

Christie Duo Stacking Frame

Installation Manual

020-101055-01

CHRISTIE®

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NOTICES

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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.

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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!

Canadian manufacturing facility is ISO 9001 and 14001 certified.

GENERAL WARRANTY STATEMENTS

For complete information about Christie's limited warranty, please contact your Christie dealer. In addition to the other limitations that may be specified in Christie's limited warranty, the warranty does not cover:

- a. Problems or damage occurring during shipment, in either direction.
- b. Projector lamps (See Christie's separate lamp program policy).
- c. Problems or damage caused by use of a projector lamp beyond the recommended lamp life, or use of a lamp supplied by a supplier other than Christie.
- d. Problems or damage caused by combination of a Product with non-Christie equipment, such as distribution systems, cameras, video tape recorders, etc., or use of a Product with any non-Christie interface device.
- e. Problems or damage caused by the use of any lamp, replacement part or component purchased or obtained from an unauthorized distributor of Christie lamps, replacement parts or components including, without limitation, any distributor offering Christie lamps, replacement parts or components through the internet (confirmation of authorized distributors may be obtained from Christie).
- f. Problems or damage caused by misuse, improper power source, accident, fire, flood, lightening, earthquake or other natural disaster.
- g. 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.
- h. 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.
- i. Problems or damage caused by use of a projector in the presence of an oil-based fog machine.
- j. For LCD projectors, the warranty period specified applies only where the LCD projector is in "normal use." "Normal use" means the LCD projector is not used more than 8 hours a day, 5 days a week. For any LCD projector where "normal use" is exceeded, warranty coverage under this warranty terminates after 6000 hours of operation.
- k. Image retention on LCD flat panels.
- l. Failure due to normal wear and tear.

PREVENTATIVE MAINTENANCE

Preventative maintenance is an important part of the continued and proper operation of your product. Please see the Maintenance section for specific maintenance items as they relate to your product. Failure to perform maintenance as required, and in accordance with the maintenance schedule specified by Christie, will void the warranty.

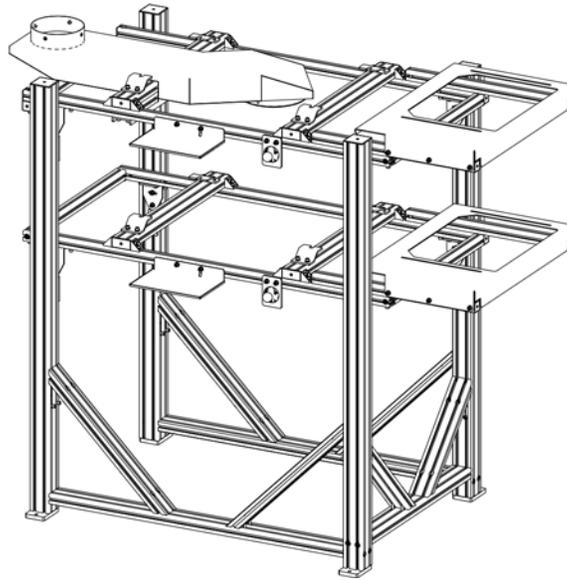
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Introduction

Use the Christie Duo Stacking Frame to vertically stack two projectors so both projector lenses point directly at the screen. The Christie Duo Stacking Frame includes an off-set duct to assist with heat extraction from the lower projector, two adjustable external hard drive trays, two adjustable touch panel controller (TPC) mounts, and two shelves for mounting RealD XL boxes.

This document provides information and procedures for installing the Christie Duo Stacking Frame. For information about setting up your projectors and aligning images, see the Christie Duo User Manual (P/N: 020-100978-xx). The Christie Duo User Manual can be downloaded from the Christie web site (www.christiedigital.com).



