

JVC[®]

The Perfect Experience

3D Image Processor

IF-2D3D1

3D

3D Image Processor



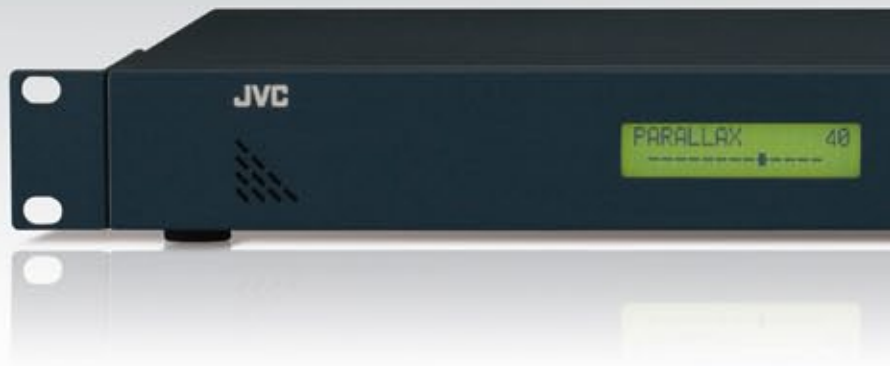
The New Way to Create 3D Content

3D Workflow – Revolutionized.

A 3D Image Processor offering real-time 2D-3D conversion and LR signal mixing helps to greatly simplify 3D content workflow.

JVC's new IF-2D3D1 3D Image Processor is capable of converting existing 2D video sources into 3D video with real-time speed thanks to unique algorithms. In addition to 2D-3D conversion capability, the IF-2D3D1 also features an LR Mixer and 3D Camera Adjustment modes that not only make 3D filming and editing more efficient but also contribute to the creation of innovative 3D video content. The IF-2D3D1 provides a variety of advantages to answer the rapidly expanding demands of 3D video content.

- **2D sources**
Input 2D source via HD-SDI/HDMI
- **3G-SDI Ready**
The IF-2D3D1 is compatible with the latest high-speed video interface 3G-SDI*.
* Complies with the Mapping structure 1 for SMPTE 425M.
- **3D Recording**
When recording in 3D with a 2 camera-head system.



REAL-TIME 3D CONVERTER

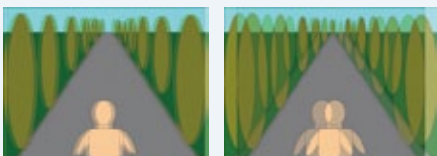
The IF-2D3D1 features a 3D converter with JVC's original algorithms that is capable of converting existing 2D film and video sources (HD-SDI or HDMI) into 3D video in real-time. The converted images can be output to 3D-compatible displays or projectors via HD-SDI or HDMI signals, and even separately as left/right HD-SDI signals for post-production of 3D images.

Stereoscopic effect adjustments

In order to achieve the most suitable and effective results for each scene just as the creator envisioned, precise adjustment of stereoscopic effects such as parallax and intensity are made possible with the IF-2D3D1. These fine-tuned values of parallax, intensity and sub-intensity can also be stored (up to two) for future use.

• Parallax

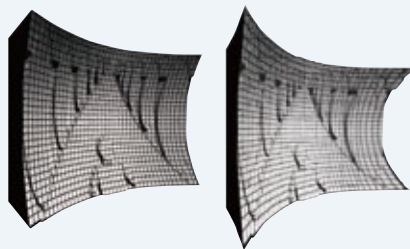
Parallax displaces the left- and right-eye image convergences.



Less parallax displacement More parallax displacement

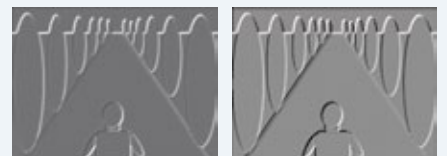
• Intensity

Intensity adjusts both the degree of curvature and perception of depth.



• Sub-intensity

Sub-intensity adjusts the relief (emboss) intensity of an object.



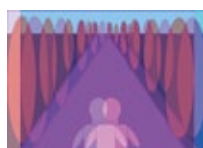
User-friendly features

■ 3D adjustment monitoring methods

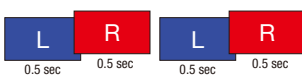
For adjusting stereoscopic effects, users can select from the three 3D monitoring methods of normal, anaglyph-like, and sequential L/R switching.



