Installation and Setup Guide

LED Display System

Christie CoreIII Series

CHRISTIE

NOTICES

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GENERAL

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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.

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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.

Content

Product overview

Christie® CoreIII have been fully upgraded on the previous basis. Featuring UHD resolution, high fill-factor, and advanced monitoring capabilities, the CoreIII is a certified LED display wall solution providing 24/7 operation for critical viewing environments. With front-access serviceability, remote, and redundant power supply and a slim ADA-compliant design, the CoreIII delivers performance possible for LED displays.

REAR VIEW   SIDE VIEW

TOP VIEW
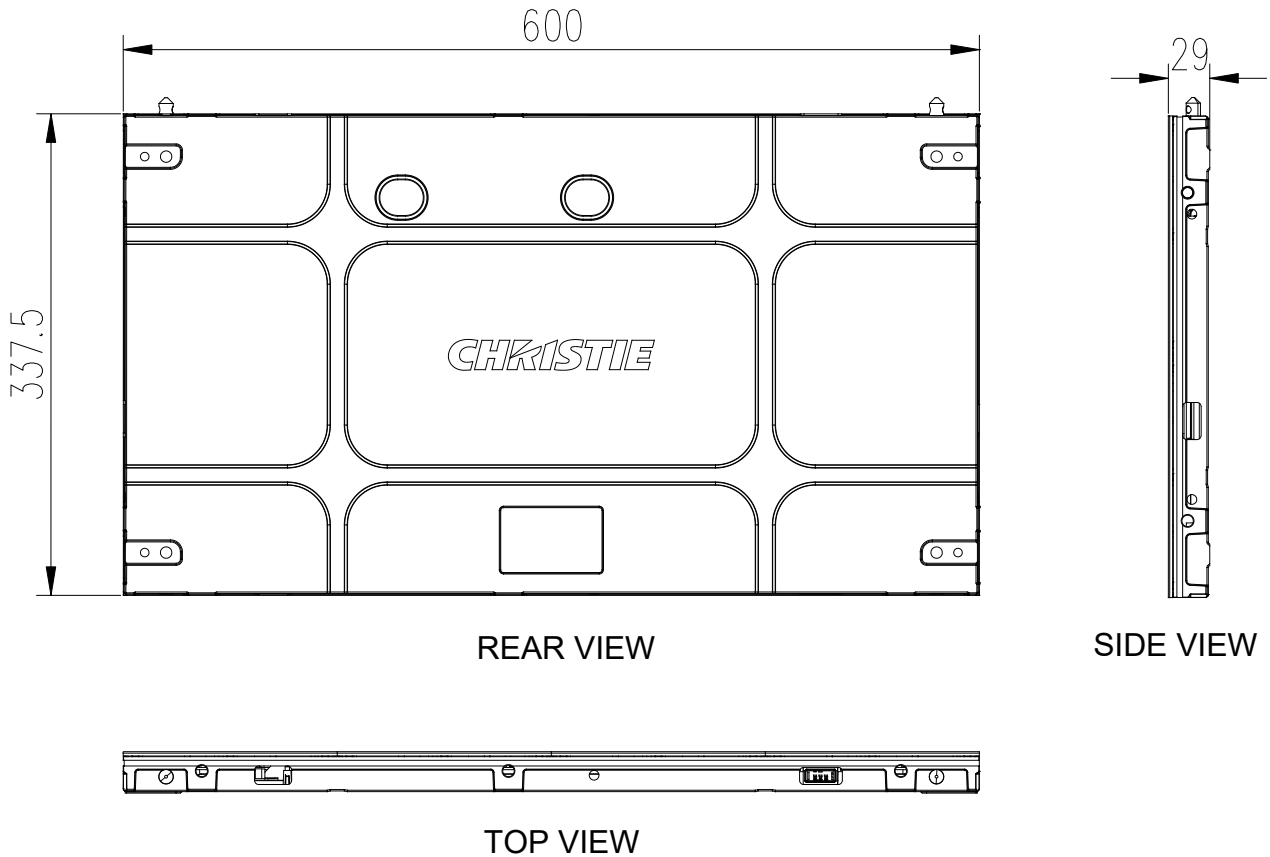
Important safeguards

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

General safety precautions

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

⚠️ **Warning! If not avoided, the following could result in death or serious injury.**
- Observe all electrostatic precautions. Use a grounded wrist strap and insulated tools when handling, servicing, or cleaning electronic assemblies.
- A certified electrician must be present during installation to ensure the installation meets the local electrical code.
- Motors and fans may start without warning.

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

- Always wear clean, lint-free gloves when handling the product.

Power precautions

Ensure all power precautions are understood before installing the product.

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

- After the replacement of the power supply, hi-pot and ground/earth bond tests must be performed. Only Christie qualified technicians who are familiar with the necessary precautions can perform these tests.
- A certified electrician must be present during installation to ensure the installation meets the local electrical code.
- Always connect the ground or earth first to reduce shock hazard.
- Do not return the current through the ground or earth.
- SHOCK HAZARD! The line cord has a maximum power carrying capability. For the maximum number of tiles that may be connected per daisy chain when connecting to the power supply, refer to the product specifications.
- SHOCK HAZARD! A permanent single-phase connection must be installed between the LED tile system and the AC power supply.
- FIRE AND SHOCK HAZARD! Do not operate the system unless certified power connections, providing the recommended voltage, are used.
- HIGH TOUCH CURRENT HAZARD! To ensure reliable grounding, the power connection must be made by using an industrial plug (pluggable type B), or be provided by a permanent connection.
- A 13-20 A double pole mains circuit breaker, certified for the applicable local regulations, is required. It must be part of the building installation and easily accessible.
- Do not use a wall breaker greater than 20 A. This could result in severe damage to the tile system in the event of a failure.

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

- SHOCK HAZARD! The line cord has a maximum power carrying capability. For the maximum number of tiles that may be connected per daisy chain when connecting to the power supply, refer to the product specifications.
- SHOCK HAZARD! Only use the AC power cord provided with the product or recommended by Christie.
- 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.
- 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.
- Only Christie qualified technicians are permitted to open product enclosures.

Terminology

Learn about the components of the LED display system.

Term	Definition
Tile	A cabinet that contains several LED modules.

Array	A group of connected tiles that from a larger display.
Controller	Controls the LED display system array and video input source. Sometimes referred to as the control unit.
Pixel	A group of one red, one green, and one blue dot.
Subpixel	A pixel is comprised of three subpixels, one for each color: red, green, and blue. Each subpixel in LED display technology is and LED chip.
Pixel pitch	Specified the distance from the center of one pixel to the center of the next pixel.
SMD package size	A technical supplier specification related to the pixel size, and denotes the size of the surface-mounted diode (SMD) itself.
Fill factor	Indicates the ratio between the area covered by pixels and the area not covered by pixels.

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 this URL: http://bit.ly/2qXBAdX or https://www.christiedigital.com/en-us/digital-signage/products/led-tiles/coreplus-series.

   - 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 Download tab.

Related documentation

Additional information on the Core LED Display System is available in the following documents.

- E600 User Guide (P/N: 020-102717- **XX**)

- E510 User Guide (P/N: 020-102222- **XX**)

Required tools

Make sure the following tools are available during the installation.

- Rubber hammer

- Utility knife

- Allen key

- Spirit level

- Tape measure

- Anti-static glove

- socket wrench

- Torque driver

- Torque wrench

- Philips screwdriver, with magnetic tip

- Slotted screwdriver, with magnetic tip

- LED module removal tool for CoreIII (P/N: 003-007099-**XX**)

- Attachment Block Template for CoreIII (P/N: 003-007100-**XX**)

Typical LED solution
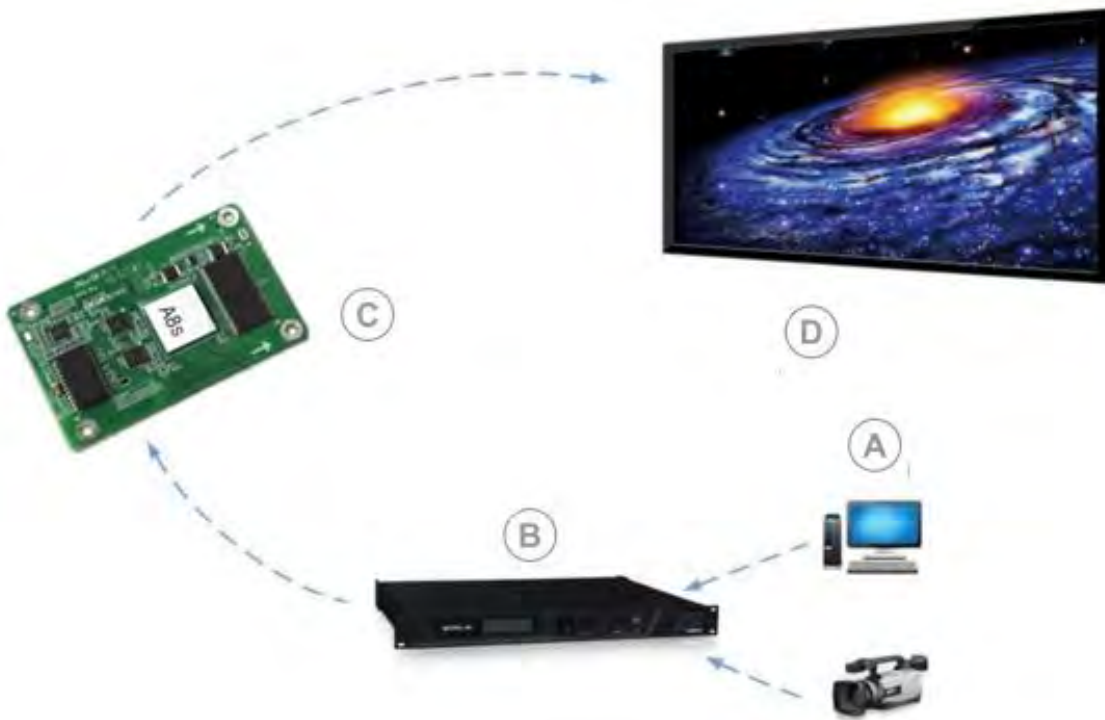
A	Media sources
B	E600/E510 LED display controller
C	Receiving card A8s-N
D	LED display

Cable and controller layout and design

Before an array is constructed, you must plan the design layout of the tiles to make sure the controller placement and the cabling layout support the overall tile design objectives.

The LED display system offers flexibility in terms of the number of media sources displayed and the overall resolution. Color and brightness matching, as well as other functions, can be performed across an entire array.