Requirements

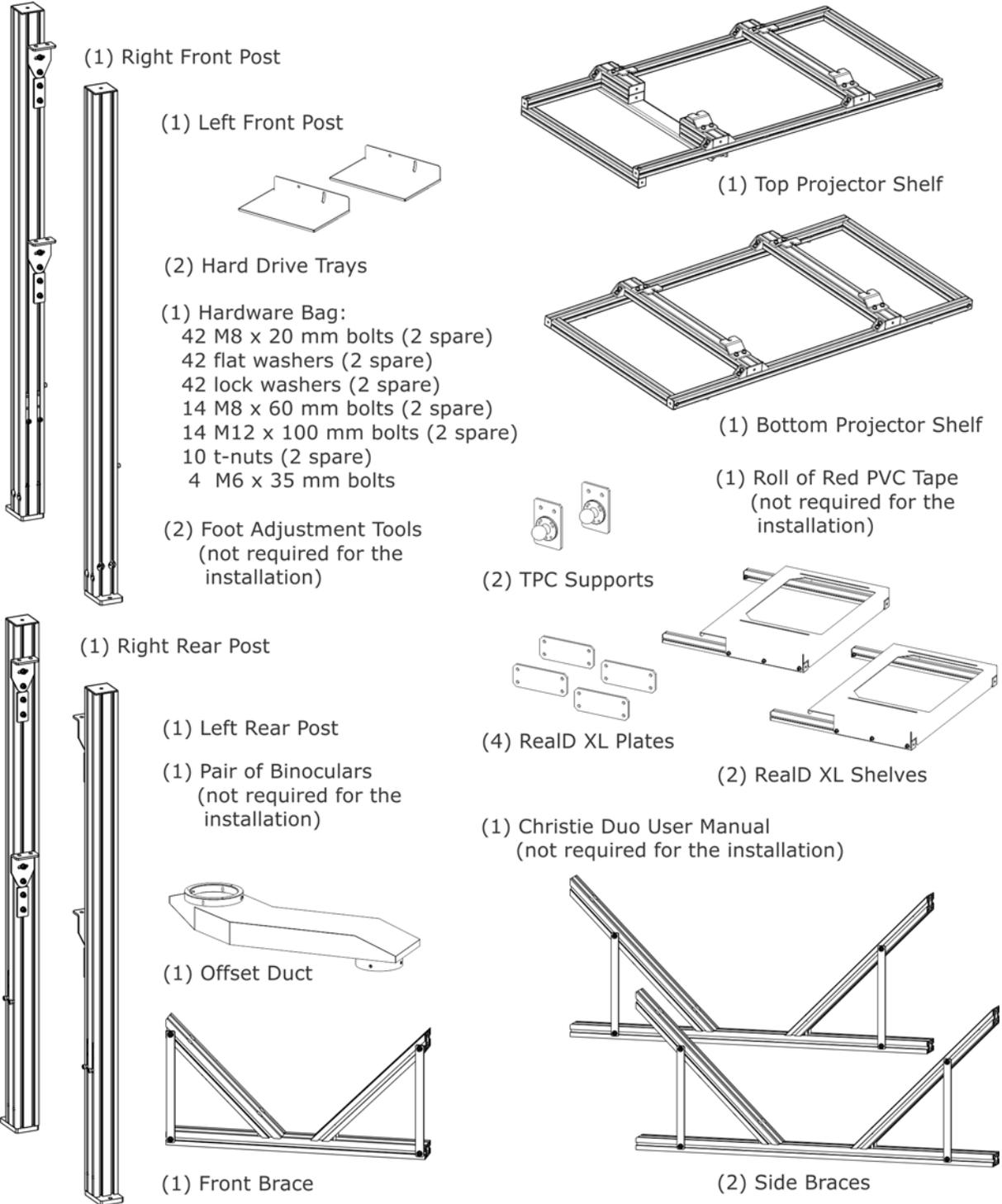
- 2 port windows or 1 shared, extra-tall port window
- 2 identical Christie projectors (CP2220, CP2230, CP4220, or CP4230)
- 1 key delivery message (KDM) for each projector
- 1 Christie integrated media block (IMB) for each projector
- Solaria software release version 3.1.0 (3) or later

Technical Support

- North and South America: +1-800-221-8025 or tech-support@christiedigital.com
- Europe, Middle East, and Africa: +44 (0) 1189 778111 or techsupport-emea@christiedigital.com
- Asia Pacific: tech-asia@christiedigital.com

What's In The Box?

Make sure you have all of the items listed below before installing the Christie Duo Stacking Frame.



Installation and Setup

This section provides information and procedures for installing and positioning the Christie Duo Stacking Frame. Follow the procedures in the order that they are provided. Do not complete the procedures out of order.

Install all bolts to the torque specifications listed in [Torque Requirements](#) on page 18.

