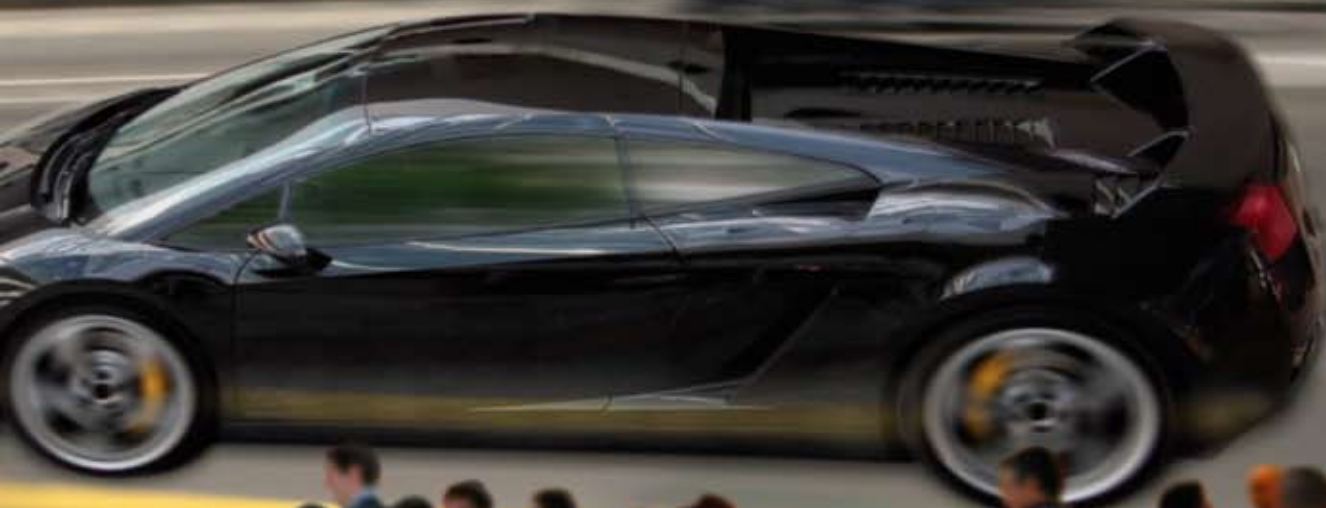


# Edge-Blending



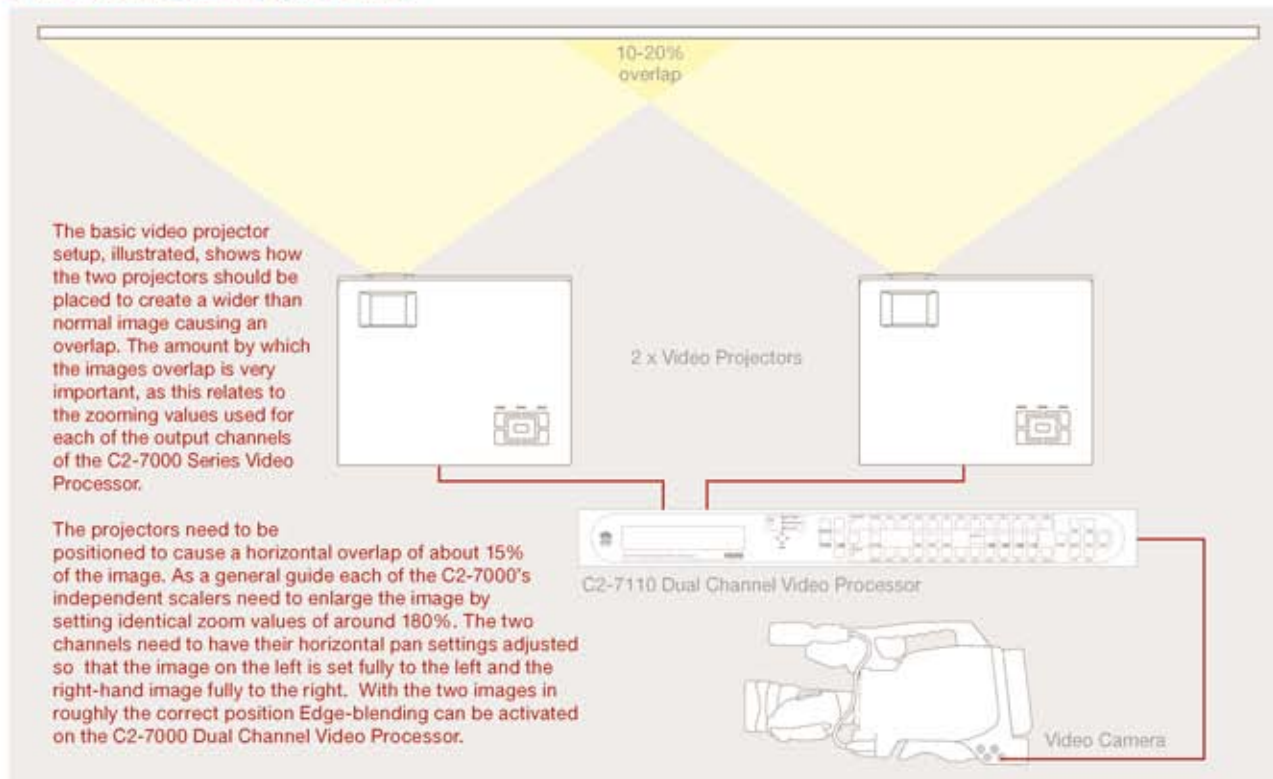
**tvone**



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# ... see the big

## Basic setup of two projectors



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# The Edge-Blending Range

## C2-7000 Series

Edge-blending is a standard feature of the C2-7000 Series Dual Channel Video Processors. Because of the ability to 'feather' any or all of the edges, multiple images can be aligned vertically, horizontally, or both to create unusual displays. Since they are dual channel, only one unit is required to blend two edges. Using multiple units, there is no limit to the number of blended images. Edge-blending is not limited to high resolution RGB computer images, but can be applied to any input. Gamma correction is employed to compensate for many of the problems faced when blending between two projectors. Special preparation of the video in advance is not necessary, since all processing is done within the C2 unit.

### C2-7110 Dual Channel Video Processor



### C2-7210 Dual Channel Video Processor



### C2-7310 Dual Channel Video Processor



## C2-260, C2-1000 & C2-2000 Series

Edge-blending is a standard feature of the C2-260, C2-1250, C2-1350, C2-2250, C2-2255, C2-2350 and C2-2355 Video Processors. Unlike the C2-7000 series these products do not have dual channel capability so a separate unit will be required for each image you wish to edge blend and therefore a distribution amplifier will be needed to channel the signals from the source to the video scalars. As with the C2-7000 series, edge-blending on these products is not limited to high resolution RGB computer images, but can be applied to any input. Gamma correction is employed to compensate for many of the problems faced when blending between two projectors. Special preparation of the video in advance is not necessary, since all processing is done within the C2 unit.



C2-260



C2-1250



C2-1350



C2-2250



C2-2255



C2-2350



C2-2355

# Edge-Blending

Edge Blending is a method used to create a wider or taller video display. These displays are often seen in staging and live performance venues, churches, government and endless other unique applications requiring a larger video display.

Edge Blending is done when two or more video/data projectors are used to create a single image. When doing this the two images will overlap and this must be carefully handled to prevent image brightness problems (see right).

Since the two overlapping areas create a brighter than normal image, "blending" is done so the edges of the images are merged seamlessly. The blend is an S-shaped curve that is gradually applied to reduce the brightness of the image at the edge so it can overlap properly.