The video source connections between the cabinets are represented by the blue line. The power connections between the cabinets are represented by the red line.
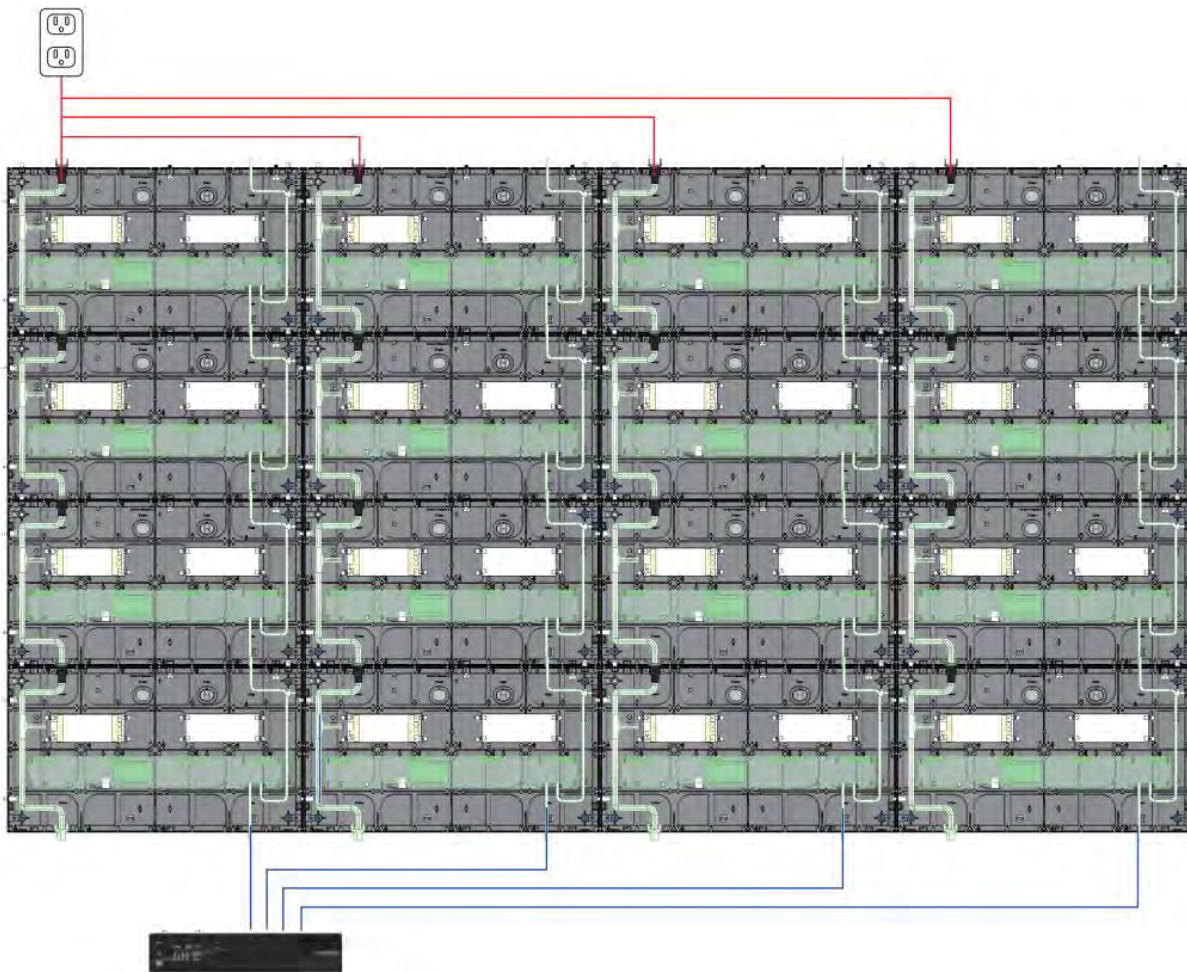
Controller limitations

Each controller can support a maximum number of tiles, which varies depending on the pixel pitch of the tiles in the array. The configuration to achieve an HD display differs by the pixel pitch of the tile, as outlined in the table below.

E510 controller

Tile	Pixel pitch	1080p array size	4K array size	8K array size	Maximum number of tiles per controller
LED009	0.9 mm	3x3	6x6	12x12	9
LED012	1.25 mm	4x4	8x8	16x16	16
LED015	1.5625 mm	5x5	10x10	20x20	25
LED018	1.875 mm	6x6	12x12	24x24	36
LED025	2.5 mm	8x8	16x16	32x32	64

E600 controller

Tile	Pixel pitch	1080p array size	4K array size	8K array size	Maximum number of tiles per controller
LED009	0.9 mm	3x3	6x6	12x12	36
LED012	1.25 mm	4x4	8x8	16x16	64
LED015	1.5625 mm	5x5	10x10	20x20	100
LED018	1.875 mm	6x6	12x12	24x24	144
LED025	2.5 mm	8x8	16x16	32x32	256

E510 controller interface and ports

Learn about the interface and physical ports on the E510 controller.

Front
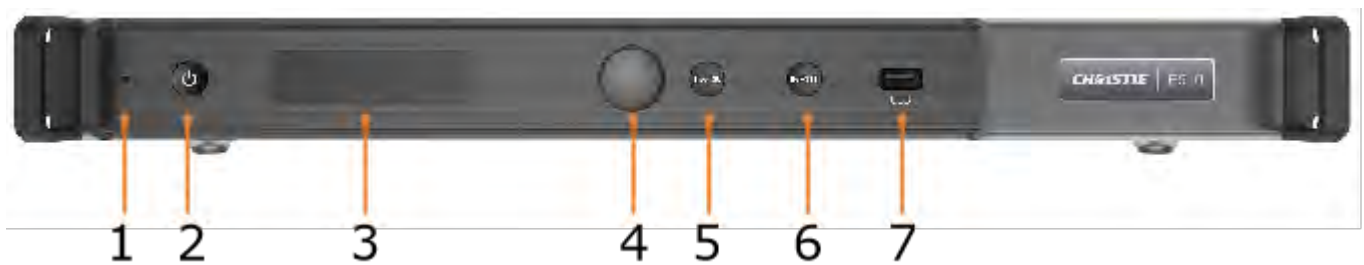
1	Operating indicator
	• Green: The device is running normally.
	• Red: The device is in standby mode.

2	Power switch
3	OLED operation screen
4	Function knob
5	BACK button—Select to return to the previous menu.
6	INPUT button—Select to choose a video source.
7	USB port—Updates firmware

Rear

Inputs/Outputs		Description
Inputs	DVI IN	• Single-link DVI connector
		• Custom resolutions supported:
		Maximum width: 3840 pixels
		Maximum height: 2560 pixels
		• Supported standard resolutions:
		1024×768@(24/30/48/50/60/72/75/85/100/120) Hz
		1280×1024@(24/30/48/50/60/72/75/85) Hz
		1366×768@(24/30/48/50/60/72/75/85/100) Hz
		1440×900@(24/30/48/50/60/72/75/85) Hz
		1600×1200@(24/30/48/50/60) Hz
		1920×1080@(24/30/48/50/60) Hz
		1920×1200@(24/30/48/50/60) Hz
		2560×960@(24/30/48/50) Hz
		2560×1600@(24/30) Hz

	HDMI IN	• HDMI 1.4a compliant
		• HDCP 1.4 compliant
		• Custom resolutions supported:
		Maximum width: 3840 pixels
		Maximum height: 2560 pixels
		• Supported standard resolutions:
		1024×768@(24/30/48/50/60/72/75/85/100/120) Hz
		1280×1024@(24/30/48/50/60/72/75/85) Hz
		1366×768@(24/30/48/50/60/72/75/85/100) Hz
		1440×900@(24/30/48/50/60/72/75/85) Hz
		1600×1200@(24/30/48/50/60) Hz
		1920×1080@(24/30/48/50/60) Hz
		1920×1200@(24/30/48/50/60) Hz
		2560×960@(24/30/48/50) Hz
		2560×1600@(24/30) Hz
	3G-SDI IN	• SMPTE ST 425-1 Level A and B, SMPTE ST 274, ST 296, ST 295 compliant
		• Maximum supported input resolution: 1920×1080@60 Hz
		Note: 3G-SDI input sources do not support input resolution and color depth settings.
Outputs	RJ45 × 6	• 6 Gigabit Ethernet ports
		• Maximum loading capacity of a single Ethernet port:
		For 8-bit input sources: 650,000 pixels
		For 10-bit/12-bit input sources: 320,000 pixels
		• Support redundancy between Ethernet ports.
	OPT1 OPT2	• 10G optical ports
		Single-mode twin-core fiber: Support LC optical connectors; wavelength: 1310 nm; transmission distance: 10 km; OS1/OS2 recommended
		Dual-mode twin-core fiber: Support LC optical connectors; wavelength: 850 nm; transmission distance: 300 m; OM3/OM4 recommended

|		

		• The maximum loading capacity of a single optical port equals to that of all the six Ethernet ports.
		
		• Two OPT inputs/outputs:
		
		    The OPT1 works as the primary input or output port, and the six Gigabit Ethernet ports.
		
		    The OPT2 works as the backup input or output port of OPT1.
		
		• In the sending card mode, both OPT ports and 6 Gigabit Ethernet ports can work as output ports to output the same image.
		
		• In the fiber converter mode, when the OPT ports work as the input ports, the 6 Gigabit Ethernet ports work as output ports. When the 6 Gigabit Ethernet ports work as input ports, the OPT ports work as output ports.

	DVI LOOP	DVI loop output
	HDMI LOOP	HDMI loop output Support HDCP 1.3 loop output encryption.
	3G-SDI LOOP	SDI loop output
MONITOR	HDMI	Connect to a monitor to monitor the inputs. The output resolution of this connector is 1920×1080@60 Hz (fixed output with a width of 1920 pixels and height of 1080 pixels). If the input resolution exceeds the monitor resolution, the input is automatically scaled in proportion and then displayed on the monitor starting from its top left.
Control	GENLOCK IN	GENLOCK input connector • Genlock type: Blackburst • Input Genlock sync signal to ensure synchronization and same refresh rate between the output signals of cascaded E510 units and the external Genlock input signal.
	GENLOCK LOOP	Genlock loop output connector. Up to eight E510 units can be cascaded.
	ETHERNET	Fast Ethernet port, which connects to PC and supports TCP/IP
	USB IN	Input port for cascading devices, or connecting to PC
	USB OUT	Output port for cascading devices. Up to eight E510 units can be cascaded.
Power supply		100 V–240 VAC
Power switch		ON/OFF

E600 controller interface and ports

Learn about the interface and physical ports on the E600 controller.

