

HD-SDI Dual-Link Compatible Video Switcher  
**HVS-DualLink** "DualLink HANABI"

**FOR.A**<sup>®</sup>  
INNOVATIONS IN VIDEO  
and AUDIO TECHNOLOGY

**花火**  
HANABI

HD-SDI Dual-Link Compatible Video Switcher

**HVS-DualLink** "DualLink HANABI"



**4:4:4 RGB**

**HD-SDI Dual-Link Supported**

The HVS-DualLink is a 1M/E digital video switcher that enables input/output of 4:4:4 RGB HD-SDI Dual-Link signals. It allows 4:4:4 images scanned from a Sony HDCAM™ SR or film to be input directly without converters. With functions like wipe, dissolve, digital video effects, and color correction capabilities, it resembles a regular video switcher in every way. In fact, this video switcher is optimally suited for on-the-job situations such as color-correction, combining jobs, and editing work that require images to be expressed in the 4:4:4 RGB format.

## Dual-Link Formats Supported

The HVS-DualLink completely supports the 4:4:4 RGB HD-SDI Dual-Link format. It can process 4:4:4 RGB/10-bit video signals directly.

Formats supported

1080/25p, 25sF, 24p, 24sF, 23.98p, 23.98sF

## Operation as A Regular HD/SD Video Switcher Also Possible

The HVS-DualLink can be used not only as an HD-SDI Dual-Link compatible switcher but also as a regular HD/SD 1M/E video switcher to provide 4:2:2 YPbPr signals by mode switching.

Formats supported

- HD: 1080/60i, 59.94i, 50i, 24p, 24sF, 23.98p, 23.98sF, 720/60p, 59.94p  
- SD: 525/60 (NTSC), 625/50 (PAL)



### Large Color LCD Display



A 6.4-inch color LCD is provided for easy operation. Format mode setup, wipe and DVE patterns, and other setup parameters are visibly selected.

### Setup Condition



Current Wipe, Keyers, and DVE setup conditions are available via LED indicators for easy operator verification.

### Keyers and Chroma Key

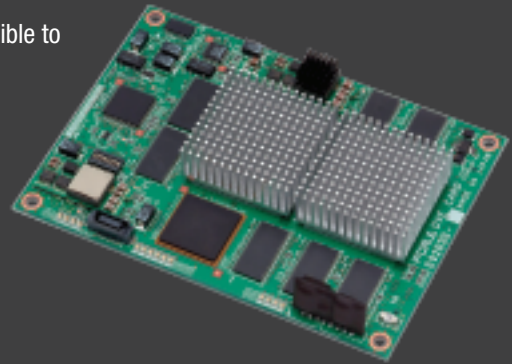
The unit comes with a total of 3 keyers (2 keyers + 1 DSK) as a standard feature. Combinations up to 6 layers are possible. Chroma key functions are provided for KEY1 and KEY2. These functions can be used for up to 2 systems.

### Still Store

A 2-system still image storage capability is provided under the standard specifications. It can be used for 4 systems in HD/SD mode. Using a memory card, image data can be imported/exported between a PC and the switcher. Animation logos using the image split-screen areas are also supported.

## High-performance, Compact DVEs

The unit contains a built-in DVE board to produce video effects. This makes it possible to not only select cutting or dissolve for Dual-Link images but also add wipe, shape change and other digital video effects to the images. In HD/SD modes, it has functions to generate 3-dimensional digital video effects using the polygon-based system. It can be used to generate digital video effects for 2 channels with HD and 4 channels with SD.



## Color Correction Features Added

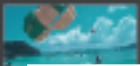
Optional color correction functions can be installed in the primary and keyer. Process control, gamma corrections and various clip functions are all available. The parameters for any of these functions can be registered in the event memory to enable different changes to be made in the course of sequences.

<Main color correction functions>

Three color correction functions (balance, differential and sepia)

- Gamma adjustment functions in HIGH, MID and LOW tones
- Process control functions (video level, chroma level and setup level)
- Various clip functions (RGB/YPBPr)

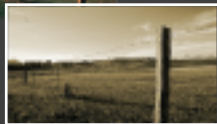
### Color correction mode



**Balance mode:**  
For color correction in RGB signals.

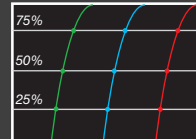


**Differential mode:**  
For color correction without upsetting the white balance.



**Sepia mode:**  
For converting the colors into a monotone.

### Gamma function



For gamma correction separately for the RGB signals in the HIGH (near 75%), MID (near 50%) or LOW (near 25%) tone.

## Event Memory

The HVS-DualLink includes an event memory that can store the data for up to 200 events and setting conditions.

## Sequence Function

A sequence memory of up to 20 patterns can be set in combination with the registered event memory. Sequences can be linked to faders for even easier operation.

## User Setting Buttons

Shortcut buttons are provided that enable registration of user-selected functions and menu options for speedy switcher operation.



## Editor Support

Support is provided for a wide range of editing protocols. Installation of the optional editor interface enables connection of editors from various makers to this system. (Supported protocols: BVS-3000 and GVG-100)

## Edit Preview

AUX 1 can be operated as an edit preview bus using control from the editor. (This requires the optional HVS-DLED editor interface.)

