



Installation and Setup Guide

020-103451-05

CP2306-RGBe, CP2308-RGBe, CP2310-RGBe

**CHRISTIE**

## NOTICES

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

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If printing this document, consider printing only the pages you need and select the double-sided option.

Please help us to conserve the environment we live in!

### NOTATION

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



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



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



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



Notice. If not avoided, the following could result in property damage.

# China RoHS Compliance Information

## 关于中国《电子信息产品污染控制管理办法》的说明

- Environmentally Friendly Use Period  
环保使用期限



The year number in the centre of the label indicates the Environmentally Friendly Use Period, which is required to mark on the electronic information product sold in China according to the China RoHS regulations.

本标志中表示的年数是根据《电子信息产品污染控制管理办法》（2006年2月28日）以及《电子信息产品污染控制标识要求》（2006年11月6日）制定的、适用于在中华人民共和国境内销售的电子信息产品的环保使用期限。

- Material Concentration Values Table  
有毒有害物质含量表

Part Name	部件名称	Material Concentration (有毒有害物质或元素)					
		铅 (Pb)	汞 (Hg)	镉 (Cd)	六价铬 (Cr 6+)	多溴联苯 (PBB)	多溴二联苯醚 (PBDE)
Low voltage power supply	低压电源	X	O	O	O	O	O
Standby LVPS	备用低压电源	X	O	O	O	O	O
Switch	开关	X	O	O	O	O	O
Ballast	镇流器	X	O	O	O	O	O
Line filter	滤波器	X	O	O	O	O	O
Ignitor	点火器	X	O	O	O	O	O
Harness/cable	连接电线/缆	X	O	O	O	O	O
Integrated Cinema Processor	集成处理板	X	O	O	O	O	O
Projector Intelligence Board	智能板	X	O	O	O	O	O
Backplane	底板	X	O	X	O	O	O
Internal Motor Control Board	内部电机控制板	X	O	O	O	O	O
Touch Panel Controller	触摸控制屏	X	O	O	O	O	O
Blower/fan	吹风机/风扇	O	O	O	O	O	O
Sensor	传感器	O	O	O	O	O	O
Illumination optics system	照明光学系统	X	O	X	O	O	O
Projection lens	投影镜头	X	O	X	O	O	O
Mechanical enclosure*	机械附件	X	O	O	O	O	O
Lamp	灯泡	X	O	O	O	O	O
Motorized intelligent lens mount (optional)	智能电动镜头架 (备选件)	X	O	O	O	O	O

Note:

O: indicates that the concentration value of the particular hazardous substance contained in all the homogeneous materials for this part, according to EIP-A, EIP-B, EIP-C, is below the stipulated levels in China SJ/T11363-2006.

表示该有毒有害物质在该部件所有均质材料中的含量均在SJ/T11363-2006规定的限量要求以下。

X: indicates that the concentration value of the particular hazardous substance contained in all the homogeneous materials for this part, according to EIP-A, EIP-B, EIP-C, may be above the stipulated levels in China SJ/T11363-2006.

表示该有毒有害物质至少在该部件的某一均质材料中的含量可能超出SJ/T11363-2006规定的限量要求。

\* This part uses metallic alloys, which may contain Lead.

- 因该部件使用金属合金材料，故可能含有铅。

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# Safety precautions

Observe these important safety rules to avoid personal injury or damage to the projector.

This projector must be operated in an environment that meets the operating range, as listed in the projector specifications (on page 32).

## General precautions



Warning! If not avoided, the following could result in death or serious 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.
- This product must be installed within a restricted access location not accessible by the general public.
- Only personnel who are trained on the precautions for the restricted access location can be granted entry to the area.
- ELECTRICAL and BURN HAZARD! Use caution when accessing internal components.
- High leakage current present when connected to IT power systems.
- Possible hazardous optical radiation emitted from this product. (Risk group 3 under IEC 62471-5)
- For protection from ultraviolet radiation, keep all product housings intact during operation.
- UV EXPOSURE! Protective UV safety glasses with side shields and Christie approved protective safety clothing must be worn when performing optical adjustments or servicing the product.
- FIRE AND SHOCK HAZARD! Use only the attachments, accessories, tools, and replacement parts specified by Christie.
- A minimum of four people or appropriately rated lift equipment is required to safely lift, install, or move the product.

## AC/power precautions



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! Disconnect the product from AC before installing, moving, servicing, cleaning, removing components, or opening any enclosure.
- FIRE HAZARD! Do not use a power cord, harness, or cable that appears damaged.



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

- Only Christie qualified technicians are permitted to open product enclosures.
- Install the product near an easily accessible AC receptacle.

## 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.

- Do not operate the cinema projector without all of its covers in place.
- LASER RADIATION HAZARD! This projector has a built-in Class 4 laser module. Never attempt to disassemble or modify the laser module.
- Do not look directly into the lens when the light source is on. The extremely high brightness can cause permanent eye damage.
- Possible hazardous optical radiation emitted from this product. (Risk group 3)

## Light intensity hazard distance

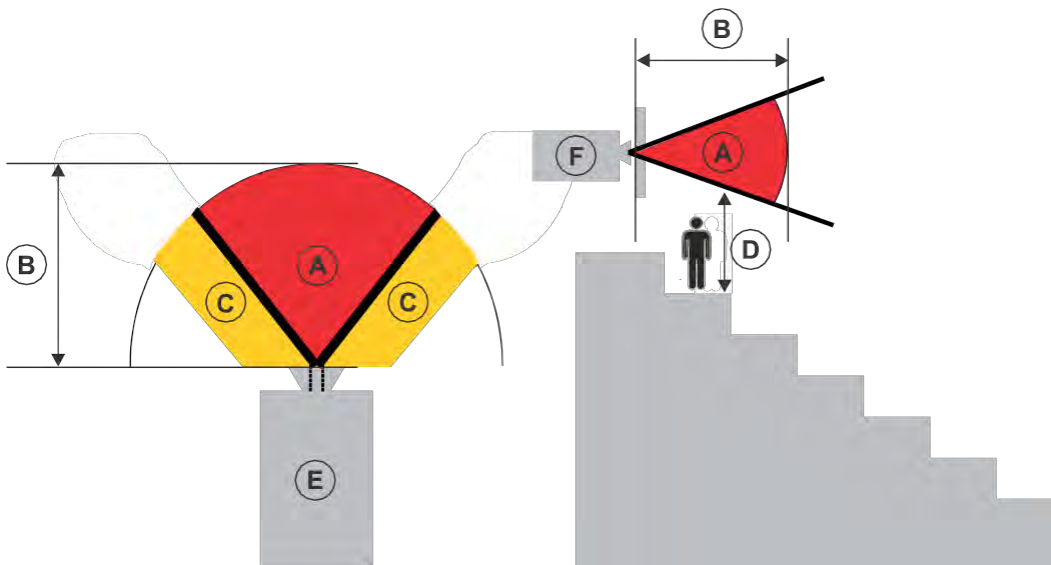
This projector has been classified as Risk Group 2 with lenses 108-494108-XX, 108-495109-XX, 108-496100-XX and Risk Group 3 with lens 108-497101-XX as per the IEC62471-5 standard due to possible hazardous optical and thermal radiation being emitted.



