IF-2D3D1

Introducing the one-stop solution for 3D content creators offering real-time 2D to 3D conversion and 3D L/R dual signal mixing. JVC's IF-2D3D1 sets a stunning new standard for 3D content workflow!


You can now perform real-time conversion of 2D video resources, including high-quality HD, into a variety of 3D formats with speed and simplicity thanks to industry-first algorithms developed by JVC. What's more, JVC's new IF-2D3D1 3D Image Processor supports L/R mixing during 3D recording, thus cutting the time required for 3D content creation. This one unit is the key to transforming your workflow, providing new solutions for virtually any 3D content creation scenario, whether repurposing 2D resources or shooting new material in 3D.

Real-time 2D/3D conversion using unique JVC algorithms

- 2 D is converted into 3D in real time. You can select from four different 3D mixed formats for stereo video output.
- Separate L/R HD-SDI outputs enable you to convert existing 2D content to 3D - convenient for rough editing.
- You can adjust for both parallax and 3D intensity.

Compatible with a wide range of HD formats
Housed in a rugged metal cabinet (1U)

The 3D mixer converts L/R dual signals to a 3D mixed format - convenient for real-time monitoring when shooting in 3D or when shooting with 2D equipment

- Waveform monitor and vectorscope for comparing L \& R video streams on a display
- Split function for comparing $L \& R$ video streams on one screen with movable boundary
- Rotation function to facilitate a restricted rig setup for 2 cameras when shooting in 3D
- HD-SDI frame synchronizer* for synchronizing a pair of cameras that lack external sync
- Anaglyph and sequential viewing modes for enhanced convenience, providing multiple ways to check 3D content


## NEW PRODUCT NEWS

## Choice of 3D mixed formats

JVC's unique algorithms convert 2D into 3D in real time. And for maximum flexibility you can pick from four 3D mixed formats* for stereo video output - line-by-line, side-by-side-half, above-below, and checkerboard. In addition, you can output discrete $L$ \& R signals for processing or dual projection, and also stereo output for TV display using the HD-SDI and HDMI outputs (1 each). This means you can hook up the IF-2D3D1 directly to projectors, LCD and PDP displays.

*Depending on the format of the input signals, the choice of output formats may be limited. For details, see table (right).

## Parallax and 3D Intensity adjustment

For enhancing the 3D effect to make it easier to view, the IF-2D3D1 offers two adjustments, Parallax and 3D Intensity.

- Parallax adjustment: This displaces the left-eye and right-eye images horizontally, offering a choice of 3 different viewing modes. With Parallax 1, you can adjust the images naturally, while Parallax 2 presents anaglyph images. The third mode is Parallax 3, which allows you to make adjustments while displaying the left and right images sequentially.

Parallax 1: Adjust natural images

$$
\text { Ex. Level } 2
$$

Parallax 2: Adjust anaglyph images
Ex. Level -2


This makes it easy to check the left-eye image (red) and right-eye image (blue) as well as the foreground image and background image.

Parallax 3: Adjust the images while displaying $L$ and $R$ sequentially


Sequential mode is ideal for the content creator who doesn't require 3D glasses for viewing.
-3D Intensity adjustment: This allows virtual, simultaneous adjustment of curvature and relief, to manipulate the intensity of the 3D effect. As with Parallax adjustment, there are three viewing modes: Intensity 1 (natural), Intensity 2 (anaglyph), and Intensity 3 (sequential).
Courvature



You can adjust curvature and relief simultaneously.

## Input/output signal formats

The table shows what inputs the IF-2D3D1 accepts and what signals it can output.

