

Christie FHD461-X

Christie FHD552-X

Christie FHD551-XG

Technical Frequently Asked Questions
(FAQs)

This version: July 31, 2014

Specifications subject to change without notice.

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FAQs

1 Models

1.1 What is the difference between the models?

Christie offers three ultra-narrow bezel flat panels that are ideal for creating near-seamless tiled video walls. All the flat panels are suitable for commercial use, designed to the highest standards and offer stunning image quality. The following table of specifications outlines key differences between the three models:

	FHD461-X	FHD552-X	FHD551-XG
Brightness	700 nits	500 nits	630 nits
Bezel size	5.3mm	3.5mm	5.5mm
Bonding	None	None	Optically bonded Corning® Gorilla® Glass
Width	1023.8mm / 40.31"	1213.4mm / 47.78"	1215.5mm / 47.85"
Height	578.4mm / 22.77"	684.2mm / 26.94"	686.3mm / 27.02"
Depth	78.2mm / 3.08"	81.1mm / 3.19"	111.3mm / 4.38"
Weight	23kg / 51lb	33kg / 73lb	41kg / 90lb
Maximum power	170W	240W	275W

1.2 Which of the models is right for my application?

FHD551-XG is optically bonded using Corning® Gorilla® Glass. It is higher brightness than the FHD552-X, and is ideal for interactive touch screens or public displays.

FHD552-X offers the tightest combined bezels at a mere 3.5mm. It is a very economical tiled display option for control rooms and other indoor spaces with controlled lighting.

FHD461-X offers a smaller display size for more flexible design layouts. It is the best combination of high brightness with affordability, and boasts the best power efficiency and shallowest depth in its class.

2 Optical bonding

2.1 Is there a bonded version of the FHD461-X available?

Not at this time.

2.2 What is optical bonding?

Optical bonding describes the process of gluing a transparent layer of glass onto a display surface using a transparent adhesive in order to protect and improve the durability of the display.

2.3 Why not just install a discrete layer of glass in front of the display?

Optical bonding offers several benefits when compared with installing a discrete layer of glass in front of the display. Benefits include:

- Lower internal and surface reflections, resulting in less glare, higher contrast and a more readable display – especially in high ambient light environments
- Reduced parallax (where the apparent position of each pixel shifts significantly depending on line of sight), resulting in a much more usable touch surface when combined with optical touch technologies such as the Christie Interactivity Kit
- No risk of dust or moisture build up in between the LCD panel and the protective layer
- Simple to order and integrate – no custom mounting enclosure required for the protective layer
- Installation and quality inspection of the protective layer is conducted in a controlled factory, rather than on site

2.4 When should I choose FHD551-XG?

FHD551-XG should be considered whenever there is a strong likelihood of repeated or modest pressure being applied to the display surface as follows:

Application category (indoors)	FHD552-X (no protection)	FHD551-XG (with optically bonded Corning® Gorilla® Glass)
No contact with the display is expected.	✓	✓*Note
Modest contact with the display is expected. For instance: touch screens or high traffic public venues (lobbies, concourses etc.), provided there is no excessive force such as people or objects hitting the display.	✗	✓
Substantial abuse of the display is expected, such as sports balls hitting the display or similarly forceful impacts.	✗	✗

* Note: Even when minimal or no contact is expected, customers may prefer the Christie FHD551-XG when image quality is of paramount importance. With Corning® Gorilla® Glass, the Christie FHD551-XG provides exceptional image clarity.

2.5 What is unique about the Christie FHD551-XG panel?

With a stunning layer of Corning® Gorilla® Glass for premium image quality and enhanced durability, the Christie FHD551-XG achieves two industry firsts in the 55” video wall format:

- The first to offer Corning® Gorilla® Glass
- The first to achieve optical bonding without growing the bezel size

2.6 What is Corning® Gorilla® Glass?

Corning® Gorilla® Glass is a very thin, lightweight and damage-resistant form of glass used in many of the world’s most popular smart phones and tablets.

2.7 Will the bonded glass between two adjacent panels touch?

No, the bonded glass layer is slightly smaller than the LCD module. In a standard installation, the glass edges will not touch.

3 Size and physical installation

3.1 What mounting options are available from Christie?

Christies provides two front access wall mounts, the ML10 for landscape orientation and the MP10 for portrait orientation. The mount design allows the cabling and controls behind each panel to be accessed without the disassembly of the video wall. The same mounts are compatible with both 46” and 55” panels. When mounted directly to a wall, use Christie-supplied spacer kits to position and align each mount relative to the others. Spacer kits for 46” and 55” panels are available.