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

- PERMANENT/TEMPORARY BLINDNESS HAZARD! No direct exposure to the beam must be permitted.
- 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 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.

Lens	Part number	Hazard distance (m)
1.2-1.72:1, 0.69" DLPCine zoom	108-494108-XX	No hazard distance required
1.33-2.1:1, 0.69" DLPCine zoom	108-495109-XX	No hazard distance required
1.62-2.7:1, 0.69" DLPCine zoom	108-496100-XX	No hazard distance required
2.09-3.9:1, 0.69" DLPCine zoom	108-497101-XX	1.51

For Installations in the United States

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

- The projection room shall be clearly identified by the posting of laser warning and restricted access signs, and by restricting entry through physical means. The projection room sign must display the warning "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](mailto: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.
- Certain US states have additional laser regulatory requirements. 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.



**Fire and Shock Hazard**

	<p>To prevent fire or shock hazards, do not expose this product to rain or moisture. Do not alter the power plug, overload the power outlet, or use it with extension cords.</p>
	<p>Do not remove the product enclosure. Only Christie qualified technicians are authorized to service the product.</p>

**Electrical Hazard**

	<p>Risk of electric shock. Do not remove the product enclosure. Only Christie qualified technicians are authorized to service the product.</p>
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General hazard.



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.



Burn 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.



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



Not for household use.

## Mandatory action



Disconnect all power sources before performing maintenance or service procedures.



Consult the service manual.



Disconnect all power sources before performing maintenance or service procedures.

## Electrical labels



Indicates the presence of a protective earth ground.



Indicates the presence of an earth ground.

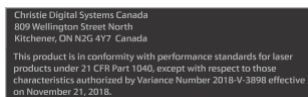
## Additional hazard labels



Indicates Class 4 laser radiation when open. Avoid eye or skin exposure to direct or scattered radiation.



CLASS 1 LASER PRODUCT IEC 60825-1: 2014  
Wavelengths: 450 nm - 661 nm

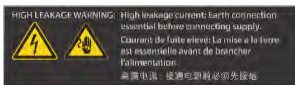


FDA laser variance (US projectors only)

This product is in conformity with performance standards for laser products under 21 CFR Part 1040, except with respect to those characteristics authorized by Variance Number 2021-V-0348 effective on April 18, 2021.



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



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



Indicates a light hazard. Do not look directly into the lens. The extreme high brightness can cause permanent eye damage.

# Introduction

This manual is intended for professionally trained operators of Christie high-brightness CP2306-RGBe, CP2308-RGBe, CP2310-RGBe projection systems.

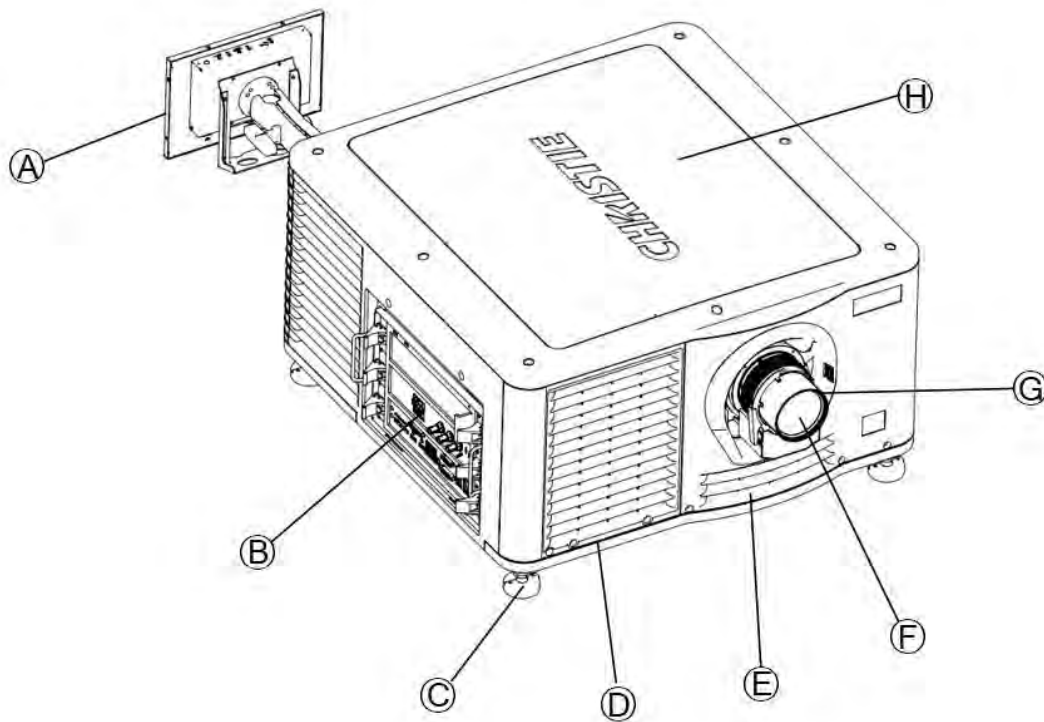
This projector is intended for use in a cinema environment.

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 production documentation and technical support, go to [www.christiedigital.com](http://www.christiedigital.com).

## Projector components—front

Learn about the components on the front of the projector.

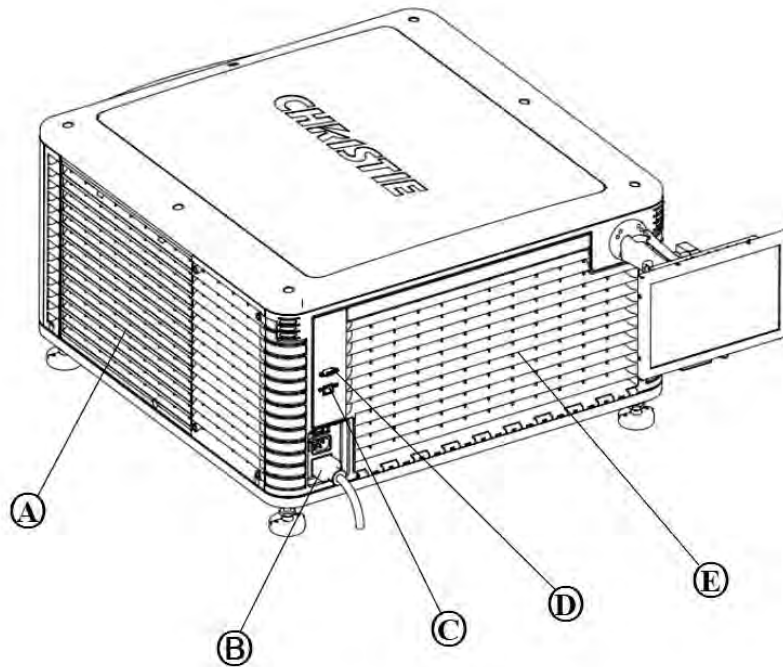


<b>A</b>	Touch panel—Touch-sensitive screen used to control the projector.	<b>E</b>	Air filter cover and air filter—Replaceable air filter located behind the air filter cover.
<b>B</b>	Communications panel—Connect external devices here.	<b>F</b>	Projector lens—List of available lenses is available in the <i>Specifications guide (P/N: 020-103452-XX)</i> .
<b>C</b>	Adjustable feet—Turn the adjustable feet to increase or decrease the projector height.	<b>G</b>	Lens surround

<b>D</b>	Air Filter	<b>H</b>	Top lid
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## Projector components—rear

Learn about the components on the back of the projector.