The E600 controller behaves as two independent controllers, displaying 3840x2160 pixels at 30 Hz

with each virtual controller. The images of both DVI1 and DVI2 input sources can be displayed on the

tiles simultaneously, but the inputs must be configured independently.
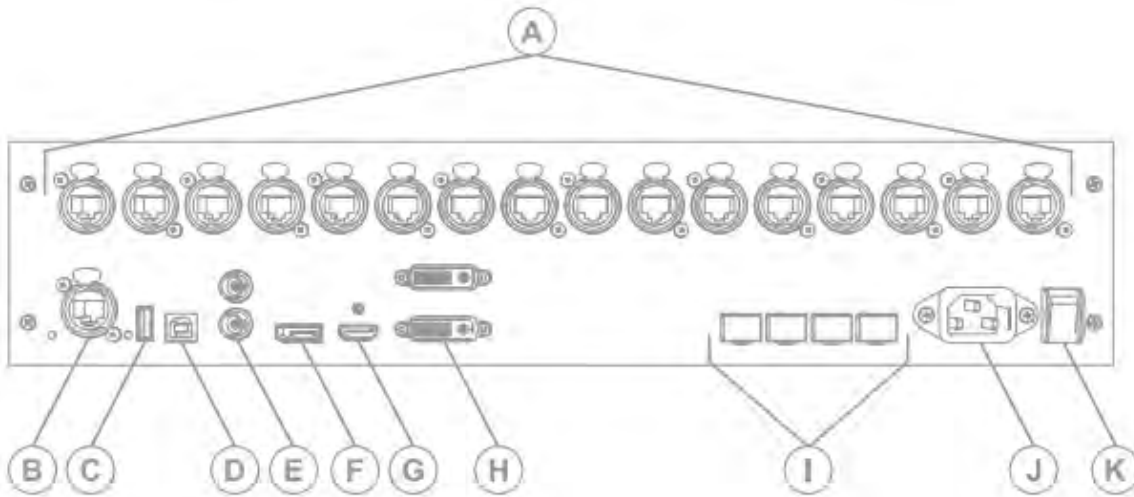
DVI1 corresponds to Ethernet ports 1 to 8, and DVI2 corresponds to Ethernet ports 9 to 16.

Front
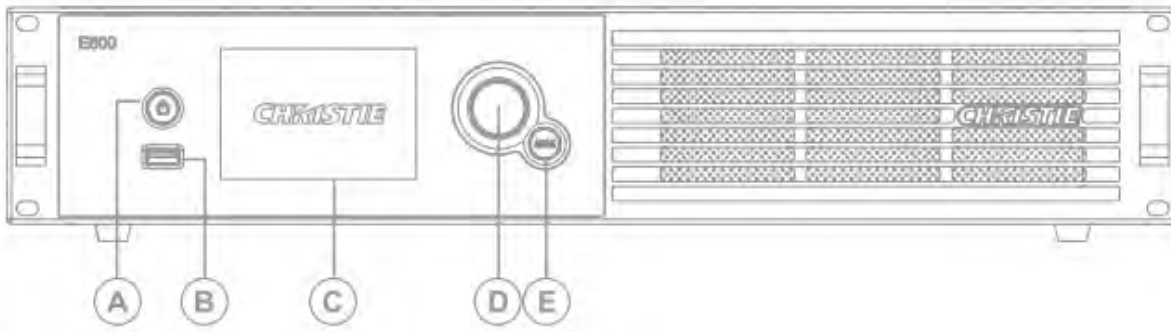
A	Power button
B	USB interface for communication with a UDISK
C	LCD screen
D	Menu dial for interacting with the menu
E	Menu dial for interacting with the menu
F	Back button for exiting from the current operation or option in the menu

Rear

Inputs/outputs			Description
A	Outputs	BNC (**Quantity** 16)	16-channel Gigabit Ethernet interface, with each channel supporting up to 1G bandwidth Total loading capacity: 8.8 million pixels Low latency is not supported
B	Control	Ethernet	USB, RJ45 (with SNMP support), and USB cascading
C		USB Out	
D		USB In	
E	Genlock	BNC (**Quantity** 2)	Support Genlock IN & LOOP
F	Inputs	DisplayPort	Standard DisplayPort 1.2 input The maximum user-definable resolution is 7680x1080 @ 60Hz or 1080x6000 @ 60 Hz.
G		HDMI	Standard HDMI 2.0 input Supports 8-bit, 10-bit, and 12-bit; refer to the table below.
H		DVI (**Quantity** 2)	Dual-link DVI, user-definable resolution • Horizontal resolution maximum: 3840 pixels • Vertical resolution maximum 3840 pixels
I	OPT Output		Fiber optic ports for connecting to the FE600 fiber optic extender
J	Power		Power supply port: AC 100-240V~ 50/60hz
K			Power switch

HDMI 8 bit, 10 bit, and 12 bit support

Color depth		Input source 3840x2160 @ 60 Hz (HDCP)	3840x1080 @ 60 Hz (HDCP)	1920x1080 @ 60 Hz (HDCP)
8-bit				
	RGB444	Yes	Yes	Yes
	Y'C'BC'R444	Yes	Yes	Yes
	Y'C'BC'R422	Yes	Yes	Yes
	Y'C'BC'R420	Yes	Yes	Yes
10-bit				
	RGB444	Yes	Yes	Yes
	Y'C'BC'R444	Yes	Yes	Yes
	Y'C'BC'R422	Yes	Yes	Yes
	Y'C'BC'R420	Yes	Yes	Yes
12-bit				
	RGB444	Yes	Yes	Yes
	Y'C'BC'R444	Yes	Yes	Yes
	Y'C'BC'R422	Yes	Yes	Yes
	Y'C'BC'R420	Yes	Yes	Yes

FE600 controller extender interface and ports

Learn about the interface and physical ports on the E600 controller.

Front
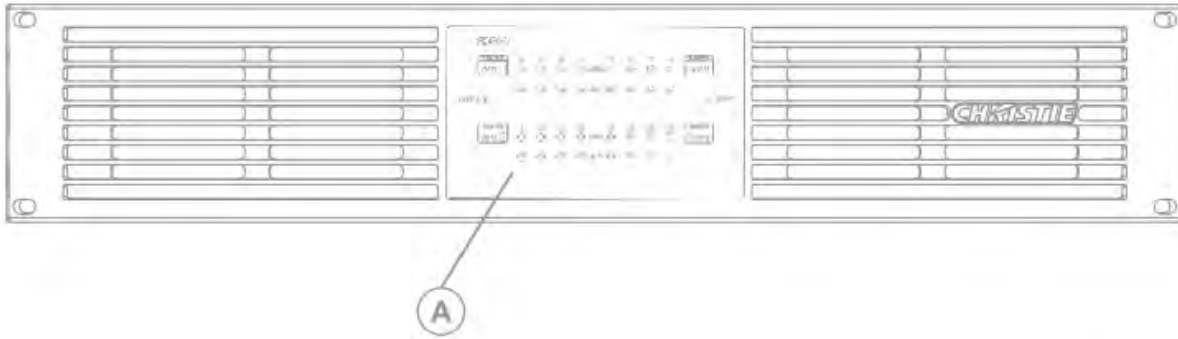
A	Status display

Rear

Inputs/Outputs			Description
A	Outputs	BNC (Quantity 16)	16-channel Gigabit Ethernet interface, with each channel supporting up to 1G bandwidth Total loading capacity: 8.8 million pixels Low latency is not supported
B	Control	Ethernet	USB, RJ45 (with SNMP support), and USB cascading
C		USB In	
D	OPT Output (Quantity 4)		Fiber optic ports for connecting to the E600 controller

|		• OPT1 is used for transferring the data of port 1 to 8
		• OPT2 is used for transferring the data of port 9 to 16
		• OPT3 is the backup channel of OPT1
		• OPT4 is the backup channel of OPT2
		Either Gigabit Ethernet port or optical fiber port can be used at the same time, but cannot be used to connect devices simultaneously.
E	Power	Power supply port: AC 100-240V~ 50/60hz
F		Power switch
G		Power supply port: AC 100-240V~ 50/60hz

Installation and setup

The configuration of an array depends on the installation. Use the following instructions as a guideline only. Before you install an LED array, fully understand all site requirements and characteristics.

Chassis (A)

4 x LED modules (B)

8 x LED modules (B)

Chassis (A)
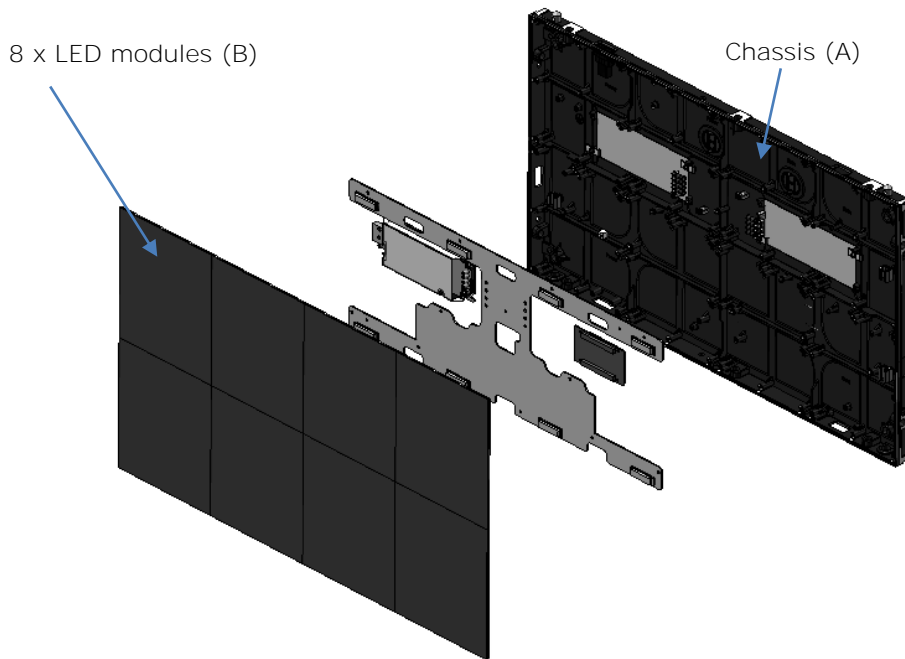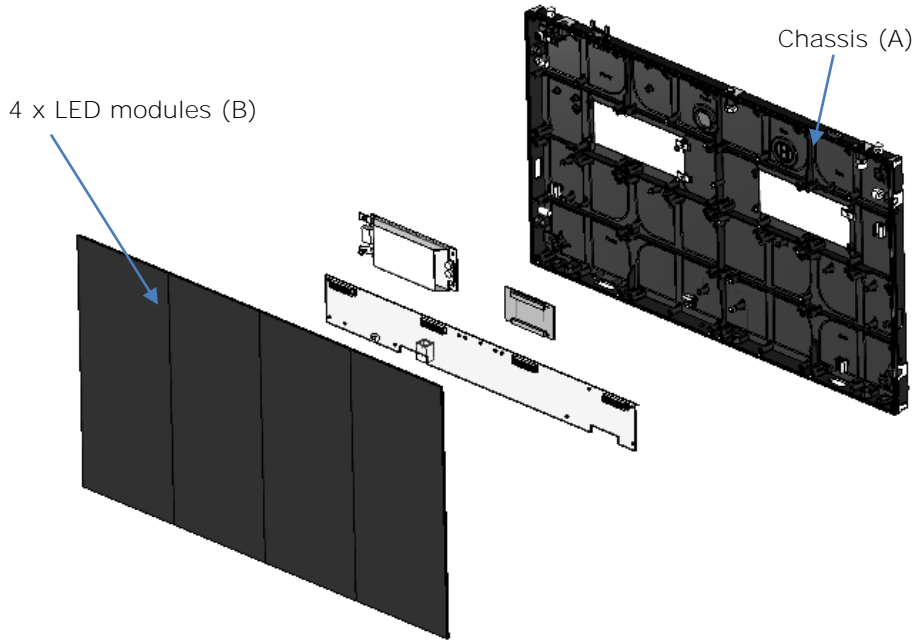
Installing an LED array from the front