| Note •:Yes LbL: Line-by-line SbS: Side-by-side-half AB: Above-below CB: Checkerboard |  |  |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Input |  |  | Functions |  | Output |  |  |  |  |  |  |  |
|  |  |  | $\begin{gathered} \hline 2 \mathrm{D} / 3 \mathrm{D} \\ \text { converter } \end{gathered}$ | $\begin{gathered} 3 D \\ \text { LR mixer } \end{gathered}$ | 3D mixed formats |  |  |  | HDSDI |  | HDMI |  |
|  |  |  |  |  | LbL | SbS | $\mathrm{AB}^{* 1}$ | CB | 3D mix | Discretete | 3D mix | Discretex ${ }^{\text {a }}$ |
| HDSDI stereo 4:2:2 (for mixing) | 1080 | 60 p |  | - | - | $\bullet$ | $\bullet$ | $\bullet$ | - | $\bullet$ | $\bullet$ | $\bullet$ |
|  |  | 50 p |  | - | $\bullet$ | $\bullet$ | $\bullet$ | $\bullet$ | $\bullet$ | $\bullet$ | $\bullet$ | $\bullet$ |
|  |  | 30p |  | $\bullet$ | - | $\bullet$ | - | $\bullet$ | $\bullet$ | - | $\bullet$ | $\bullet$ |
|  |  | 25p |  | $\bullet$ | - | - | $\bullet$ | $\bullet$ | - | - | $\bullet$ | $\bullet$ |
|  |  | 24 p |  | $\bullet$ | $\bullet$ | $\bullet$ | - | $\bullet$ | $\bullet$ | $\bullet$ | $\bullet$ | $\bullet$ |
|  |  | 60 i |  | $\bullet$ |  | $\bullet$ | $\bullet$ |  | $\bullet$ | $\bullet$ | $\bullet$ | $\bullet$ |
|  |  | 50 i |  | $\bullet$ |  | $\bullet$ | $\bullet$ |  | - | $\bullet$ | $\bullet$ | $\bullet$ |
|  | 720 | 60 p |  | - | $\bullet$ | - | $\bullet$ | $\bullet$ | - | - | - | $\bullet$ |
|  |  | 50p |  | - | $\bullet$ | $\bullet$ | $\bullet$ | $\bullet$ | $\bullet$ | $\bullet$ | $\bullet$ | $\bullet$ |
| HDSDI <br> single 4:2:2 <br> (for 2D/3D conversion) | 1080 | 60 p | - |  | $\bullet$ | $\bullet$ | $\bullet$ | $\bullet$ | $\bullet$ | $\bullet$ | $\bullet$ | $\bullet$ |
|  |  | 50p | $\bullet$ |  | - | - | $\bullet$ | $\bullet$ | - | $\bullet$ | $\bullet$ | $\bullet$ |
|  |  | 30p | $\bullet$ |  | - | $\bullet$ | $\bullet$ | $\bullet$ | $\bullet$ | $\bullet$ | $\bullet$ | $\bullet$ |
|  |  | 25p | $\bullet$ |  | $\bullet$ | - | $\bullet$ | $\bullet$ | $\bullet$ | $\bullet$ | $\bullet$ | $\bullet$ |
|  |  | 24p | $\bullet$ |  | - | $\bullet$ | $\bullet$ | $\bullet$ | $\bullet$ | $\bullet$ | $\bullet$ | $\bullet$ |
|  |  | 60 i | $\bullet$ |  |  | $\bullet$ | $\bullet$ |  | $\bullet$ | $\bullet$ | $\bullet$ | $\bullet$ |
|  |  | 50 i | $\bullet$ |  |  | $\bullet$ | $\bullet$ |  | $\bullet$ | $\bullet$ | $\bullet$ | $\bullet$ |
|  | 720 | 60 p | - |  | - | $\bullet$ | $\bullet$ | $\bullet$ | $\bullet$ | $\bullet$ | $\bullet$ | $\bullet$ |
|  |  | 50p | $\bullet$ |  | $\bullet$ | $\bullet$ | $\bullet$ | $\bullet$ | $\bullet$ | $\bullet$ | $\bullet$ | $\bullet$ |
| HDMI Video | 1080 | 60 p | - |  | - | $\bullet$ | $\bullet$ | $\bullet$ | - 2 | - ${ }^{+}$ | $\bullet$ | $\bullet$ |
|  |  | 50p | $\bullet$ |  | $\bullet$ | $\bullet$ | $\bullet$ | $\bullet$ | - 2 | - 2 | $\bullet$ | $\bullet$ |
|  |  | 30p | $\bullet$ |  | - | $\bullet$ | - | $\bullet$ | $\stackrel{\text { * }}{ }$ | $\stackrel{*}{*}$ | $\bullet$ | $\bullet$ |
|  |  | 25p | $\bullet$ |  | - | $\bullet$ | $\bullet$ | $\bullet$ | - ${ }^{+2}$ | - ${ }^{+2}$ | $\bullet$ | $\bullet$ |
|  |  | 24 p | $\bullet$ |  | $\bullet$ | $\bullet$ | $\bullet$ | $\bullet$ | - ${ }^{+2}$ | - ${ }^{+}$ | $\bullet$ | $\bullet$ |
|  |  | 60 i | $\bullet$ |  |  | - | $\bullet$ |  | $\stackrel{*}{*}$ | $\bullet$ * 2 | $\bullet$ | $\bullet$ |
|  |  | 50 i | $\bullet$ |  |  | $\bullet$ | $\bullet$ |  | $\bullet$ - ${ }^{\circ}$ | $\bullet$ * ${ }^{\text {2 }}$ | $\bullet$ | $\bullet$ |
|  | 720 | 60 p | $\bullet$ |  | - | - | $\bullet$ | $\bullet$ | - ${ }^{\text {2 }}$ | $\bullet$ * 2 | $\bullet$ | $\bullet$ |
|  |  | 50p | $\bullet$ |  | $\bullet$ | $\bullet$ | $\bullet$ | $\bullet$ | - ${ }^{2}$ | $\bullet$ * 2 | $\bullet$ | $\bullet$ |
| HDMI PC | $\begin{array}{\|l\|l\|} \hline \text { WUXGA }(1920 \times 1200)^{+3} \\ \hline \text { UXGA@60 }(1600 \times 1200)^{+4} \\ \hline \end{array}$ |  | - |  | - | $\bullet$ |  |  |  |  | - | $\bullet$ |
|  |  |  | $\bullet$ |  | $\bullet$ | $\bullet$ |  |  |  |  | $\bullet$ | $\bullet$ |
|  | WSXGA + Q60 (1680x1050)44 |  | $\bullet$ |  | - | - | $\bullet$ |  |  |  | - | - |
|  | SXGA@60 (1280×1024)*4 |  | $\bullet$ |  | $\bullet$ | $\bullet$ | - |  |  |  | - | - |
|  | WXGA@60 (1280x768) ${ }^{\text {+4 }}$ |  | $\bullet$ |  | $\bullet$ | - | $\bullet$ |  |  |  | $\bullet$ | $\bullet$ |
|  | XGA@60 (1024×768)*4 |  | $\bullet$ |  | - | - | $\bullet$ |  |  |  | $\bullet$ | $\bullet$ |
|  | SVGA@60 (800x600)*4 |  | $\bullet$ |  | $\bullet$ | $\bullet$ | $\bullet$ |  |  |  | $\bullet$ | $\bullet$ |
|  | WVGA@60 (852x480) |  | $\bullet$ |  | - | $\bullet$ | $\bullet$ |  |  |  | $\bullet$ | $\bullet$ |
|  | VGA@60 (640x480) ${ }^{\text {+5 }}$ |  | $\bullet$ |  | - | $\bullet$ | $\bullet$ |  |  |  | - | $\bullet$ |

