

# Matrox® ConvertIP™ DSS

Dual-channel SFP SDI-to-IP transmitter/receiver

Matrox ConvertIP DSS is a compact, standalone ST 2110 and IPMX transmitter/receiver device. Featuring 12G-SDI, genlock, one RJ45, and three SFP28 ports on a single device, ConvertIP DSS is designed for compressed or uncompressed workflows up to 25G and is optimal for an ultra-low latency experience. The device can deliver power over Ethernet through its RJ45 connection, or it can be powered through an optional power supply unit. Both can be used simultaneously to deliver power redundancy.



## Technical specifications

Product	
Part Number	CIP-DSS
Form Factor	<ul style="list-style-type: none"> <li>Standalone appliance</li> <li>Rack-mountable: 1U, 1/2 rack (horizontal)</li> </ul>
Connectivity	
Video Input	<ul style="list-style-type: none"> <li>Tx mode: 1.5G, 3G, and 12G SDI</li> <li>Rx mode: No input</li> </ul>
Video Input Resolutions	HD and 4K broadcast resolutions
Video Outputs	<ul style="list-style-type: none"> <li>Tx mode: No output</li> <li>Rx mode: 1.5G, 3G, and 12G SDI</li> </ul>
Video Output Resolutions	HD and 4K broadcast resolutions
Genlock	Bi-Level and Tri-Level input support
Ancillary Data Processing	Yes <sup>1</sup>
Audio Input/output	<ul style="list-style-type: none"> <li>Up to 16 channels of audio embedded in SDI output signal</li> <li>Unbalanced analog stereo input via 1/8" (3.5mm) jack</li> <li>Line Level</li> </ul>
Network Connector	<ul style="list-style-type: none"> <li>2x SFP28 cages for ST 2110 media and In-band control on LAN 1 and LAN 2 <ul style="list-style-type: none"> <li>10 GbE IEEE 802.3ae (10GBASE-SR/LR)</li> <li>25 GbE IEEE 802.3by (25GBASE-SR/CR/S)</li> <li>25 GbE IEEE 802.3cc (25GBASE-LR)</li> </ul> </li> <li>LAN2 for redundancy mode only</li> <li>Dedicated RJ-45 management network interface for control (1/2.5 GbE)</li> </ul>
RS-232	Yes <sup>2</sup>
Control and Management	Web browser-based UI, standalone utility
Performance	
Maximum Video Resolutions	4096 x 2160 60p *All standard desktop GPU resolutions supported
Bit Depth and Color Space	<ul style="list-style-type: none"> <li>YCbCr 4:2:0 10-bit<sup>3</sup> and 8-bit<sup>4</sup></li> <li>YCbCr 4:2:2 10-bit</li> <li>RGB 4:4:4 8-bit</li> <li>SDR/HDR<sup>5</sup></li> </ul>
Video and Audio Processing	
Video Scaling	High Quality multi-tap 10-bit Up/Down Scaler
Video Deinterlacing	Yes
Color Space Conversion	Yes
Encoding formats	
Video <sup>6</sup>	Uncompressed: <ul style="list-style-type: none"> <li>HD 3 Gbps and 4K 12 Gbps</li> </ul> Default compressed bitrates: 200 Mbps for HD content, 820 Mbps for 4K content <ul style="list-style-type: none"> <li>Colibri codec included. 4:2:2 10-bit YUV and 4:4:4 8-bit RGB, 100 to 2000 Mbps</li> <li>JPEG-XS codec upgrade required.<sup>10</sup> 4:2:2 10-bit YUV and 4:4:4 8-bit RGB, 100 to 2000 Mbps</li> </ul>
Audio	Uncompressed PCM (~1 Mbps/ch)
Latency	Less than a 1/4 frame (<4 ms)