Assemble the Frame



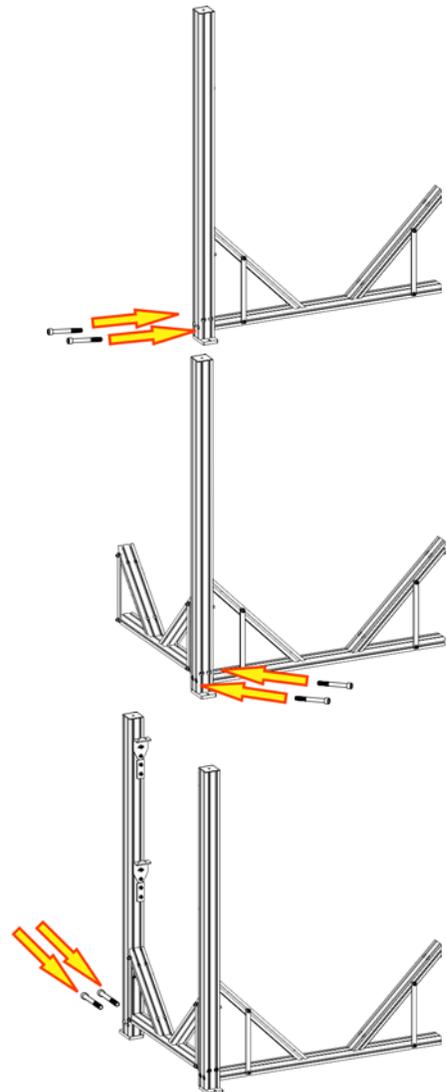
During assembly, align the posts so that the support brackets point toward the inside of the frame.

1. Attach the bottom of 1 side brace to the back of the left front post with 2 M12 x 100 mm bolts.

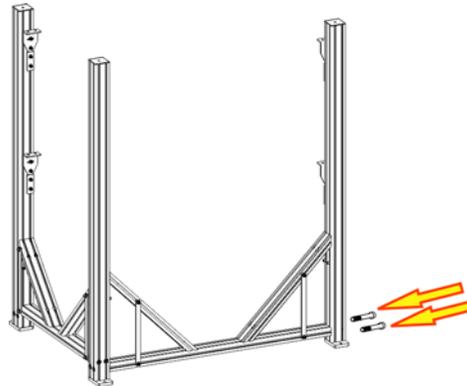
Insert each bolt through a hole on the opposite side of the post, and thread the bolt into the brace until it is flush with the post surface. This method is also used for steps 2-6.

2. Attach 1 front brace to the side of the left front post with 2 M12 x 100 mm bolts.

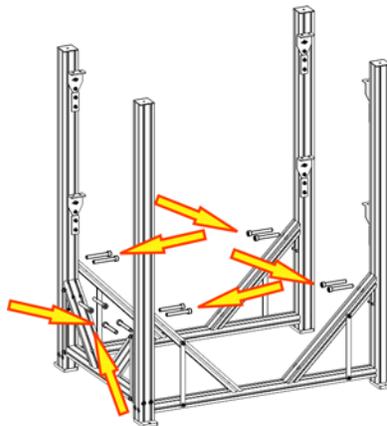
3. Attach the right front post to the other side of the front brace from step 2 with 2 M12 x 100 mm bolts.



4. Attach the left rear post to the other side of the side brace from step 1 with 2 M12 x 100 mm bolts.



5. Repeat step 1 for the right front post.
6. Repeat step 4 for the right rear post.
7. Secure each of the 6 diagonal brace supports to their respective posts with 2 M8 x 60 mm bolts.



8. Verify that all support brackets point toward the inside of the frame and verify that all 4 posts are perpendicular to the ground.
9. Tighten all bolts, to prevent the frame from shifting.
10. Position the frame as close to the port window wall as possible. Leave space for the 3D polarizer system.

Install a Projector on the Bottom Projector Shelf

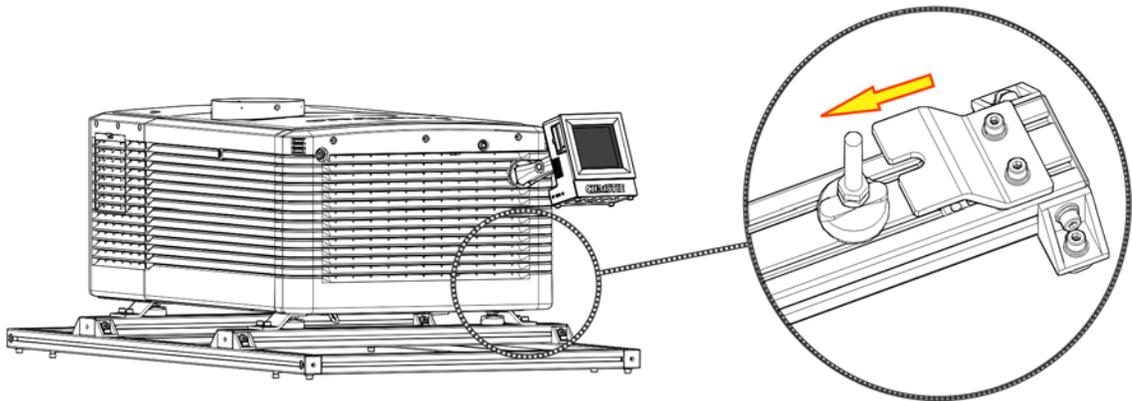


Four people are required to safely lift and install a projector.

