

Christie[®] FHQ841-T, QuadHD84 and QuadHD84-P

Technical Frequently Asked Questions (FAQs)

This version: September 2, 2014

Specifications subject to change without notice.

The latest version of this document is maintained at www.christiedigital.com

All brand names and product names are trademarks, registered trademarks or tradenames of their respective holders. Windows is a registered trademark of Microsoft Corporation in the United States and other countries. Mac is a trademark of Apple Inc., registered in the U.S. and other countries.

CHRISTIE[®]

Index

- 1 Models 3
 - 1.1 What is the difference between each of the 84” models?3
 - 1.2 Which of the 84” models is right for my application?.....3
- 2 Physical installation..... 4
 - 2.1 What mounts can be used with the panels?.....4
 - 2.2 Can the panels be mounted in portrait orientation?4
 - 2.3 Can the panels be mounted under 4” from the wall?.....4
 - 2.4 Are the panels ADA compliant?5
- 3 Resolution and Playback 5
 - 3.1 How do I connect a 3840x2160 @ 60Hz source to the display?5
 - 3.2 How do I frame-lock four HDMI inputs for the QuadHD84 and QuadHD84-P?6
 - 3.3 Can four separate windows of content be displayed in four separate quadrants on the display?6
 - 3.4 Can I use a single HDMI cable?6
 - 3.5 Will DVI work instead of HDMI?.....6
 - 3.6 Is HDMI 2.0 supported?6
 - 3.7 Can I use a single DisplayPort cable?6
 - 3.8 How do I convert to HDMI if my graphics card only has DisplayPort or DVI outputs?7
 - 3.9 Will the panel work with a Christie Spyder processor?7
 - 3.10 Will the panels playback HDCP content?7
 - 3.11 Will the panels playback DCI content?.....7
- 4 Touch (FHQ841-T only) 7
 - 4.1 How does the touch model connect to a computer for touch interactivity?7
 - 4.2 Is the touch model protected with a glass overlay?7
 - 4.3 Is the touch panel HID compliant?7
 - 4.4 Which operating systems are supported, with or without drivers?7
 - 4.5 Does Christie offer any built-in touch applications?8
 - 4.6 Do I have to use my finger or a special stylus to register a touch?.....8
 - 4.7 What is the difference between infrared and optical touch?8
- 5 Reliability..... 8
 - 5.1 What is the expected lifetime of the panel?9
 - 5.2 What is the difference between image sticking and burn-in?9
 - 5.3 Can these panels be operated 24/7?9
 - 5.4 How can I reduce the risk of image retention?9

FAQs

1 Models

1.1 What is the difference between each of the 84" models?

Christie offers three 84" flat panels. All the flat panels are suitable for commercial use, designed to the highest standards and offer stunning 3840x2160 resolution. The following table outlines the major specification differences between the three models.

| | FHQ841-T | QuadHD84 | QuadHD84-P |
|----------------------------|-------------------------------|--------------------------|-----------------------|
| Orientation | Landscape | | Landscape or portrait |
| Brightness | 350 nits | | 500 nits |
| Width | 1987.8 mm / 78.26" | 1919.2mm / 75.56" | 1105.2mm / 43.51" |
| Height | 1172.8 mm / 46.17" | 1105.2mm / 43.51" | 1919.2mm / 75.56" |
| Depth | 106.0mm / 4.17" | 67.0mm / 2.64" | |
| Bezel size | 46.1mm | 25.4mm | |
| Weight | 98kg / 216lb | 74kg / 163lb | |
| Maximum power | 500W | 550W | |
| Standby power | <1W | 3W | |
| Speakers | 2 x10W | 2 x15W | |
| 3840x2160 @ 60Hz | N/A | HDMI x4 | |
| 3840x2160 @ 30Hz | DP, HDMI x2 | HDMI x3 | |
| Other inputs | DVI, VGA | VGA, composite/component | |
| OPS slot | N/A | Yes | |
| USB media playback | N/A | Yes | |
| RS232 control | Yes | | |
| RJ-45 control | N/A | Yes | |
| Touch technology | Infrared 10-point | N/A | |
| Touch surface | Tempered 5mm anti-glare glass | N/A | |
| Touch compatibility | Windows 7/8 | N/A | |

