



Planar's StereoMirror Technology versus Red Rover/True 3Di

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INTRODUCTION

Planar began selling prototypes of our SD1710 stereo monitor in March of 2004. Our first stereoscopic monitor product was released in September of 2005. Two additional products were released the following year. Planar is the sole licensee of a core U.S. issued patent (6,703,988) which describes the stereoscopic display.¹

You can observe for yourself that the US patent for the StereoMirror technology covers the box design, in addition to the configuration that Planar's SD monitors utilize. It certainly appears that the Red Rover/True 3Di approach infringes on this issued patent.

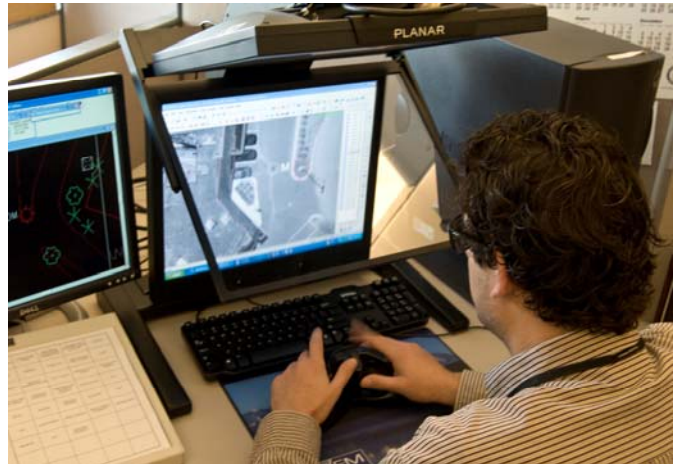
In addition to what we feel is infringement on this patent, there are several new patents related to the StereoMirror technology that have been awarded. It should be noted that not only could a seller or reseller be liable for patent violation, but a buyer or customer of that technology could be liable, as well.

¹ See <http://patft.uspto.gov/netacgi/nph-Parser?Sect2=PTO1&Sect2=HITOFF&p=1&u=%2Fnetacgi%2FPTO%2Fsearch-bool.html&r=1&f=G&l=50&d=PALL&RefSrch=yes&Query=PN%2F6703988> for details.

You can also reference <http://www.google.com/patents?id=i9AQAAAAEBAJ&dq=6,703,988> for information.

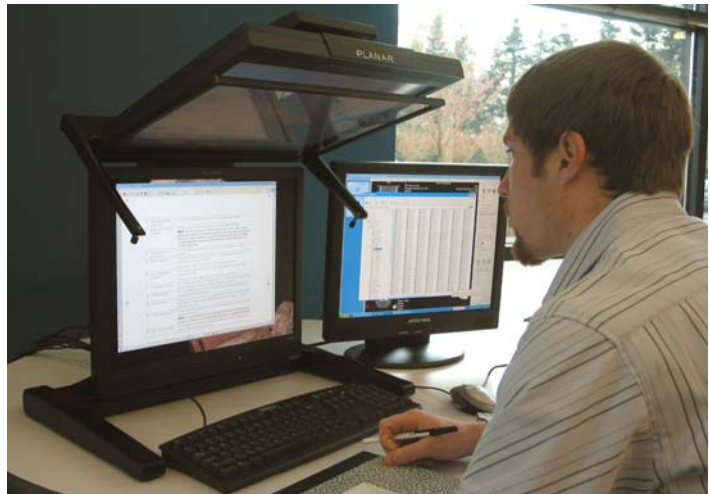
What advantages do Planar's StereoMirror products have over True 3Di/Red Rover?

- **Smaller workspace footprint:** The Planar design uses less desktop space so the keyboard or 3D mouse can be used underneath the mirror while the Red Rover box design consumes a significant footprint. The 24" True 3Di model uses 636 mm width by 502 mm depth while Planar's SD2420W monitor uses desktop space of 588 mm width by 189 mm depth.



Picture 1: The StereoMirror design allows the space under the mirror to be utilized for keyboard or mouse.