Perform the following steps when you install an LED array while facing the LED modules.

1. Install the mounting poles (on page 20).

2. Mount the tiles (A) (on page 25).

3. Connect the data cables (on page 26).

4. Connect the power cables between tiles (on page 27).

5. Install the LED modules (B) (on page 28).

6. Power on the array (on page 30).

7. Install the E510 controller software (on page 31) or install the E600 controller software (on page 35).

8. Configure the E510 controller (on page 31) or configure the E600 controller (on page 35).

The controller can be configured at any time. Before connecting the controller to the wall, Christie recommends updating the firmware and configuring the controller.
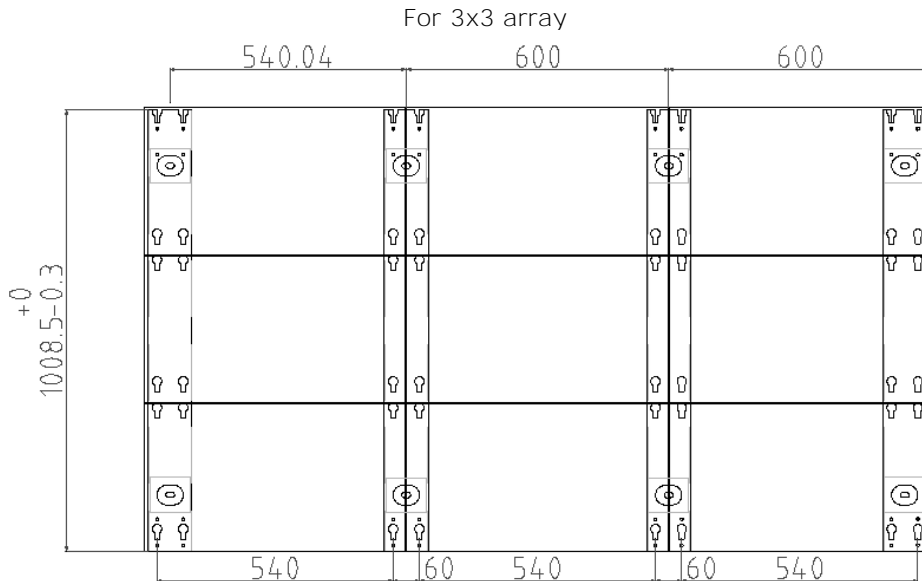
Installing the mounting poles

If the tiles are being installed onto a flat wall surface, determine where the mounting pads should be installed, and attach them to the support structure.

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

- External support for a display wall must be designed and implemented by a Christie qualified installer and must comply with local area regulations and safety standards.
- All display walls must have permanent external supports. The amount of external support required depends on the size of the display wall.
- A minimum of two people or appropriately rated lift equipment is required to safely lift, install, or move the product.

The mounting blocks are available in five different configurations:

