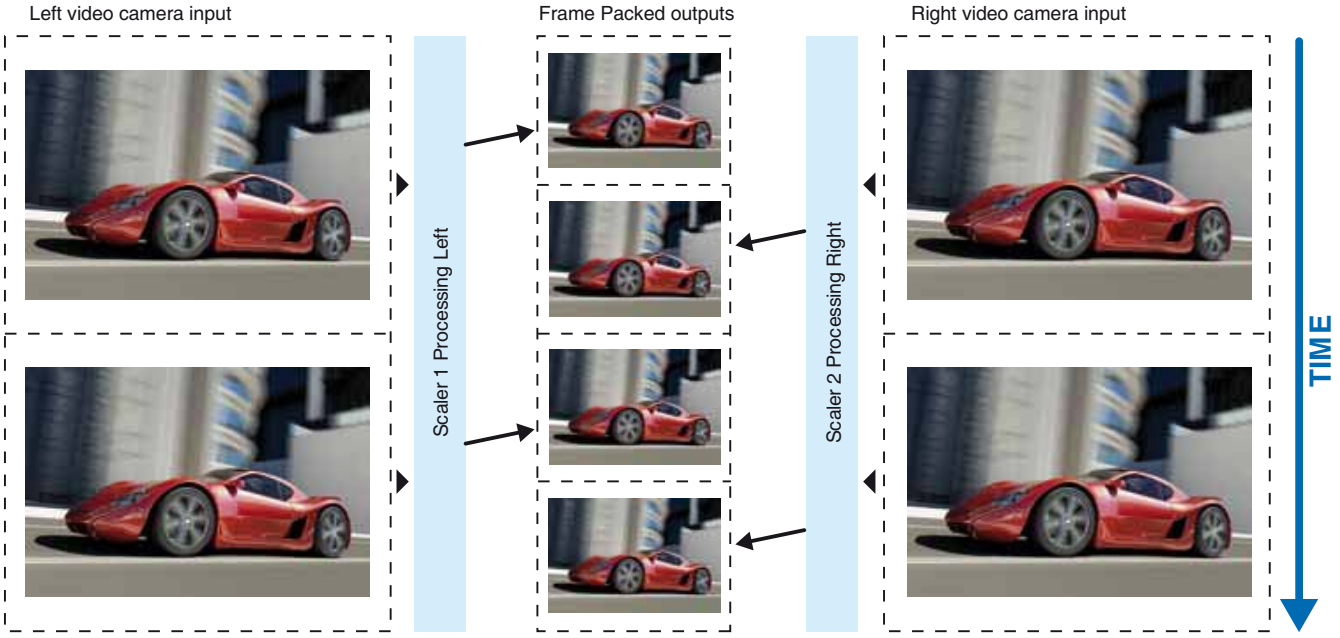
3D solutions

Due to the flexibility of CORIO® technology, TV One have been able to 3D Video support to the latest version of firmware, which will extend the ability of compatible products; for example the C2-8000 Series, C2-6204, C2-6104A and 1T-C2-750. The firmware allows the EDID data for the source to be read and adds information to the HDMI signal sent to the display so that it recognises the 3D signal. It also adds the extra 3D resolutions that supports the necessary Frame Packing. The processing of the left & right 3D images is handled by different scaling engines, allowing them to be either split from a single frame or merged into a single frame.

Frame packed 3D video resolutions

Frame packing is the simplest form of putting two images (left & right) into a single video resolution; effectively, the left image is sent first followed by the right image. Video bandwidth is doubled, which then means that the pixel rate is also doubled – and hence both left and right are sent together at the same individual frame rate. Because the video pixel rate has to be doubled in order to fit twice as many frames in during the same amount of time, only resolutions that are of low enough pixel rate can be doubled and still be within the DVI / HDMI pixel rate limit: 50, 59.94 & 60Hz for 720p, and 23.98, 24 & 25Hz for 1080p. As well as Frame Packing, left & right images can be transmitted 'Top-Bottom' or 'Side-by-Side'.

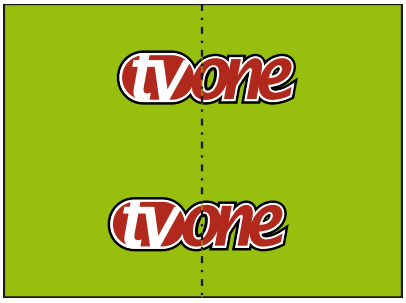


2x Camera inputs to 3D resolutions using two CORIO2 scalers

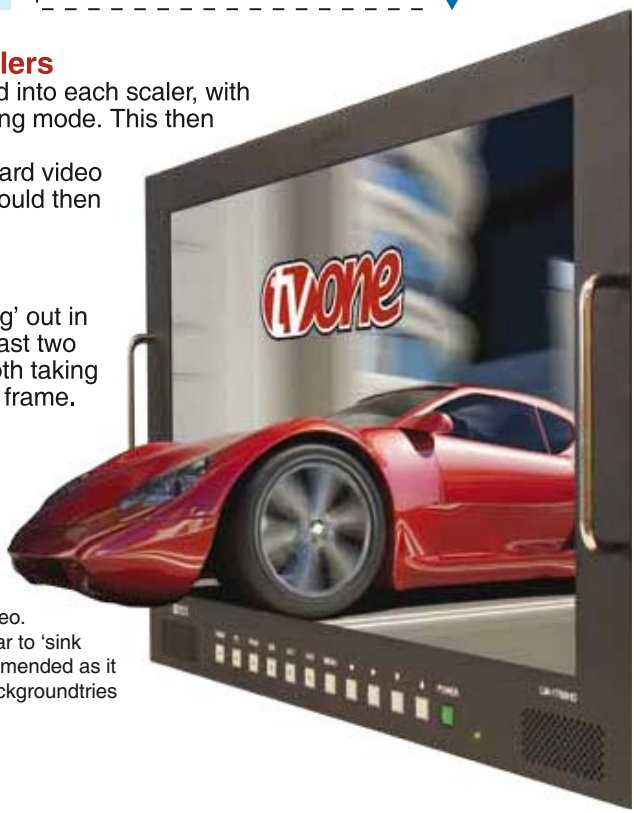
By using 2 cameras and 2 scalers, the individual camera sources can be fed into each scaler, with the resulting windows output to a single 3D resolution – as per Frame packing mode. This then allows real-time conversion of camera sources to a 3D video signal.
The same setup could be used to convert the 2 camera signals into a standard video resolution and sent over fibre, SDI, or recorded to Blu-ray. A separate unit could then scale that signal back to a standard 3D resolution for display.

3D Picture-in-Picture

A PIP can be added to a 3D resolution, with the PIP made to appear 'floating' out in front of the background video. This requires a unit with 2x scalers (and at least two inputs, one for Frame packed 3D, and one for the PC/Video PIP source), both taking the same PIP source and placing the PIP slightly offset in each Left & Right frame.



◀ Offsetting a graphic (left & right Frame Pack) and keying the background produces a PIP that appears to be 'floating' in front of the video. Reversing the offset causes the PIP to appear to 'sink back' in the frame, however this is not recommended as it can break the 3D effect if an object in the backgroundtries to go in front of it.



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