Network		
	<b>Network Standard</b>	RJ45 providing 1 GbE or 2.5 GbE Base-T Ethernet
	<b>IP Addressing</b>	<ul style="list-style-type: none"> <li>• IPv4</li> <li>• IPv6<sup>7</sup></li> <li>• DHCP (default) and static IP</li> </ul>
	<b>Supported Protocols</b>	<ul style="list-style-type: none"> <li>• SMPTE ST 2110 (-10, -20, -21, -22, -30, -31, and -40)</li> <li>• SMPTE ST 2059-2</li> <li>• SMPTE ST 2022-7</li> </ul>
	<b>Redundancy</b>	Yes (ST 2022-7)
	<b>Command and Control</b>	HTTPS over TCP
	<b>Discovery, Registration and Control</b>	NMOS discovery and control according to standards IS-04 v1.3 and IS-05 v1.1
	<b>PoE+</b>	Yes (IEEE 802.3at Type 2)
Physical		
	<b>Product Dimensions</b>	7.13 (D) x 7.53 (W) x 1.42 (H) inches 181 (D) x 191 (W) x 36 (H) mm
	<b>Unit Weight</b>	1.70 lbs / 770 g
	<b>Cooling</b>	Fanless
	<b>Power</b>	<ul style="list-style-type: none"> <li>• Device: Input: 12 volts, max 18 Watts</li> <li>• PoE+</li> <li>• Optional PSU (sold separately) <ul style="list-style-type: none"> <li>• Line Voltage: 100-240 V a.c., 0.5A</li> <li>• Frequency: 50-60 Hz</li> <li>• Input: IEC320-C14</li> <li>• Output: DIN4 locking power connector</li> </ul> </li> </ul>
Hardware and Software		
	<b>Hardware Included</b>	ConvertIP DSS appliance
	<b>Optional Hardware</b>	ConductIP NMOS-based routing solution (Part #: CDCTIP-MRA)
	<b>Accessories (sold separately)</b>	<ul style="list-style-type: none"> <li>• ConvertIP power supply unit (Part #: EPS40WKIT-NA, EPS40WKIT-EU, EPS40WKIT-UK, EPS40WKIT-AU, EPS40W-10PK)<sup>8</sup></li> <li>• Rackmount kit<sup>9</sup> (Part #: RMK-19TR-A)</li> <li>• Angled bracket kit (Part #: RMK-6BRKT-A)</li> <li>• Secure cable solution for HDMI (Part #: SK-SLND-4)</li> <li>• NRG redundant power supply unit (Part #: NRG-5-1DB or NRG-5-2DB)</li> </ul>
	<b>Software</b>	<ul style="list-style-type: none"> <li>• Matrox ConvertIP Command Center (Web UI)</li> <li>• Matrox ConvertIP Manager (Microsoft® Windows® 10)</li> </ul>
	<b>Optional software</b>	JPEG-XS codec license
Environmental		
	<b>Operating Conditions</b>	Temperature: 0 to 45 degrees Celsius Altitude: 650 hPa (3,580 m) to 1,013 hPa (0 m) Humidity: 20% to 80% non-condensing
	<b>Storage Conditions</b>	Temperature: -40 to 70 degrees Celsius Altitude: 192 hPa (12,000 m) to 1,020 hPa (-50 m) Humidity: 5% to 95% non-condensing
General		
	<b>EMC/EMI Device Class</b>	Class A
	<b>EMC/EMI Compliance</b>	<ul style="list-style-type: none"> <li>• CE (EU)</li> <li>• FCC (USA)</li> <li>• ICES-003 (Canada)</li> <li>• KC (Korea)</li> <li>• RCM (Aus/NZ)</li> </ul>
	<b>Environmental Compliance</b>	<ul style="list-style-type: none"> <li>• China RoHS</li> <li>• EU RoHS</li> <li>• REACH</li> </ul>
	<b>Warranty</b>	Three-year limited warranty with free online or telephone support

1. 2. 3. 4. 5. 7. Available in a future software update.

6. Bitrates will vary according to resolution.

8. Part # EPS40W-10PK does not include IEC-C14 power cord. These cables must be sourced locally.

9. Can fit up to two ConvertIP units in a 1RU space.

10. For more information, contact your Matrox Video representative.

## Contact Matrox Video

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