1. Place the bottom projector shelf on the floor with the projector foot brackets facing up.
2. Loosen but do not remove the 2 screws on each of the 4 foot brackets.
3. Lift 1 projector onto the bottom projector shelf. The projector lens should face the same direction as the **BOTTOM FRONT** label on the shelf.

To prevent keystone of the projected image, make sure the projector is square with the shelf. The projector's lens axis should be parallel with the shelf length.

4. Slide a foot bracket over each of the 4 projector feet. The notch in the foot bracket should fit around the projector leg and above the projector foot nut.



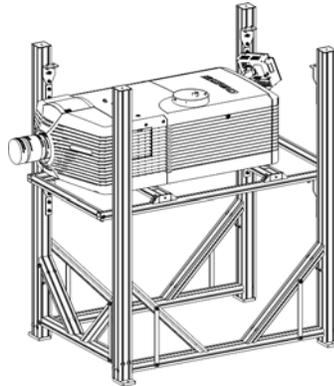
5. Tighten the 2 screws on each of the 4 foot brackets.

Attach the Bottom Projector Shelf to the Frame



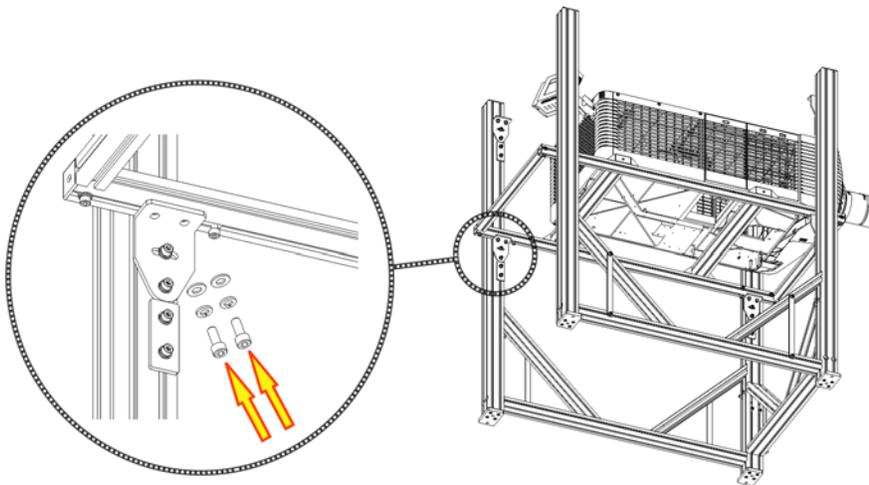
Four people are required to safely lift and install the projector shelf.

1. Lift and place the bottom projector shelf and the projector on the bottom shelf support brackets.



Make sure that all 4 brackets are supporting the shelf, and that the supporting surfaces of the brackets are flush with the bottom of the shelf.

2. Align the M8 inserts, located on the bottom of the shelf, with the bracket holes.
3. Secure the bottom projector shelf in position with 2 M8 x 20 mm bolts, 2 lock washers, and 2 flat washers in each of the 4 bottom shelf support brackets.



Adjust the Projector Aim

WARNING

Three people are required to safely lift the projector shelf and adjust the projector aim. When adjusting shelves, keep your hands and other body parts away from pinch points.

NOTICE

The front-to-back and side-to-side tilt of the projector must not exceed 10°. This limit ensures safe lamp operation and proper positioning of the liquid cooling reservoir.

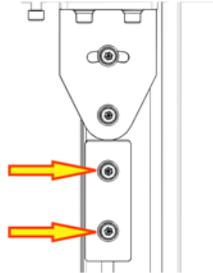
The difference between the front shelf support brackets and the rear shelf support brackets determines the projector aim angle.