<b>A</b>	Service access door	<b>D</b>	RS232
<b>B</b>	Power cord and AC receptacle	<b>E</b>	Side thermovent
<b>C</b>	Ethernet port		

## List of components

Verify all components were received with the projector.

- Power cord
- Touch panel
- Convergence tool
- Stacking kit, including stacking cups, locking brackets, and required screws

## Product documentation

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

1. Access the documentation from the Christie website:
  - Go to <https://bit.ly/3lkZ48l> or
  - <https://www.christiedigital.com/products/cinema/projection/>
  - Scan the QR code using a QR code reader app on a smartphone or tablet.



2. On the product page, select the model and switch to the Downloads tab.

## Related documentation

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

- CP2306-RGBe, CP2308-RGBe, CP2310-RGBe Product Safety Guide (P/N: 020-103453-XX)
- CP2306-RGBe, CP2308-RGBe, CP2310-RGBe User Guide (P/N: 020-001835-XX)
- CP2306-RGBe, CP2308-RGBe, CP2310-RGBe Service Guide (P/N: 020-103454-XX)
- CineLife Serial Commands Guide (P/N: 020-102774-XX)
- CP2306-RGBe, CP2308-RGBe, CP2310-RGBe Specifications Guide (P/N: 020-103452-XX)

## Technical support

Technical support for Cinema products is available at:

- [Support.cinema@christiedigital.com](mailto:Support.cinema@christiedigital.com)
- +1-877-334-4267
- Professional Services: +1-800-550-3061 or [NOC@christiedigital.com](mailto:NOC@christiedigital.com)

# Installation and setup

Learn how to install, connect, and optimize the projector. This section provides detailed information on projector setup.

## Environment

Learn about the operating and non-operating environment requirements for the CP2306-RGBe, CP2308-RGBe, and CP2310-RGBe projectors.

### Operating environment

Items	Description
Temperature	10 to 35°C (50 to 95°F) up to 500 m (1640.5 feet)
Humidity (non-condensing)	10% to 80%
Altitude	0 to 3000 m (0 to 9842 feet) at 15 to 25°C (59 to 77°)
Nominal brightness ambient temperature	25°C (77°F)

### Non-operating environment

Items	Description
Temperature	-40 to 70°C (-13 to 158°F)
Humidity (non-condensing)	0% to 95%

## Lifting and positioning the projector

Safely lift and position the projector in the location where it will be used.



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

- A minimum of four people or appropriately rated lift equipment is required to safely lift, install, or move the product.
- Do not install or operate the projector in any position that does not meet the stated product specifications for alignment and orientation.



Before lifting and positioning the projector, refer to *the light intensity hazard distance clearance requirements* (on page 10).

1. Position each person at the corners of the projector.
2. Lift the projector and move it to the location where it will be used.
3. Position the projector so it is centered and parallel with the theater screen. If space is limited, aim the projector slightly off-center and use lens offset to center the image on the screen.

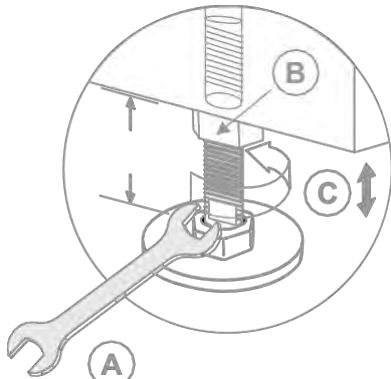
## Adjusting tilt and leveling the projector

To ensure optimum performance, install the projector so it is centered and parallel with the screen. To compensate for tilt or offset, you can adjust the projector feet and the lens mount position.



The front-to-back tilt of the projector must not exceed 15°.

1. To adjust the height of the projector, loosen the lock nut on the adjustable feet on the bottom of the projector.

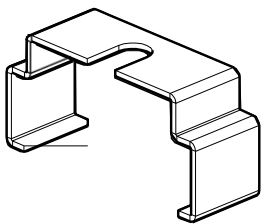


<b>A</b>	19 mm (0.75 in.) wrench	<b>C</b>	Turn to adjust height.
<b>B</b>	Lock		

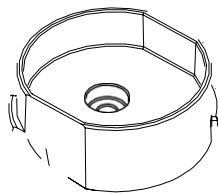
2. Extend or retract the feet.
3. When the adjustment is correct, tighten the lock nut.

## Stacking projectors

To stack CP2306-RGBe, CP2308-RGBe, CP2310-RGBe projectors, use the stacking kit provided. The stacking kit includes these parts:



Locking bracket (quantity 4)



Stacking cup (quantity 4)

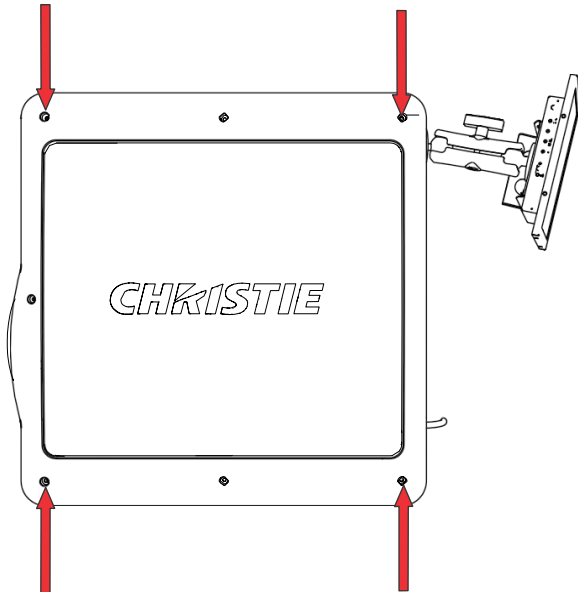


M6 screw (quantity 4)

