never run the laser illumination source without the cooling system already running. The chiller must be the first item turned on before power is applied to the laser rack and kept operating until after the AC lockout/switch is rotated to the off position.

1. Verify the coolant lines are connected correctly.
2. Fill the chiller reservoir with the required coolant (30% Propylene Glycol coolant).
3. Turn on the chiller, set the temperature to between 19°C (66°F) to 22°C (71.6°F). For more information on how to turn on the chiller, refer to the chiller’s product documentation.
4. Check the coolant level in the reservoir and hoses and top up the coolant as required.
5. Check that no leaks exist in the system.
6. Allow the chiller to run until the system is operating with no new bubbles entering the reservoir. Add additional coolant as necessary.
7. On the laser illumination source, rotate the main AC lockout/switch (A) to the on position and rotate the Power key (B) clockwise to the on position.
   The Interlock status indicator (C) on the laser illumination source turns yellow.
8. On the projector beside the AC inlet, move the AC breaker/switch to the on position. The projector boots into standby mode after approximately 30 seconds.

9. Once the projector is in standby, on the projector keypad or the projector remote, press and hold the power button until you hear a beep.

   The projector can also be turned on using the web user interface. After a few seconds, the projector moves to the on state, causing the yellow light on the laser illumination source to turn off. The laser is ready to be turned on but no illumination occurs until the green button is pressed and the lasers have warmed up.

10. On the laser illumination source, press the green Start button (D).

    The two Emission status indicators (E) turn red. When the lasers are warmed up and the projector is ready, you can display an image (use test pattern if no source image is connected).

On the projector, the Status > Laser Info > Laser Bank State menu displays the message "Warming Up". When that message disappears, the lasers are ready. It typically takes the
lasers approximately 10 to 15 minutes to warm up when turning on the first time from the off position. This could be longer if the start-up temperatures are approaching minimum or maximum temperatures for operation. The projector will operate with the shutter closed until the lasers are warmed up.

**Turning on the system**

After the system has been initiated for the first time, not all steps need to be performed when subsequently turning on the system.

**Warning!** If not avoided, the following could result in death or serious injury.

- SHOCK HAZARD! Do not attempt operation if the AC supply is not within the specified voltage and current, as specified on the license label.

Never run the laser illumination source without the cooling system already running. The chiller must be the first item turned on before power is applied to the laser rack and kept operating until after the AC lockout/switch is rotated to the off position.

1. Turn on the chiller.
   For more information on how to turn on the chiller, refer to the chiller’s product documentation.

2. Check the coolant level. If the coolant level is low, add coolant and check for leaks.

3. On the laser illumination source, rotate the main AC lockout/switch (A) to the on position and rotate the Power key (B) clockwise to the on position.
   The Interlock status indicator (C) on the laser illumination source turns yellow.

4. If the breaker is off, on the projector beside the AC inlet, move the AC breaker/switch to the on position.
   The projector boots into standby mode after approximately 30 seconds.
5. Once the projector is in standby, on the projector keypad or the projector remote, press and hold the power button until you hear a beep.

The projector can also be turned on using the web user interface. After a few seconds, the projector moves to the on state, causing the yellow light on the laser illumination source to turn off. The laser is ready to be turned on but no illumination occurs until the green button is pressed and the lasers have warmed up.

6. On the laser illumination source, press the green Start button (D).

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maximum temperatures for operation. The projector will operate with the shutter closed until the lasers are warmed up.

**Turning off the system**

Learn how to turn off all components of the Mirage SST system: projector head, laser and chiller.

When powering off in preparation for inspection or maintenance, always disconnect from AC.

1. To turn the light source off using the projector keypad or remote, press and hold the button until you hear a beep.

The projector can also be turned off with the web user interface. Always allow the projector to complete the 10 minute cool down cycle before power is turned off at the breaker or unplugged or projector damage could occur.

2. On the laser illumination source, rotate the main AC lockout/switch (A) to the off position and rotate the Power key (B) counter clockwise to the off position.

3. Christie recommends, if possible, to keep the chiller operating for 10 minutes after laser AC lockout/switch A has been rotated to the off position.

For more information on the chiller operation, refer to the chiller’s product documentation.

**Projector LED status indicators**

Identify the LED state colors and meaning.

<table>
<thead>
<tr>
<th>LED</th>
<th>State</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Blue</td>
<td>Solid</td>
<td>Standby&lt;br&gt;Light source is off. Video electronics are off. Projector status is OK.</td>
</tr>
<tr>
<td></td>
<td>Flashing</td>
<td>Cool down&lt;br&gt;Projector is moving to one of the two standby states:</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Light source is off and video electronics are booting up.</td>
</tr>
</tbody>
</table>
### LED State Description

- **Green Solid** Light source on
  - Light source is on. Projector status is OK.

- **Flashing** Startup
  - Projector is moving to light source on state. Light source is warming up. Video electronics are initializing.

- **Yellow Solid** Warning in standby
  - Projector is in standby state. A problem exists with the projector that does not prevent it from operating.

- **Flashing yellow/green** Warning during startup
  - Projector is in a startup state. A problem exists with the projector that does not prevent it from operating.

- **Flashing** Warning with light source on
  - Light source is on. A problem exists with the projector that will not cause it to shut down.

- **Flashing yellow/blue** Warning during cool down
  - Projector is in a cool down state. Light source is off. Video electronics and light source are cooling down. A problem exists with the projector that does not prevent it from operating.

- **Red Solid** Error in standby
  - Projector is in standby. An error exists that prevents the projector from starting up.

- **Flashing** Error
  - An error with the projector exists during startup, cool down, or when the light source is off. Projector will proceed to shut down.

- **Off** AC off
  - The AC power is off.

### Projector LED shutter indicators

Identify the shutter LED state colors and meaning.

<table>
<thead>
<tr>
<th>LED</th>
<th>State</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Solid magenta</td>
<td>Shutter closed</td>
<td>The shutter is closed. In standby, the shutter is always automatically closed and the magenta light is muted.</td>
</tr>
<tr>
<td>Off</td>
<td>Shutter open</td>
<td>The shutter is open.</td>
</tr>
</tbody>
</table>
Adjusting the image

Adjust the projector image. Christie recommends warming the lens before completing these procedures as focus may change as the lens warms.

Selecting screen image orientation

Specify the orientation to use for the image. The projector supports front projection, rear projection, front projection inverted, or rear projection inverted.

1. Select **MENU > Image Settings > Image Orientation**.
2. Select the required orientation from the list.
3. To confirm your selection, press **Enter**.

Setting the image resize preset

Set the image resize preset to determine if an image will display in its native resolution or will resize by maximizing the height, width, both height and width, or to the maximum size while keeping the original aspect ratio.

1. Select **MENU > Image Settings > Size & Position > Resize Presets**.
2. Select the appropriate resize preset:
   - **Auto**—Maximize for current source.
   - **No Resizing**—Display in native resolution.
   - **Full Size**—Fill the screen, regardless of source.
   - **Full Width**—Fill display width and keep aspect ratio.
   - **Full Height**—Fill display height and keep aspect ratio.
3. Select **Enter**.

Adjusting lens settings

Adjust various lens settings including the offset, zoom, focus, and locking the lens motor.

Adjusting offset

Adjust the offset to align the image on the screen. Always adjust offset before adjusting boresight.

For the best optical performance and minimal keystone, use offsets instead of aiming at the center of the image, in off-axis installations. Avoid extreme tilts or offsets. Corner vignettes on a white test pattern indicate extreme offset that should be avoided using mechanical alignment.

