

[FPD International] SeeReal Technologies Exhibits Holographic 3D Video Display, Targeting Market Debut in 2009

Oct 25, 2007 17:54

Junichi Ooshita, Nikkei Microdevices

SeeReal Technologies SA of Germany developed a holographic 3D video display. SeeReal is now conducting negotiations on technology licensing with a total of roughly ten TV and display manufacturers.

If SeeReal can enter into a partnership with any of these firms in 2007-2008, CEO Mark Thorsen said, "The display will debut on the market in 2009."

The company plans to commercialize the display as an LCD TV with a screen size of about 40 inches at a price of US\$10,000-15,000. The product can display images at the full high-definition (HD) or higher resolution if the panel size is about 40 inches, the company said.

The 3D holographic displays have two major problems although they can provide natural stereoscopic images that are comfortable to the eye. First, the pixel pitch has to be extremely small, ie $1\mu\text{m}$ or smaller. Second, data amount required to reproduce images reaches the order of P ($1P=10^{15}$) flops, and thus requiring the processing by a supercomputer.

SeeReal solved these problems by tracking the position of viewer's eye with a camera and reproducing holographic images only in the range that can be seen from the eye position.

Furthermore, the company divided the holographic image into multiple sections called Sub-hologram so that the light transmitted by the display panel is modulated on the basis of this section. In this way, holographic images can be displayed in the position corresponding to the viewer's eye.

As a result, SeeReal achieved the full HD or higher resolution on an LCD panel with a pixel pitch of $50\mu\text{m}$. In addition, the company reduced the data amount required in the image reproduction to 3.5T ($1T=10^{12}$) flops. Consequently, the company made it possible to process holographic images by its proprietary application specific integrated circuit (ASIC).

- [FPD International 2007 Special Site](#)



CEO Mark Thorsen



SeeReal's exhibition booth