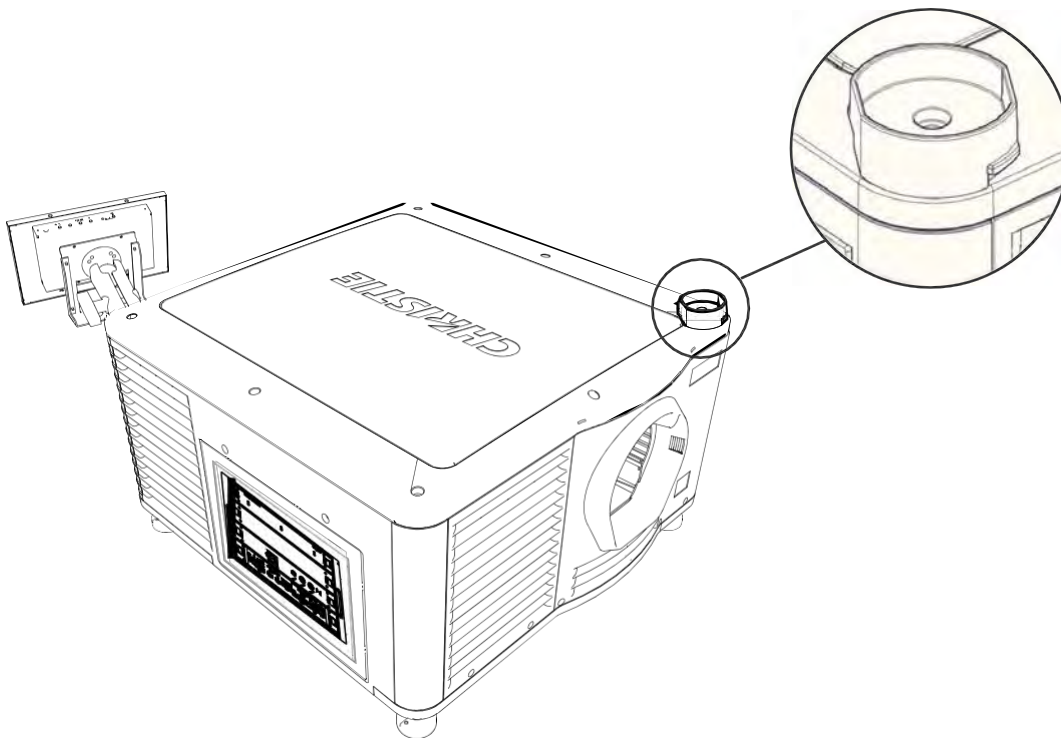
When stacking projectors, the optical axis of the projectors must be parallel to one another. The maximum tilt for stacked projectors is 13 degrees. When you install the stacked projectors in a rack stand or on a pedestal, the rack stand or the pedestal must remain horizontal. If you require tilt to align your images, you must tilt the projectors and not the rack stand or pedestal.



1. On the bottom projector, remove the four corner screws securing the top lid.

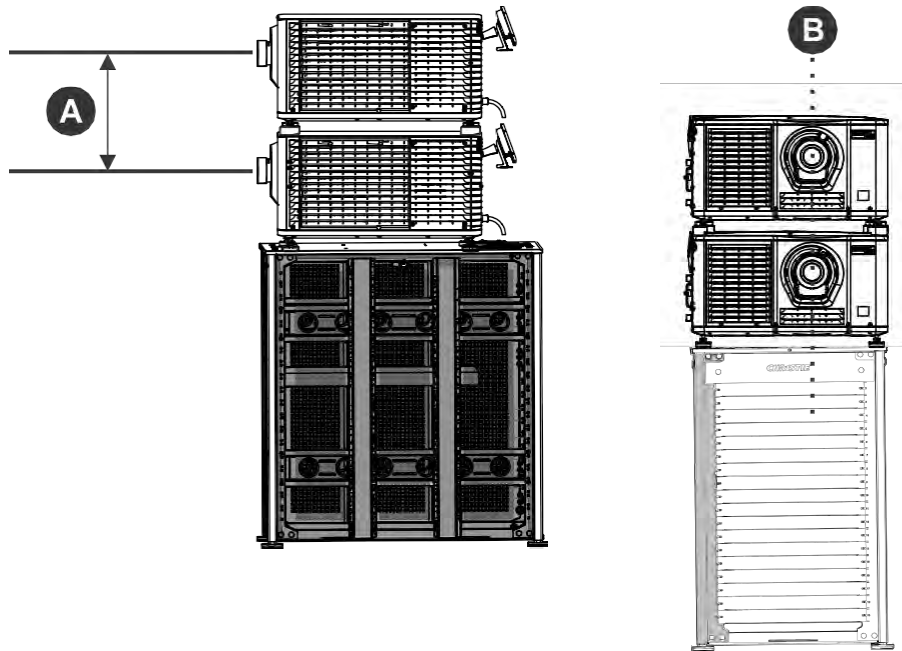


2. Position a single stacking cup (011-104349-XX) over one of the empty screw holes so the higher side of the cup faces outward and aligns with the projector skin.

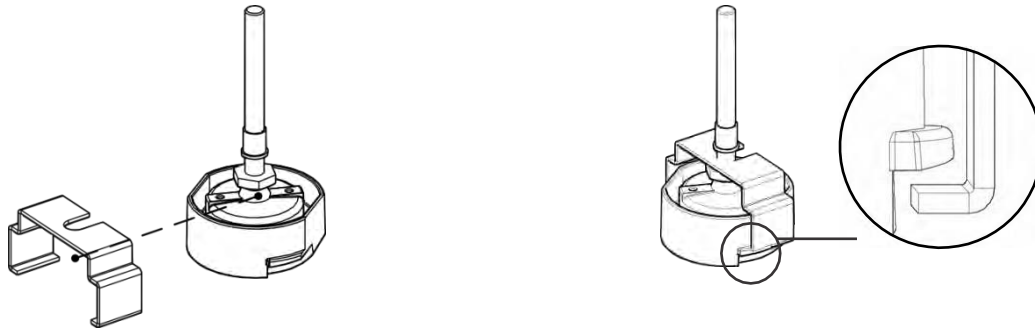


3. Insert an M6 screw (012-101132-XX) through the stacking cup mounting hole and into the projector.
4. With a torque wrench, tighten the M6 screw to 15 in-lb.
5. Repeat steps 3 to 5 to install the three remaining stacking cups.

6. With the assistance of another person, lift the second projector and position it on top of the bottom projector so each of its feet fit into a stacking cup. The lenses of both projectors must face the same direction and the optical axis of both projector lenses must be parallel (A) and align vertically (B).



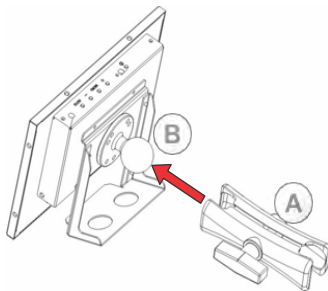
7. Install both projectors.
  - a. Install the touch panel (on page 15).
  - b. Install the lens (on page 16).
  - c. Install the lamp (on page 18).
  - d. Connect devices to the projector (on page 23).
  - e. Connect power (on page 20).
  - f. Adjust the bottom projector image to fit the screen. For more information, see the CP2306-RGBe, CP2308-RGBe, CP2310-RGBe User Manual.
  - g. Align the top projector image to the bottom projector image. For more information, see the CP2306-RGBe, CP2308-RGBe, CP2310-RGBe User Manual.
8. When both projectors are installed and aligned correctly, install the locking brackets on the feet of the top projector.
  - a. Slide the locking bracket (011-104470-XX) over the flat sides of the stacking cup, so the notch in the locking bracket fits around the projector leg and above projector foot nut.
  - b. Turn the locking bracket so the flanges of the locking bracket fit tightly below the stacking cup tabs.
  - c. Repeat steps a and b to install the three remaining locking brackets



## Installing the touch panel

The touch panel controls projector functions and provides quick access to projector information. The touch panel can be mounted on the rear panel or the electronics side of the projector.

