

Christie LWU501i: High Resolution Conference/Auditorium Projector

Marc Davidson, October 30, 2012
ProjectorCentral.com



Performance



Features



Ease of Use



Value



Intended Use:
Education

Christie LWU501i



3000:1 Contrast Ratio
5000 Lumens
Street Price: n/a

Introduction

As someone once pointed out to me, Christie doesn't make small projectors. The LCD-based **LWU501i** does nothing to challenge that statement. Weighing 19.6 pounds with its standard lens (there are four others to choose from), and measuring 5.8" x 19.6" x 18.7" (HWD), it's definitely meant for permanent installation.

One of the advantages of the large size is that there's plenty of room for connectors, including two HDMI ports and a set of five BNCs (common on professional video equipment). There's also lots of room inside for motors that handle zoom, focus, and both vertical and horizontal lens shift. The projector doesn't skimp on basics either, with a native 1920x1200 resolution, a 5000-lumen brightness rating, and a 2x zoom lens as standard. Other key strengths include excellent data image quality and better video quality than most data projectors.

The one catch is the price, at a hefty \$9,995 list. That's not unreasonably high for this level of capability, however, and government and education discounts are available. If you need this combination of high resolution, brightness, image quality, and conveniences, there's plenty here to justify the cost.

Strong Points

High Resolution for fine detail or multiple windows. With its 1920x1200 resolution, the LWU501i can show fine detail in complex data images or handle multiple windows of less detailed images, like text documents. Divide the screen into four 960x600 windows, and each one will deliver a higher resolution than SVGA's 800x600. Connect to a video source, and the projector can show a 1080p image without scaling.

The high resolution also lets you take good advantage of the picture-by-picture mode with two images sources. For my tests, I used VGA and HDMI input together without problems. Even better, you can use most combinations of inputs, although you can't use two HDMI sources together, and you can't use LAN or USB sources.

Excellent data image quality. The Christie LWU501i delivered excellent data image quality on my tests. Colors were vibrant and fully saturated in all preset modes, text was crisp and easily readable at sizes as small as 7 points, and I saw little to no pixel jitter with a VGA connection even on images that tend to cause jitter.

I saw a slight issue with color balance in some preset modes, with minor tints in some shades of gray, but the key word here is minor. Most people won't consider it a problem, and those who do can simply use a different preset.

One potential problem I ran into was that the projector didn't work properly with an HDMI connection to a computer at resolutions higher than 1600x1200. However, this may be due to the particular graphics card in the computer. Christie says it hasn't seen this problem, and in my video tests the projector worked swimmingly with an HDMI connection to a Blu-ray player at 1920x1080.

Better than par video quality. The LWU501i's video quality is good enough for comfortable viewing of a full length movie, which is more than you can say for many data projectors. Colors have the relatively dull look that goes with a low contrast ratio, and I saw some minor to moderate noise in large unbroken areas, but there were no other issues worth mention. The projector handled shadow detail and skin tones well, it avoided posterization in clips that most data projectors have trouble with, and because it's LCD-based, you don't have to worry about the rainbow artifacts that are common with DLP projectors.

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Medical imaging. The LWU501i offers a DICOM SIM preset, named for the DICOM (Digital Imaging and Communications in Medicine) standard for displaying medical information like x-rays. Christie warns that the projector is not fully DICOM compliant, which means it shouldn't be used for medical diagnosis. However the mode has obvious potential for medical presentations and educational use.

Zoom lens standard, with a choice of lenses. The standard lens for the LWU501i offers a 2x zoom, which gives you significant flexibility in how far you can put the projector from the screen for any given image size. For the 92" diagonal image I used for most of my testing, for example, the calculated distance ranges from 9.9 to 19.7 feet, and the measured distance with the full widescreen (maximum zoom) came out to 9.5 feet, well within the plus or minus 5% variation for any given lens.