1. Project an image with the primary lens.
2. Select a framing test pattern.
3. Select **LENS OFFSET**.
4. Use the arrows to adjust the offset to display a square image on the screen, with minimal projector aiming error.
5. To exit to the home page, select Back.

**Resetting the lens to home position**

Set the lens offset back to the home position.

1. Select **LENS OFFSET**.
   You can also select **MENU > Configuration > Lens Settings > Lens Offset**.
2. To reset the lens to the default home position, select **Enter**.
3. To confirm the reset, select **OK**.

**Aligning the image with lens zoom and focus**

Ensure that the image reflected from the digital micromirror device (DMD) is parallel and centered with the lens and screen.

1. Display an image or test pattern that can be used to analyze image focus and geometry.
2. Select **ZOOM**.
   You can also select the zoom function from **MENU > Configuration > Lens Settings > Zoom**.
3. Use the up and down arrows to zoom in or out of the image.
4. To exit, select **Back**.
5. Select **FOCUS**.
   You can also select the focus function from **MENU > Configuration > Lens Settings > Focus**.
6. Use the up and down arrows to adjust the focus of the image.
7. To exit, select **Back**.
8. To refine your adjusts, repeat steps 2 to 7.

**Locking the lens motor**

Prevents all lens motors from moving. It disables the zoom, focus, and offset settings, locking out any changes and overriding all other lens features. This feature prevents accidental lens position changes in multi-projector installations.

1. Select **MENU > Configuration > Lens Settings > Lock all Lens Motors**.
2. To enable locking of all lens motors, select **Enter**.

**Determining what lens warnings are displayed**

Controls the level of lens warnings displayed.

1. Select **MENU > Configuration > Lens Settings > Lens Warnings**.
2. Select the appropriate lens warning level:
• Show All Warnings—Shows all lens warnings.
• Hide Zoom Motor Warnings—Hides zoom motor warnings.
• Hide Detection Warnings—Hides lens detection warnings. Christie recommends selecting this option when using a third-party lens.

3. Select Enter.

Adjusting primary colors

Calibrate the accuracy of primary colors, which can change because of lighting and environmental factors.

All primary colors in the projector are precisely set to pre-established values to ensure overall color performance is optimized and is as accurate as possible. Lighting and other environmental factors may slightly change how these colors appear on your screen. While the change is negligible in most cases, you may prefer to recover the originally intended color performance before trying to match colors from several projectors.

To achieve consistency use a color meter to measure the native primary colors—red, green, blue, and white—as they appear on the screen. On the basis of these new values, which are stored in memory, each projector automatically calculates any necessary corrections to reproduce the original factory colors under the current environmental conditions. This essentially calibrates a projector to its surroundings, compensating for factors such as screen type, light source and/or ambient lighting, and improves color accuracy and consistency in a group of projectors. It ensures a good starting point for further customizing and matching; however, is not critical for all installations.

1. From the display panel, select MENU > Configuration.
2. Select Color Primary Settings.
3. To edit the primary colors, select Edit Primary Colors.
4. Adjust the slider or enter the measured color values of the primary color component you selected.
5. To confirm your selection, select Enter.
6. Repeat steps 5 and 6 for each primary color component.
7. To view a specific color while adjusting, select Show Color Pattern.
8. Select the appropriate color and select Enter.
9. To reset the primary colors to their defaults, select Reset Color Primaries.
10. At the confirmation prompt, select OK.

DMD color correction

Adjust the DMD color values as required.

Adjusting color by precise chromaticity values

Change the values of the primary color components.

1. Select MENU > Configuration > Color Correction by x,y.
2. Adjust the slider or enter the measured color values of the primary color component you selected.
3. To confirm your selection, select Enter.
4. Repeat steps 2 and 3 for each primary color component.
5. To view a specific color while adjusting, select Show Color Pattern.
6. Select the appropriate color and select Enter.

**Adjusting color by saturation**
Change the strength of the primary color in relation to the other primary colors.

1. Select **MENU > Configuration > Color Saturation**.
2. Adjust the value of the primary color you selected by using more or less of it in relation to the other primary colors.
3. To confirm your selection, select Enter.
4. Repeat steps 2 and 3 for each primary color.
5. To view a specific color while adjusting, select Show Color Pattern.
6. Select the appropriate color and select Enter.

**Signal color correction**
Adjust the video signal color as required.

For best results, Christie recommends setting all color and gamma settings to **Auto Detect**.

**Adjusting the color space**
Determine how the color components are decoded for accurate color in the display.

1. Select **MENU > Image Settings > Color & Gamma > Color Space**.
2. Select the adjustment most suited to the input signal:
   - Auto Detect
   - RGB (Full Range)
   - RGB (Limited Range)
   - YCbCr HDTV (Expanded Range)
   - YCbCr JPEG (Full Range)
   - YCbCr UHDTV (ITU-R BT.2020) (Full Range)
3. Select Enter.

**Adjusting color by temperature**
Adjust the color temperature as expressed in degrees Kelvin.

1. Select **MENU > Image Settings > Color & Gamma**.
2. Select **Color Temperature**.
3. Adjust the slider to change the light to warmer or cooler and select Enter.
Selecting the color correction mode

Select the color correction mode most suited to the input signal.

1. Select MENU > Image Settings > Color & Gamma > Color Correction Mode.
2. Select the adjustment most suited to the input signal:
   - **Auto Detect**—Automatically detect the appropriate color correction mode, where possible.
   - **Max Drives**—All color adjustments are turned off, allowing the projector to run at maximum brightness.
   - **Color Temperature**—Specify a color temperature between 3200 and 9300, expressed in degrees Kelvin.
   - **HD Video**—Set the output color to a specific standard value. Adjusts the colors red, green, blue, and white.
   - **DCI P3**—Set the DCI P3 (cinema) colorimetry with DCI white point.
   - **DCI P3 (D65)**—Set the DCI P3 colorimetry with D65 white point.
   - **Custom**—Select a user defined set of color adjustments.
3. Select Enter.

Correcting for ambient light

Ambient light is the natural light that occurs in the environment where the projector is located.

1. Select MENU > Image Settings > Color & Gamma > Ambient Light Correction.
2. Select Enter.
3. Use the right and left arrows to adjust how the image displays in conditions with ambient light.
4. To confirm your selection, select Enter.

Setting the frame delay

Delay the output signal timing relative to the input signal timing by a fraction of a frame, and up to several frames.

The minimum latency can vary based on the amount of scaling applied to the image. When using keystone or warping, an additional latency is required, depending on the amount of warp.

1. Select MENU > Image Settings > Advanced Image Settings > Frame Delay.
2. To set the frame delay, select Set Delay.
3. Adjust the value and to confirm your selection, select Enter.
4. To set the achievable frame delay, select Actual Delay.
5. Adjust the value and to confirm your selection, select Enter.

Enabling film mode detect

Enables or disables the detection of film motion.

1. Select MENU > Image Settings > Advanced Image Settings > Film Mode Detect.
2. To enable the detection of film motion, select **Auto Detect**.
3. To disable the detection of film motion, select **Disabled**.
4. Select **Enter**.

## Adjusting the image sharpness

Change the sharpness of the image.

Lower settings can improve a noisy signal. Setting the sharpness above the halfway point can introduce noise in the image.

1. Select **MENU > Image Settings > Advanced Image Settings > Sharpness**.
2. Select **Enter**.
3. Use the right and left arrows to adjust the sharpness of the image.
4. To confirm your selection, select **Enter**.