### Projector alignment

When edge-blending is activated a series of assignable guidelines are projected to aid image alignment (see bottom right). These lines show overlap areas - red lines indicating the edge of the image, and green lines the edge of the blending. When the right-hand red line overlaps the left-hand green line (and vice versa), and/or the top red overlaps the bottom green (and vice versa), the lines will become yellow indicating perfect alignment.

### Aspect ratio adjustment

Since your original video source is probably 16:9 (or a similar aspect ratio), it will also be necessary to change your vertical zoom value differently to the horizontal one. This is best done after projector alignment and is easily achieved using the 'Aspect adjust' settings which allows the Horizontal and Vertical zoom values to be set independently. Once the output has been adjusted on one output channel, the same values must then be applied to the other(s).

### Gamma Correction

Once you have perfectly aligned your projectors, you might notice that the overlap is slightly brighter than the rest of the image. This is most probably due to the luminance of the projectors not being perfectly linear and you will therefore need to apply 'gamma correction'. Gamma correction can be applied using the C2-7000 series Video Processor, the correction value must be the same for each channel output, unless you have non-matching projectors.

### Genlocking the outputs

Finally, if your source contains live (moving) video then it is worthwhile genlocking one channel's output to the other's - this will eliminate any line or frame drift, which may cause frame-rate conversion problems.

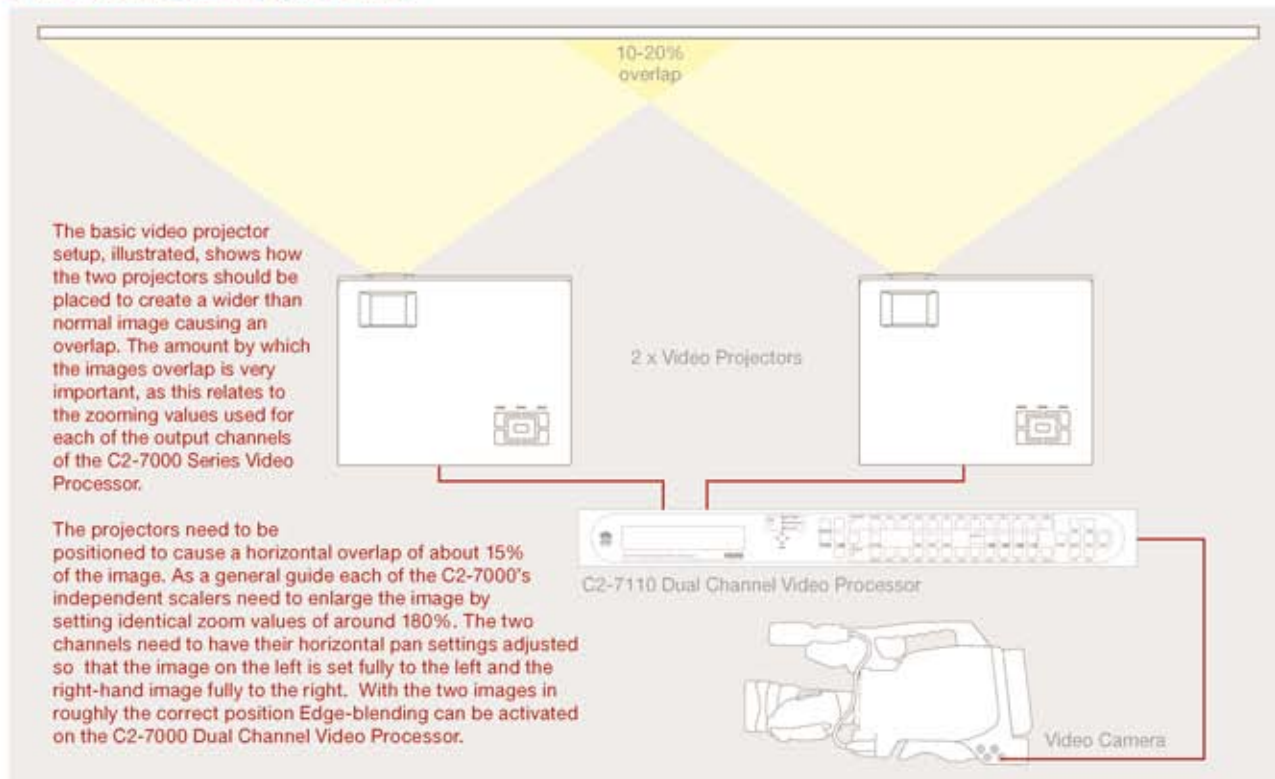
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# ... see the big