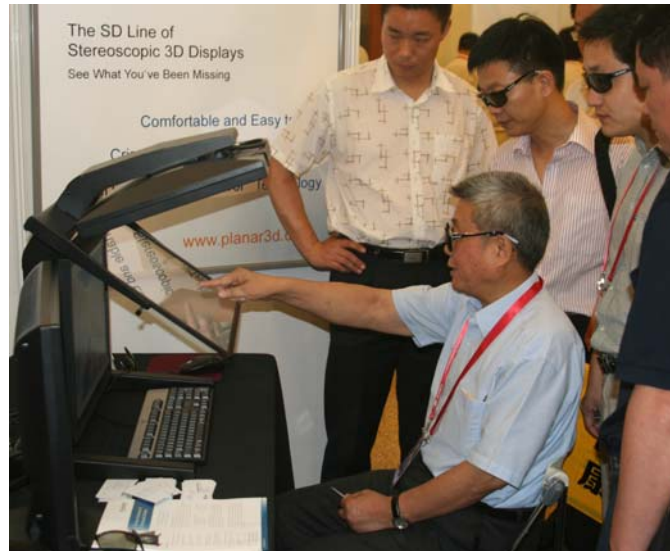
- **Unobstructed 2D monitor use:** Planar's SD monitors can be used as an unobstructed 2D monitor simply by lifting the mirror. Users can return to a stereo 3D view by lowering the mirror back into position. It is also easy to simply turn off one monitor for a 2D view.
- **Wider viewing angle for multiple users:** The openness of Planar's SD products allows for a wider viewing angle and better collaboration with colleagues. Users can be off angle, both horizontally and vertically, to use the monitor. With our SD2420W, there can be 5-6 people around one stereo monitor seeing a complete stereo image.



Picture 2: With the mirror up, a user has direct view of the monitor.

- **Higher luminance efficiency:** Planar's SD2020 and larger stereo monitors are configured so that more than 50% of the polarized light is transmitted/reflected through the beamsplitter. The True 3Di box uses TN displays where less than half of the polarized light is transmitted/reflected. This reduces the stereo brightness and stereo contrast while adding to stereo crosstalk because light polarized at 45 or 135 degrees is warped as it transmits through or reflects from a beamsplitter.

- **No cover glass required:** The True 3Di box has cover glass on the front which decreases the light from monitors and adds unwanted reflections that decrease the contrast ratio. The cover glass is also susceptible to scratches that can affect the image quality.
- **Closer to the image:** The Red Rover/True 3Di box cover glass prevents users from getting as close to the monitors as the StereoMirror does. There are times when a user wants to lean in with concentrated focus on the stereo image. The box with cover glass keeps users' eyes and fingers at a distance to the image whereas the StereoMirror configuration allows you to get closer.



Picture 3: Users can get closer to the image with the Planar StereoMirror.

What advantage does the True 3Di monitor claim to have over Planar's SD monitor?

- **Easy to clean:** Red Rover claims that the enclosed box design prevents dust. If the Planar SD monitor is used in a dusty environment, it is possible for dust to get on the half-mirror. Fortunately, the mirror is easy to clean and has a resilient hard coat protective film to resist scratches. While we wouldn't recommend using steel wool to clean the mirror, using common sense items such as soft cloths, glass cleaner or compressed air will give the half-mirror a long life with high clarity.
- **Easy setup:** Red Rover claims that the box version comes ready to use. The problem is that the 74-pound, 24" model is a lot of weight for one person to lift or move, especially in a large box format. The Planar SD monitors are shipped as a lower monitor assembly, top monitor assembly and mirror assembly. This significantly decreases the risk of injury for customers setting up the monitor. Yes, it requires a couple of minutes for customers to assemble the three pieces, but this is a minor inconvenience compared to back surgery.

What other advantage does Planar have over True 3Di/Red Rover?

- **History of display technology innovation:** Planar Systems, Inc. has a 25-year history as an innovative display company. We have experience and expertise in a variety of display technologies. Planar is a publicly traded company (NASDAQ: PLNR) with 600 employees worldwide and over \$270 million in sales last fiscal year.

- **Top notch customer support:** We have 24/7 Customer Service (<http://www.planar.com/support/>) including toll free technical support call center, online support chat services, an online support database and online product documentation.
- **Certified quality:** Planar has achieved ISO 9001:2000 certification for quality management. This commitment to quality has been attested by auditing from an external organization. This registration indicates that our manufacturing processes, company practices and rigorous documentation assures our customers that our products have the highest level of quality and that Planar is committed to continual improvements. Planar has also obtained ISO 13485:2003 registration for medical products. In other words, we are not a garage shop or start-up company working, but a strong corporation that will stand behind our product and customer.

Quick Comparison Review

Factor	StereoMirror	Red Rover
Smaller workspace footprint	Yes	No
Unobstructed 2D monitor use	Yes	No
Wider viewing angle for multiple users	Yes	No
Luminance efficiency	>50%	<50%
Cover glass	Not needed	Required
Closer to image	Yes	No
Company	25 years of display experience	
Customer support	24/7 global	
Quality certifications	ISO 9001:2000	