## Creating a seamless image with edge blending

Combine several projected images into one single, seamless image with edge blending.

### Adding edge blends to the projector

Use Christie or to create edge blends and upload them to Mirage SST.

1. Create an edge blend file using the Christie or application.
   
   To connect Mirage SST with Christie or , use port 3003.
   
   Christie Twist Premium, Twist Pro, and offer advanced warping options. Refer to the Christie website ([www.christiedigital.com](http://www.christiedigital.com)) for product information and documentation.

2. Upload the edge blend file to the projector.
3. On one projector, select **MENU > Configuration > Edge Blending**.
4. Select the appropriate edge blend setting and select **Enter**.
5. Repeat steps 2 to 4 for the remaining projectors.
6. To turn off edge blending, from **MENU > Configuration > Edge Blending**, select **Off**.

### Enabling basic edge blending

Create basic edge blends directly on Mirage SST.

1. Start with two projectors and display the full white field test pattern from both.
2. On one projector, select **MENU > Configuration > Edge Blending**.
3. To enable basic edge blending, select **Basic**.
4. To edit blending adjustments, select **Edge Blend Widths**.
5. From the Basic Blending dialog, select a side to blend.
6. To make the blending adjustments, use the arrow keys to change either the vertical and horizontal values as appropriate.
7. To accept the selection, select Enter.
8. Repeat steps 4 to 6 to blend the remaining sides.
9. When all adjustments are made, use the arrow keys to highlight Apply and select Enter.
10. Repeat steps 2 to 9 for the remaining projectors.
11. To turn off basic edge blending, from MENU > Configuration > Edge Blending, select Off.

Resetting edge blending
Reset the edge blending to revert any edge blends.
1. Select MENU > Configuration > Edge Blending.
2. Select Reset Edge Blends.
3. At the confirmation prompt, select Reset.

Geometry correction
Modify the geometry for all sources.

Enabling warping
Use warping to project images on any surface shape.
1. Create a warp file using the Mirage SST or application.
   To connect Mirage SST with or , use port 3003.
   Christie Twist Premium, Twist Pro, and offer advanced warping options. Refer to the Christie website (www.christiedigital.com) for product information and documentation.
2. Upload the warp file to the projector.
3. Select MENU > Configuration > Geometry Correction > Geometry Correction Mode.
4. Select the appropriate warp setting and select Enter.
5. To turn off warping, from MENU > Configuration > Geometry Correction > Geometry Correction Mode, select Off.
   Pressing Func+Help on the IR remote keypad disables all geometry corrections (warping, keystone, and black level blending) without changing the settings associated with them.

Correcting the shape of a keystoned image
Keystone effect occurs when you project an image onto the screen at an angle and the projector is not centered on the screen. The image appears distorted and resembles a trapezoid.
To correct the shape of a keystoned image, use the keystone options available in the geometry correction menu. Perform coarse keystone adjustments by using the horizontal or vertical settings. It may not be possible to match the screen dimensions with the horizontal and vertical keystone controls but you can refine these settings by adjusting the 2D keystone settings.

Enabling keystone adjustments
Enable keystone corrections to correct the shape of a keystoned image.
1. Select MENU > Configuration > Geometry Correction > Geometry Correction Mode.
2. Select **Keystone**.
   Any keystone adjustments previously set are enabled.
   To disable keystone adjustments, select **MENU > Configuration > Geometry Correction > Geometry Correction Mode > Off**.

### Adjusting the image with 2D keystone
2D keystone distorts the projected image both vertically and horizontally simultaneously and resembles a trapezoid.

Adjusting horizontal or vertical keystone correction after 2D keystone erases the 2D keystone settings; however, performing 2D keystone after horizontal or vertical correction retains the previous keystone setting.

1. Select **MENU > Configuration > Geometry Correction > Geometry Correction Mode**.
2. Select **2D Keystone Correction**.
3. From the correction dialog, select the corner to adjust.
4. To make the keystone adjustments, use the arrow keys to change both the vertical and horizontal values.
5. Select **Apply Changes**.

### Adjusting vertical keystone
Use vertical keystone to correct a keystoned image shape in which the top and bottom borders of the image are unequal in length, and both sides of the image are inclined toward the top or bottom edge.

If vertical keystone adjustments have been made, starting horizontal keystone adjustments erases the vertical settings.

1. Select **MENU > Configuration > Geometry Correction > Geometry Correction Mode**.
2. Select **Vertical Keystone Correction**.
3. From the correction dialog, adjust the vertical keystone by using the arrow keys.
4. Select **Apply Changes**.

### Adjusting horizontal keystone
Use horizontal keystone to correct a keystoned image shape in which the left and right borders of the image are unequal in length, and the top and bottom are slanted to one of the sides.

If horizontal keystone adjustments have been made, starting vertical keystone adjustments erases the horizontal settings.
1. Select **MENU > Configuration > Geometry Correction > Geometry Correction Mode**.
2. Select **Horizontal Keystone Correction**.
3. From the correction dialog, adjust the horizontal keystone by using the arrow keys.
4. Select **Apply Changes**.

### Resetting keystone correction

Reset keystone to revert the distorted image shape back to default values.

Pressing **Func+Help** on the IR remote keypad disables all geometry corrections (warping, keystone, and black level blending) without changing the settings associated with them.

1. Select **MENU > Configuration > Geometry Correction**.
2. Select **Reset Keystone Correction**.
3. At the confirmation prompt, select **Reset**.
Configuring system settings

Learn how to configure the system settings.

Setting the date
Configure the date on Mirage SST.
1. Select Menu > System Settings.
2. Select Date.
3. Use the up and down keys to adjust the year (YYYY), month (MM), and day (DD).

Setting the time
Configure the time on Mirage SST.
1. Select Menu > System Settings.
2. Select Time.
3. Use the up and down keys to adjust the hour (HH), minutes (MM), and seconds (SS).

Changing the splash screen
Select the color displayed on the screen.
1. Select MENU > System Settings > Splash Screen Settings > Background Color.
2. Select a splash screen background color:
   - Black
   - Red
   - Green
   - Blue
3. Select Enter.

Determining the on-screen display position
Choose one of the pre-defined locations for the display of the on-screen menus.
1. Select MENU > System Settings > Menu Preferences > OSD Position.
2. Select the location on the screen where you want the on-screen display menus to appear.
3. Select Enter.

Changing the language

Choose the language you want displayed on projector display panel and on-screen display.

1. Select MENU > Languages.
   You can also select the language from MENU > System Settings > Menu Preferences > Languages.
2. Select Enter.
3. Select the appropriate language and select Enter.
   The change takes effect immediately.

Changing the temperature units

Set if the temperature is measured in Celsius or Fahrenheit.

1. Select MENU > System Settings > Menu Preferences > Temperature Units.
2. Select the temperature unit: Celsius or Fahrenheit.
3. Select Enter.

Resuming projector operation after an AC power interruption

If an AC power interruption occurs while Auto Power Up is enabled, the projector will resume operation in the same state it was prior to the loss of power.

1. Select MENU > System Settings > Power Settings.
3. To enable automatically powering up the projector after an AC interruption, select Enter.

Keeping electronics on in standby mode

When the projector is placed in standby mode, the light source will be turned off but the electronics will remain on.

1. Select MENU > System Settings > Power Settings.
2. Select Keep Electronics On In Standby.
3. To enable electronics remaining on in standby mode, select Enter.
Enabling direct pass-through of HDMI, 3G, and DisplayPort input signals

Allow the signals from HDMI, 3G, and DisplayPort inputs to pass through another projector.