1. Temporarily connect the offset duct to the projector.
2. Turn the projector power on.
3. Aim the projector image onto the screen.
4. Raise or lower the front or rear shelf brackets until the image is centered on the screen.
See [Lower the Projector Shelf](#) on page 10 or [Raise the Projector Shelf](#) on page 11.
5. Turn the projector power off.
6. Remove the offset duct.

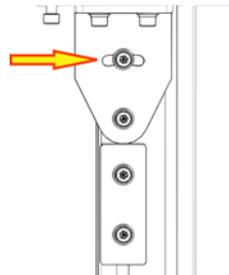
Lower the Projector Shelf

The position of the projected image is adjusted by raising or lowering the brackets at each corner of the projector shelves. To prevent twisting of the stacking frame, raise or lower the front or rear shelf support brackets in pairs.

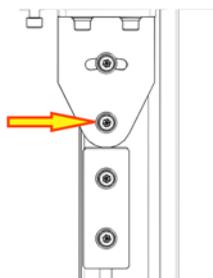
1. Loosen (do not remove) the 2 M8 bolts in each of the 2 front or rear shelf support blocks.



2. Move the shelf support blocks down an equal distance.
3. Tighten the M8 bolts in the support blocks you loosened in step 1.
4. Loosen the M8 bolts in the enlarged holes on each of the shelf support brackets.



5. While someone supports the projector shelf, slowly loosen the lower M8 bolt on the shelf support brackets. Slowly lower the shelf support bracket onto the shelf support block.

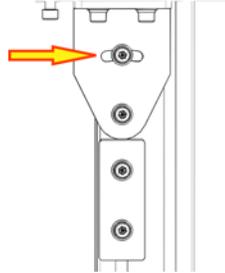


6. Tighten the 2 M8 bolts in the support brackets you loosened in step 4.

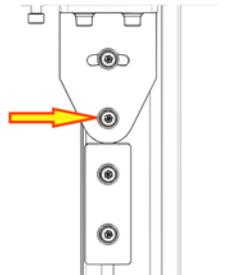
Raise the Projector Shelf

The position of the projected image is adjusted by raising or lowering the brackets at each corner of the projector shelves. To prevent twisting of the stacking frame, raise or lower the front or rear shelf support brackets in pairs.

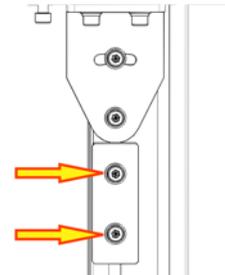
1. Loosen the M8 bolt, in the enlarged hole, on each of the 4 shelf support brackets.



2. Loosen (do not remove) the 2 lower M8 bolts in each of the 2 front or rear shelf support brackets.



3. Raise the projector shelf and shelf support brackets and then tighten the M8 bolts you loosened in steps 1 and 2.
4. Loosen (do not remove) the M8 bolts in each of the shelf support blocks that are below the shelf support brackets you raised in step 3.



5. Move the shelf support blocks up until they are in contact with the shelf support brackets, and then tighten the M8 bolts in the support blocks.

Install a Projector on the Top Projector Shelf



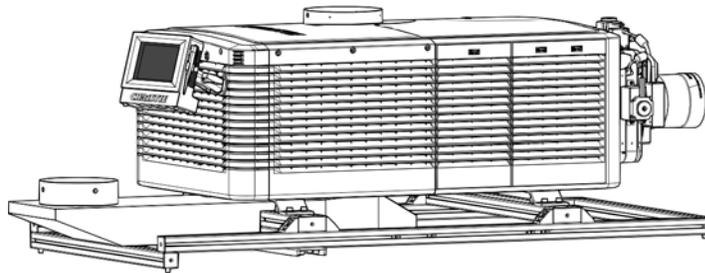
Four people are required to safely lift and install a projector.

1. Place the top projector shelf on the floor with the foot brackets facing up.
2. Loosen (do not remove) the 2 screws on each of the 4 foot brackets.
3. Position the off-set duct on the top projector shelf, so that it rests between the two aluminum supports.

Make sure the **CONNECT TO EXTRACTOR** label on the off-set duct faces up and to the rear of the projector shelf.

4. Load a projector on the top projector shelf. Place the rear of the projector over the slotted center brace and off-set duct, and the front of the projector over the solid center brace.

To prevent keystone of the projected image, make sure the projector is square with the shelf. The projector's lens axis should be parallel with the shelf length.



5. Slide a foot bracket over each of the 4 projector feet. The notch in the foot bracket should fit around the projector leg and above the projector foot nut.
6. Tighten the 2 screws on each of the 4 foot brackets.