## Basic setup of two projectors



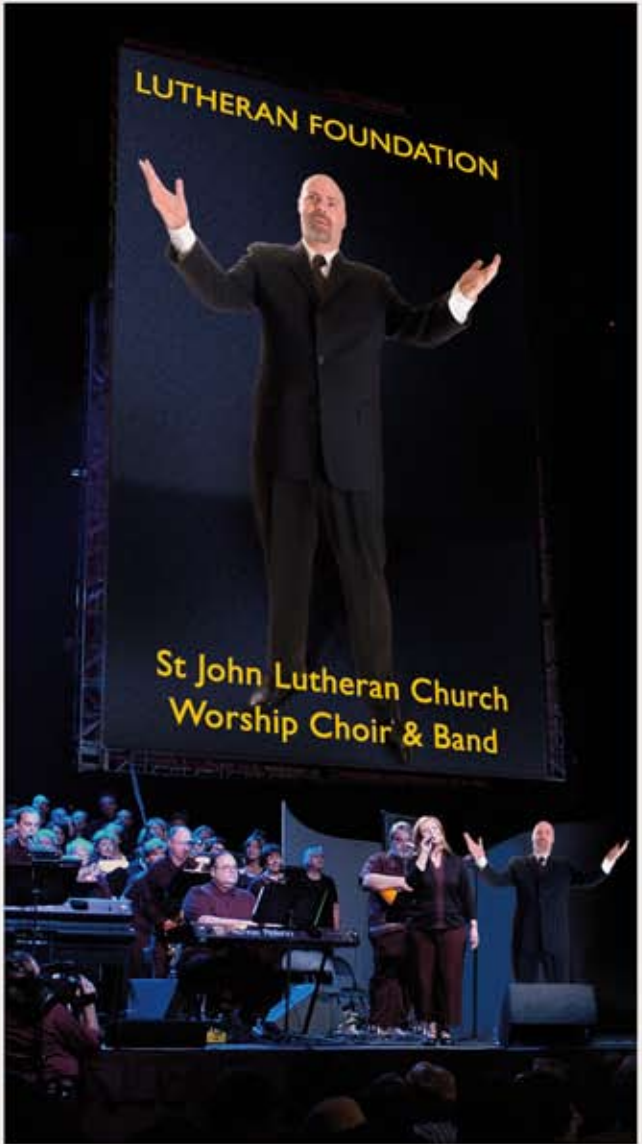
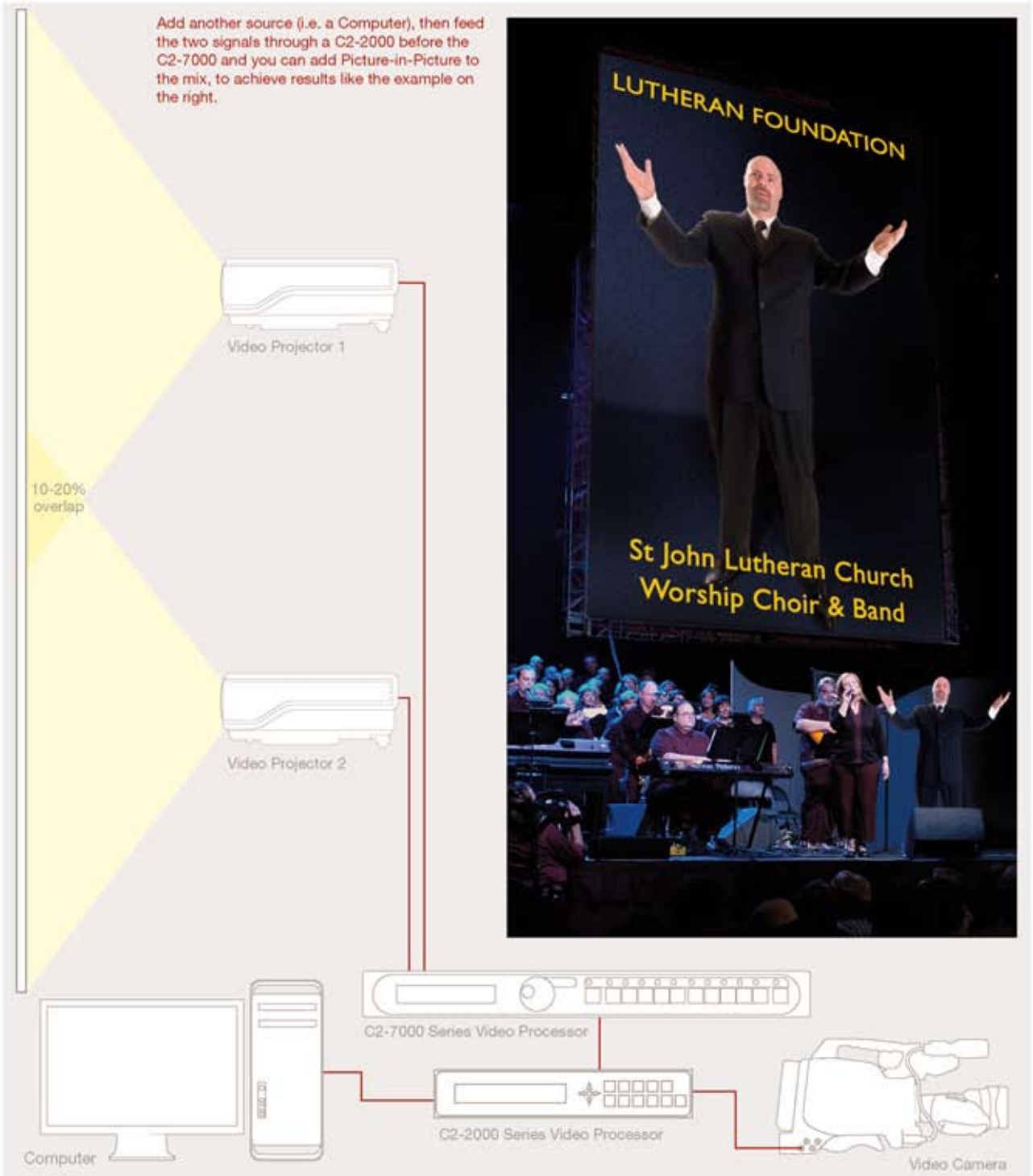