1. Select **MENU > Configuration > Input Settings > Enable Video Loop Out**.
2. To enable passing HDMI, 3G, and DisplayPort input signals through to another projector, select **Enter**.

Informing the source of signal preferences

Configure Mirage SST to automatically inform the video source of the preferred signal formats.

1. If you need a specific frame rate, from the display panel, select **MENU > Configuration > Input Settings > EDID Timing**.
2. Select the required EDID timing and select **Enter**.
   60 Hz is the default EDID timing.

Configuring the laser power settings

Projector profiles contain the power settings for the RGB laser light source.

1. To display the white test pattern, **MENU > Test Pattern**
2. Scroll through the list of test patterns and select **White**.
3. To confirm your selection, select **Enter**.
4. Select **MENU > Image Settings > Color & Gamma > Color Correction Mode**.
5. Select **Max Drives** and to confirm your selection, select **Enter**.
6. Select **MENU > Configuration > Light & Output Settings**.
7. To set the approximate red power level, select **Red Laser Setpoint** and use the slider to increase and decrease the value required for your projection environment.
   To turn off the red lasers but leave them in a ready state, select **Red Laser Enable** to clear the checkbox.
8. To set the green (**Green Laser Setpoint**) and blue (**Blue Laser Setpoint**) power levels, repeat step 7.
   To turn off either the green or blue lasers but leave them in a ready state, select **Green Laser Enable** or **Blue Laser Enable** to clear the checkbox.
9. If color is not at the target level, refine the red, green, and blue power settings to achieve the target by repeating steps 7 and 8.
10. To control the brightness once the colors are set, select **Maser Laser Power** and use the slider to increase or decrease the value.
    To turn off all lasers but leave them in a ready state, select **Maser Laser Enable** to clear the checkbox.
11. To save the new laser settings, save to a projector profile.
Setting up 1D color uniformity

Learn how to set up 1D color uniformity on the projector after taking measurement of each of the color primaries at points (15, 2, 5, 8, and 16).

1. Ensure the projector is running in representative ambient light.
2. Setup a spectroradiometer, such as the CR-250, on a tripod.
   If not using the CR-250 or better, Christie recommends placing the meter perpendicular to the screen to achieve accurate measurements.
   Do not use the PR-655 spectroradiometer to perform color uniformity on a multi-projector installation.
3. Power on the projector.
4. Allow the light source to stabilize.
5. Select MENU > Configuration > Horizontal 1D Color Uniformity.
6. To disable color uniformity, select Color Uniformity Mode.
7. Select Enter.
8. Select MENU > Image Settings > Color & Gamma > Color Correction Mode.
9. Select Max Drives and to confirm your selection, select Enter.
10. Select Show Color Pattern > Auto and to confirm your selection, select Enter.
11. From the side panel home page, use the arrows to select Test Pattern.
12. Select the 17 Point test pattern and to confirm your selection, select Enter.

13. Record the x, y, and RGB luminance values for the center point.
   a) Point the spectroradiometer at point 5 (middle square).
   b) Click the X value.
   c) Record the x value from the spectroradiometer.
   d) Click the Y value.
   e) Record the y value from the spectroradiometer.
   f) Click on the Red luminance setting.
      The display changes to the appropriate color.
   g) Record the luminance value from the spectroradiometer.
   h) Click on the Green luminance setting.
      The display changes to the appropriate color.
   i) Record the luminance value from the spectroradiometer.
   j) Click on the Blue luminance setting.
The display changes to the appropriate color.

k) Record the luminance value from the spectroradiometer.

14. Record the luminance values for the remaining four points (2—inside left, middle square; 15—far left, middle square; 8—inside right, middle square; and 16—far right, middle square)

a) Point the spectroradiometer at a point.

b) Click on the Red luminance setting.
   The display changes to the appropriate color.

c) Record the luminance value from the spectroradiometer.

d) Click on the Green luminance setting.
   The display changes to the appropriate color.

e) Record the luminance value from the spectroradiometer.

f) Click on the Blue luminance setting.
   The display changes to the appropriate color.

g) Record the luminance value from the spectroradiometer.

h) For the remaining three points, repeat steps a to g.

15. Select **MENU > Configuration > Horizontal 1D Color Uniformity**.

16. To enable color uniformity, select **Color Uniformity Mode**.

17. Select **Enter**.

18. To verify 1D color uniformity is working, enable a flat white test pattern.

### Turning on the projector with low voltage

Enable the projector to turn on even if the AC mains voltage is below specification.

1. From the display panel, select **MENU > Admin > Service**.

2. Enter the service password.

3. Select **Ignore Low AC Input Voltage Error**.

4. To ignore the Low AC Input Voltage error when turning on the projector, select **Enter**.
Configuring communications

Defines and controls how single or multiple projectors are linked with each other and with a controlling device.

Enabling projector communication

Enable the receivers and the wired keypad to communicate with the projector from the remote.

The front and rear IR sensors receive transmissions from the IR remote. Keep the transmission path to these sensors unobstructed for uninterrupted communications with the projector.

Alternatively, you can connect a wired version of the remote to the connector on the IMXB labeled Wired Keypad.

1. Select **MENU > Communications > Projector Communications**.
2. To assign the projector an ID, select **Projector ID**.
3. Use the up and down keys to enter the projector ID.
4. Select **Enter**.
5. To enable the rear IR sensor, select **Rear IR Enabled** and select **Enter**.
6. To enable a wired version of the remote, select **Wired Keypad Enabled** and select **Enter**.
   By default this feature is enabled.

Setting the remote access level

Determine if and how the projector can be accessed remotely for the RS232 port or the Ethernet.

1. From the display panel, select **MENU > Admin > Service**.
2. Enter the service password.
3. To determine the remote access for the Ethernet port, select **Remote Access Level (Ethernet)**.
4. Select the appropriate remote access level:
   - No Access
   - Login Required
   - Free Access
5. Select **Enter**.
6. To determine the remote access for the RS232 IN port, select **Remote Access Level (RS232 IN)**.
7. Select the appropriate remote access level:
Communicating with Mirage SST through Art-Net

Mirage SST supports communications through the Art-NET using the Ethernet connector.

1. Select MENU > Communications > Art-Net Settings.
2. Verify the Enable Art-Net option is disabled.
   Disabling Art-Net before configuring it ensures Mirage SST does not accidentally respond to DMX messages destined for other devices on the network.
3. To specify which subnet the projector belongs to, in the Art-Net Subnet field adjust the value between 0 and 15.
   The subnet provides expandability beyond the universe level.
4. To confirm your selection, select Enter.
5. To specify which universe the projector belongs to, so it can filter out all other data packets, in the Art-Net Universe field, adjust the value between 0 and 15.
   For Art-Net, data is broadcast over an Ethernet network, so every device receives every packet of data, whether the device belongs to that universe or not.
6. To confirm your selection, select Enter.
7. To determine the starting channel for this projector, in the Base Channel field, adjust the value between 1 and 488.
   If multiple projectors are used on the same universe and are to be controlled independently, this value must be changed. For example, if both projectors are using the Shutter (20 channels), projector 1 should start at base channel 1 and projector 2 should start at base channel 21.
8. To confirm your selection, select Enter.
10. To enable the Art-Net functionality, select Enter.

Art-Net channel listing

There are 512 channels per universe. Mirage SST specifies 24 channels.