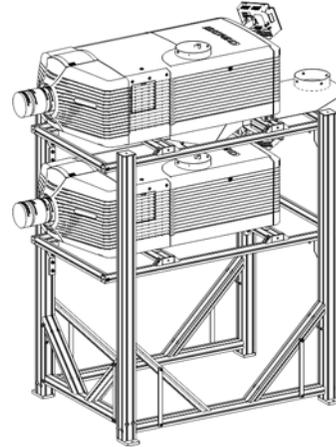
Attach the Top Projector Shelf to the Frame



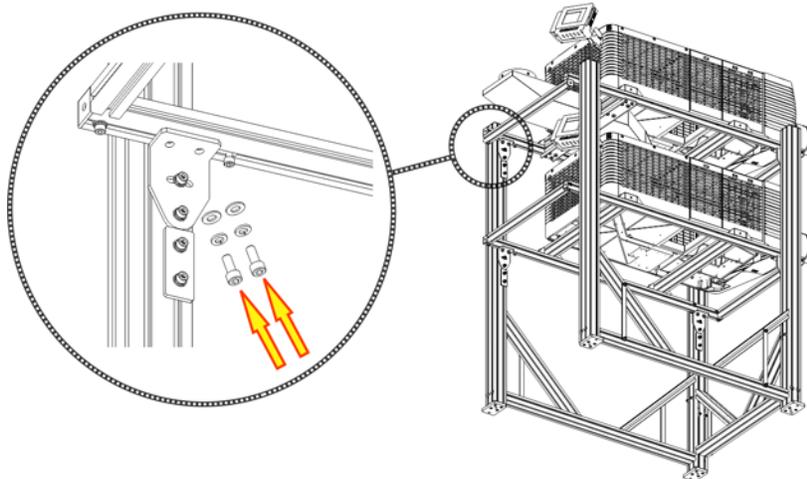
Four people are required to safely lift and install the projector shelf.

1. Measure the distance between the bottom shelf and the top shelf support brackets. Make sure that there is a minimum of 61 cm (24 in.) between them.
2. Lift and place the top projector shelf on the top shelf support brackets.

Make sure that all 4 brackets are supporting the shelf, and that the supporting surfaces of the brackets are flush with the bottom of the shelf.



3. Align the M8 inserts, located on the bottom of the shelf, with the bracket holes.
4. Secure the top projector shelf in position with 2 M8 x 20 mm bolts, 2 lock washers, and 2 flat washers in each of the 4 top shelf support brackets.



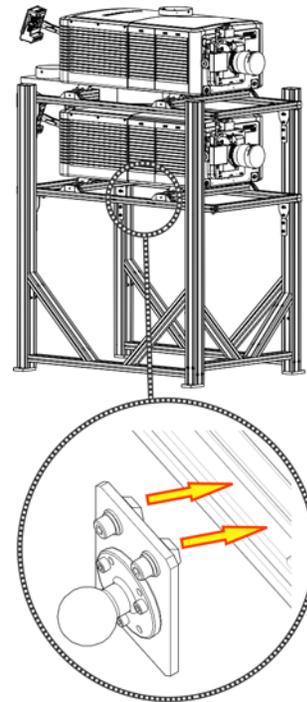
5. Align the offset duct with the lower projector's exhaust vent.
6. Lower the top projector shelf 2.5 cm (1 in.) to seal the offset duct and the projector exhaust duct together.
7. Attach the offset duct to the lower projector with 2 M6 x 35 mm screws.

Adjust the Projectors

For information about setting up your projectors and aligning images, see the Christie Duo User Manual (P/N: 020-100978-xx).