For 3x3 array

For 4x4 array

540   600   600   540

$1346^{+0}_{-0.3}$

540   60   540   60   540   60   540

For 5x5 array

540   600   600   600   540

$1683.5^{+0}_{-0.3}$

540   60   540   60   540   60   540   60   540
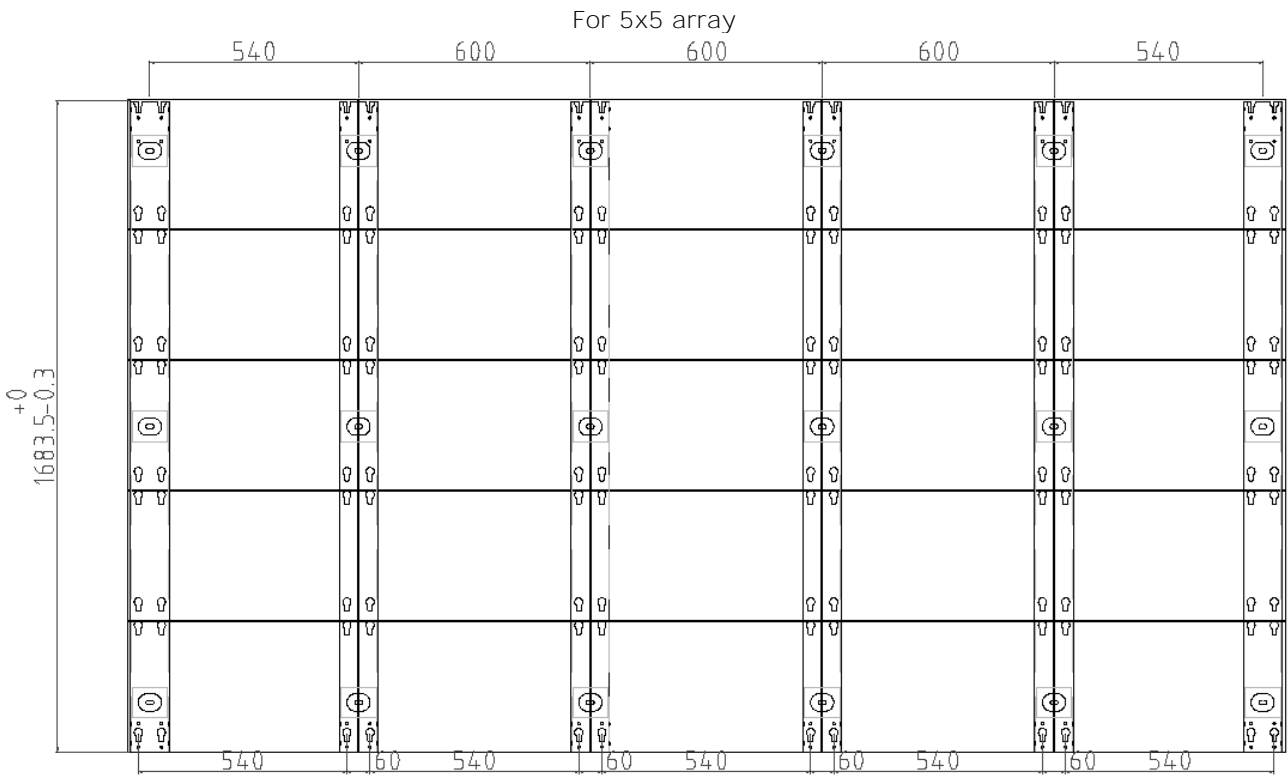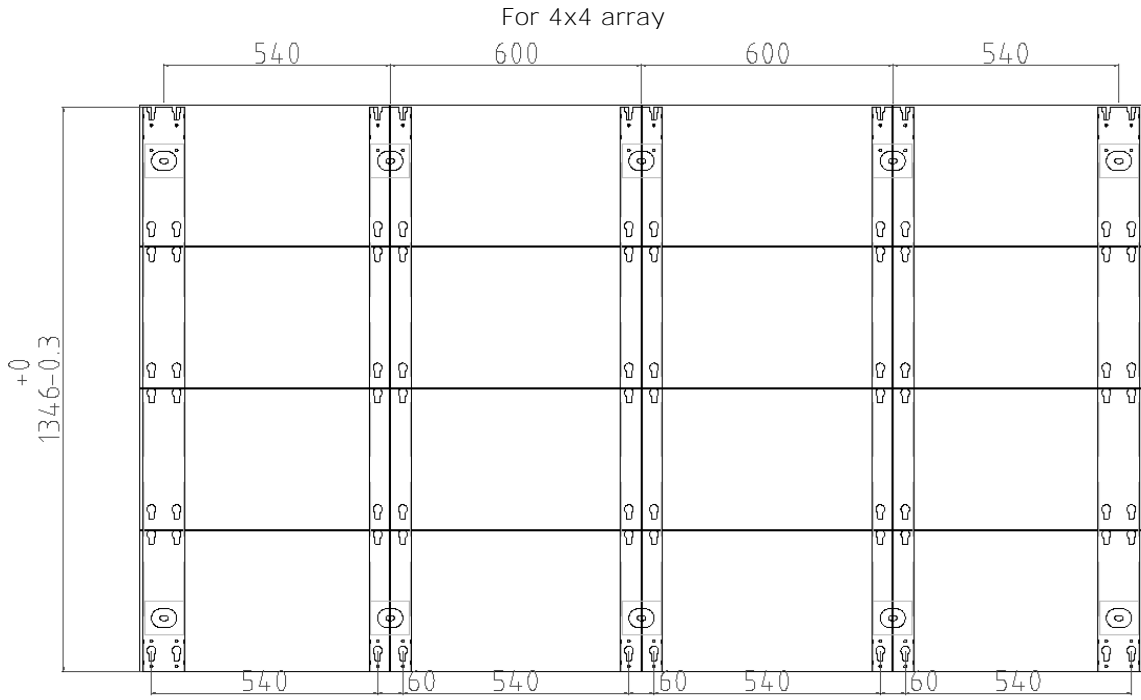
For 6x6 array
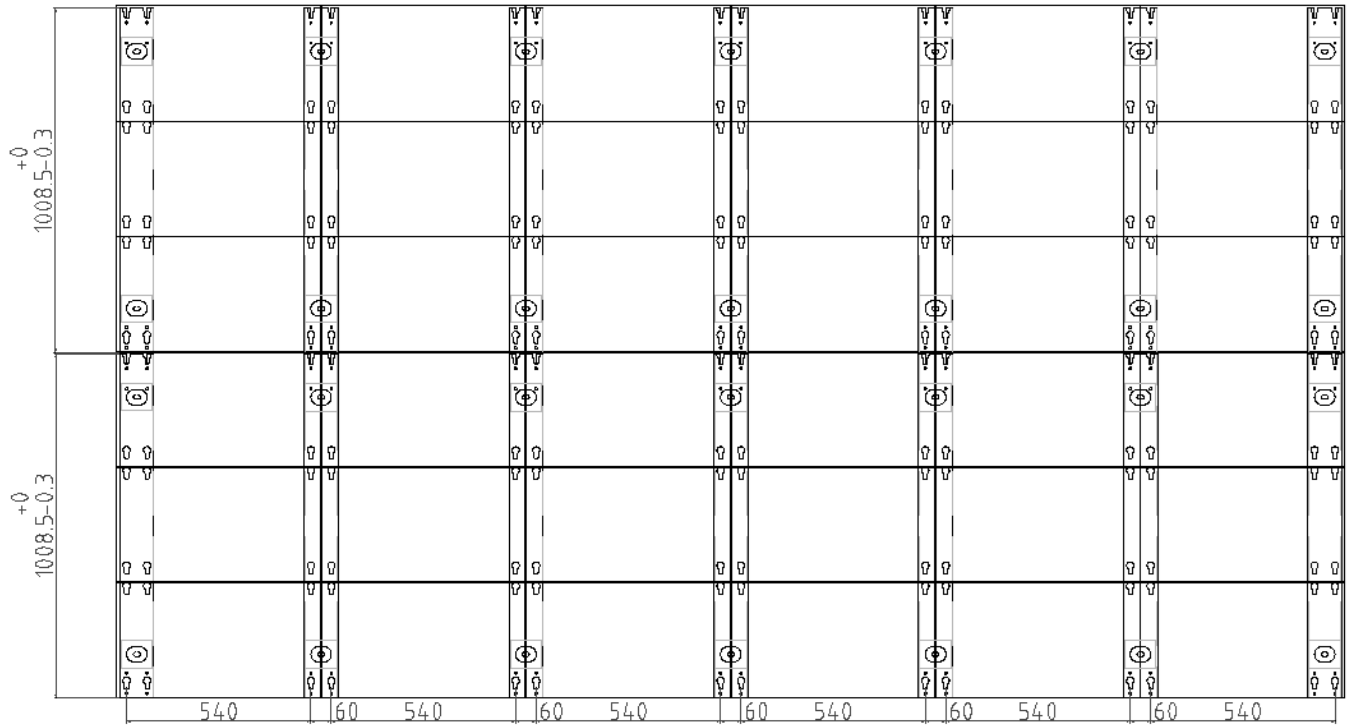
For 8x8 array
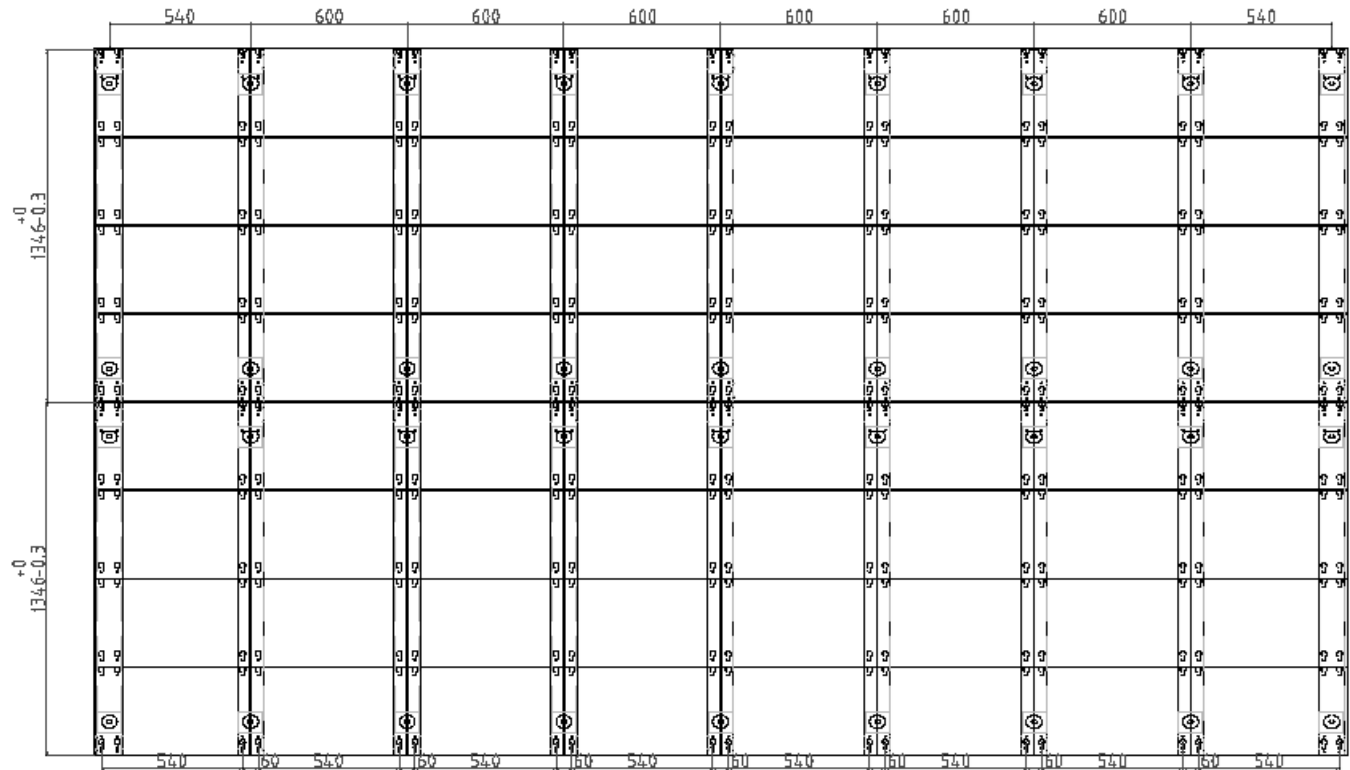
1. If the tiles are being mounted on an external support structure, ensure the external support structure is anchored to the wall and/or to the floor.
   The design and anchoring of the LED display structure is not the responsibility of Christie Digital Systems USA Inc. Contact a Christie representative for structure design options.

2. Determine where the mounting blocks should be installed.

    a. Find and mark the border of the display area with tape measure.
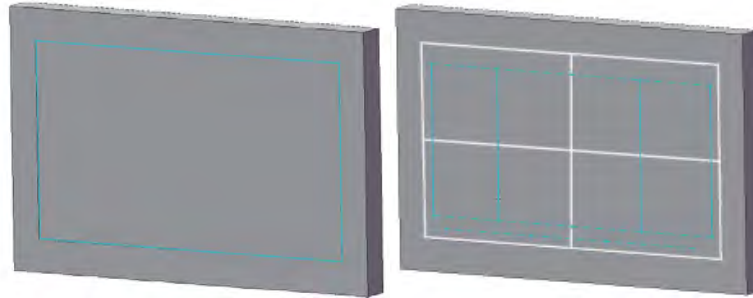
3. Install the mounting blocks.

    a. Place a mounting pole onto the bottom left of the display area.

    b. Fix a pole to the support structure using screws.

Christie recommends using these four mounting holes.
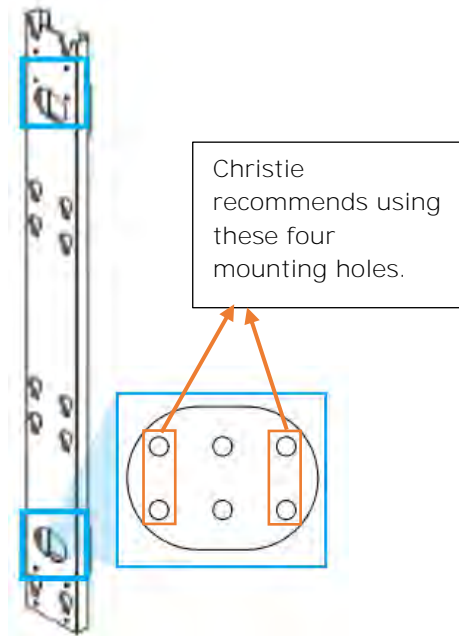
    c. Assemble a mounting template to the second mounting pole and place the assembly next to the one already fixed.
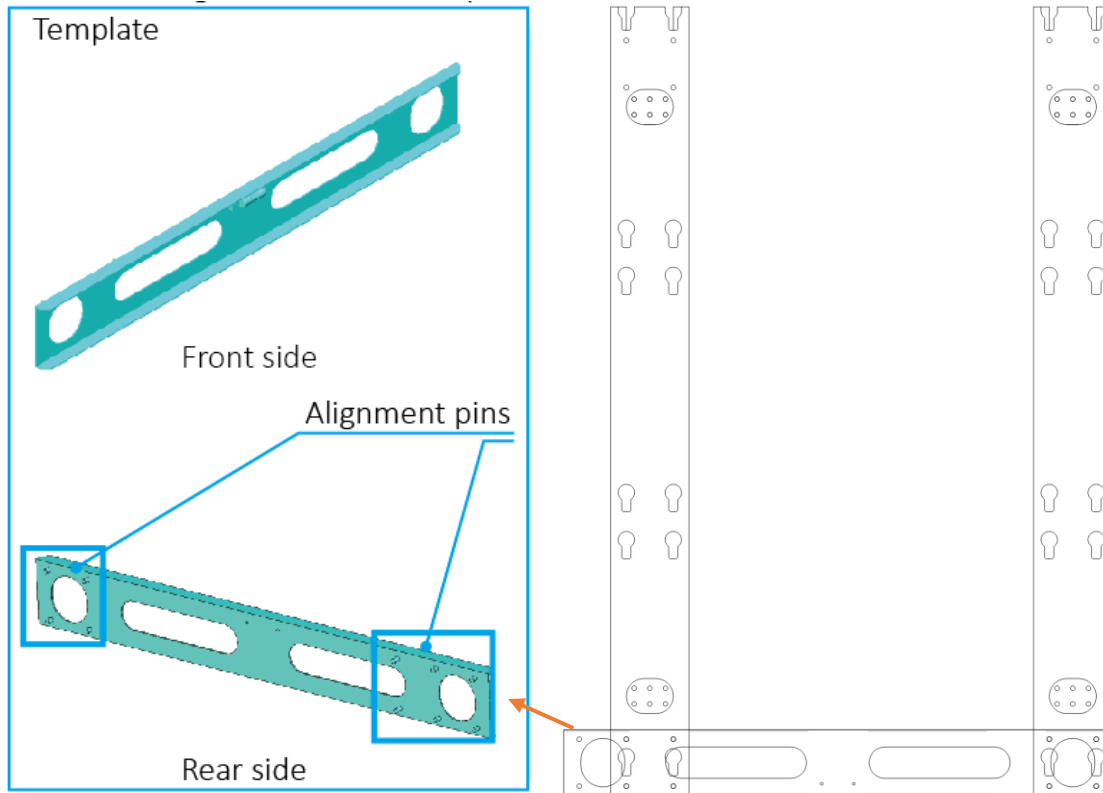
d. Orient the assembly by inserting the alignment pins to the pole already fixed.

e. Fix the bar to the support structure using screws referred in Step b.