Mirage SST has multiple methods of being controlled in addition to Art-Net. If a setting is changed through another interface, the DMX controller can re-assert control by changing the value on the appropriate DMX channel.

<table>
<thead>
<tr>
<th>Channel</th>
<th>Name</th>
<th>Description</th>
<th>Suggested starting position</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Slider Lock</td>
<td>0 to 171 = Locked</td>
<td>0</td>
<td>—</td>
</tr>
<tr>
<td></td>
<td></td>
<td>172 to 255 = Unlocked</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Channel</td>
<td>Name</td>
<td>Description</td>
<td>Suggested starting position</td>
<td>Notes</td>
</tr>
<tr>
<td>---------</td>
<td>----------------------------------</td>
<td>-----------------------------------------------------------------------------</td>
<td>-----------------------------</td>
<td>----------------------------------------------------------------------</td>
</tr>
<tr>
<td>2</td>
<td>Power</td>
<td>0 to 85 = Powers off the projector (goes into Standby mode)</td>
<td>128</td>
<td>Must be valid for five seconds before it is applied.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>86 to 171 = Cancel timer</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>172 to 255 = Powers on the projector (switches light source on, warm up mode)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Shutter</td>
<td>0 to 85 = Closes the shutter (black screen)</td>
<td>255</td>
<td>Christie recommends setting this channel to 255 prior to powering up the projector so it is consistent with the shutter state after the projector is fully on.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>172 to 255 = Opens the shutter (live video)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>Lens Shift Enable</td>
<td>0 to 171 = Disables lens shift</td>
<td>—</td>
<td>Locks all lens motors.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>172 to 255 = Enables lens shift</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>Zoom (Coarse)</td>
<td>0 = Smallest image possible (0%)</td>
<td>128</td>
<td>• Locked by the Lens Shift Enable channel.</td>
</tr>
<tr>
<td>6</td>
<td>Zoom (Fine)</td>
<td>255 = Largest image possible (100%)</td>
<td></td>
<td>• Scaled as a percentage of the total control range.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>255 = Largest image possible (100%)</td>
<td></td>
<td>• A 250 ms delay exists before sending this channel to the projector.</td>
</tr>
<tr>
<td>7</td>
<td>Focus (Coarse)</td>
<td>0 = 0%</td>
<td>128</td>
<td>• Locked by the Lens Shift Enable channel.</td>
</tr>
<tr>
<td>8</td>
<td>Focus (Fine)</td>
<td>255 = 100%</td>
<td></td>
<td>• Scaled as a percentage of the total control range.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>• A 250 ms delay exists before sending this channel to the projector.</td>
</tr>
<tr>
<td>9</td>
<td>Lens Horizontal Position (Coarse)</td>
<td>0 = Full left position (0%)</td>
<td>128</td>
<td>• Locked by the Lens Shift Enable channel.</td>
</tr>
<tr>
<td>10</td>
<td>Lens Horizontal Position (Fine)</td>
<td>255 = Full right position (100%)</td>
<td></td>
<td>• A 250 ms delay exists before sending this channel to the projector.</td>
</tr>
<tr>
<td>11</td>
<td>Lens Vertical Position (Coarse)</td>
<td>0 = Full lower position (0%)</td>
<td>128</td>
<td>• Locked by the Lens Shift Enable channel.</td>
</tr>
<tr>
<td>12</td>
<td>Lens Vertical Position (Fine)</td>
<td>255 = Full upper position (100%)</td>
<td></td>
<td>• A 250 ms delay exists before sending this channel to the projector.</td>
</tr>
</tbody>
</table>

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020-102993-01 Rev. 1 (06-2019)
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<table>
<thead>
<tr>
<th>Channel</th>
<th>Name</th>
<th>Description</th>
<th>Suggested starting position</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>13</td>
<td>Input</td>
<td>1 to 80 = Input index 86 = Load 91 to 170 = Additional input indices 171 = Execute</td>
<td>0</td>
<td>To change inputs, send the following sequence: Load &gt; Input index &gt; Execute For a list of input indices, see Index list for the input channel (on page 43). Channel 1 slider lock can be used if a keypad is not available for the input selection.</td>
</tr>
<tr>
<td>14</td>
<td>Fade Time</td>
<td>0 = 0 seconds 250 = 2.5 seconds</td>
<td>—</td>
<td>Determines the length of time it takes for the shutter to open and close with a fading effect.</td>
</tr>
<tr>
<td>15 to 24</td>
<td>Reserved</td>
<td>Reserved for future use.</td>
<td>—</td>
<td>—</td>
</tr>
</tbody>
</table>

**Index list for the input channel**

The following table provides the index information for the input channel.

Not all options listed in the table are available on all products. Available options depend on the projector model and the cards installed on the projector. The QSFP+ options require the Enable Christie Link option to be set.