Normal: Image adjustment is possible while viewing images on a 3D-compatible monitor.



Anaglyph-like: Left and right images are colored differently.

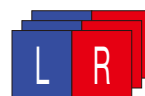


Sequential L/R switching: Left and right images are displayed alternately at 0.5-sec intervals, making this method ideal for content creators as 3D glasses are not necessary for viewing.

■ Four 3D mix formats to choose from

The IF-2D3D1 is compatible with four 3D image formats, Side-by-side-half, Above-below, Line-by-line, and Checkerboard, and any of these formats can be converted in real-time.*

* Selectable formats vary depending on the type of input signal and on the compatibility of connected devices. For further details, refer to the tables on the rear cover.



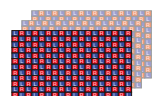
Side-by-side-half



Above-below
(top/bottom)



Line-by-line



Checkerboard

JVC's GD-463D10, a 46-inch Professional 3D Monitor

In order to obtain the optimum intended 3D effect, it is highly recommended to set the binocular parallax by first estimating the maximum size of the display for viewing.



➔ **3D output**
LR stereo output via
HD-SDI/HDMI

REAL-TIME LR MIXER

The IF-2D3D1 is equipped with a 3D image mixer that enables verification of 3D images while recording in 3D. The real-time 3D image composition feature enables easier and more flexible image monitoring while the scope functions help with camera adjustment and other device settings.

Camera adjustments

The LR Mixer features a number of camera adjustments to support 3D recordings.

- **Split**

With its Split function, the IF-2D3D1 divides a screen to display the left side of the image on the left camera and the right side of the image on the right camera. This is useful for fine-tuning requirements such as recording positions in the vertical direction, LR iris differences, and white balance adjustments. The Split position can also be shifted.

Within a screen, image on the left of the vertical line is from HD/SD SDI IN 1 (L), whereas on the right of the line is from HD/SD SDI IN 2 (R).



Example of mismatched iris adjustment



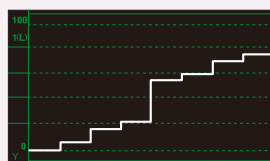
Example of vertical shift in the recording position



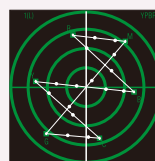
Example of mismatched white balance

- **Scope**

A built-in waveform monitor and vectorscope allow the user to easily check and monitor input signals from the 2 channels for approximate adjustment of cameras.

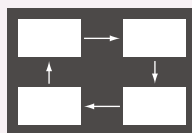


Waveform (W.F.M.)



Vectorscope (V.S.)

Available monitoring methods: Three monitoring methods of Single, Parallel and Balance are available for comparing LR signals. The scope position (waveform or vectorscope) can be set on any of the four corners.



Single: For displaying HD/SD SDI IN 1 (L) and HD/SD SDI IN 2 (R) images sequentially.

Parallel: For displaying HD/SD SDI IN 1 (L) and HD/SD SDI IN 2 (R) images side-by-side.

Balance: For displaying the differences in signals between HD/SD SDI IN 1 (L) and HD/SD SDI IN 2 (R).

The IF-2D3D1 rotation/mirror function works with most of 3D camera rig configurations.

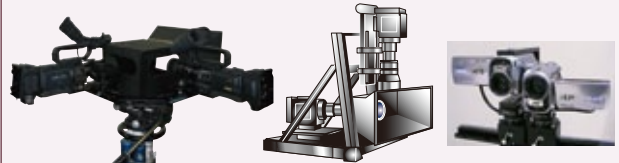


Photo: © Richard Clark, President/Inter Video

- **Rotation/mirror function**

Whether the 3D camera rig setup is rotated, H. mirrored or V. mirrored, the IF-2D3D1 inverts one of the two images vertically and/or laterally to a normal viewing position and adds automatic delay to non-rotated image by one frame in order to synchronize the two images. This allows easy viewing of both images side-by-side on the monitor.



Before rotation



After rotation

Configuration of input settings

- **Frame Synchronizer:** Left and right input signals of the same format can be synchronized.
- **LR Inversion:** Signal inversion for output to opposite channels can be accomplished.