4. Remove the template from the mounting blocks.

5. Install the remaining mounting poles by repeating step 3.

6. Install the remaining mounting poles from left to right, from bottom to top.

a. Mount two poles in top each of the bottom one at the same time.

b. Use the template to align the poles.

c. Fix the top poles to the support structure using screws.

d. Remove the template for future use.
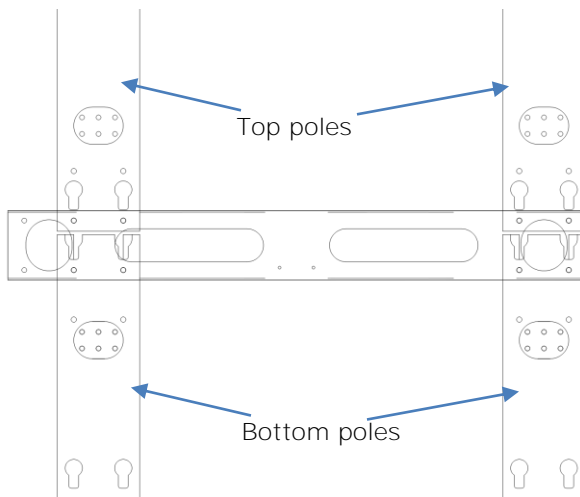
For the poles on the two side
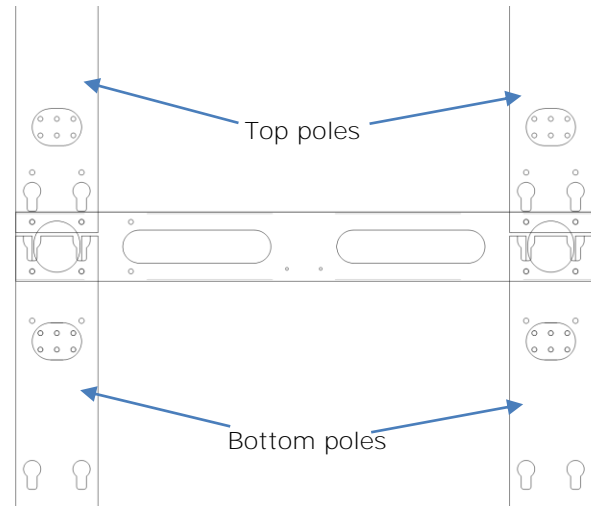
For the poles on the middle position

Mounting the tiles

Install the tiles in the array row by row. Do not attempt to construct the array column by column.

> **Warning!** If not avoided, the following could result in death or serious injury.
> - External support for a display wall must be designed and implemented by a Christie qualified installer and must comply with local area regulations and safety standards.
> - All display walls must have permanent external supports. The amount of external support required depends on the size of the display wall.
> - A minimum of two people or appropriately rated lift equipment is required to safely lift, install, or move the product.

1. If present, remove the metal plates that cover all the external pass-through holes in the tile chassis, including the plate surrounding the power and data ports.
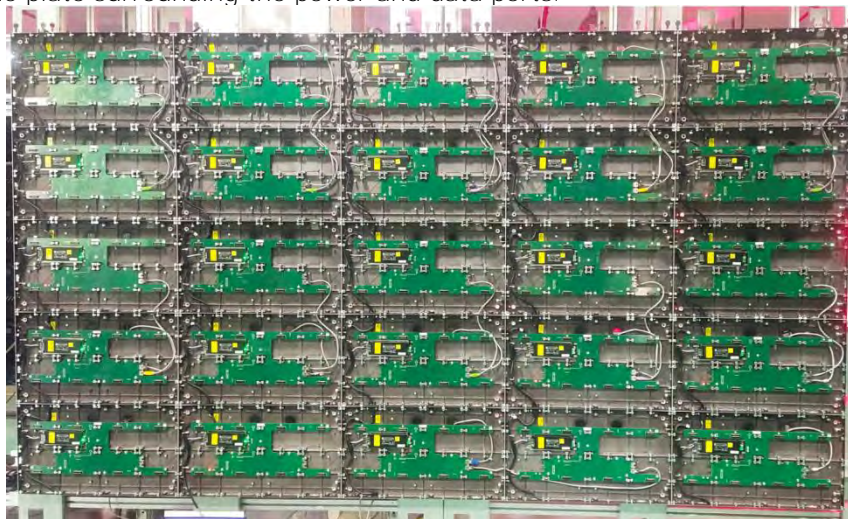
2. Attach the first tile in the center of the bottom row to the mounting pads in the four mounting points. Ensure the M6 screws have at least three full thread engaged into the tile.

3. To install the second tile in the row, repeat steps 1 to 2.

4. Adjust the spacing between the tiles and ensure **a minimal gap exists** between the LED modules of each tile.
   To determine if adjustments are needed between the chassis, or to see how close the LED modules are, it may be necessary to install and remove the LED modules multiple times.
   If the surface edges of the LED modules are not smooth, adjust the tightness of the fixing screw attaching the chassis to the mounting pads. Loosen the adjustment screw before tighten the fixing screw that compresses the spring and then presses the tile chassis against the wall more closely.

5. Repeat steps 1 to 4 for all the remaining tiles in the bottom row.

6. After the bottom row is installed and the gaps are adjusted, repeat steps 1 to 5 for the remaining rows.

Connecting the data source cables

1. Connect the data cables between the tiles in the array.
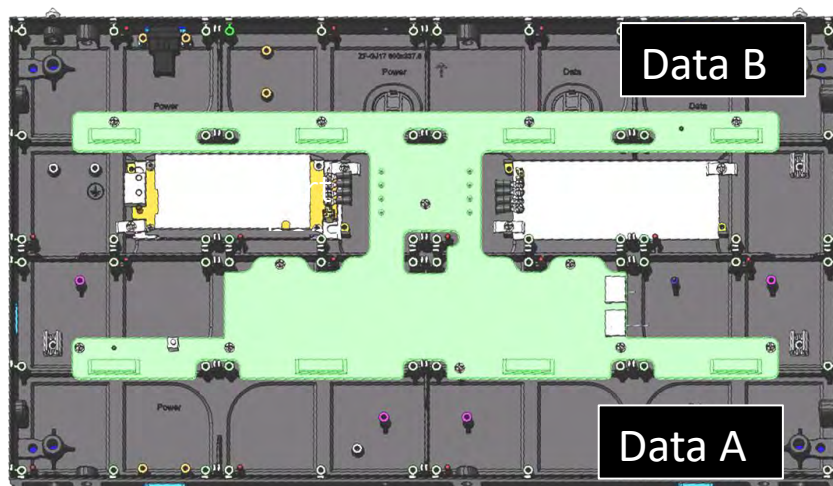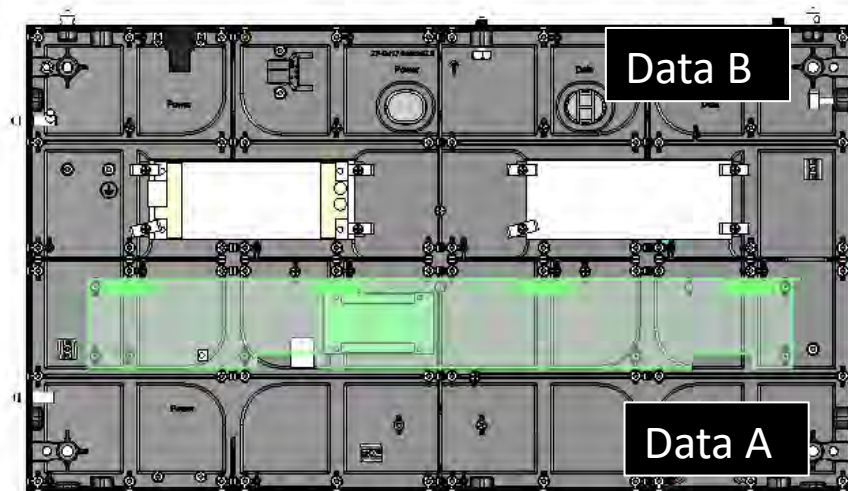
2. Connect an Ethernet cable from the first tile in the array to the controller.

Connecting the power cables

Connect the power cables between the tiles in the array, column by column.

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

- SHOCK HAZARD! The line cord has a maximum power carrying capability. For the maximum number of tiles that may be connected per daisy chain when connecting to the power supply, refer to the product specifications.