<table>
<thead>
<tr>
<th>Input index</th>
<th>Description</th>
<th>Input index</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>One-port [0-1]</td>
<td>44</td>
<td>Four-Port [1-2][2-2][3-2][4-2]</td>
</tr>
<tr>
<td>2</td>
<td>One-port [0-2]</td>
<td>45</td>
<td>One-Port, Dual-Input 3D L:[0-1],R:[0-2]</td>
</tr>
<tr>
<td>3</td>
<td>One-port [0-3]</td>
<td>46</td>
<td>One-Port, Dual-Input 3D L:[0-3],R:[0-4]</td>
</tr>
<tr>
<td>4</td>
<td>One-port [0-4]</td>
<td>47</td>
<td>One-Port, Dual-Input 3D L:[1-1],R:[1-2]</td>
</tr>
<tr>
<td>5</td>
<td>One-Port [1-1]</td>
<td>48</td>
<td>One-Port, Dual-Input 3D L:[1-3],R:[1-4]</td>
</tr>
<tr>
<td>6</td>
<td>One-Port [1-2]</td>
<td>49</td>
<td>One-Port, Dual-Input 3D L:[2-1],R:[2-2]</td>
</tr>
<tr>
<td>7</td>
<td>One-Port [1-3]</td>
<td>50</td>
<td>One-Port, Dual-Input 3D L:[2-3],R:[2-4]</td>
</tr>
<tr>
<td>8</td>
<td>One-Port [1-4]</td>
<td>51</td>
<td>One-Port, Dual-Input 3D L:[3-1],R:[3-2]</td>
</tr>
<tr>
<td>9</td>
<td>One-Port [2-1]</td>
<td>52</td>
<td>One-Port, Dual-Input 3D L:[3-3],R:[3-4]</td>
</tr>
<tr>
<td>10</td>
<td>One-Port [2-2]</td>
<td>53</td>
<td>One-Port, Dual-Input 3D L:[4-1],R:[4-2]</td>
</tr>
<tr>
<td>11</td>
<td>One-Port [2-3]</td>
<td>54</td>
<td>One-Port, Dual-Input 3D L:[4-3],R:[4-4]</td>
</tr>
<tr>
<td>12</td>
<td>One-Port [2-4]</td>
<td>55</td>
<td>One-Port, Dual-Input 3D L:[1-1],R:[2-1]</td>
</tr>
<tr>
<td>13</td>
<td>One-Port [3-1]</td>
<td>56</td>
<td>One-Port, Dual-Input 3D L:[1-2],R:[2-2]</td>
</tr>
<tr>
<td>14</td>
<td>One-Port [3-2]</td>
<td>57</td>
<td>One-Port, Dual-Input 3D L:[1-3],R:[2-3]</td>
</tr>
<tr>
<td>15</td>
<td>One-Port [3-3]</td>
<td>58</td>
<td>One-Port, Dual-Input 3D L:[1-4],R:[2-4]</td>
</tr>
<tr>
<td>Input index</td>
<td>Description</td>
<td>Input index</td>
<td>Description</td>
</tr>
<tr>
<td>-------------</td>
<td>-------------------</td>
<td>-------------</td>
<td>-------------------</td>
</tr>
<tr>
<td>16</td>
<td>One-Port [3-4]</td>
<td>59</td>
<td>One-Port, Dual-Input 3D L:[3-1],R:[4-1]</td>
</tr>
<tr>
<td>17</td>
<td>One-Port [4-1]</td>
<td>60</td>
<td>Two-Port, Dual-Input 3D L:[0-1][0-2],R:[0-3][0-4]</td>
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<tr>
<td>18</td>
<td>One-Port [4-2]</td>
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<td>Two-Port, Dual-Input 3D L:[1-1][1-2],R:[1-3][1-4]</td>
</tr>
<tr>
<td>19</td>
<td>One-Port [4-3]</td>
<td>62</td>
<td>Two-Port, Dual-Input 3D L:[2-1][2-2],R:[2-3][2-4]</td>
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<tr>
<td>20</td>
<td>One-Port [4-4]</td>
<td>63</td>
<td>Two-Port, Dual-Input 3D L:[3-1][3-2],R:[3-3][3-4]</td>
</tr>
<tr>
<td>22</td>
<td>Two-Port [0-1][0-2]</td>
<td>65</td>
<td>Two-Port, Dual-Input 3D L:[1-1][1-2],R:[2-1][2-2]</td>
</tr>
<tr>
<td>23</td>
<td>Two-Port [0-3][0-4]</td>
<td>66</td>
<td>Two-Port, Dual-Input 3D L:[3-1][3-2],R:[4-1][4-2]</td>
</tr>
<tr>
<td>24</td>
<td>Two-Port [1-1][1-2]</td>
<td>67</td>
<td>Two-Port, Dual-Input 3D L:[1-1][2-1],R:[3-1][4-1]</td>
</tr>
<tr>
<td>25</td>
<td>Two-Port [1-3][1-4]</td>
<td>68</td>
<td>Four-Port, Dual-Input 3D L:[1-1][2-1][2-2],R:[3-1][3-2][4-1][4-2]</td>
</tr>
<tr>
<td>26</td>
<td>Two-Port [2-1][2-2]</td>
<td>69</td>
<td>Four-Port, Dual-Input 3D L:[1-1][1-2][1-3][1-4],R:[2-1][2-2][2-3][2-4]</td>
</tr>
<tr>
<td>27</td>
<td>Two-Port [2-3][2-4]</td>
<td>70</td>
<td>Four-Port (columns) [0-1][0-2][0-3][0-4]</td>
</tr>
<tr>
<td>28</td>
<td>Two-Port [3-1][3-2]</td>
<td>71</td>
<td>Four-Port (columns) [1-1][1-2][1-3][1-4]</td>
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<tr>
<td>29</td>
<td>Two-Port [3-3][3-4]</td>
<td>72</td>
<td>Four-Port (columns) [2-1][2-2][2-3][2-4]</td>
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<tr>
<td>30</td>
<td>Two-Port [4-1][4-2]</td>
<td>73</td>
<td>Four-Port (columns) [3-1][3-2][3-3][3-4]</td>
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<tr>
<td>31</td>
<td>Two-Port [4-3][4-4]</td>
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<td>Four-Port (columns) [4-1][4-2][4-3][4-4]</td>
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<td>Two-Port [1-1][2-1]</td>
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<td>Four-Port (columns) [1-1][1-2][2-1][2-2]</td>
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<td>Two-Port [3-1][4-1]</td>
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<td>Four-Port (columns) [3-1][3-2][4-1][4-2]</td>
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<td>34</td>
<td>Two-Port [1-2][2-2]</td>
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<td>Four-Port (columns) [1-1][2-1][3-1][4-1]</td>
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<td>Two-Port [3-2][4-2]</td>
<td>78</td>
<td>Four-Port (columns) [1-2][2-2][3-1][4-1]</td>
</tr>
<tr>
<td>36</td>
<td>Four-Port [0-1][0-2][0-3][0-4]</td>
<td>79</td>
<td>Four-Port (columns), Dual-Input 3D L:[1-1][1-2][2-1][2-2],R:[3-1][3-2][4-1][4-2]</td>
</tr>
<tr>
<td>37</td>
<td>Four-Port [1-1][1-2][1-3][1-4]</td>
<td>80</td>
<td>Four-Port (columns), Dual-Input 3D L:[1-1][1-2][1-3][1-4],R:[2-1][2-2][2-3][2-4]</td>
</tr>
<tr>
<td>38</td>
<td>Four-Port [2-1][2-2][2-3][2-4]</td>
<td>91</td>
<td>QSFP+ [0-1]</td>
</tr>
<tr>
<td>39</td>
<td>Four-Port [3-1][3-2][3-3][3-4]</td>
<td>92</td>
<td>QSFP+ [0-2]</td>
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<tr>
<td>40</td>
<td>Four-Port [4-1][4-2][4-3][4-4]</td>
<td>93</td>
<td>QSFP+ [1-1]</td>
</tr>
<tr>
<td>41</td>
<td>Four-Port [1-1][1-2][2-1][2-2]</td>
<td>94</td>
<td>QSFP+ [1-2]</td>
</tr>
<tr>
<td>42</td>
<td>Four-Port [3-1][3-2][4-1][4-2]</td>
<td>95</td>
<td>QSFP+ [2-1]</td>
</tr>
<tr>
<td>43</td>
<td>Four-Port [1-1][2-1][3-1][4-1]</td>
<td>96</td>
<td>QSFP+ [2-2]</td>
</tr>
</tbody>
</table>
Working with macros

Automate tasks in Mirage SST with macros so the same tasks can be done on a regular basis.

If the date and/or time is changed on the projector, a macro may be unexpectedly executed.

Adding a macro

Create a macro to automate a repetitive task.

Up to 10 macros can be created.

This feature is only available on the web interface.

1. From the home page of the web interface, select **MENU > Macros and GPIO**.
2. Click the **Add Macro**.
   
   If the limit of 10 macros is reached, the **Add Macro** button is disabled and displays a Limit Reached message.
3. In the Name field, enter a meaningful name for the macro.
4. Verify that **Scheduled Event** is listed in the Type list.
5. In the Start Date field, select a date from the calendar.
6. In the Start Time field, use the up and down keys to adjust the hour (HH), minutes (MM), and seconds (SS).
   
   You can also manually enter the hour, minutes, and seconds.
7. To make this a reoccurring event, click **Recurring**.
   
   When enabled, the button appears green. When disabled, the button appears gray.
   
   a) To determine the recurrence pattern, under Every, select the day or days of the week you want run the macro.
   
   b) Determine the life of the macro.
      
      • To have the macro run indefinitely, select **No end date**.
      
      • To run the macro for a defined period of time, in the Recur for field, use the up and down keys to adjust the number of weeks.
      
      You can also manually enter the number of weeks. The limit is 99 weeks.
8. In the Serial Command field, enter the serial command(s) you want to run.
   
   For available serial commands and their syntax, refer to the **Mirage SST Serial Commands Guide (P/N: 020-103005-XX)**.
9. To test the functionality, click **Test**.
   
