Matrox Video - Product Overview June 2024

Jörg Langeheine

Account Manager

Content

- Matrox Video Company Profile
- H.264 & H.265 Encoders & Decoder
  - Maevex 6100-Series
  - Maevex 7100-Series
- IP KVM Extender
  - Extio3-Series
- Keyboard & Mouse Switch
  - KMLync
- Multi-Display Graphics Cards
  - LUMA-Series
- Multi-Monitor-Controller
  - QuadHead2Go-Series
- Video Wall Products
  - LUMA Pro Series
  - Mura IPX Capture-Cards
  - Mura Control For Windows Software & API
- ST2110 & IPMX Transmitter, Receiver & Converter
  - ConvertIP-Series
  - ConductIP & more management software
- VideoLab for Live-Demos
- Contact

Matrox Video: 45 Years of Innovation and Technology

Matrox® Video (https://www.matrox.com/en/video) is a leading manufacturer of reliable, high-quality ASICs, boards, appliances, and software for the broadcast and media, live entertainment and AV/IT markets.

Our product offerings span encoders and decoders, KVM extenders, video wall controllers, and broadcast developer products. Matrox is also a trusted supplier of some of the world's leading OEMs, offering a broad product and intellectual property (IP) portfolio to help solution providers accelerate product development, customization, and time to market.

- Private company, incorporated in 1976
- Worldwide Headquarters in Montreal, Canada
- EMEA Sales offices in Munich and London

Matrox Video: Our Verticals

Broadcast & Media

Digital Signage

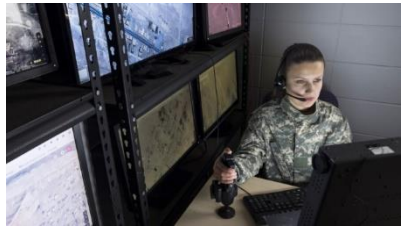
Education

Enterprise

Government

House of Worship

Medical



Military & Defense

Process Control

Transportation

H.264 & H.265 based Encoders & Decoder:

Matrox Maevex Series

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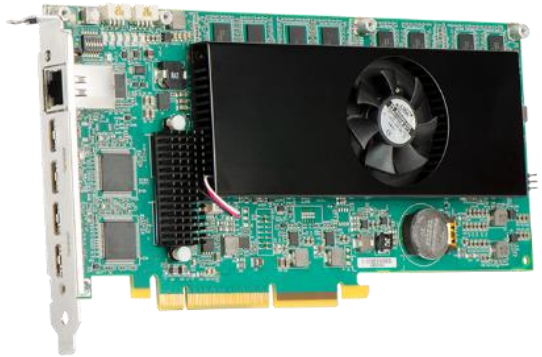
Matrox Maevex 6100 Series H.264 Encoders

- Quad & Dual appliances, and Quad PCIe card
- High density encoding:
  - Appliances: 4Kp60 input capture with zero-latency pass-through
    - Rack mountable - 1U, ½ width, quiet
  - PCIe x16 card: 4Kp30 input capture
- Streaming **and** Recording
  - Simultaneous **capture, encode, stream, record**
  - Protocols: RTP, MPEG2.TS, RTSP, RTMP, SRT, HLS
  - Record locally and/or on network
  - HDCP 1.4 & 2.2 support (MVX-to-MVX appliances only)
  - Multi Chroma subsampling support
  - Multiple fixed compositing
  - Individual encode settings (GOP, QP, profile, VBR/CBR)
  - User definable bitrate – 50 Kbps to 120 Mbps per stream



More details: https://video.matrox.com/en/products/encoders-decoders/maevex-6100-series

Matrox Maevex 7100 Series H.264 & H.265 Encoders

NEW

- Single-Channel encoder appliances
  - 7112A: AVC/H.264
  - 7112H: AVC/H.264 & HEVC/H.265
- 4K60 capture & encode with zero-latency pass-thru
- Fanless (zero noise)
- HDR support
- Streaming **and** Recording
  - Simultaneous **capture, encode, stream, record**
  - Protocols: RTP, MPEG2.TS, RTSP, RTMP, SRT
  - Record on network (NAS/NVR)
  - Individual encode settings (GOP, VBR/CBR)
  - User definable bitrate – 64 Kbps to 60 Mbps per stream
- Support for HDR, 802.1x, IGMPv2&v3

More details: https://video.matrox.com/en/products/encoders-decoders/maevex-7100-series

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Matrox Maevex 6152 H.264 Decoder