1. Connect the power cable to the next tile in the array.
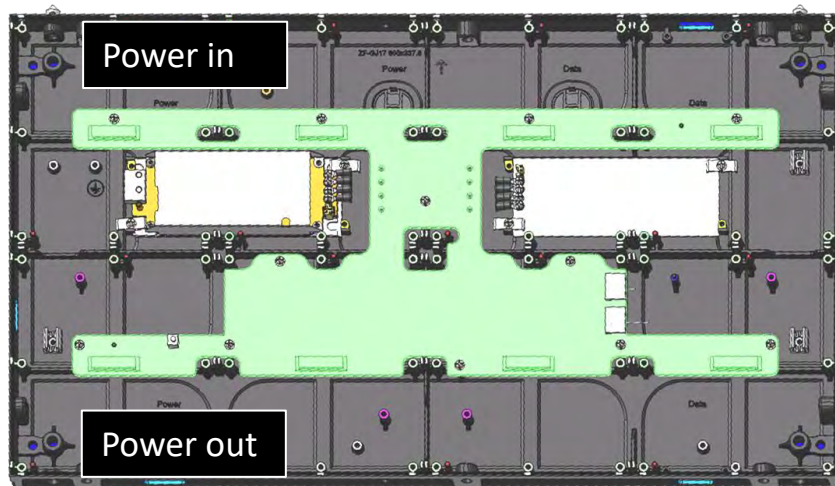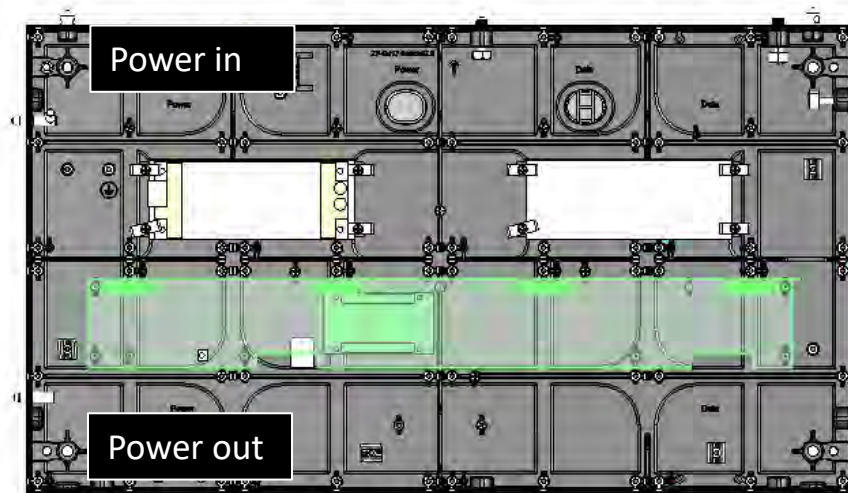
2. Connect the cabinet power cable to the wall outlet.

Installing the LED modules

The following steps use the small LED module as an example.

1. For the LED modules are distinctive for installing in the left/right of a tile.
    Check the sticker on each LED module and install the LED module by orders.

0012-A1	0012-A2	0012-A3	0012-A4
0012-B1	0012-B2	0012-B3	0012-B4

BIN: D21JO1OS1KO1 Made in China
P/N: 1200000326   0012 - B3
S/N: DC2200092 221022   P00095
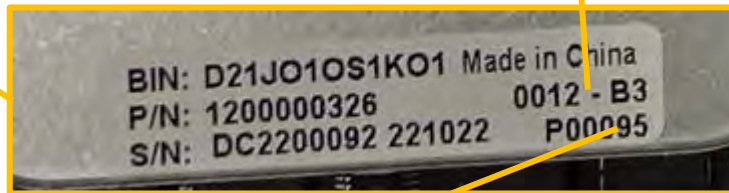
253590P00000090	2022/11/21 11:47	Data Base File	1,031 KB
253590P00000091	2022/11/21 11:47	Data Base File	1,031 KB
253590P00000092	2022/11/21 11:47	Data Base File	1,031 KB
253590P00000093	2022/11/21 11:47	Data Base File	1,031 KB
253590P00000094	2022/11/21 11:47	Data Base File	1,031 KB
253590P00000095	2022/11/21 11:47	Data Base File	1,031 KB
253590P00000096	2022/11/21 11:47	Data Base File	1,031 KB
253590P00000097	2022/11/21 11:48	Data Base File	1,031 KB
253590P00000098	2022/11/21 11:48	Data Base File	1,031 KB
253590P00000099	2022/11/21 11:48	Data Base File	1,031 KB
253590P00000100	2022/11/21 11:48	Data Base File	1,031 KB
253590P00000101	2022/11/21 11:48	Data Base File	1,031 KB
253590P00000102	2022/11/21 11:48	Data Base File	1,031 KB
253590P00000103	2022/11/21 11:48	Data Base File	1,031 KB
253590P00000104	2022/11/21 11:48	Data Base File	1,031 KB
253590P00000105	2022/11/21 11:48	Data Base File	1,031 KB
253590P00000106	2022/11/21 11:48	Data Base File	1,031 KB
253590P00000107	2022/11/21 11:48	Data Base File	1,031 KB
253590P00000108	2022/11/21 11:48	Data Base File	1,031 KB
253590P00000109	2022/11/21 11:48	Data Base File	1,031 KB
253590P00000110	2022/11/21 11:48	Data Base File	1,031 KB
253590P00000111	2022/11/21 11:48	Data Base File	1,031 KB

The meaning of the numbers on the sticker above is shown below.

BIN: Tube type
P/N: Module material code
S/N: Order No. + Date
0012-B3: Cabinet No.-Module No.
P00095: module file serial No.
253590P00000095: .db file name (Photometry data file):
OP No.+module file serial No.

2. Line up the LED module with the alignment pins in the alignment recesses, ensuring the arrow on the back of the LED module is pointing up.

Arrow

Alignment recesses
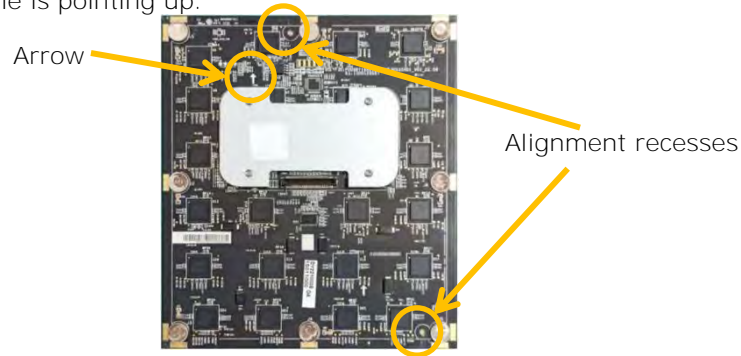
3. Set the LED module into place on the alignment recesses.
   If the LED module does not fit back into place or there is a gap between the LED modules of two tiles, adjust the spacing between the tiles.

Alignment pins
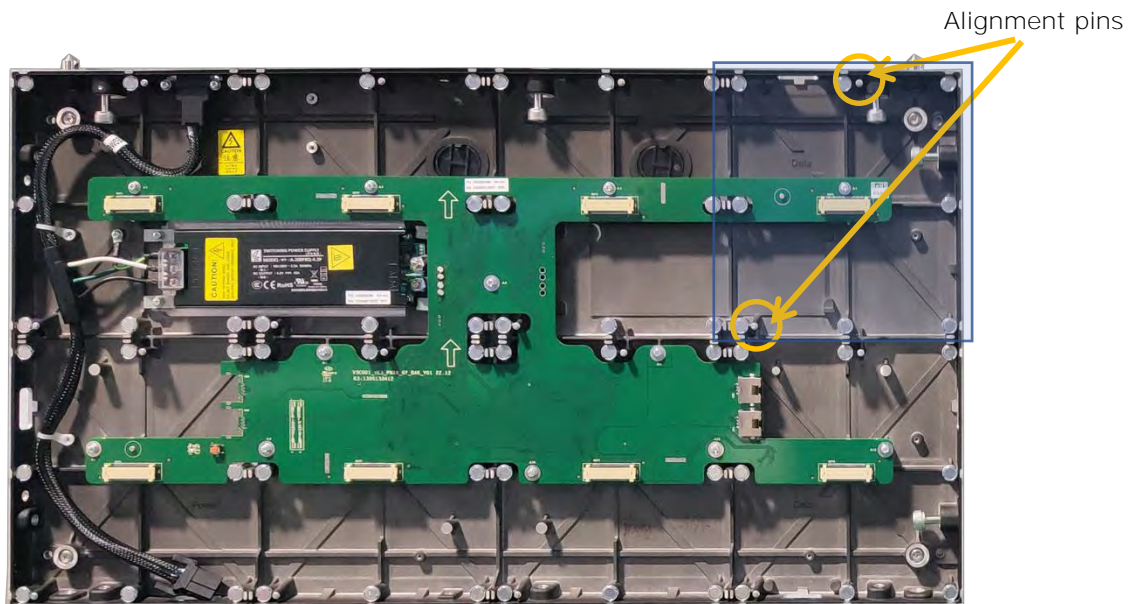
Powering on the array

Turn on each component in the array in the order below.

1. Start the computer that is the video source.

2. Plug the tiles into the wall.

3. Turn on the controller.

    a. On the rear of the controller, turn the power switch to On.

    b. On the front of the controller, select **Power**.

Powering off the array

Turn off each component in the array in the order below.

1. Start the computer that is the video source.

2. Plug the tiles into the wall.

3. Turn on the controller.

    a. On the rear of the controller, turn the power switch to On.

    b. On the front of the controller, select **Power**.

Connecting to video sources

An LED array requires a controller to display content on the tiles.

1. Connect the data cable from the first tile in the array to the controller.

2. Connect the HDMI or DVI output from the video source (computer or media player) to the appropriate input port on the controller.
   The E600 controller behaves as two independent controllers, displaying 3840x2160 pixels at 30 Hz with each virtual controller. The images of both DVI1 and DVI2 input sources can be displayed on the tiles simultaneously but the inputs must be configured independently.
   DVI1 corresponds to Ethernet ports 1 to 8 and DVI2 corresponds to Ethernet ports 9 to 16.

3. Power on the array.
   After the controller is connected and powered up, the video content is available as long as the video source is connected.

Configuring the E510 controller

After installing the tiles and connecting all cables, complete the E510 controller initial configuration. For additional configuration settings, see the *E510 User Guide* (*P/N: 020-102222-XX*).

Installing the Christie controller software

The Christie controller software controls the configuration of the array.

1. On the Christie website, navigate to the E510 product page.
2. Switch to the Downloads tab and select Software Downloads.
3. Download and unzip the Christie controller Software zip file.
4. Double-click the `Christie Controller Software Setup <version>.exe` file and follow the on-screen instructions and install the Christie controller software.

Logging into the controller software

To access the configuration features of the controller software, log into the system.

1. Ensure the computer running the controller software is on the same network at the controller.
2. Connect a USB cable between the controller and the computer running the controller software.
3. Launch the controller software and log in as the administrator.
   a. Select User > Advanced User Login.
   b. Enter the password `admin`.

Setting the output mode

Ensure the E510 controller is configured to use the correct output mode.

When the incorrect output mode is selected, the tiles are not recognized by the controller.

1. On the front of the controller, press the menu dial.
   When using the menu dial, rotate the dial to move through the items in the menu. To select a menu item or to set a value, push in the menu dial.
   To return to the previous menu, select the button to the bottom right of the menu dial.
2. Select Screen Settings > Output Modes > Ports.
   Use SerDes mode when connecting over RS232.