   An Action succeeded message is displayed upon a successful test.
10. To save the macro, click **Save**.

Copying a macro

Duplicate a macro to create another macro of similar functionality.

Up to 10 macros can be created.
This feature is only available on the web interface.

1. From the home page of the web interface, select **MENU > Macros and GPIO**.
2. From the list of macros, click **Duplicate** next to the macro you want to copy.

   If the limit of 10 macros is reached, the **Duplicate** button is disabled and the **Add Macros** button displays a Limit Reached message.
3. In the Name field, enter a meaningful name for the macro.
4. Modify the appropriate fields.
5. To save the macro, click **Save**.

### Editing a macro

Edit the macro if the functionality of the macro has changed.

This feature is only available on the web interface.

1. From the home page of the web interface, select **MENU > Macros and GPIO**.
2. From the list of macros, click **Edit** next to the macro you want to edit.

3. Modify the appropriate fields.
4. To save the macro, click **Save**.

### Deleting a macro

Delete one or more macros if they are no longer relevant.

This feature is only available on the web interface.

1. From the home page of the web interface, select **MENU > Macros and GPIO**.
2. From the list of macros, select one or more macros to delete.

   To delete all the macros in the list, click **Select All**. The number of macros you want to delete is displayed next to the trash can.
3. Click **Delete**.
4. At the confirmation prompt, click **Delete**.
Configuring the GPIO

The Generic Purpose Input Output (GPIO) provides a flexible method of interfacing with external devices to the projector.

The GPIO is configured to automate real time events. Each of the seven pins is defined as either an input or output depending on the required outcome. The remaining two pins are reserved for ground and power.

Configure the pin as an input if you want the projector to respond to something the device does and as an output if you want the external device to respond to an action taken by the projector. For example, configure the pin as an output if you want the lighting in a room to automatically dim when the projector is turned on.

This feature is only available on the web interface.

1. From the home page of the web interface, select **MENU > Macros and GPIO**.
2. Select **GPIO Configuration**.
3. In the GPIO Configuration dialog under Update the New Configuration, toggle the pins you want active for the input and output.
   A blue pin indicates input and a green pin indicates output.
4. Select **Apply**.

GPIO connector

The GPIO connector located on the input panel provides a flexible method of interfacing with the projector. Seven GPIO pins are available on the nine pin D-Sub GPIO connector. Two other pins are reserved for ground and power.

<table>
<thead>
<tr>
<th>D-SUB pin number</th>
<th>Signal</th>
<th>Output high (Voh)</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pin 1</td>
<td>+12V</td>
<td>—</td>
<td>1A max</td>
</tr>
<tr>
<td>Pin 2</td>
<td>GPIO 2</td>
<td>5V</td>
<td>75mA max (e)fused to prevent damage</td>
</tr>
<tr>
<td>Pin 3</td>
<td>GPIO 4</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pin 4</td>
<td>GPIO 6</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pin 5</td>
<td>Ground</td>
<td>—</td>
<td></td>
</tr>
</tbody>
</table>
### D-SUB pin number | Signal | Output high (Voh) | Notes
--- | --- | --- | ---
Pin 6 | GPIO 1 | 5V | 75mA max (e)ffused to prevent damage
Pin 7 | GPIO 3 |  | |
Pin 8 | GPIO 5 |  | |
Pin 9 | GPIO 7 |  | |

All GPIO pins are weakly pulled up to 3.3V.
Setting up projector profiles

Use the projector profiles to store configured settings so you can switch between the profiles as required.

Creating a new projector profile

Save the projector configuration to a profile so you can revert to those saved settings any time. You can save up to 10 projector profiles.

1. Configure the projector settings you want to save to the profile.
2. Select MENU > Admin > Projector Profiles.
3. Select an empty profile.
4. Select New Profile.
5. Select Save.

Importing a projector profile

Import projector profiles set on different projectors using a USB flash drive.

1. Insert the USB flash drive containing the projector profile file into the USB port on the projector.
2. Select MENU > Admin > Projector Profiles.
3. Select an empty profile.
4. Select Import From File.
5. From the File Selection dialog, select a projector profile file. The projector profile file is imported to the projector.

Restoring settings from a profile

Return the projector to the configuration specified in a specific projector profile.

1. Select MENU > Admin > Projector Profiles.
2. Select an existing profile.
3. Select Restore Profile.
4. From the Restore dialog, select the settings you want to restore.
5. Select Restore.
Renaming a projector profile

A newly created projector profile is given the name of the projector with the date the profile was saved, for example, . You can change the name of the saved profile to a more meaningful name.

1. Select MENU > Admin > Projector Profiles.
2. Select an existing profile.
3. Select Rename Profile.
4. Use the up and down keys to enter the new name of the profile.
5. Select Save.

Exporting a projector profile to an external device

Save the projector settings to a USB flash drive.

1. Insert a USB flash drive (properly formatted as FAT) into the USB port on the projector.
2. Select MENU > Admin > Projector Profiles.
3. Selecting an existing profile.
4. Select Export to File. A default name is assigned.

Deleting a projector profile

If the settings in the projector profile are no longer relevant, delete the profile.

1. Select MENU > Admin > Projector Profiles.
2. Select the profile you want to delete.
3. Select Delete Profile.
4. At the confirmation prompt, select Delete.
Backing up, restoring, and upgrading files

Learn how to back up, restore, and upgrade files.

Upgrading the Mirage SST software

When a new version of the software is released, Mirage SST must be upgraded.

1. Turn off the lasers before proceeding with the upgrade.
2. Insert a USB key that contains the software upgrade file.
   The USB flash drive must be formatted using the FAT 32 file system.
   The upgrade file must be located at the root of the USB key.
3. From the display panel, select **MENU > Admin**.
4. Select **Software > Upgrade**.
5. Select an upgrade file and select **Enter**.
6. To automatically restart Mirage SST, select **Restart Now**.
   If you decide restart Mirage SST at a later date (**Restart Later**), you cannot perform another upgrade until the Mirage SST is restarted.

Exporting backup settings to an external device

Save the Mirage SST settings to a USB flash drive (projector) or file (web interface).

1. If using the display panel to export settings, insert a USB flash drive (properly formatted as FAT) into the USB port on Mirage SST.
2. Select **MENU > Admin > Backup & Restore**.
3. Select the backup option.
   • On the projector, select **Backup to USB**.
   • On the web interface, select **Backup to File**.
   A default name is assigned.
4. To edit the backup file name, select the up arrow and select **Enter**.
5. To save the name, navigate down and select **SAVE**.
   The backup file is exported.
Importing a file from an external device to restore settings

Restore backed up files, stored on a USB flash drive (projector) or file (web interface), onto the projector.

1. If using the display panel to import the file, insert the USB flash drive containing the backup file into the USB port on the projector.
2. Select **MENU > Admin > Backup & Restore**.
3. Select the restore option.
   - On the projector, select **Restore from USB**.
   - On the web interface, select **Restore from File**.
4. From the File Selection dialog, select a file to restore.
   The backup settings file is imported to the projector.

Restoring projector default settings

Restore the Mirage SST settings back to the default values. Network configurations and calibration values are not reset.

1. From the display panel, select **MENU > Admin > Backup & Restore**.
2. Select .
   All customized settings are set to the default Mirage SST settings.
Diagnostic tools

Follow these procedures to help with diagnosing issues with Mirage SST.

Viewing Mirage SST information

View the licenses for the software added to Mirage SST and the licenses of the software used to operate Mirage SST. The information is read-only.