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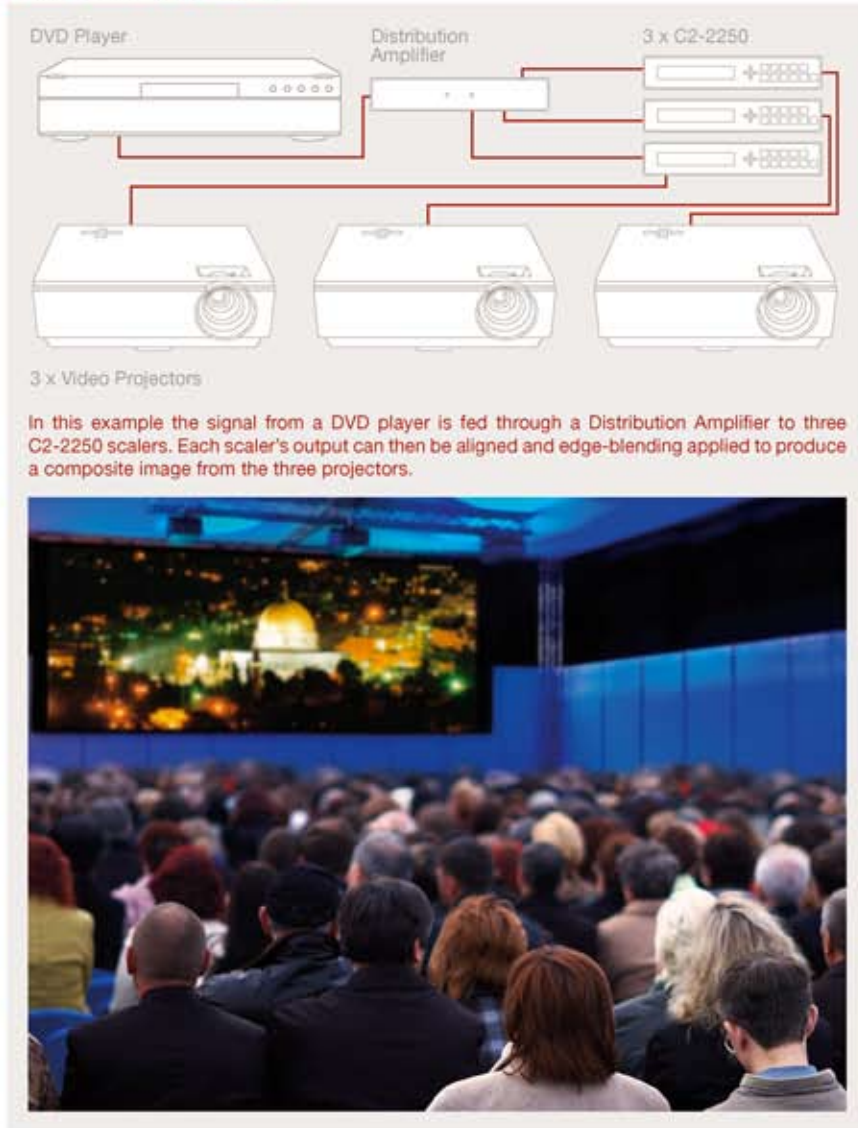
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# igger picture

