

StereoMirror™ Case Study: Carl Sagan Center at the SETI Institute

Mars in 3D/Stereo

Who Uses Planar's StereoMirror

Dr. Ross Beyer¹ is a Principal Investigator and Research Scientist with the [Carl Sagan Center](#) at the [SETI Institute](#). He carries out his planetary surfaces research in the [Space Science and Astrobiology Division](#) (Planetary Systems Branch, SST) at the [NASA Ames Research Center](#). Dr. Beyer performs remote sensing and geophysical modeling of Mars and other terrestrial planets to understand their topography and surface characteristics. This work has been used to help plan landing sites on Mars and gain a better understanding of its geologic history. Dr. Beyer is also a Lecturer in the [Earth and Planetary Sciences Department](#) at [UC Santa Cruz](#).



*Dr. Ross Beyer in front of his SD2420W
3D/Stereoscopic Monitor*

How Do They Use Stereoscopic Imagery

Dr. Beyer uses a Planar Systems stereoscopic monitor for visualizing topography of our neighboring planets. Stereo pairs of orbital images are acquired from interplanetary spacecraft and displayed on a high-resolution [SD2420W](#) stereo monitor using photogrammetry software called [Socet Set](#) from [BAE Systems](#). Before purchasing the 24" stereo monitor Dr. Beyer had extensive discussions with colleagues to determine the best approach to view stereographic images. Dr. Beyer's colleagues expressed a strong dislike of traditional CRT shutter technologies because of eye strain, headaches and the bulkiness of the active glasses. He was told that Planar's StereoMirror™ was working out well for many in his field. They stated that StereoMirror™ had the highest resolution and was comfortable to use. So, what was Dr. Beyer's impression of the stereoscopic image quality of the StereoMirror technology? "It is excellent. The images are presented clearly and crisply, and alignment is trivial. The monitors can be used for reasonable periods without eye fatigue, which I am told is problematical with the older stereo display technologies."

¹ Reference: <http://rossbeyer.net/science>

Why the StereoMirror Provides a Better Viewing Experience

The Planar SD2420W allows scientists at SETI and NASA to visualize three-dimensional planetary landscapes, which is beneficial for a variety of scientific applications. Visualization is the first step in creating quality topographic products by interactive 3D editing of terrain that is created automatically by algorithm. These terrain elevation models are used as input data for basic planetary research and for applied work, such as helping to determine characteristics of landing sites for Martian and Lunar landers. Dr. Beyer likes the Planar stereo monitor because it easily allows multiple people to simultaneously view a stereoscopic scene in a comfortable manner (without active goggles). He says it is great for sharing information with colleagues.



Dr. Beyer analyzes the Martian landscape in stereo 3D

"I really can't think of any criticisms, the StereoMirror is a great product, and easy to use and incorporate into my existing hardware." says Dr. Beyer. If you are sending an instrument on a 320 million mile journey at a cost of hundreds of millions of dollars, you want to trust your data. Dr. Ross Beyer uses Planar's StereoMirror technology to make sure he has an accurate picture and is comfortable with the results.

For more information about Planar's stereoscopic display solutions, please visit www.planar3d.com. For additional information, please visit www.planarembdedded.com.

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