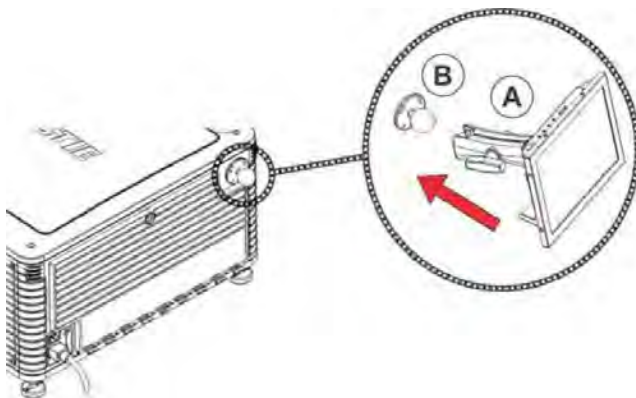
1. Remove the touch panel and the mounting arm from their packaging.



2. Attach one end of the touch panel mounting arm over the ball joint on the rear of the touch panel.

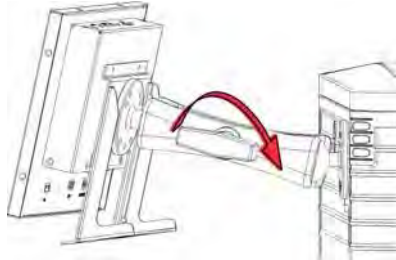
<b>A</b>	Mounting arm
<b>B</b>	Ball joint

3. While supporting the touch panel, fit the other end of the touch panel mounting arm over the ball joint on the rear panel or electronics side of the projector.



<b>A</b>	Mounting arm
<b>B</b>	Ball joint

4. Tighten the mounting arm until it fits tightly on the ball joint.



5. Connect the touch panel harness to the touch panel:
  - a. Connect one end of the USB cable to the USB port on the rear of the touch panel.
  - b. Connect one end of the touch panel power cable to the DC IN 12V port on the rear of the touch panel.
  - c. Connect one end of the VGA connector to the VGA port on the rear of the touch panel.
6. Connect the touch panel harness to the projector:
  - a. Connect the other end of the USB cable to a USB port on the projector communications panel.
  - b. Connect the other end of the touch panel power cable to the Screen Power port on the projector communications panel.
  - c. Connect the other end of the VGA connector to the VGA Out port on the projector communications panel.
7. To turn the touch panel on, press the power button on the top of the panel.
 

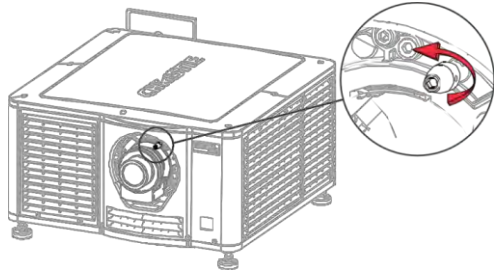
If the projector is not connected to AC power, you cannot turn the touch panel on.

## Installing the lens

The lens seals the projection head, preventing contaminants from entering the main electronics area. Before installing the lens, ensure that you turn off and unplug the projector.

Do not operate the projector without a lens installed. Install a lens plug when you install or transport the projector.

1. Remove the lens surround.
2. Turn the lens clamp on the front of the projector to the open position with a hex key.
3. Position the lens so the lens retaining ring mounts align with the lens mount.

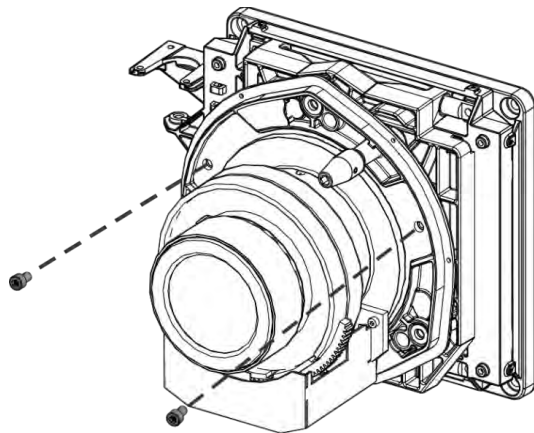


4. Remove the lens caps from the front and rear of the lens

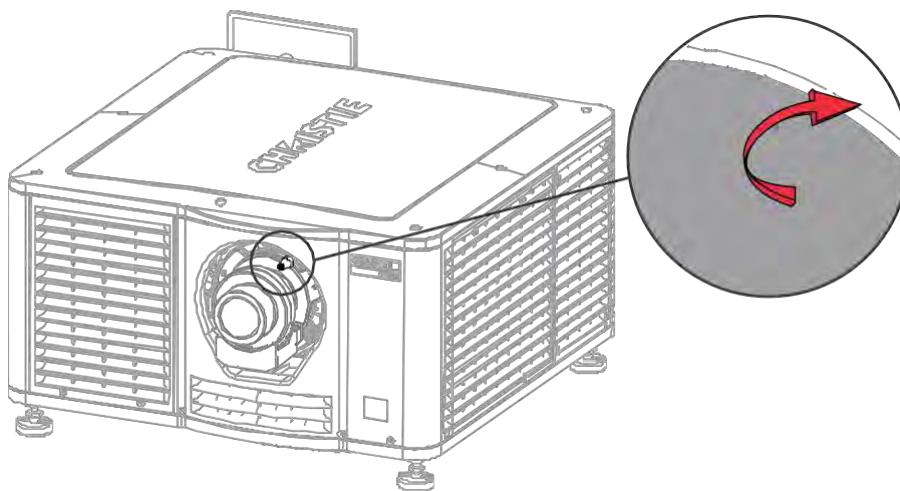


Lens caps must be removed or they can melt and damage the lens.

5. Insert the lens straight into the lens mount opening without turning. Magnets inside the lens mount help position the lens.
6. Insert and tighten the two lens mount hex screws shipped separately with the projector.



7. Lock the lens assembly in place with a hex key.



8. Replace the lens surround.

## Connecting power

Connect the projector and chiller to the power source.



