

Personal Eyewear



Optinvent Developing New See-through Personal Display

Operating largely under the radar screen, French company Optinvent (Rennes, France; www.optinvent.com) has been developing a low-cost, lightweight personal display based on proprietary optical technology. Optinvent was founded in February 2007 by a team from electronics giant Thomson, after Thomson made a strategic decision to exit the display business.

The personal display is based on Optinvent's proprietary Clear-Vu optical engine, which uses a unique beam-extraction approach, significantly different from those of competitors, such as Lumus (Rehovot, Israel; www.lumus-optical.com), according to co-founder and CEO Kayvan Mirza. Among the advantages Mirza claims for the Optinvent approach are lower cost, lighter weight and improved performance. As the following table shows, however, the performance Optinvent anticipates for Clear-Vu is similar to that claimed for the Lumus system.



Optinvent Clear-Vu



Lumus Video Eyeglasses

| | Optinvent Clear-Vu | Lumus Video Eyeglasses |
|-----------------------|--------------------|------------------------|
| Resolution | WVGA * (800x480) | VGA * (640 x 480) |
| Field-of-View | 30 degrees | 27.5 degrees |
| Eye Motion Box | 10 x 6 mm | 10 x 10 mm |
| Brightness | * | 400 fL * |
| Transmittance | 70% | 70% |
| Weight | < 90 g | 100 g |
| Imager ** | OLED | AMLCD |

* Parameter is imager-dependent

** Imager described is the one used in demo systems. Optical technology is imager-independent.

Optinvent expects that the production version of its Clear-Vu system will be significantly lighter than the 90g indicated in the table, and it also claims significant manufacturing cost advantages over competitors' systems. The viewing optics in the Optinvent system has a monolithic, molded-plastic structure, unlike the multi-element prismatic structure used in the Lumus displays.

The two system demonstrators also differ in the choice of microdisplay used, with the Optinvent system using a WVGA OLED and the Lumus system incorporating a VGA AMLCD, though both systems are actually imager-technology-independent. A prototype of the Optinvent Clear-Vu personal display is nearing completion and will be demonstrated at the CEATEC show in Chiba City, Japan, Sept. 30 through Oct. 4. - Mike Kalmanash