# Matrox® ConvertIP™ DSH

## Dual-channel SFP HDMI-to-IP transmitter/receiver

Matrox ConvertIP DSH is a compact, standalone ST 2110 and IPMX transmitter/receiver device. Featuring HDMI I/O, one RJ45, and two SFP28 ports on a singe device, ConvertIP DSH 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

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|---|---|---|
| **Product** | | |
| | **Part Number** | CIP-DSH |
| | **Form Factor** | • Standalone appliance<br>• Rack-mountable: 1U, 1/2 rack (horizontal) |
| **Connectivity** | | |
| | **Video Input** | 1x HDMI |
| | **Video Outputs** | 1x HDMI (zero latency pass-through in Tx mode) |
| | **Audio Input/Output** | • Up to 8 channels of audio embedded in HDMI signal<br>• Unbalanced analog stereo input via 1/8“ (3.5mm) jack<br>• Line Level |
| | **Network Connector** | • 2x SFP28 cages for ST 2110 media and In-band control on LAN 1 and LAN 2<br>  • 10 GbE IEEE 802.3ae (10GBASE-SR/LR)<br>  • 25 GbE IEEE 802.3by (25GBASE-SR/CR/CR-S)<br>  • 25 GbE IEEE 802.3cc (25GBASE-LR)<br>• LAN2 for redundancy mode only<br>• Dedicated RJ-45 management network interface for control (10/100 Mbps) |
| | **RS-232** | Yes[1] |
| | **Control and Management** | Web browser-based UI, standalone utility |
| **Performance** | | |
| | **Maximum Video Resolutions** | 4096 x 2160 60p<br>*All standard desktop GPU resolutions supported |
| | **Bit Depth and Color Space** | • YCbCr 4:2:0 10-bit[2] and 8-bit[3]<br>• YCbCr 4:2:2 10-bit<br>• RGB 4:4:4 8-bit<br>• SDR/HDR[4] |
| **Video and Audio Processing** | | |
| | **Video Scaling** | High Quality multi-tap 10-bit Up/Down Scaler |
| | **Video Deinterlacing** | Yes |
| | **Color Space Conversion** | Yes |
| | **HDCP Support[5]** | Yes |
| **Encoding formats** | | |
| | **Video[7]** | • Uncompressed; HD 3 Gbps, 4K 12 Gbps<br>• Colibri 4:4:4 8-bit codec; HD 200 Mbps, 4K 800 Mbps<br>• **Optional:** JPEG-XS 4:2:2 10-bit; HD 400 Mbps, 4K 1.6 Gbps |
| | **Audio** | Uncompressed PCM (~1 Mbps/ch) |
| | **Latency** | Less than a 1/4 frame (<4 ms) |
| **Network** | | |
| | **IP Addressing** | • IPv4<br>• IPv6[6]<br>• DHCP (default) and static IP |
| | **Supported Protocols** | • SMPTE ST 2110 (-10, -20, -21, -22, -30, -31, and -40)<br>• SMPTE ST 2059-2<br>• SMPTE ST 2022-7 |
| | **Redundancy** | Yes (ST 2022-7) |
| | **Command and Control** | HTTPS over TCP |
| | **Discovery, Registration and Control** | NMOS discovery and control according to standards IS-04 v1.3 and IS-05 v1.1 |
| | **PoE+** | Yes (IEEE 802.3at Type 2) |

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|---|---|---|
| **Physical** | | |
| | **Product Dimensions** | 7.13 (D) x 7.53 (W) x 1.42 (H) inches<br>181 (D) x 191 (W) x 36 (H) mm |
| | **Unit Weight** | 1.66 lbs / 755 g |
| | **Cooling** | Fanless |
| | **Power** | • Device: Input: 12 volts, max 18 Watts<br>• PoE+<br>• Optional PSU (sold separately)<br>  • Line Voltage: 100-240 V a.c., 0.5A<br>  • Frequency: 50-60 Hz<br>  • Input: IEC320-C14<br>  • Output: DIN4 locking power connector |
| **Hardware and Software** | | |
| | **Hardware Included** | ConvertIP DSH appliance |
| | **Optional Hardware** | ConductIP NMOS-based routing solution (Part #: CDCTIP-MRA) |
| | **Accessories (sold separately)** | • ConvertIP power supply unit (Part #: EPS40WKIT-NA, EPS40WKIT-EU, EPS40WKIT-UK, EPS40WKIT-AU, EPS40W-10PK)[8]<br>• Rackmount kit[9] (Part #: RMK-19TR-A)<br>• Angled bracket kit (Part #: RMK-6BRKT-A)<br>• Secure cable solution for HDMI (Part #: SK-SLND-4)<br>• NRG redundant power supply unit (Part #: NRG-5-1DB or NRG-5-2DB) |
| | **Software** | • Matrox ConvertIP Command Center (Web UI)<br>• Matrox ConvertIP Manager (Microsoft® Windows® 10) |
| | **Optional software** | JPEG-XS codec license |
| **Environmental** | | |
| | **Operating Conditions** | Temperature: 0 to 45 degrees Celsius<br>Altitude: 650 hPa (3,580 m) to 1,013 hPa (0 m)<br>Humidity: 20% to 80% non-condensing |
| | **Storage Conditions** | Temperature: -40 to 70 degrees Celsius<br>Altitude: 192 hPa (12,000 m) to 1,020 hPa (-50 m)<br>Humidity: 5% to 95% non-condensing |
| **General** | | |
| | **EMC/EMI Device Class** | Class A |
| | **EMC/EMI Compliance** | • CE (EU)<br>• FCC (USA)<br>• ICES-003 (Canada)<br>• KC (Korea)<br>• RCM (Aus/NZ) |
| | **Environmental Compliance** | • China RoHS<br>• EU RoHS<br>• REACH |
| | **Warranty** | Three-year limited warranty with free online or telephone support |

*1. 2. 3. 4. 5. 6. Available in a future software update.*
*7. 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.*


## Contact Matrox

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