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

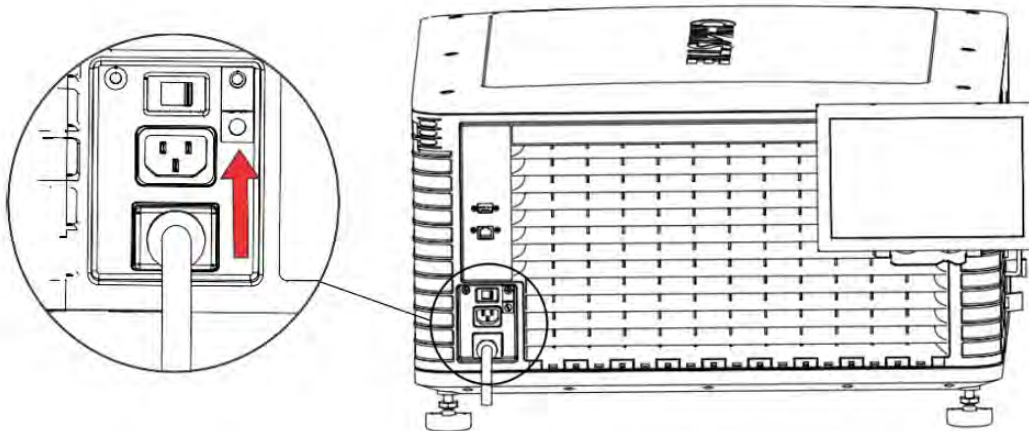
- SHOCK HAZARD! A dedicated, protected ground or earth wire must be installed on the product by Christie qualified technicians or electricians before it can be connected to power.
- SHOCK HAZARD! Only use the AC power cord provided with the product or recommended by Christie.
- FIRE AND SHOCK HAZARD! Do not attempt operation unless the power cord, power socket, and power plug meet the appropriate local rating standards.
- SHOCK HAZARD! The AC power cord must be inserted into an outlet with grounding.
- 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! Disconnect the product from AC before installing, moving, servicing, cleaning, removing components, or opening any enclosure.
- The appliance coupler and main power supply plug must be easily accessible for disconnecting the product from the power source.



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

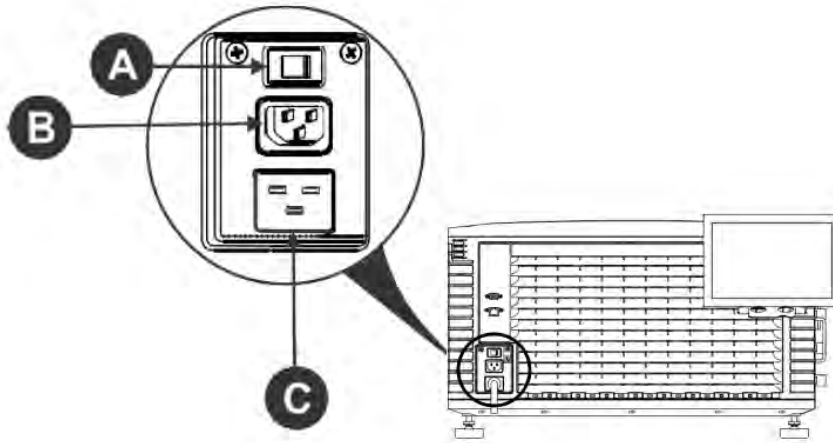
- Only Christie qualified technicians are permitted to open product enclosures.
- Install the product near an easily accessible AC receptacle.
- For products containing surge suppressors, you must adhere to the installation and power requirements.

1. If the projector is operating, turn it off and disconnect it from AC power.
2. Loosen the threaded bolt on the ground lug on the AC receptacle on the rear of the projector.



3. Remove 15 mm of insulated covering from both ends of the protected earth wire.
4. Insert a bare end of the protected earth wire into the hole on the top of the ground lug so it is beneath the threaded bolt.
5. Tighten the threaded bolt to 50 in-lb.
6. Connect the other bare end of the protected earth wire to the building ground.
7. Connect one end of the projector power cord to the AC receptacle on the lower-left rear corner of the projector and then connect the other end of the power cord to an AC receptacle.


- If you are using an Uninterrupted Power Supply (UPS) to power the main electronics, move the AC switch to A + B and connect the power cord provided with the UPS to the B outlet.



<b>A</b>	AC switch	<b>C</b>	200-240 V main inlet
<b>B</b>	100-240 V secondary inlet		

## Turning the projector on or off

Turn the projector on to display content, or turn the projector off to conserve energy.

- In the right toolbar, tap and hold Power. 

## Logging on to the projector

Log on to the projector to access projector menus.

- Select Login.
- In the User list, select a user name.
- Enter your password.
- Select Login.

## Activating marriage

You must complete marriage to display content and to comply with the Digital Cinema Initiatives (DCI) specification.

You cannot complete marriage remotely.

- In the left navigation menu, tap Service Setup > Marriage Setup.
- Tap Start and complete the Marriage Setup wizard.
- Tap Finish.

## Completing the installation checklist

Complete the provided installation checklist (P/N: 020-103137-XX) and return it to Christie.

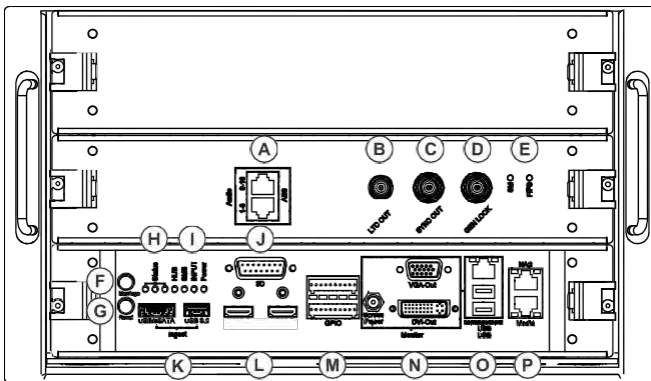


# Connecting devices to the projector and establishing communication

To display content, you must connect a device that is capable of storing or playing content to the projector.

## Projector head connections and status LEDs

Understand the inputs on the projector.



<b>A</b>	AES3 port for digital audio output.
<b>B</b>	Linear Time Code (LTC) output.
<b>C</b>	Output for multi-projector playback.
<b>D</b>	Input for multi-projector playback (Christie IMB to Christie IMB only).
<b>E</b>	LED status indicators: <ul style="list-style-type: none"> <li>• SM—The LED flashes green when the security manager (SM) is running correctly.</li> <li>• FIPS—The LED is green when the FIPS (Federal Information Processing Standards Publications) security status is operating correctly. If the LED is red, an error has occurred. Restart the Christie IMB. If the LED remains red, return the Christie IMB to Christie Digital Systems USA Inc.</li> </ul>
<b>F</b>	Indicates marriage status. In full power mode, a green LED indicates that the projector is properly married and encrypted content can be displayed. A red LED indicates marriage is broken and encrypted content cannot be displayed.
<b>G</b>	Resets the projector electronics. After restarting, the projector returns to its previous power mode.