1. To view the additional software added to Mirage SST, select Menu > Admin > Licenses.
2. To view the software licenses used to run Mirage SST, select Menu > Admin > About.

Freezing an image

Use the Freeze Image diagnostic tool to examine in detail a still version of an incoming image.

For example, in moving images sometimes it is difficult to observe artifacts such as external de-interlacing/resizing and signal noise.

1. Select Menu > Admin > Diagnostics.
2. To enable freezing of an image, select Freeze Image and select Enter.
3. To return to normal operation, select Enter again to clear the checkbox.

Test patterns

Use the projector to assist with configuration of the projector and to diagnose any issues that may occur.

Selecting a test pattern

21 test patterns are available to assist with the configuration of the projector and to diagnose any issues that may occur.

1. From the side panel home page, use the arrows to select Test Pattern.
   You can also select the test patterns from Menu > Test Pattern or Menu > Diagnostics > Test Pattern.
2. Scroll through the list of test patterns.
3. Select the required test pattern.
4. To confirm your selection, select Enter.
Modifying grey level test pattern characteristics
Set the level of grey displayed in the full grey test patterns.

1. Select MENU > Admin > Diagnostics.
2. Select Test Pattern.
3. Select one of the grey test patterns: GREY SCALE 16 or FLAT GREY.
4. Select Enter.
5. To change the grey scale of the test pattern, select Test Pattern Grey Level and adjust the slider to the value you want.
6. To confirm your selection, select Enter.

Modifying ramp test pattern characteristics
Modify the characteristics for the associated ramp video signal test patterns.

1. Select MENU > Admin > Diagnostics.
2. Select Test Pattern.
3. Select one of the ramp test patterns: RGBW RAMP, HORIZONTAL RAMP, VERTICAL RAMP, or DIAGONAL RAMP.
4. Select Enter.
5. To enable movement of the test pattern, select Test Pattern Ramp Motion and select Enter.
6. To change the slope of the ramp test pattern, select Test Pattern Ramp Slope and adjust the slider to the value you want.
7. To confirm your selection, select Enter.
8. To change the level of the ramp test pattern, select Test Pattern Ramp Level and adjust the slider to the value you want.
9. To confirm your selection, select Enter.

Modifying grid test pattern characteristics
Modify the characteristics for the associated grid test patterns.

1. Select MENU > Admin > Diagnostics.
2. Select Test Pattern.
3. Select one of the grid test patterns: SQUARE GRID or DIAGONAL GRID.
4. Select Enter.
5. To change the pitch of the grid test pattern, select Test Pattern Grid Pitch and adjust the slider to the value you want.
6. To confirm your selection, select Enter.
7. To change the color of the grid, select Test Pattern Grid Color and select Enter.
8. To enable movement of the test pattern, select Test Pattern Grid Motion and select Enter.
Enabling a specific test pattern color
You can enable a specific test pattern color to eliminate one or more colors to help with certain diagnostics and setups, such as overlaying one image on top of another from stacked projectors.

1. From the side panel home page, use the arrows to select Test Pattern.
   You can also select the test patterns from MENU > Test Pattern.
2. Select the Flat White test pattern.
3. To confirm your selection, select Enter.
4. On the IR remote keypad, press Func+6+<0 to 7>.
   Where <0 to 7> represents a specific color.

Selecting an engine test pattern
Several engine test patterns are available to assist with the calibration and internal optical alignments of the projector and to diagnose any issues that may occur.

1. Select MENU > Admin > Diagnostics > Test Pattern > Engine Test Patterns.
2. Scroll through the list of test patterns.
3. Select the required test pattern.
4. To confirm your selection, select Enter.
5. To disable the engine test patterns, select MENU > Admin > Diagnostics > Test Pattern > Engine Test Patterns > Off.
6. To disable the engine test patterns, select MENU > Admin > Service > Engine Test Patterns > Off.

Viewing Mirage SST status
Alarms contain information about the values of the items operating in normal range, warnings, and errors that can be reported by the status system of Mirage SST.

1. From the display panel, select Status.
   You can also view the statuses from MENU > STATUS.
2. Scroll to the status category you want to view and select it.

Running the Mirage SST interrogator
The interrogator captures diagnostic information Christie personnel uses to help diagnose and correct any issues.

1. Insert a USB flash drive in the USB port on Mirage SST.
   The USB flash drive must be formatted using the FAT 32 file system.
2. From the display panel, select MENU > Admin > Interrogator.
   The interrogator file is stored at the root directory on the USB flash drive.
4. At the completion prompt, select OK.
Identifying where alarm and trap messages are sent

Configure the email address and SNMP trap destination where alarms are recorded. Creating a distribution mailing list for SNMP alerts means that changes to the people receiving the emails does not require a change to the MIB browser configuration.

Setting the SNMP read community string

The SNMP read community string is similar to a userid or password that allows access to the device.

1. Select MENU > Communications > SNMP > SNMP Read Community.
2. Use the up and down arrows to enter the read community string.
3. To confirm your selection, select Enter.

Configuring traps

A trap is a condition that SNMP monitors on Mirage SST.

1. Select MENU > Communications > SNMP > Trap Configuration.
2. Select the trap you want to enable and select Enter.
   The available traps are:
   - Fan Stall
   - Thermal Sensors
   - Power
3. To enable additional traps, repeat step 2.

Defining a trap IP address

When a trap condition is met, a notification is sent using an SNMP notification to one or more specified IP addresses.

1. Select MENU > Communications > SNMP.
2. Select Address 1.
3. Use the up and down arrows to enter an IP address.
4. To confirm the address, select Enter.
5. To add a second and third IP address, repeat steps 2 to 4 for Address 2 and Address 3.

Restoring factory default settings

Restoring factory settings removes all custom device settings. Only Christie qualified technicians can reset factory defaults.

1. From the display panel, select MENU > Admin.
2. Select Reset Factory Defaults.
All customized settings are set to the default factory settings.

3. At the confirmation prompt, select **Reset**.
Regulatory

This product conforms to the latest regulations and standards related to product safety, environmental, and electromagnetic compatibility (EMC) requirements.

Safety


Electro-magnetic compatibility

Emissions

- CAN ICES-003 (A)/NMB-003 (A) – Information Technology Equipment (Including Digital Apparatus) – Limits and Methods of Measurement
- FCC CFR47, Part 15, Subpart B, Class A – Unintentional Radiators
- IEC 61000-3-2/EN61000-3-2: Limits for harmonic current emissions for equipment with input current ≤ 16 A
- IEC 61000-3-3/EN61000-3-3: Limitations of Voltage Changes, Voltage Fluctuations, and Flicker input current ≤ 16 A

Immunity

- CISPR 24/EN55024 EMC Requirements – Information Technology Equipment

Environmental

- China Ministry of Information Industry (along with 7 other Government Agencies) Order No.32 (01/2016) on the control of pollution caused by electronic information products, hazardous
substances concentration limits (GB/T 26572 - 2011), and the applicable product marking requirement (SJ/T 11364 - 2014).

- EU Directive (2011/65/EU) on the restriction of the uses of certain hazardous substances (RoHS) in electrical and electronic equipment and the applicable official amendment(s).
- EU Directive (2012/19/EU) on waste and electrical and electronic equipment (WEEE) and the applicable official amendment(s).
- Regulation (EC) No. 1907/2006 on the registration, evaluation, authorization and restriction of chemicals (REACH) and the applicable official amendment(s).
For the most current technical documentation, visit www.christiedigital.com.