1.2 Which of the 84" models is right for my application?

Each of these panels is well suited for specific applications, as follows:

| | FHQ841-T | QuadHD84 | QuadHD84-P |
|-----------------------------|---|--|--|
| Key features | Stunning 3840x2160 resolution at an affordable price Integrated Windows-compatible multi-touch with durable anti-glare glass | Best-of-class 84" uniformity, colors and detail Slim depth, narrow bezel and lightweight 3840x2160 @ 60Hz for optimal video image quality OPS slot and USB playback | Same as QuadHD84, plus: High brightness and portrait capable, ideal for signage and public environments |
| Bottom line | Affordable large UHD with multi-touch | Ultimate image quality and detail | Big wow factor in a portrait format |
| Typical applications | Meeting rooms, boardrooms, classrooms | Oil and gas, medical, design, visualization, automotive, control rooms, labs | Signage, lobbies, theaters, museums, universities, retail |

2 Physical installation

2.1 What mounts can be used with the panels?

Standard VESA mount can be used. The following table provides the mounting locations and weights of each panel:

| | FHQ841-T | QuadHD84 | QuadHD84-P |
|--|-----------------|-----------------|-------------------------|
| VESA mount locations (width x height) | 600 x 600mm | 600 x 400mm | 400 x 600mm in portrait |
| Weight | 98kg / 216lb | 74kg / 163lb | |

2.2 Can the panels be mounted in portrait orientation?

Only the QuadHD84-P can be mounted in portrait.

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

Because the QuadHD84 and QuadHD84-P panels are so thin, at 67mm (2.64"), it should be possible to mount these panels under 4" from the wall, depending on availability of a thin profile mount from a third party. This may be useful to meet regulations such as the ADA (Americans with Disabilities Act). See below for details.

2.4 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.*

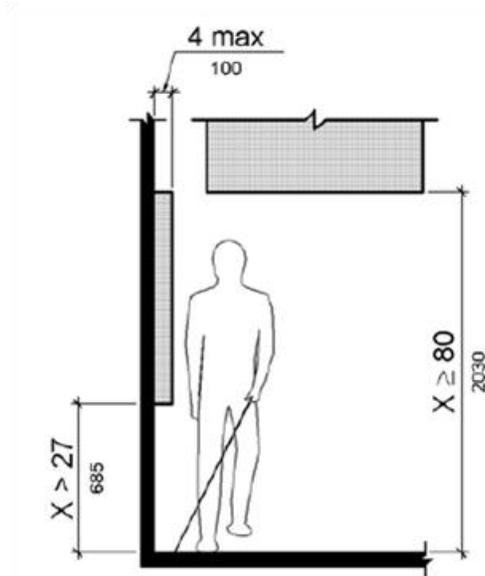


Figure 307.2
Limits of Protruding Objects

Obviously, it may be easier to meet these regulations with a flat panel that is thinner than its competition. To this extent, the Christie QuadHD84 and QuadHD84-P are ideal (see previous section).

3 Resolution and Playback

3.1 How do I connect a 3840x2160 @ 60Hz source to the display?

Unlike most other 84" UHD flat panels, the QuadHD84 and QuadHD84-P support 60Hz refresh rate at their full native resolution of 3840x2160. This requires a source that can supply four synchronized (frame-locked) channels of 1920 x 1080 @ 60Hz video, with each channel supplying

one quadrant of the image. Each channel must be supplied as HDMI, or converted to HDMI, and connected to the four HDMI-QHD60 ports on the panel.

The FHQ841-T does not support 3840x2160 @ 60Hz. However, the FHQ841-T does support 3840x2160 @ 30Hz.

3.2 How do I frame-lock four HDMI inputs for the QuadHD84 and QuadHD84-P?

Frame-lock is accomplished in the computer system or playback server system, via internal or external methods, depending on the source type. Please refer to the source supplier to understand how to configure the source properly to ensure proper frame lock in the source playback system.

3.3 Can four separate windows of content be displayed in four separate quadrants on the display?

Yes, but this requires a front-end processor, such as a Christie JumpStart or Christie Spyder, or a third party solution, to perform the windowing.

When connecting four HDMI sources to the QuadHD84 or QuadHD84-P, these sources must be frame-locked. Simply connecting four discrete sources to the four HDMI-QHD60 ports on these panels will result in visual artifacts on the display and is not supported.

3.4 Can I use a single HDMI cable?

Yes. All panels support a range of resolutions over a single HDMI cable, including 1920x1080 @ 60Hz, and 3840x2160 @ 30Hz.