<p><b>H</b></p>	<p>LED status indicators:</p> <ul style="list-style-type: none"> <li>• Standby mode—The green LED flashes once per second and the yellow and red LEDs are off.</li> <li>• Warm up—The green LED flashes three times per second and the yellow and red LEDs are off.</li> <li>• Power on, lamp on or off—The green LED is solid green and the yellow and red LEDs are off.</li> <li>• Cool down—The green and yellow LEDs flash three times per second and the red LED is off.</li> <li>• Notification—The green LED is solid green, the yellow LED flashes once per second, and the red LED is off.</li> <li>• Non-critical alarm—The green LED is solid green, the yellow LED flashes three times per second, and the red LED is off.</li> <li>• Unacknowledged critical error—The red LED flashes three times per second.</li> <li>• Acknowledged critical error—The red LED is solid.</li> </ul>
<p><b>I</b></p>	<p>LED status indicators:</p> <ul style="list-style-type: none"> <li>• HUB—The LED is green when FPGA video processing is running correctly, orange when FPGA video processing is not configured, and red when a failure occurs.</li> <li>• SMS—The LED is green when the screen management system (SMS) is running correctly, orange when the SMS or system controller has not booted, and red when a failure occurs.</li> <li>• INPUT—The LED is green when FPGA video input is running correctly, orange when FPGA is not configured, and red when a failure occurs.</li> <li>• Power—The LED is green when the low voltage power supply (LVPS) is operating and red when a failure has occurred. The LED is not illuminated when the LVPS is not on.</li> </ul>
<p><b>J</b></p>	<p>Connects the projector to 3D devices.</p>
<p><b>K</b></p>	<p>Connects the projector to ingest devices.</p>
<p><b>L</b></p>	<p>Connects the projector to input devices with an HDMI connection.</p>
<p><b>M</b></p>	<p>Connects the projector to external automation or automation devices.</p>
<p><b>N</b></p>	<p>Connects the projector to the touch panel (VGA-Out and Screen Power).</p>
<p><b>O</b></p>	<p>Management Ethernet port (10/100/1000 base-T) and connects the projector to USB devices, including the touch panel screen.</p>
<p><b>P</b></p>	<p>Two Ethernet ports connecting the projector to network-attached storage (NAS) devices and the Library Media Server (LMS) network, if applicable. The Media port can also be used for content transfer.</p>

## Connecting the projector to a computer

To display content from a computer, connect it to the projector.

1. To connect the main input card of the projector, connect an Ethernet cable to the Management Ethernet port on the projector and the other end to your computer.
2. To communicate with the projector, add the projector to the same network as the computer.

## Connecting devices to the 3D sync terminal

For information on connecting devices to the 3D sync terminal, see the **“Working with channels”** section in the CP2306-RGBe, CP2308-RGBe, CP2310-RGBe User Manual (P/N: 020-001835-01).

# Adjusting the image

Learn how to adjust image geometry so it displays correctly.


## Activating the Intelligent Lens System

Activate the Intelligent Lens System (ILS) to automatically adjust the position of the lens.

1. In the left navigation menu, tap Service Setup > Preferences.
2. Tap Lens/ILS.
3. In the right pane, tap the ILS Installed slider.
4. The color of the slider changes to green to indicate the ILS is active.

## Calibrating the ILS automatically

Use the Auto Calibrate feature of the Intelligent Lens System (ILS) to find and compensate for motor backlash, and to determine the movement range for the currently installed lens.

1. In the left navigation menu, tap Image Settings > ILS File Setup.
2. Tap Create. 
3. Type a name for the ILS file and tap Create.
4. Tap Auto Calibrate.
5. Tap Continue.

## Correcting vignetting

An image that is brighter at the center than it is at the sides needs vignetting correction.

If your image suffers from vignetting, the lens has reached the end of its offset travel range. If your installation does not allow the image to be centered with the center of the screen, move the entire projector in the direction of lens travel.

## Correcting keystone effect

Learn how to adjust the image to correct keystone effect.

Keystone effect occurs when you project an image onto the screen at an angle. As a result, the image appears distorted and resembles a trapezoid.

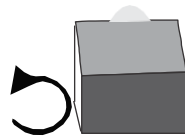
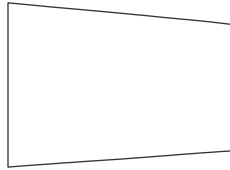
If the image suffers from slight keystone effect, it can be corrected with electronic cropping.

If the keystone effect is severe, you can unevenly adjust the feet to compensate for projector tilt. Christie recommends using the lens offset to align the center of the image to the center of the screen before you correct the keystone effect.



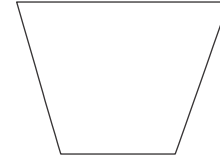
When making the adjustments, set the light source to minimum power.

Horizontal keystone



Projector skewed horizontally to the screen

Vertical keystone



Projector tilted vertically to the screen

## Adjusting vertical boresight

Perform a top and bottom boresight adjustment to fix image focus issues that cannot be corrected by aligning the projector to the screen and focusing the lens.



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

- This procedure must be performed by Christie qualified technicians.

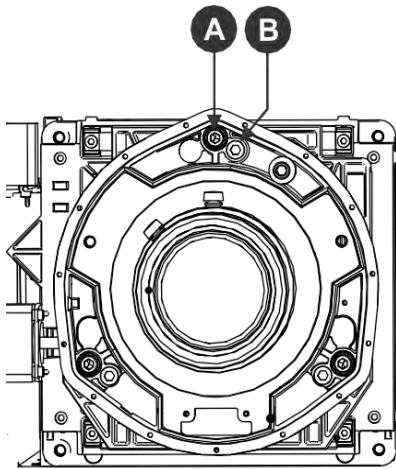
Ensure that the projector is perpendicular to the screen before adjusting boresight.

Christie recommends completing a top and bottom boresight adjustment before adjusting the horizontal boresight.

A boresight adjustment should only be made when the image cannot be focused uniformly on the screen by aligning the projector to the screen and focusing the lens. When adjusting boresight, you must maintain the boresight distance from the lens to the prism plane set by Christie. For example, when you move the top screw outward, turn the bottom two boresight screws to maintain the overall distance.

Ensure that the boresight lockdown screws are adequately tightened. Not adequately tightening the boresight screws can result in excessive onscreen image vibration. After adjusting boresight, evaluate the onscreen image vibration and re-adjust if needed.

1. Remove the lens surround.
2. Display the DC2K Boresight test pattern.
3. Loosen the set screw (B).



<b>A</b>	Cap screw—Adjusts top and bottom boresight.
<b>B</b>	Set screw—Locks or unlocks the cap screw.

- Turn the vertical cap screw (A) 1/8 of a turn counter-clockwise.  
Only adjust vertical boresight 1/8 of a turn or less at one time to maintain optimal lens performance (factory setup of absolute lens distance to the prism). It is critical that you count each turn of the cap screws to ensure accurate adjustment.
- Adjust both left and right horizontal adjusters by half the number of turns, in the opposite direction of the vertical adjust.  
For example, if the vertical adjust cap screw was turned 1/8 of a turn, the left and right horizontal cap screws should be turned 1/16 of a turn in the opposite direction.
- Check the screen each time an adjustment is made. If the quality of the projected image has degraded, turn the vertical adjust cap screw 1/8 of a turn clockwise. Ensure the left and right horizontal adjusters are adjusted equally in the opposite direction to correct axial focus. The 1/8 of a turn is a suggestion only and can be less if needed; however, it should never be exceeded. Always compensate both left and right horizontal adjustments according to the vertical adjustment.
- Check the image after each adjustment. Continue to make adjustments until both top and bottom are equally sharp. To make sure the lens is in the same relative position, adjust the left and right horizontal adjusters in the opposite direction at the same time.
- When the top and bottom of the image are equally in focus lock the set screw to hold it in position. Recheck the image.
- If additional adjustment is required, try adjusting horizontal boresight.
- Replace the lens surround.