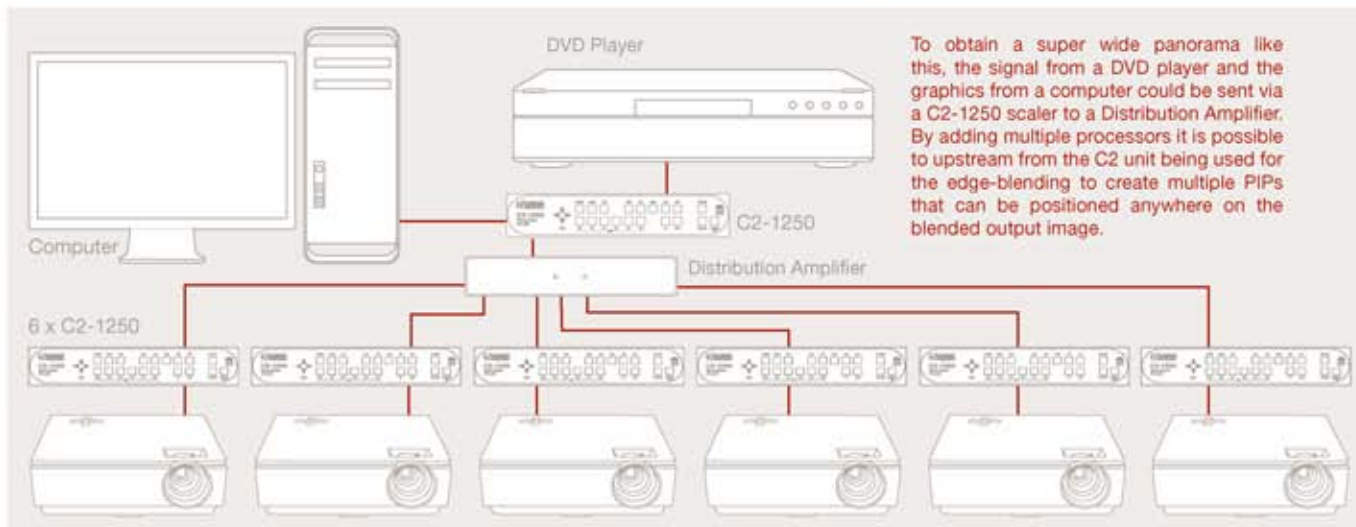
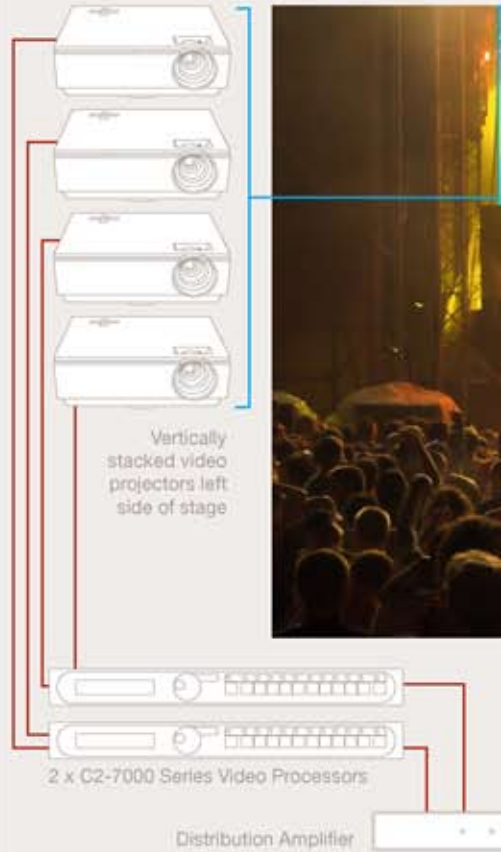
Add another source (i.e. a Computer), then feed the two signals through a C2-2000 before the C2-7000 and you can add Picture-in-Picture to the mix, to achieve results like the example on the right.



