

Video headsets join gadget market

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Video sunglasses could soon be joining camera phones and BlackBerrys as the latest must-have portable gadgets. An Israeli technology company has developed a personal video display device that looks like a simple pair of sunglasses but lets users experience cinema-scale effects.

The company also claims the device will overcome the problems of dizziness and headaches traditionally associated with these types of personal displays. Although video screens embedded into eyewear aren't new, the device is up to 12 times lighter than some current models.

The NanoPrism technology that the devices are based on has been developed over the past five years by Mirage Innovations Ltd., based in Rehovet, Israel. The company raised \$7.5 million last September from multinational financiers including the Israeli venture-capital funds Gemini Israel Funds and Landa Ventures and the Silicon Valley-based fund Benchmark Capital.

NanoPrism works by transforming a thin transparent plastic sheet into a wearable personal display system. Diffractive planar optics are combined with a single color microdisplay source such as micro LEDs or organic light-emitting diodes to create the effect of a color video image equivalent to a 42-inch screen viewed from a distance of seven feet. Viewers can choose to be fully immersed in what they're watching, as though they were in a cinema, or to view while still being aware of their surrounding environment.

Because of the way the light is diffracted by the DOP, the image that is

reflected towards the viewer's eyes is perfectly aligned, horizontally, vertically and rotationally. It's this alignment that the company is pushing as a significant feature of the display, believing it can eliminate what they term "cyberstress." This is the unpleasant array of negative symptoms that users of virtual reality or head-mounted experience including nausea, dizziness and headaches.

The biggest selling point, however, is likely to be the weight of the glasses. Video-headsets have been in development for more than a decade, including the discontinued Sony Glasstron and the IO i-glasses. Yet these devices are cumbersome and heavy, coming in at up to 500 grams -- not an insubstantial amount when you consider that the average pair of sunglasses weights 25 grams. The glasses from Mirage would come in at only 40 grams, made possible by fact that the gadget would have fewer parts and simpler components than its more cumbersome ancestors.

The company hopes that the devices will contribute to the growing trend of portable devices, including the new generations of products containing any combination of camera, phone, MP3 player, games console and PDA. Tal Cohen, chief executive officer of Mirage Innovations, said, "Our aim is to provide a solution to meet the need for future alternative portable display systems," according to the EE Times. This drive for media-capable portable devices was fuelled by the massive increase in content for mobile television and personal media players, which have only become available over the past few years.

Over at the Emerging Technology Trends Weblog, readers had mixed responses to the launch of the personal devices. Several points were raised about concerns that the technology would be limited to people with perfect eyesight. Individuals who don't have binocular vision -- vision where both eyes are used together -- have a harder time with sight issues such as field of view and depth perception. As a result even

simple products such as 3-D glasses and Magic Eye pictures can be tough, if not impossible, to use. The virtual-reality devices released so far have a poor track record for users with non-binocular vision, but the readers were hopeful that Mirage Innovation would be able to rectify that. Others expressed enthusiasm that they were one step closer to doing away with bulky hardware and being able to download their books, videos and music into one tiny device.

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