

Mobile Display report

Lumus Showing VGA-Resolution Headset

Video eyewear developer Lumus Ltd. (Rehovot, Israel; www.lumus-optical.com) reports that it has developed a higher-resolution version of its optical core for use in personal display systems. Previous headset demonstrators featured QVGA resolution (320x240 pixels) while the newest ones offer full-VGA resolution (640x480).



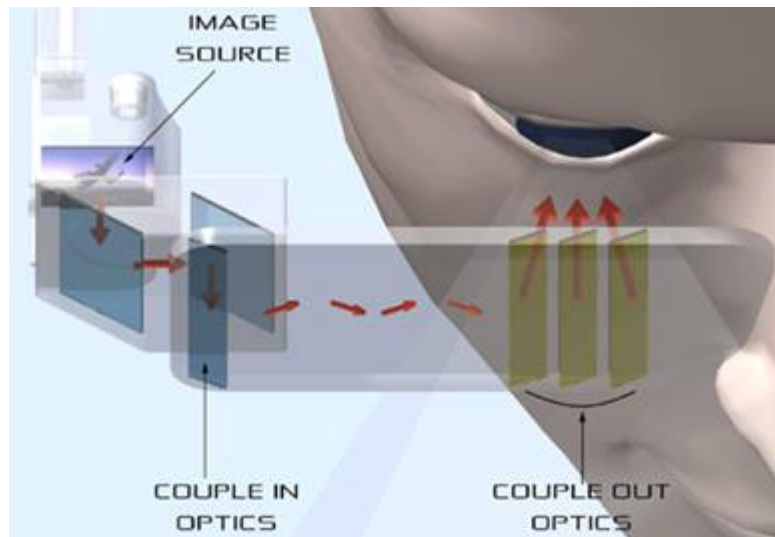
Lumus has a unique approach to delivering a virtual image to the eye. At the heart of the technology is the Lightguide Optical Element (LOE). The image from a microdisplay, typically a transmissive LCD

type, is coupled into the lightguide via some optics. This image is transferred down the LOE to output lenses near the eye. The beauty of the design is that the lightguide is thin, about 2mm, but offers a large surface area – essentially the size of a pair of eyeglasses. It makes the product more like the “video-eyeglasses” the company like to call this category of product.

The new optical cores can be configured as monocular devices (PD25) or binocular devices (PD26). The field of view is speced at 27.5-degrees, which the company claims is the equivalent of watching a 58-inch TV at 10 feet. The weight of the headset is less than 50 grams – light compared to most devices, and the input signal is NTSC or PAL composite video.

Lumus said their LOE design also has a scaling advantage – it easily accommodated the upgrade from QVGA to VGA resolution, and could be extended to higher resolutions as needed.

So far, the company has offered sample quantities of its QVGA-resolution optical core and headset demonstrator to various companies. It is now engaged with a number of additional companies to evaluate the VGA models.



Lumus sees several go-to-market options. One is to develop and manufacture a full personal display system that it can sell to service providers, like Cingular or Verizon. They in turn can offer the headset as an accessory for various handset products as part of an expanding service option.

A second business model is to offer the optical core to customers who will then make the final head-mounted display system – and sell it to their customer base.

A third approach would be to sell the optical core to OEM platform developers, like the makers of personal media players or the cell phone makers themselves. The advantage of this approach is that the drive electronics for the headset can probably be embedded inside the product, thus eliminating an external electronics box to drive the headset that is currently needed to interface with the host system.

The company is very interested in the mobile video space, but realizes that much education needs to be done to make consumers aware of the video eyeglasses option and the personal benefit it offers users.

Current plans call for refinement of the optical core by mid 2007, with mass production ready by the end of 2007. The company said its headset would be demonstrated at CES-07 in Las Vegas (booth P220).

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