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FAQ: Comparing Dual Stacked LCD Stereoscopic Monitors with Planar StereoMirror™

Introduction

There are a few companies offering dual stacked LCD stereoscopic monitors. They vary in configuration and performance. The Perceiva 3D display from MacNaughton, Inc. has one of the better stereo images from this stacked LCD approach. It uses a collimated lamp and folded optics for the backlight to prevent pixel crosstalk of light.

At-a-Glance Stereoscopic Monitor Performance Comparison Chart

Advantage	Planar StereoMirror	MacNaughton, Inc. Perceiva DSD 190
Larger size and higher resolution	√	
Higher optical efficiency	√	
No cooling fan required	√	
Longer lifetime	√	
Lower stereo crosstalk	√	
Stereo viewing performance	√	
Better image roaming	√	

How is Planar's StereoMirror technology better than the Perceiva DSD190?

- *Larger size and higher resolution.* Planar has stereo monitors that range in size from 17" to 26" diagonal. Our SD products have resolution from 1280x1024 to 1920x1200. The Perceiva resolution is 1280x1024.
- *Higher optical efficiency.* The StereoMirror technology has less light loss in the system. The Perceiva has a very bright lamp that goes through a collimator, two LC panels, a diffuser and then polarized glasses. It uses a lot of power and puts out a lot of heat, but only delivers 40 cd/m^2 of light in stereo. Our SD2020 and larger stereo monitors lose about 50% of the light through the beamsplitter and polarized glasses so it is a much more efficient system and allows 250 cd/m^2 luminance in stereo.

- *No cooling fan required.* Our SD monitors use much less power and emit very little heat. Even though they have high brightness than the Perceiva monitor, they do not require fans to cool it. Fan noise can be annoying in the workspace.
- *Longer lifetime.* The bulbs used with the Perceiva monitor are specified to have 4000 hour lifetime. The Planar SD monitors will last more than 10X this long with lifetimes typically in the 50,000 hour range.
- *Lower stereo crosstalk.* According to MacNaughton Incorporated datasheet, the Perceiva DSD 190 has an average system extinction of <1%. Planar's SD monitors have less than 0.3% extinction or stereo crosstalk.
- *Crisp, clear stereo images*. Because the Perceiva has a diffusing front surface on the display, the image will not look as crisp, sharp and vivid at Planar's StereoMirror technology.
- *Better roaming.* We have had feedback that our SD monitors have better roaming capability than the Perceiva technology, which requires a great deal of image processing for every screen refresh. The StereoMirror technology uses two separate video channels running at 60Hz and does not require additional processing, so the motion is smooth rather than jumpy.