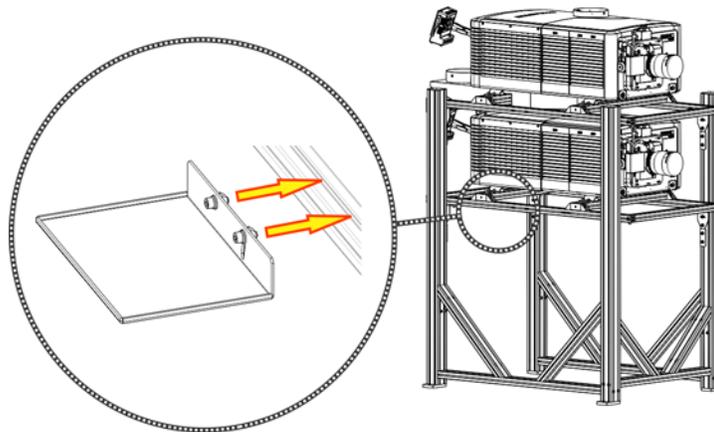
Attach the TPC Supports

1. Slide 1 lock washer and 1 flat washer over 1 M8 x 20 mm bolt. Insert the threaded end of the M8 bolt through a TPC support mounting hole.
2. Thread a t-nut three full turns onto the end of the M8 bolt.
3. Repeat steps 1 to 3 for the second M8 x 20 mm bolt.
4. While holding the TPC support, align and then insert the t-nuts on the end of the M8 bolts into the slot in the side rail of the bottom projector shelf.
5. Hold the TPC support in position and tighten a M8 bolt. This turns the t-nut 90 degrees and locks it into position.
6. Tighten the second M8 bolt.
7. Repeat steps 1 to 7 to install the second TPC support on the top projector shelf.



Attach the Hard Drive Trays

1. Slide 1 lock washer and 1 flat washer over 1 M8 x 20 mm bolt.
2. Insert the threaded end of the M8 bolt through a hard drive tray mounting hole.
3. Thread a t-nut three full turns onto the end of the M8 bolt.
4. Repeat steps 1 to 3 for the second M8 x 20 mm bolt.
5. While holding the TPC support, align and then insert the t-nuts on the end of the M8 bolts into the slot in the side rail of the bottom projector shelf.
6. Hold the hard drive tray in position and tighten the M8 bolt. This turns the t-nut 90 degrees and locks it into position.



7. Tighten the second M8 bolt.
8. Repeat steps 1 to 7 to install the second hard drive tray on the top projector shelf.

If you need to tilt the hard drive tray up or down, loosen the M8 bolt in the enlarged slot and slide the hard drive tray up or down. When your adjustment is complete, tighten the M8 bolt.

Secure the Duo Stacking Frame to the Floor

Secure the feet to the floor with the appropriate hardware (not provided).

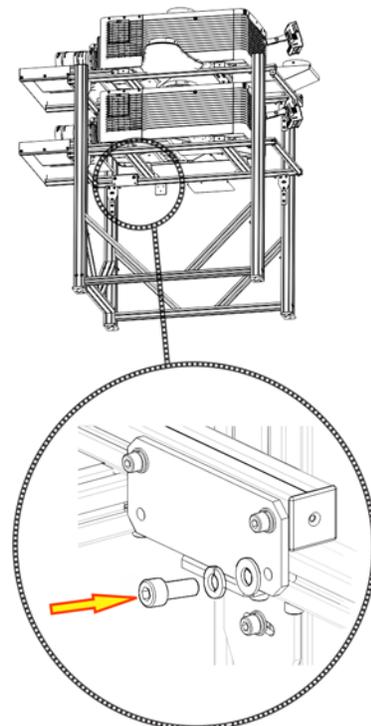
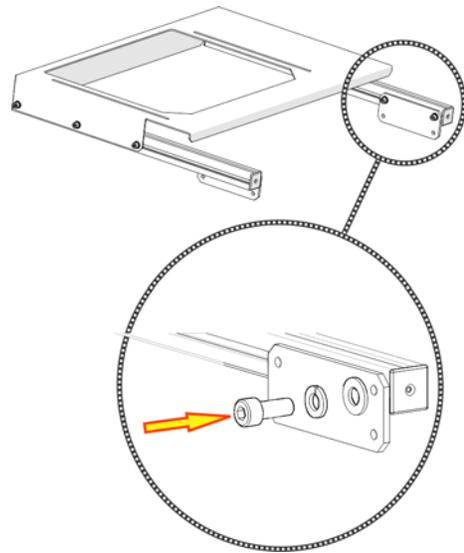
Attach the RealD XL Shelves



Two people are required to complete this procedure.

If required, attach the RealD XL shelves.