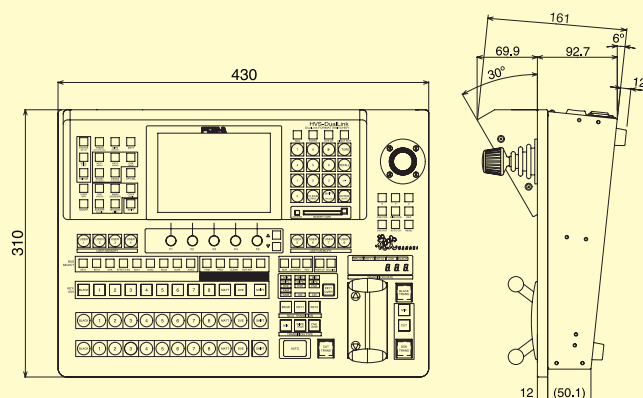
## ANC Data Through/Swap Function

In the AUX output, the ANC data can pass through or be swapped.

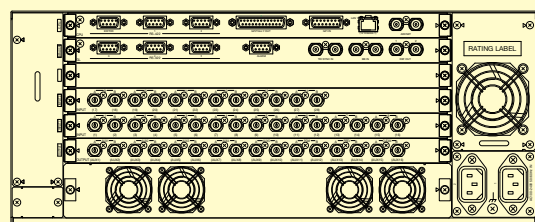
	HD-SDI Dual-Link mode	HD mode	SD mode
Standard	1080/25p, 25sF, 24p, 24sF, 23.98p, 23.98sF (Selectable at menu)	1080/60i, 59.94i, 50i, 24p, 24sF, 23.98p, 23.98sF, 720/60p, 59.94p (Selectable at menu)	525/60 (NTSC), 625/50 (PAL) (selectable at menu)
Signal processing	4:4:4:4 RGB, 10-bit	4:2:2:4 digital component, 10-bit	
Video Input	8 standard inputs, optionally expandable to 14 inputs HD-SDI Dual-Link: 1.485Gbps or 1.485/1.001Gbps, 75Ω, BNC	16 standard inputs, optionally expandable to 28 inputs HD SDI: 1.485Gbps or 1.485/1.001Gbps, 75Ω, BNC	SD-SDI: 270Mbps, 75Ω, BNC
Reference Input	Tri-level Sync: ±0.3Vp-p 75Ω or loopthrough, 1ea., BNC	Tri-level Sync: ±0.3Vp-p or BB: 0.429Vp-p (NTSC) /0.45Vp-p (PAL) 75Ω or loopthrough, 1ea., BNC	BB: 0.429Vp-p (NTSC) /0.45Vp-p (PAL), 75Ω or loopthrough, 1ea., BNC
Video Output	HD-SDI Dual-Link: 1.485Gbps or 1.485/1.001Gbps, 75Ω, 8ea., BNC (PGM, PREV, CLEAN, AUX x 5)	HD SDI: 1.485Gbps or 1.485/1.001Gbps, 75Ω, 16ea., BNC (PGM x 2, PREV x 2, CLEAN x2, AUX x10)	SD-SDI: 270Mbps, 75Ω, 16ea., BNC (PGM x 2, PREV x 2, CLEAN x2, AUX x10)
Reference Output	Tri-level Sync: ±0.3Vp-p 75Ω, 2ea., BNC	Tri-level Sync: ±0.3Vp-p or BB: 0.429Vp-p (NTSC) /0.45Vp-p (PAL) 75Ω, 2ea., BNC	BB: 0.429Vp-p (NTSC) /0.45Vp-p (PAL), 75Ω, 2ea., BNC
Memory Device	Memory card (compact flash card)		
Keyer	2 Keyer and 1 DSK	2 Keyer and 1 DSK	2 Keyer and 1 DSK
Chroma keyer	2	2	2
Still Store	2	4	4
DVE	1ch (2D DVE)	2ch (Real 3D DVE)	4ch (Real 3D DVE)
Interfaces	RS-422 -1: 9-pin D-sub (female) (for Tally unit) RS-422 -2-4: 9-pin D-sub (female) (not use) GPI IN: 1ea., 15-pin D-sub (female) GPI/TALLY OUT: 1ea., 25-pin D-sub (female) EDITOR: 1ea., 9-pin D-sub (female) ALARM: 1ea., 9-pin D-sub (female) ARCNET: 75Ω, 1ea., BNC (for OU)		
Temperature / Humidity	0°C - 40°C / 30% - 90% (no condensation)		
Power	100VAC - 240VAC 50/60Hz		
Consumption	Main Unit: Approx. 350VA (at 100VAC) HVS-DLOU: Approx. 70VA (at 100VAC)		
Dimensions / Weight	Main Unit: 430 (W) x 176 (H) x 505 (D) mm EIA 4RU / Approx. 20kg (full option: Approx. 25kg) HVS-DLOU: 430 (W) x 161 (H) x 310 (D) mm / Approx. 6.5kg (full option: Approx. 7.0kg)		
Accessories	Main Unit: AC Cable / Rack mount brackets HVS-DLOU: User's Manual / AC Cable / Connection Cable / Memory Card		
Options	HVS-DLHSDI: 6 Input Expansion Card (12 input Expansion on HD/SD mode) HVS-DLCC: Addition of Color Correction for M/E and Keyer / HVS-DLED: Editor Interface HVS-DLPSM: Redundant Power Supply for Main Unit / HVS-DLPSO: Redundant Power Supply for Operation Unit HVS-TALR20/HVS-TALR32: Tally relay Unit / HVS-TALOC20/HVS-TALOC32: Tally Open Collector Unit HVS-AUX16: 16-button AUX Switchbox with Shift / HVS-AUX32: 32-button AUX Switchbox / HVS-AUXRK: AUX Panel Extension Kit		

## External Dimensions

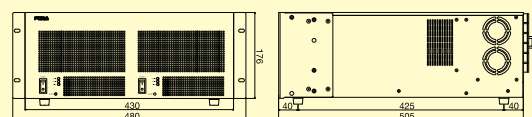
Operation Unit: External Dimensions



Main Unit Rear Panel



Main Unit: External Dimensions



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