

### Synchronized DLP Array

There are different setups available for multi screen environments (CAVE). They basically can be separated through their projection technology or image separation. Each setup has advantages and disadvantages depending on the special application. The DAVE System uses active projection technology because we can achieve a high quality channel separation which we think is necessary for a good immersive effect.

Additionally no special material for screens and mirrors has to be used which can lead to a cost effective solution.

For an active Multi-Screen System all images has to be synchronized with the shutter glasses.

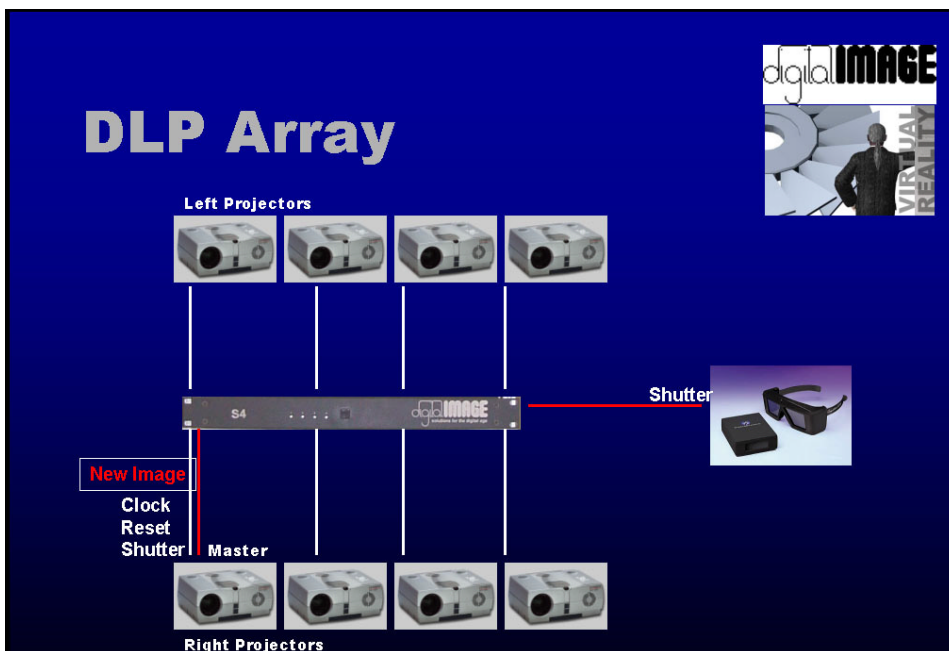
#### Today's technology

Synchronisation may be automatically present with high end visualisation machines like SGI Onyx or has to be established via special links through special graphic boards.

Both approaches suffer from the same problem: The most important part for the visualisation, the graphic hardware, cannot be changed often because it is a expensive component.

#### The DAVE approach

We assume that the projection hardware would be changed only one of two times every three years. Image generators (graphic boards) have lifecycles of only six month or even less.



A DAVE System Setup

For a DAVE System standard graphic boards are used. Synchronisation is done within the projection system and a special unit called „Synchronizer“. This allows a fast exchange of image generation hardware. And, most important, allows the use of standard graphic boards.

#### DAVE Development

The synchronisation of the images is done within the DAVE Array. The synchronizer generates the clock for the Shutter glasses independent from the image delivery through the computer array.

With every clock cycle the images within the array are swapped using the fast DLP Technology.

The synchronizer also generates the Waveforms for the IR Emitter Diode Array. You could directly drive Stereographics or ELSA Glasses.

Based on standard DLP Projectors we could compose a affordable system in resolutions from 800x600, 1024x768 up to 1200x1024 per side.

#### Advantages

- Shutter Systems based on DLP Projectors are extremely fast and allow for a excellent channel separation of nearly 100%.
- The Array uses standard graphic Boards for image generation. So you can easily keep up to date by changing the graphic boards.
- Image synchronisation is completely invisible for the computer system.
- IR LED output circuit can drive up to 20 LED Emitters with Stereographics or ELSA Signal Type.

#### Development

digital IMAGE

#### Patent Information

Synchronized Projector Array:  
digital IMAGE patent pending