## Using multiple units



As edge-blending can be applied to any combination of edges, extreme vertical and/or horizontal images can be achieved. For example, in this illustration the signal from a camera could be sent to multiple C2-7000 Series Video Processors via a Distribution Amplifier to vertically stacked projectors to produce an exceptionally tall image or to a combination of projectors arranged horizontally and vertically.



To obtain a super wide panorama like this, the signal from a DVD player and the graphics from a computer could be sent via a C2-1250 scaler to a Distribution Amplifier. By adding multiple processors it is possible to upstream from the C2 unit being used for the edge-blending to create multiple PIPs that can be positioned anywhere on the blended output image.

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Aligning two images to overlap without edge-blending produces a bright area where they merge.



◀ Edge blending gradually reduces the brightness of the projected image edge.



▼ When correctly aligned, this results in even illumination across the merged images.



The images are perfectly aligned when the green and red guidelines (right) overlap and turn yellow (below)



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This symbol on a product indicates that it is powered by CORIO2™ technology, the most flexible video processing engine now available. Unlike most manufacturers, who use third party chip-sets to provide video conversion, TV One has developed its own proprietary technology known as CORIO2™. This frees TV One products from the constraints imposed by third parties and results in an unsurpassed degree of flexibility. Products based on third party chip-sets have a feature set frozen at the introduction of the product. Since the CORIO2™ video processing engine is entirely firmware based, it can be upgraded at any time by downloading the latest firmware version from the support web site and flash upgrading the unit in the field. This enables new features, such as edge-blending, to be added to units many years after the initial purchase. This "obsolescence insurance" means that a CORIO2™ based product can always be upgraded to the latest version of that model.

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