3.5 Will DVI work instead of HDMI?

Yes. The FHQ841-T includes a DVI input, while HDMI to DVI adapters are required to connect a DVI source to the QuadHD84 and QuadHD84-P.

3.6 Is HDMI 2.0 supported?

No.

3.7 Can I use a single DisplayPort cable?

The FHQ841-T supports a range of resolutions over a single DisplayPort cable, including 1920x1080 @ 60Hz, and 3840x2160 @ 30Hz. The QuadHD84 and QuadHD84-T do not have a DisplayPort input – in these cases, the signal must be converted to HDMI in order to connect to the display.

3.8 How do I convert to HDMI if my graphics card only has DisplayPort or DVI outputs?

The QuadHD84 and QuadHD84-P do not have DisplayPort or DVI inputs. Therefore, an adapter will be required to convert to HDMI. It is the customer's responsibility to confirm that the combination of graphics card or source with HDMI adapter works properly.

3.9 Will the panel work with a Christie Spyder processor?

Yes, the Christie Spyder is compatible with all these panels. Note: To achieve 3840x2160 @ 60Hz on the QuadHD84 and QuadHD84-P, first convert the Spyder DVI outputs to HDMI.

3.10 Will the panels playback HDCP content?

Yes.

3.11 Will the panels playback DCI content?

No.

4 Touch (FHQ841-T only)

4.1 How does the touch model connect to a computer for touch interactivity?

Simply connect a USB cable (provided) from the flat panel to a USB port on a computer.

4.2 Is the touch model protected with a glass overlay?

Yes, the touch model includes a protective layer of 5mm tempered anti-glare glass.

4.3 Is the touch panel HID compliant?

Yes. This means that a connected Windows 7 or 8 computer will automatically detect the panel as a multi-touch digitizer, without installing drivers, in the same way that a USB mouse or keyboard would be detected.

4.4 Which operating systems are supported, with or without drivers?

Windows 8 and Windows 7 Home Premium and above support multi-touch natively, without the need to install drivers. Earlier versions of Windows may offer basic touch support natively, however, these earlier versions are not recommended and have not been validated by Christie.

At this time, Christie has not validated other operating systems. However, the touch technology is designed to work as follows:

- With the supplied drivers, single touch is supported in Mac OS X 10.7.5 (Lion), 10.8.5 (Mountain Lion), and 10.9.1 (Mavericks).

- With the supplied drivers, single touch is supported in several Linux variants, including Ubuntu 10.04 and Linux Fedora 15.

4.5 Does Christie offer any built-in touch applications?

The panel is not shipped with any built-in touch applications. However, with the advent of Windows 8, a growing number of Windows applications now support multi-touch gestures. Simply connect a Windows 8 computer to access these applications.

For a tightly integrated whiteboard solution, Christie recommends Christie Brio. In fact, Christie Brio allows whiteboard sharing and collaboration across multiple touch panels, such as the Christie FHQ841-T.

Christie Brio is a highly flexible, multisite collaboration solution. For more information, please visit www.christiedigital.com

4.6 Do I have to use my finger or a special stylus to register a touch?

No, the touch system will recognize any object.

4.7 What is the difference between infrared and optical touch?

For large flat panels, the most common ways to provide a multi-touch experience is by using either infrared or optical touch technology.

Optical touch technology is a very affordable technology, but with significant functional drawbacks. In a typical configuration, optical involves placing one camera in each of the four corners of the display; as a result, the cost for a large panel is similar to the cost for a small panel. However, cameras require time-consuming alignment, are easily over-saturated with ambient light, and do not provide as accurate or as many simultaneous touch points.

Generally speaking, infrared touch technology provides better performance than optical touch. Infrared involves placing sensors around one or two sides of the display, and LEDs around the other sides; as a result, the cost increases as the size of the display increases. Infrared touch is capable of a much higher accuracy and number of touches than optical, does not require field calibration or alignment, and is better suited for high ambient light conditions – although it is possible to over-saturate the sensors.

5 Reliability

5.1 What is the expected lifetime of the panel?

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

5.2 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”.

5.3 Can these panels be operated 24/7?

No, these panels are designed for a maximum operation of 16 hours per day. Operating the panels for longer than 16 hours per day increases the risk of image retention and will reduce the useful life of the panel.

5.4 How can I reduce the risk of image retention?

Avoiding static content, and turning off or using power management for 8 hours per day will extend the life of the product and minimize the risk of image retention.

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