A frame and pedestal structural solution, ideal for control rooms, is also available from Christie. In this solution, each wall mount is attached to a stackable frame, and each frame in the bottom row sits on a pedestal. Note: When using the pedestal and frame, additional hardware for tip resistance must be used. Refer to question 3.10 below for more details.

All panels utilize standard VESA mounting hole patterns, making them compatible with most third party mounting solutions. See below for information on third party thin profile mounts.

For more information on how to install and mount an array of panels, including technical drawings of the frame and pedestal solution, refer to the User Manual and related downloads available at www.christiedigital.com

3.2 Can the panels be mounted under 4" from the wall?

Yes, both FHD461-X and FHD552-X can be installed under 4" using a thin profile mount from a third party, such as the Peerless DS-VW650. This may be useful to meet regulations such as the ADA (Americans with Disabilities Act), see below for details.

Please contact Peerless directly for more details about this mounting solution, including pricing and ordering information, at <http://www.peerless-av.com/>

3.3 Should I use a quick access mount or a thin profile mount?

The quick access mount supplied by Christie allows for maximum alignment precision and easiest servicing from the front. This makes it ideally suited for larger video walls and installations where precise alignment and quick servicing are critical.

Thin profile mounts supplied by third parties typically do not have as precise alignment capabilities, and may require removal of adjacent panels in order to reach a panel that is not on the top row. For these reasons, thin profile mounts are better suited for smaller video walls, such as a 2x2 or 3x3 size.

3.4 Are the panels ADA compliant?

The ADA (Americans with Disabilities Act) sets standards in the USA for the construction of accessible public facilities. These standards may dictate the way that a flat panel is installed and used in a space. For example, the 2010 ADA Standards for Accessible Design states that:

307.2 Protrusion Limits. Objects with leading edges more than 27 inches (685 mm) and not more than 80 inches (2030 mm) above the finish floor or ground shall protrude 4 inches (100 mm) maximum horizontally into the circulation path.

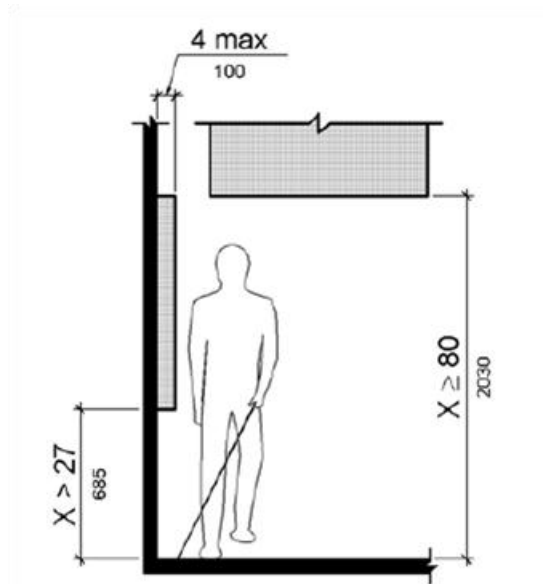


Figure 307.2
Limits of Protruding Objects

Obviously, it may be relatively easier to meet these regulations with a flat panel that is thinner than its competition. To this extent, the Christie FHD461-X and FHD552-X are well suited for installations requiring ADA compliance (see previous section).

3.5 What is the maximum height and width of a tiled LCD display?

Using Christie-supplied frames and pedestals: The 55" panels can be installed up to six panels high with the mounting, frame and pedestal solutions provided by Christie. The frames and pedestals are not available for the 46" panel.

Using Christie-supplied wall mounts: For practical reasons, it is not recommended to wall mount arrays larger than five high, as the cooling and alignment become more challenging as the array size grows.

There is no practical restriction on the width of a display, however, alignment becomes more challenging as the array grows.

3.6 How do you remove a panel that is surrounded by other panels?

Each ML10 and MP10 mount has two latches that can be accessed from above or below. By pulling upwards on these latches, the mount can be pulled forwards and the panel accessed for servicing. To avoid damaging the LCD panel always release both latches at the same time and move the panel forwards evenly. If the latches cannot be reached, such as when a panel is surrounded by other panels, first release the panels either above or below it.

