



## DLP® 3-D HDTV Technology

Technology for the first DLP® 3-D television was introduced to Display ODMs in 2007. Utilizing the inherent speed advantages of the Digital Micromirror Device (DMD), this technology displays the left and right views required for stereoscopic, or 3-D imaging. When combined with shutter glasses, users will experience high quality, high definition 3-D viewing with DLP® HDTVs.

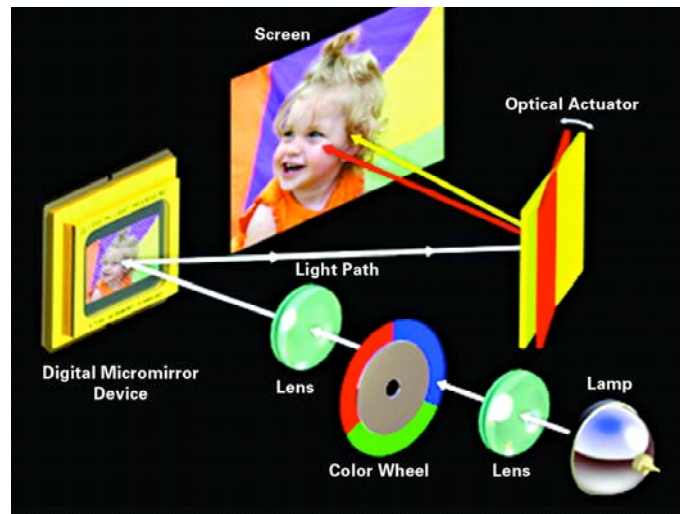
DLP® 3-D HDTV technology generates independent views for the left and right eyes. A synchronization signal is generated for each view and transmitted optically to shutter glasses that are worn by the viewer. The shutter glasses process the signal and control the shutter for each eye, insuring display of the correct view.

### DLP® 3-D HDTV System Requirements:

- A DLP® 3-D Ready HDTV offered by either Mitsubishi or Samsung
- VESA compatible LCD shutter glasses and sync signal transmitter
- Video or graphics source which shows 3-D pictures using DLP® HDTV 3-D format.
- Reference TI 3-D Website for more info: [www.dlp.com/3D](http://www.dlp.com/3D)

### Advantages of DLP® 3-D HDTV technology

- The DLP® 3-D HDTV technology supplies a 60Hz frame rate signal to each eye (equivalent to 120 Hz). This high video frame rate reduces flicker which is typical of other frame sequential stereographic display systems.
- The technology has a virtually zero implementation cost on new DLP® HDTV, benefiting consumers with a future proof capability.
- Older 3-D technologies used anaglyphic (red/blue) glasses. A DLP® 3-D HDTV system with shutter glasses gives exceptional color fidelity and superior picture depth.



*How the DLP® HDTV Projection System Works.*



*What you'll need to experience DLP® 3-D HDTV.*

**DLP® HDTV 3-D Image Format\***

3-D stereoscopic video content is sent to the TV digitally, through an HDMI or DVI port. Left and right stereo images are independently filtered, then sampled in an offset grid pattern. The resulting views are then combined, and appear as a left and right checkerboard pattern in a conventional orthogonal sampled image. This format preserves the horizontal and vertical resolution of the left and right views providing the viewer with the highest quality image possible with the available bandwidth.

Original Stereo Pair

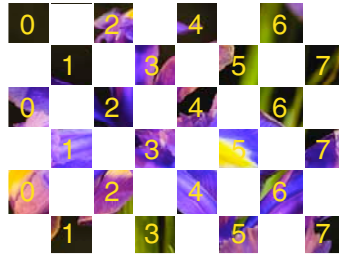


Left Input Image



Right Input Image

2-D Diagonally Filtered and Decimated



Left Input Image Sampled



Right Input Image Sampled



Left View Example

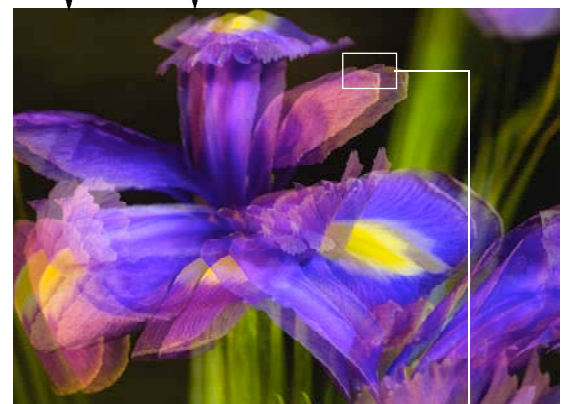


Right View Example



**Combine**

the Left and Right sampled images into one full 1080p image for display.



DLP® 3-D HDTV Input Format



Zoom View

\*Reference "DLP® 3-D TV Technology White Paper" at [www.dlp.com/3D/whitepaper](http://www.dlp.com/3D/whitepaper) · © 2007 Texas Instruments, Inc. DLP, the DLP logo and the black/red banner are trademarks of Texas Instruments.