*1: Above-below is avaiable only when 3D mixed is selected for HD-SDI or HDMI output.
*2: HDCP-protected content cannot be output.
*3:VESA CVT-RB for reduced horizontal/vertical blanking on non-CRT displays.
*4:VESA
${ }^{*}$ *5:VESA
*5: VESA industry standard timing.

Specifications \& Dimensions (tentative)

| Input specifications | HD-SDI or HDMI <br> HD-SDD is equipped with reclocked out |
| :---: | :---: |
| Output specifications | HD-SDI: Simultaneous discrete $L$ and $R$ signals HD-SDI and HDMI: 3D mixed format HDMI: Selectable (L or R) |
| Audio specifications | HD-SDI: Embedded audio to 8ch (48kHz) HDMI: Linear PCM to 8ch (48kHz) |
| Connectors |  |
| Input | HD-SDI: BNC 22 with reclocked out |
|  | HD-SDI: BNC 22 with reclocked out |
|  | HDMI (Ver1.3): $\times 1$ |
| Output | HD-SDI: BNC $\times 1$ |
|  | HD-SDI: BNC $\times 1$ |
|  | HDMI (Ver1.3): x 1 |
| External remote | RS-232C D-sub 9-pin $\times 1$ |
| General |  |
| Power requirement | AC120-240V |
| Power consumption (approx.) | 10W |
| Dimensions ( $\mathrm{W} \times \mathrm{H} \times \mathrm{D}$ ) | $430 \mathrm{~mm} \times 49 \mathrm{~mm} \times 242 \mathrm{~mm}$ (including protrusions) |
| Weight | 2.9 kg |
| Supplied accessories | AC power cord, cord holder, rack mount bracket |