Thin profile mounts supplied by third parties typically require each panel in a column to be fully removed, starting from the top down, in order to access a panel in the bottom row.

3.7 How much room should I leave at the back for airflow?

When using the ML10 or MP10 mount available from Christie, this ensures a minimum distance of 79mm (3.1”) between the back of the panel and the wall. This distance is adequate so long as suitable airflow is provided to maintain the ambient temperature behind the panels below 40°C. Typically, cooling requirements increase as the height of the array increases.

3.8 Can the panels be mounted in portrait orientation?

Yes. A portrait mount is available, model MP10.

3.9 Can the panels be mounted facing up or down, or tilted at an angle?

The panels have been designed and tested for upright orientation only, either landscape or portrait. Downwards, upwards and tilted orientations are not covered under warranty. Mounting in a downwards facing or tilted orientation is a safety hazard due to the super narrow bezel. Mounting in an upwards facing orientation may result in sagging or mura defects over time, and has not been considered in the thermal design of the product.

3.10 Is the frame and pedestal structural solution self-supporting?

The frame and pedestal solution provided by Christie is designed to bear the weight of the structure and panels. However, the structure must be secured to prevent tipping, either by tethering to the wall or the floor. Either use the rear tie points on the array or bolt the pedestal into the ground. Ensure that you provide adequate stability in the event that all panels are extended forward during assembly or servicing.

4 Resolution and playback

4.1 Can a single video signal be stretched across multiple panels?

Yes. A DVI source can be stretched across a maximum of 9 panels and a VGA or composite source can be stretched across a maximum of 4 panels. For a DVI source, the maximum matrix dimensions are 3 wide by 3 high and for a VGA or composite source the maximum dimensions are 2 wide by 2 high. A DVI/VGA splitter may be used to distribute the video signal to support larger video wall configurations.

Please note that the three video output connectors – DVI, VGA and composite – will only repeat the source that is connected to their matching input connectors. For instance, the DVI output

repeats the video signal that is connected to the DVI input. If necessary, video adapters may be used to convert an input signal into the required connection type, e.g., HDMI to DVI.

4.2 Can an HDCP source be stretched across multiple panels?

Yes, the panels support stretching HDCP content across multiple panels through daisy chaining the DVI connections, with the same limitations outlined in question 4.1 above.

Due to the challenges in exchanging unique HDCP keys across multiple panels, many manufacturers do not support this feature. Instead, some manufacturers block HDCP content from being passed from one panel to another, thereby relying upon a front-end video processor to split up the HDCP content into separate input channels, while others pass unencrypted content from one panel to another in breach of HDCP rules.

4.3 Does the panel support Picture-in-Picture mode?

Yes. Users can configure the size and position of PIP windows, as well as the source.

4.4 What is the panel refresh rate?

50/60 Hz.

4.5 What is the panel response time?

8 ms.

4.6 What timings are supported by the panel?

Please refer to the back of the user manual for a complete table showing supported timings.

5 Control and calibration

5.1 How many panels can be connected in one loop for control purposes?

Up to 25 panels can be controlled as a single array. Connect panels together using the RS485 inputs and outputs. Commonly available CAT5 cable may be used for the RS485 connections.

5.2 What interfaces can be used to control the display?

There are two interfaces: the OSD and the serial command interface.

The OSD can be accessed by connecting an IR receiver to one of the panels and pointing the IR remote at the receiver (receiver and remote are both supplied). Alternatively, the OSD can be accessed by pressing the control buttons located next to the input/output connectors on the side of the rear panel enclosure.

Serial commands can be sent to a group of up to 25 panels through the RS232 input (see question 5.1 for limitation). Advanced users can send RS232 commands using a computer terminal or third party control panel. For convenience, a Video Wall Toolbox software program is available from Christie which provides access to all controls in a user friendly interface similar to the OSD (see question 5.3 below for more information on the Video Wall Toolbox).

5.3 What is the Video Wall Toolbox software program?

The Video Wall Toolbox is a Windows-based software program that enables you to control up to 25 panels from a separate computer through an RS232 connection to the wall. Through the Toolbox application, all display parameters can be controlled for an individual panel or multiple panels within the video wall. In addition, the application supports an Auto Setup feature, which automatically configures display ID, matrix size and positions for each panel within a single source video wall.

To download the Video Wall Toolbox, visit www.christiedigital.com

In order for the Auto Setup feature to work, all panels must be connected according to the recommended RS485 cabling scheme. Refer to the online User Manual or the Toolbox application for more details.