Christie also offers a choice of four other lenses for \$1,350 to \$2,295 list each. Between them, they widen the range for a 92" diagonal image to 5.5 to 52.8 feet. Christie rates each of the lenses for a screen size of 30" to 600" diagonally. However, at 30" the image will be blindingly bright in most lighting conditions, and at 600" it will be far too dim for comfortable viewing. A more realistic maximum size with no ambient light would be roughly 325".

Tools for easy setup. The LWU501i offers several other conveniences to help make setup easy, including vertical and horizontal lens shift to give you some flexibility for positioning the projector -- left, right, up, and down -- relative to the screen. I measured the vertical shift at about 42% of the screen height up or down from the center position and the horizontal shift at a less significant, but still welcome, 10% left or right from the center.

In most cases, the lens shift should let you avoid the need for digital keystone adjustments, which can introduce artifacts on some images. If you have to adjust keystone, however, you can adjust each corner separately, an approach that makes it impressively easy to turn the image into a true rectangle.

Also highly welcome is the motorized control for zoom, focus, and lens shift, with buttons on the remote to control the settings.

Test Results and Connectivity

Bright image. With its brightest preset and full wide angle setting (for the largest image), I measured the LWU501i's brightness at 5126 lumens, a bit more than the 5000 lumen rating. I also measured the Normal and DICOM SIM presets at well over 4900 lumens, which is arguably more important, since both do a significantly better job of retaining individual steps in shading at both the bright and dark ends of a gray scale chart.

Other presets ranged in brightness from 2889 lumens for Whiteboard to 4079 lumens for Cinema, while Eco mode dropped brightness by only about 26%, to 3795 lumens with the brightest preset. Not surprisingly, the zoom setting had a significant effect, with the full telephoto setting (for the smallest image) dropping the brightest preset to 2672 lumens.

Excellent brightness uniformity. The LWU501i did well on brightness uniformity also, with a measured 83%. Just as important is that the gradient between the brightest and dimmest areas was gradual enough so I didn't see any difference, even on a solid white screen.

Extensive connectivity choices. The connection panel offers two HDMI ports and one

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set of five BNCs. You can use all five for a computer (using an appropriate adaptor) or for RGBHV component video, or just three for the more common three-component video.

Other image inputs include VGA (for RGB or component input), 3-RCA component, S-Video and composite. There is a LAN port for controlling the projector and sending network data, and you can set the USB B port for either USB direct display or for controlling your computer's mouse from the projector's remote.

Audio inputs in addition to HDMI include two stereo miniplugs and one set of stereo RCA plugs, with menu options that let you pair any audio input to any video input. For audio output, there's a set of stereo RCA phono plugs.

Also included are a pass-through VGA monitor port and two USB A ports, which both take either a USB memory key to read files directly or a plug-in \$199 optional Wi-Fi dongle. Christie says the dongle can connect up to four computers at once for presentation in a split screen array. Finally, there's an RS-232 port for external control, a mini plug for remote control in, and a mini plug for remote control out, which lets you control a stacked projector along with the first projector using a single remote. Also on the back is a control panel with an LCD that shows the current image source and other information.

Limitations

Marginally useful audio quality. The Christie LWU501i's built in 16-watt stereo speakers are loud enough to fill a large conference room or classroom, but the quality is only fair. Most dialog in my tests was understandable, but in one challenging clip it was hard to make out the words because of a bottom of the barrel echo effect. If you need good audio quality, plan on using an external sound system.

No 3D. Given the wide availability of 3D in DLP projectors, it's worth mention that the LWU501i lacks 3D. However, that's standard for LCD-based data projectors.

Conclusion

The Christie LWU501i's long list of strengths and lack of real weaknesses make it an undeniably impressive beast. It delivers 1920x1200 resolution, high quality data images, better video quality than most data projectors, brightness suitable for a large conference room or small auditorium, and lots of convenience features, including motorized zoom, focus, and lens shift.

Even better, beyond these core features are extras that include a flexible picture by picture mode, a DICOM SIM preset for medical images, a choice of lenses, and more. The hefty price tag may make you think twice. But there's easily enough here to both justify the price and put the LWU501i on your must see list.