

# Application Note



## Using Multi-head Graphics Cards for Creative Widescreen Backgrounds

### Introduction to Encore's Background Channel

For both single-screen and widescreen applications, Encore's dedicated background channel enables content designers to create images that match the actual pixel resolution of the projected image. This feature enables you to use a background or "foundation" layer, behind all of your system's PIPs and Keys — without using any of the scalers. Encore also provides two background channel inputs (A and B), which in turn allow you to cut or mix between full screen (unscaled) background images.

### Single Screen ...

For a single-screen application, for example, you could create a graphic at 1400 x 1050 resolution, matching the resolution of your projector, and use this graphic as your presentation's background. Two examples would be a graphic of the company logo, or a low contrast photo of the company headquarters. Here, all you need is one output from your "graphics" computer connected to Encore's background input.

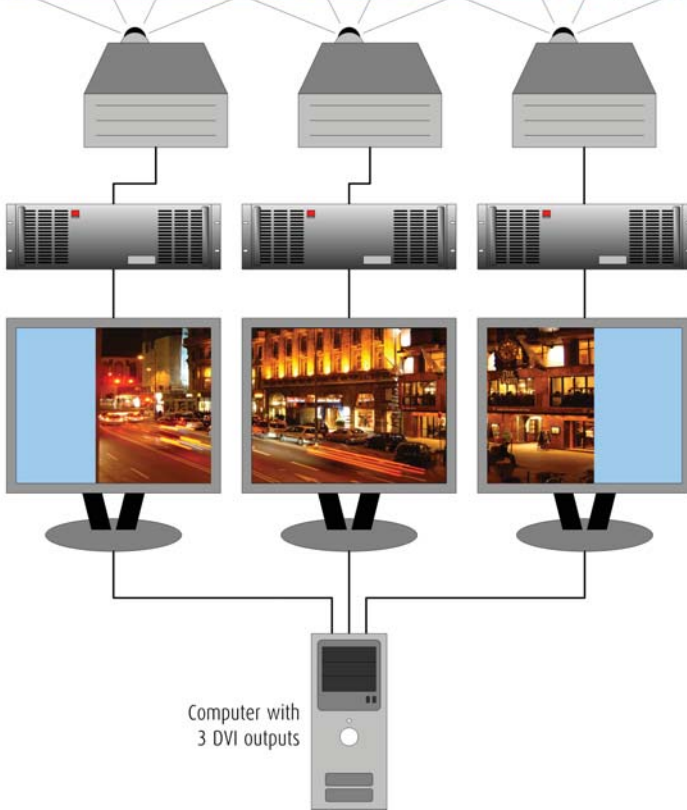
### Widescreen ...

For a widescreen application, for example, you could create a graphic at 3150 x 1050 resolution, matching the resolution of three blended projectors, and use this graphic as your background. However, for this special blended widescreen, your graphics computer must have a multi-output (or "multi-head") graphics card installed. Two heads are required for a dual-screen blend, three heads for a triple-screen blend, etc.

These multi-head cards are available from a number of manufacturers including Matrox, ATI, nVidia and Color Graphics. They utilize a special "stretch" mode that allows an application (e.g., PowerPoint) to operate across multiple outputs — with each output processing a slice of the graphic. The outputs, in turn, are connected to background inputs on multiple Encore Video Processors (e.g., two inputs for a dual-screen blend; three inputs for a triple-screen blend, etc.).

**BARCO**

Visibly yours



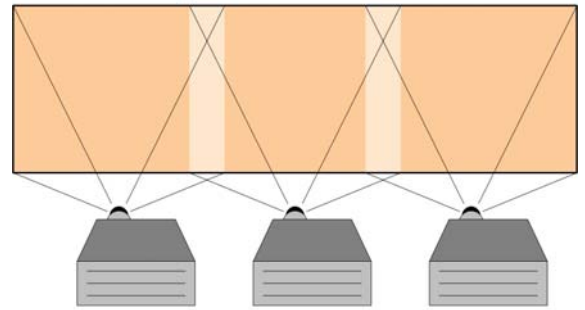
Final image stitched together by Encore

Encore Video Processors

Image from PC without Encore processing

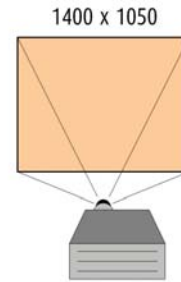
Computer with 3 DVI outputs

30' Wide x 10' Tall Screen  
Aspect Ratio = 3:1 or 3.00



Screen size and aspect ratio

The width of the projected screen, divided by the height is the screen's aspect ratio



Native resolution

The actual pixel size of the panel or projector chip

## Widescreen Content Creation

Using a graphics program such as PhotoShop®, content must be created as one continuous, seamless graphic — without any overlapping sections. Encore inputs the entire image (as “split” into sections by the multi-head cards), and creates the required overlaps and feathering you’re your projectors.

To calculate the size of the graphic itself (in pixels), you can use Barco’s “Configurator” program, which is included as part of the Encore Software download bundle. This bundle can be found on the Barco Partnerzone and website.

If you know (1) your widescreen aspect ratio, (2) the native resolution of your projectors, and (3) the number of projectors used in the final blend, the Configurator will calculate the precise size of the graphic that you need to create — and it will even take into account the number of pixels used in the overlap region.

For example, in a triple-screen blend:

- Your screen is 30' x 10' with an aspect ratio (AR) of 3:1.
- Your projectors have a native resolution of 1400 x 1050.
- (AR) x (pixel height) = required image width. (3 x 1050 = 3150).
- In PhotoShop, set your new image's width to 3150 pixels, and the height to 1050.

Barco Media & Entertainment  
11101 Trade Center Drive, Rancho Cordova, CA 95670  
tel 916 859 2500 fax 916 859 2515

**BARCO**

Visibly yours