1. Install 2 RealD XL plates on each RealD XL shelf:
 - a. Align the top 2 mounting holes of 1 RealD XL plate with the 2 locking t-nuts on the inside edge of the shelf bracket. If necessary, slide the locking t-nuts until they align correctly.
 - b. Loosely secure the RealD XL plate in position with 1 M8 bolt, 1 lock washer, and 1 flat washer in each of the 2 mounting holes. Thread the M8 bolt into the locking t-nut from step a.
 - c. Repeat steps a and b to install the second RealD XL plate on the opposite side of the RealD XL shelf.
 - d. Tighten the 2 M8 bolts from step b.
 - e. Repeat steps a to d to install 2 RealD XL plates on the second RealD XL shelf.
2. Install the bottom RealD XL shelf:
 - a. Place the RealD XL shelf on top of the front of the bottom projector shelf.
 - b. Align the bottom 2 mounting holes of the RealD XL plate with the locking t-nuts on the inside of the bottom projector shelf. If necessary, slide the locking t-nuts until they align correctly.
 - c. Loosely secure the RealD XL plate in position with 1 M8 bolt, 1 lock washer, and 1 flat washer in each of the 2 mounting holes. Thread the M8 bolt into the locking t-nut from step a.
 - d. Repeat steps b and c to install the second RealD XL plate on the opposite side of the RealD XL shelf.
 - e. Tighten the 2 M8 bolts from step c.
3. Repeat step 2 to install the upper RealD XL shelf.

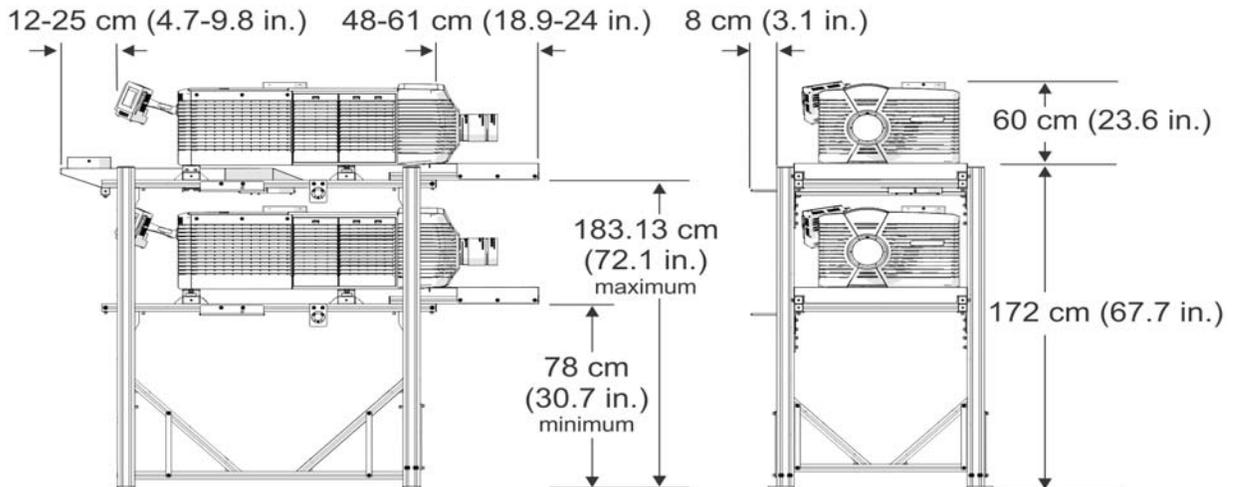
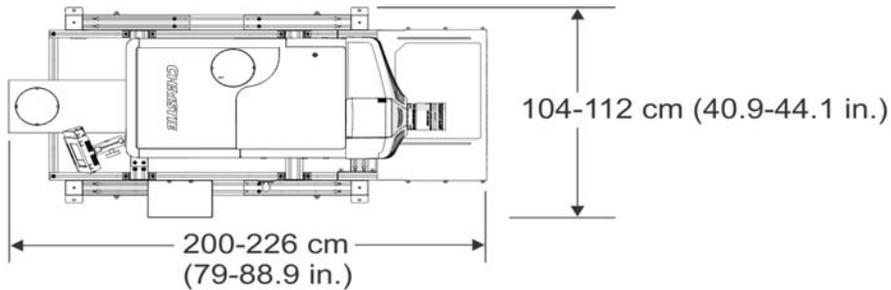


Specifications

This section provides the specifications for the Christie Duo Stacking Frame.

Physical

Specification	Value
Frame Height	172 cm (67.7 in.)
Frame Height with Projector	232 cm (91.3 in.)
Frame Depth	140 cm (55.1 in.)
Frame Depth with RealD Boxes and Extractor	226 cm (88.9 in.)
Frame Width	104 cm (40.9 in.)
Frame Width with External Hard Drive Tray	112 cm (44.1 in.)
Mass	125 Kg (175.6 lb)



Torque Requirements

Bolt Type	Value
M8 x 20 mm	30 in-lb
M8 x 60 mm	30 in-lb
M12 x 100 mm	50 in-lb

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