5.4 What OSD languages are available?

English / Chinese (simplified) / French / German / Italian / Portuguese / Russian / Spanish.

5.5 How do the panels get mapped so that a single source spans multiple panels?

Each panel can be mapped using the OSD or the Video Wall Toolbox. In a simple installation where a single source is being displayed across multiple panels, for instance a DVI source is being spanned across a 3x3 array, the Auto Setup feature in the Video Wall Toolbox will map all the panels for you (see question 5.3 above).

5.6 Can the panels compensate for the small gap between each display area?

Yes. The bezel compensation feature slightly crops the image on each panel for maximum continuity of images that span multiple panels.

5.7 Can the color and brightness of different panels be adjusted across the array?

The user may adjust brightness and RGB gain and offset values on each panel to help match color and brightness across the array. On large arrays, this may be a time consuming process.

5.8 What color temperatures are available?

The user can adjust the color temperature manually, or select from 3200K, 5400K, 6500K, 7500K, 9300K and 9600K. However, the brightness of the panels is lower at warmer color temperatures, due to the higher proportion of the blue wavelength in the LED backlight. This is a fundamental limitation shared by all LED backlit LCD panels on the market today.

6 Power and brightness

6.1 What is the power consumption of the panel?

Refer to panel datasheets for the latest specifications.

6.2 Is there a sleep function to turn off power during a period of inactivity?

Yes, an optional sleep mode is available. The user can select one of five timeout periods between 15 and 120 minutes.

6.3 How can the panel be woken from sleep mode?

When in sleep mode, the panel can be woken through the IR remote, an active VGA signal, or an RS-232 command. In order to restrict power consumption during sleep mode to $\leq 1W$, an active DVI source will not wake the panel.

6.4 Can the panels be programmed to turn on sequentially to minimize power surge on startup?

Yes, the user can program panels to turn on sequentially across a total period of up to 30 seconds.

7 Reliability

7.1 What is the expected lifetime of the panel?

Each component of the panel is long-lasting and reliable. The solid state LED backlight is rated by the manufacturer for 50,000 hours of operation.

Ultimately, when a component needs repairing or replacing, each display unit contains three serviceable parts – power supply, electronics and fan – which can be changed in less than 15 minutes with the panel laying face-down on a flat surface.

7.2 What is the difference between image sticking and burn-in?

If a static image is displayed continuously on an LCD panel for an extended period of time, a faint remnant of the image may be visible on the panel even when a different image is displayed. This is commonly referred to as “image sticking”. Image sticking can be reversed by resting the panel.

If static images are allowed to persist on a panel for much longer periods of time, “burn-in” may occur. Burn-in looks similar to image-sticking, except it permanently damages the panel and cannot be reversed.

Both image sticking and burn-in may be referred to as forms of “image retention”.

7.3 How can I reduce the risk of image retention?

Avoiding static content, and turning off or using power management for 4 hours per day will extend the life of the product and minimize the risk of image retention. In circumstances where a static image must be displayed over long periods of time, activating the Image Retention Frame Motion (IRFM) feature will help to avoid image retention (refer to section 2.3.7).

Refer to the *Flat Panel Operational Guide* for further tips and guidance on this topic.

7.4 How hard is it to damage the bezel or front surface when handling the panel?

Design features in the packaging and the panel have been included to minimize the risk of damage. Even so, the small size of the bezel, which is essential in order to achieve minimal image-to-image gaps, means that there is reduced protection of the LCD glass and components around its perimeter. Dropping the panel or applying unnecessary force to the sides of the bezel will result in permanent damage. Consequently, only trained technical staff should handle the product, and proper care must be taken to follow the unpacking, handling, assembly and servicing instructions provided online at www.christiedigital.com and in the box.

The FHD551-XG panel includes an optically bonded layer of Corning® Gorilla® Glass. This provides protection to the front of the panel for applications such as touch screens or public venues. However, during setup and servicing the same level of care is required to avoid damaging the sides of the panel, due to its very small bezels.

For unpacking, handling, mounting and servicing instructions, visit www.christiedigital.com

7.5 What are the reliability differences between consumer and commercial grade LCDs?

Consumer grade LCD panels are designed to operate for much shorter periods of time, are more prone to burn-in, cannot be mounted in portrait orientation, are lower brightness, have shorter product lifecycles, and are more reflective in well lit environments.