Adjusting the initial picture coordinates

Adjust the initial coordinates of the pictures on the screen.

1. On the front of the controller, press the menu dial.
   When using the menu dial, rotate the dial to move through the items in the menu. To select a menu item or to set a value, push in the menu dial.
   To return to the previous menu, select the button to the bottom right of the menu dial.

2. Select Advanced Settings > Image Offset.

3. Select Start X and push the menu dial.

4. Rotate the dial and set the horizontal offset.

5. Select Start Y and push the menu dial.

6. Rotate the dial and set the vertical offset.

Testing the communication between the controller and tiles

Verify the array is connected to and recognized by the E510 controller.

1. Connect the USB cable between the controller and the computer running the E510 controller software.

2. Launch the E510 controller software and log in as the administrator.

   a. Select User > Advanced User Login.

   b. Enter the password admin.

3. To confirm the display is connected to and recognized by the controller, in the Local System Info area, ensure Control System has a value of 1.
   If the controller is not recognizing the tiles, select System > Reconnect.

4. If the Monitor Information area reports that there is no screen, verify that the output mode is set to Ports and in the E510 controller software select System > Reconnect.

5. Switch to the Screen Control tab.

6. To confirm the controller is communicating with all tiles, select a color from the Self Test list and select Send.
   If the controller is communicating with all the tiles, each display changes to the selected color.

7. Reset the Self Test to Normal and select Send.

8. Close the Screen Control dialog.

Reviewing the tile configuration

Review the tile configuration reported in the E510 controller software.

1. In the E510 controller software, select Screen Configuration.

2. Select Configure Screen and select Next.

3. Switch to the Screen Connection tab.

4. Select Read from HW.

5. Review the configuration of the tiles in the array, and modify as needed.
The cable layout for the tiles in the array is identified with an S where the first cable starts, and the green line shows the path of the daisy chain of cables. E identifies the end of the daisy chain.

Setting the input resolution

Set the resolution for the home page display of interface, which must be consistent with the output resolution of the video source.

1. Log into the E510 controller software.

2. Select Screen Configuration.

3. Select Configure Screen and select Next.

4. Switch to the Sending Card tab.

5. In the Set the Sending Card Display Mode section, select the resolution of the video source from the Resolution list.

Tile	Native resolution
LED009	640x360
LED012	480x270
LED015	384x216
LED018	320x180
LED025	240x135

6. Select Save.

Locking and unlocking the controller

Disable the ability to navigate the menu and modify the settings from the front of the controller.

1. To disable access to the controller menu, press and hold the menu dial and back button until the controller screen flashes.

2. To re-enable access to the controller menu, press and hold the menu dial and back button for approximately 15 seconds.

3. Test if the controller is unlocked by using the menu dial to navigate the menu.
If the controller is still locked, press and hold the menu dial and back button for a longer period of time.

Upgrading the firmware on the E510 controller

When a new version of the software is released, the E510 controller must be upgraded.

1. Download the firmware file to a computer connected to the controller for the upgrade or to a USB key.

2. Unzip the downloaded firmware file.

3. Connect an HDMI or Ethernet cable between the computer running the controller software and the controller.

4. Launch the E510 controller software and log in as the administrator.

    a. Select User > Advanced User Login.

    b. Enter the password admin.

5. In the blank area beside the Monitoring icon, right-click and enter 666888.

6. In the Program Path area, browse to the location of the unzipped download, and select the firmware upgrade folder.

7. Select Update.

8. In the confirmation message, select Yes.
   As the firmware upgrade is installed, the controller screen and controller software both display a progress indicator. After the upgrade is complete, the controller reboots.

9. To verify the upgrade was successful, in the top left corner of the controller display verify the version number displayed is 1.0.5.9.

Configuring the E600 controller

After installing the tiles and connecting all cables, complete the E600 controller initial configuration. For additional configuration settings, refer to *E600 User Guide (P/N: 020-102717-XX)*.

Installing/Accessing the E600 controller software

The E600 controller software controls the configuration of the array.

1. On the Christie website, navigate to the E600 product page.

2. Switch to the Downloads tab and select Software Downloads.

3. Download and unzip the Christie LED Control Unit E600 Software zip file.

4. Double-click the `Christie Controller Software Setup <version>.exe` file and follow the on-screen instructions and install the E600 controller software.

Logging into the controller software

To access the configuration features of the controller software, log into the system.

1. Ensure the computer running the controller software is on the same network at the controller.

2. Connect a USB cable between the controller and the computer running the controller software.

3. Launch the controller software and log in as the administrator.

   a. Select User > Advanced User Login.

   b. Enter the password admin.

Adjusting the initial picture coordinates

Adjust the initial coordinates of the pictures on the screen.

1. On the front of the controller, press the menu dial.
   When using the menu dial, rotate the dial to move through the items in the menu. To select a menu item or to set a value, push in the menu dial.
   To return to the previous menu, select the button to the bottom right of the menu dial.

2. Select Advanced Settings > Image Offset.

3. Select Start X and push the menu dial.

4. Rotate the dial and set the horizontal offset.

5. Select Start Y and push the menu dial.

6. Rotate the dial and set the vertical offset.

Testing the communication between the controller and tiles

Verify the array is connected to and recognized by the E600 controller.

1. Connect the USB cable between the controller and the computer running the E600 controller software.

2. Launch the E600 controller software and log in as the administrator.

   a. Select User > Advanced User Login.

   b. Enter the password admin.

3. To confirm the display is connected to and recognized by the controller, in the Local System Info area, ensure Control System has a value of 1.
   If the controller is not recognizing the tiles, select System > Reconnect.

4. Select Screen Control.

5. To confirm the controller is communicating with all tiles, select a color from the Self Test list and select Send.
   If the controller is communicating with all the tiles, each display changes to the selected color.

6. Reset the Self Test to Normal and select Send.

7. Select Close.

Reviewing the tile configuration

Review the tile configuration reported in the E600 controller software.

1. Connect a USB cable between the controller and the computer running the controller software.

2. Launch the controller software and log in as the administrator.

   a. Select User > Advanced User Login.

   b. Enter the password admin.

3. Select Screen Configuration.

4. Select Configure Screen and select Next.

5. Switch to the Screen Connection tab.

6. Select Read from HW.

7. Review the configuration of the tiles in the array, and modify as needed.
   The cable layout for the tiles in the array is identified with an S where the first cable starts, and the green line shows the path of the daisy chain of cables. E identifies the end of the daisy chain.

Setting the input resolution

Set the resolution for the home page display of interface, which must be consistent with the output resolution of the video source.

1. Connect a USB cable between the controller and the computer running the controller software.

2. Launch the controller software and log in as the administrator.

   a. Select User > Advanced User Login.

   b. Enter the password admin.

3. Select Screen Configuration.

4. Select Configure Screen and select Next.

5. Switch to the Sending Card tab.

6. In the Set the Sending Card Display Mode section, select the resolution of the video source from the Resolution list.

Tile	Native resolution
LED009	640x360
LED012	480x270
LED015	384x216
LED018	320x180
LED025	240x135

7. Select Set.

8. Select Save.

Locking and unlocking the controller

Disable the ability to navigate the menu and modify the settings from the front of the controller.

1. To disable access to the controller menu, press and hold the menu dial and back button until the controller screen flashes.

2. To re-enable access to the controller menu, press and hold the menu dial and back button for approximately 15 seconds.

3. Test if the controller is unlocked by using the menu dial to navigate the menu.
   If the controller is still locked, press and hold the menu dial and back button for a longer period of time.

Upgrading the firmware on the E600 controller

When a new version of the software is released, the E600 controller must be upgraded.

1. Download the firmware file to a computer connected to the controller for the upgrade or to a USB key.

2. Unzip the downloaded firmware file.

3. Connect an HDMI or Ethernet cable between the computer running the controller software and the controller.

4. Launch the E600 controller software and log in as the administrator.

   a. Select User > Advanced User Login.

   b. Enter the password admin.

5. In the blank area beside the Monitoring icon, right-click and enter 666888.

6. In the Program Path area, browse to the location of the unzipped download and select the firmware upgrade folder.

7. Select Update.

8. In the confirmation message, select Yes.
   As the firmware upgrade is installed, the controller screen and controller software both display a progress indicator. After the upgrade is complete, the controller reboots.

To verify the upgrade was successful, in the top left corner of the controller display verify the version number displayed is 1.0.5.9.

Maintaining the LED panels

Learn the information and procedures for performing maintenance on the Core (Internal Power) LED Display System.

Cleaning the LED panels

Learn how to clean the CoreIII CorePlus (Internal Power) LED Display System panel.

🛈 Notice. If not avoided, the following could result in property damage.
  - Always wear clean, lint-free gloves when handling the product.

To avoid the risk of damaging the LEDs, clean the panel only if absolutely necessary.

1. To clean the LED panels use a dry, clean, or a paint brush to remove any particles.

2. To remove loose particles between the LEDs, use filtered compressed air.
   Ensure the air compressor does not spray oil or condensation.

Do not use the following products when cleaning the panels:

- Compressed air cans

- Liquids

- Abrasive cloths

Taking out of an LED Module

Remove the LED modules using the removal tool.

1. Place the one end of the removal tool against the LED module.

2. Slowly attach the other end of the removal tool to the LED module.

3. Pull the LED modules vertically off the tile.

Regulatory

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

Safety

- cTUVus per UL 60950-1 - Information Technology Equipment – Safety – Part 1: General Requirements
- IEC 60950-1 IEC/EN 60950-1 - Information Technology Equipment – Safety – Part 1: General Requirements
- EN 60950-1
- IEC 62471-1 - Photobiological safety of lamps and lamp systems

Electro-magnetic compatibility

Emissions

- FCC CFR47, Part 15, Subpart B, Class A - Unintentional Radiators
- CAN ICES-003 (A)/NMB-003 (A) - Information Technology Equipment (In Apparatus) - Limits and Methods of Measurement
- CISPR 32/EN 55032, Class A
- IEC 61000-3-2/EN61000-3-2: Limits for Harmonic Current Emissions

Immunity

- IEC 61000-3-3/EN61000-3-3
- IEC/EN61000
- IEC 61000-4-2/EN61000-4-2
- IEC 61000-4-3/EN61000-4-3
- IEC 61000-4-4/EN61000-4-4
- IEC 61000-4-5/EN61000-4-5
- IEC 61000-4-6/EN61000-4-6
- IEC 61000-4-8/EN61000-4-8
- IEC 61000-4-11/EN61000-4-11