## Adjusting horizontal boresight

Perform a horizontal boresight adjustment when the image cannot be focused uniformly on the screen by aligning the projector to the screen and focusing the lens.



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

- This procedure must be performed by Christie qualified technicians.

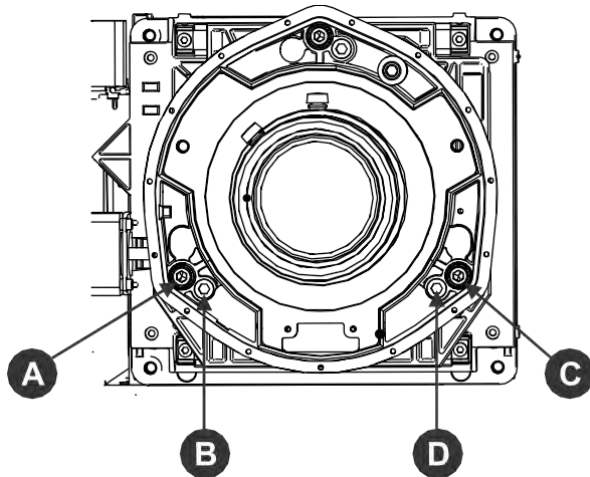
Typically, horizontal boresight does not require adjustment. It should only be adjusted if a large horizontal angular offset to the screen is required.

When adjusting boresight, you must maintain the boresight distance from the lens to the prism plane set by Christie. For example, when you move the top screw outward, turn the bottom two boresight screws to maintain the overall distance.

Only adjust horizontal boresight 1/8 of a turn or less at one time to maintain optimal lens performance (factory setup of absolute lens distance to the prism). It is critical that you count each turn of the cap screws to ensure accurate adjustment.

Ensure that the boresight lockdown screws are adequately tightened. Not adequately tightening the boresight screws can result in excessive onscreen image vibration. After adjusting boresight, evaluate the onscreen image vibration and re-adjust if needed.

1. Remove the lens surround.
2. Display the DC2K Boresight test pattern.
3. Loosen the right boresight set screw (B).



<b>A</b>	Right boresight cap screw	<b>C</b>	Left boresight cap screw
<b>B</b>	Right boresight set screw	<b>D</b>	Left boresight set screw

4. Turn the right boresight cap screw (A) 1/16 of a turn clockwise.
5. Adjust the left boresight cap screw (C) equally in the opposite direction.
6. If the quality of the projected image has not improved, turn the right boresight cap screw 1/16 of turn counter-clockwise. Make sure the left adjuster is adjusted equally in the opposite direction.
7. Check the screen each time an adjustment is made. The right-side adjustments affect the top right and bottom left points on the screen. Once both cross hairs are in focus, lock the set screw for right boresight.
8. Repeat steps 5 to 7 for the left side.

9. Verify that each corner of the screen is equally in focus. If this is not the case, repeat vertical boresight.

## Adjusting digital micromirror device convergence

A digital micromirror device (DMD) convergence problem occurs when one or more projected colors (red, green, blue) appears misaligned when examined with a convergence test pattern.

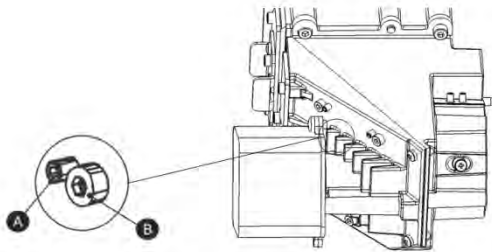
Normally, the three colors should overlap precisely to form pure white lines throughout the image and one or more poorly converged individual colors may appear adjacent to some or all of the lines.

Contact your Christie accredited service technician to correct DMD convergence issues.

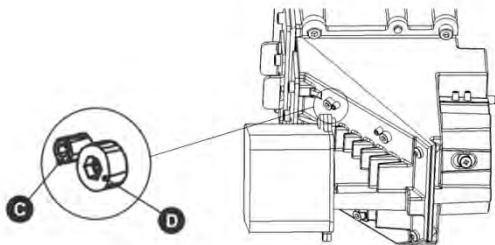
## Adjusting the fold mirror

Learn how to align the fold mirror with the optical system to correct an image with missing or shadowy corners or edges.

1. Remove the top cover.
2. Display the RGB-12bit-Full Screen White test pattern.
3. Insert a hex driver in the first set screw (A) and a hex driver in the first cap screw (B).



4. Equally turn the set screw (A) and cap screw (B) in opposite directions until the black corner is removed.
5. If the black corner remains, insert a hex driver in the second set screw (C) and a hex driver in the second cap screw (D).



6. Equally turn the set screw (C) and cap screw (D) in opposite directions until the black corner is removed.
7. 7. Replace the top cover.

## Calibrating the color

Learn how to create Measured Color Gamut Data (MCGD) files to correct on-screen colors.

Using a colorimeter, measure the colors displayed on the screen from the center of the audience viewing location. For more information, see the *CP2306-RGBe, CP2308-RGBe, CP2310-RGBe User Manual (P/N: 020-001835-XX)*.



# Regulatory

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

## Safety

- ANSI/UL 60950-1 – Information Technology Equipment – Safety – Part 1: General Requirements
- ANSI/UL 62368-1 - Audio/video, information and communication technology equipment – Part 1: Safety requirements
- CAN/CSA C22.2 No. 60950-1-07 – Information Technology Equipment – Safety – Part 1: General Requirements
- IEC/EN 60825-1:2014 – Safety of Laser Products – Part 1: Equipment Classification and Requirements
- IEC/EN 60950-1 – Information Technology Equipment – Safety – Part 1: General Requirements
- IEC/EN62368-1 – Audio/video, information and communication technology equipment – Part 1: Safety requirements
- IEC/EN 62471-5:2015 – Photobiological Safety of Lamps and Lamp Systems – Part 5: Image projectors

## Electro-magnetic compatibility

### Emissions

- CAN ICES-003 (A)/NMB-003 (A) – Information Technology Equipment (Including Digital Apparatus) – Limits and Methods of Measurement
- CISPR 32:2015/EN 55032:2015, Class A – Electromagnetic Compatibility of Multimedia Equipment – Emission Requirements
- 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  $\leq 16$  A
- IEC 61000-3-3/EN61000-3-3: Limitations of Voltage Changes, Voltage Fluctuations, and Flicker input current  $\leq 16$  A

### Immunity

- CISPR 35:2016/EN 55035:2017 Electromagnetic compatibility of multimedia equipment - Immunity requirements

## 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).
- International packaging recycling mark requirements.
- EU Directive (94/62/EC) on packaging and packaging waste
- China packaging recycling mark standard (GB18455-2001)
- EU Directive (2012/19/EU) on waste and electrical and electronic equipment (WEEE) and the applicable official amendment(s).