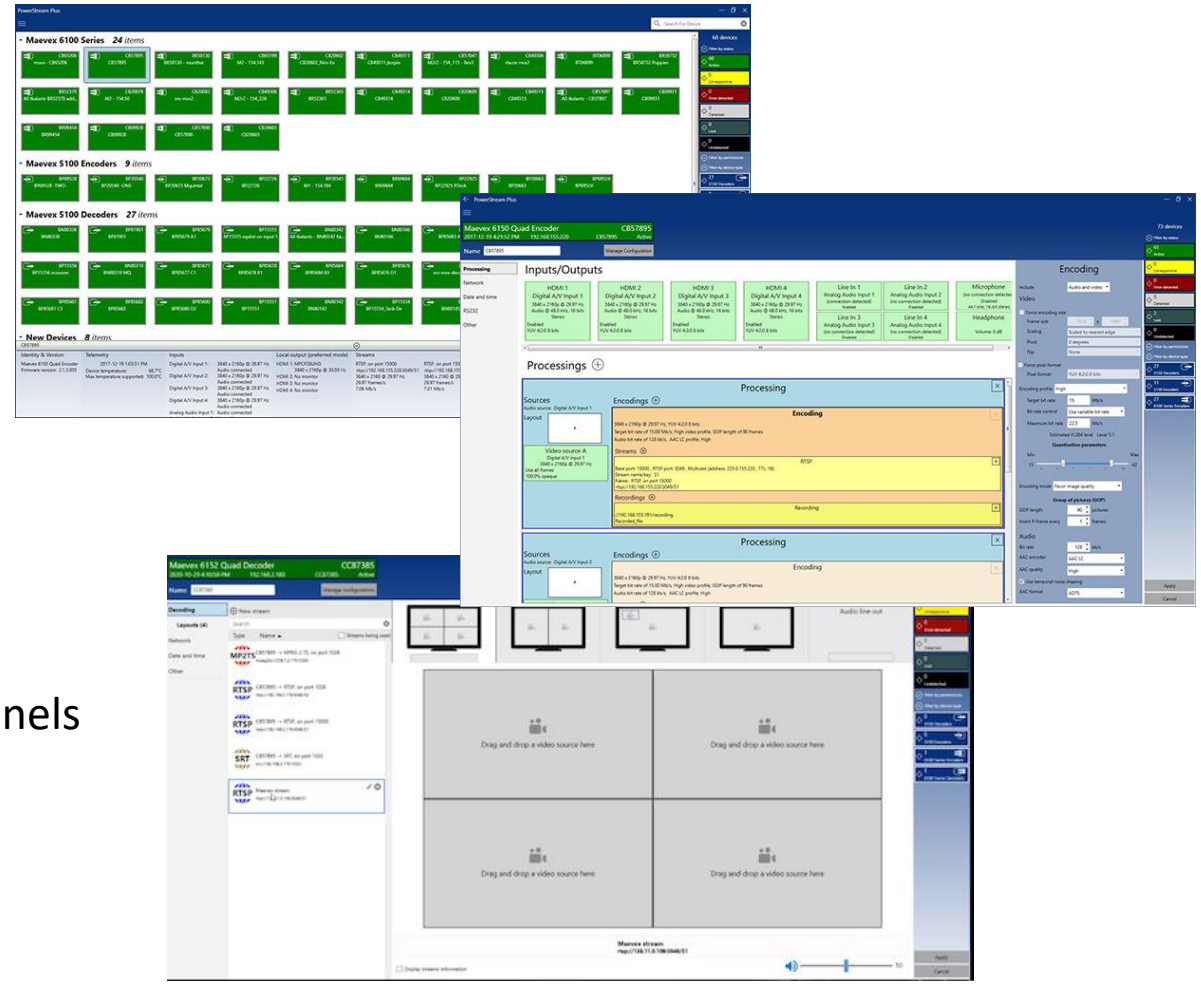
- Quad Decoder appliance
- 4x HDMI 2.0 output
  - Decode of 2x 4Kp60, 4x 4Kp30/60
- HDMI stereo audio for each output
- 1x analog stereo line-out, Mic-in, USB
- Low Latency Maevex to Maevex:
  - Video only ~50ms; Video & audio ~85ms
- Multiple preset layouts
  - Composite support (2x2, PiP, side-by-side, etc.)
  - User-defined/created layouts via API
- Decode and display:
  - 3rd party encoders
  - PTZ Cameras
  - Software encoders

More details: https://video.matrox.com/en/products/encoders-decoders/maevex-6100-series

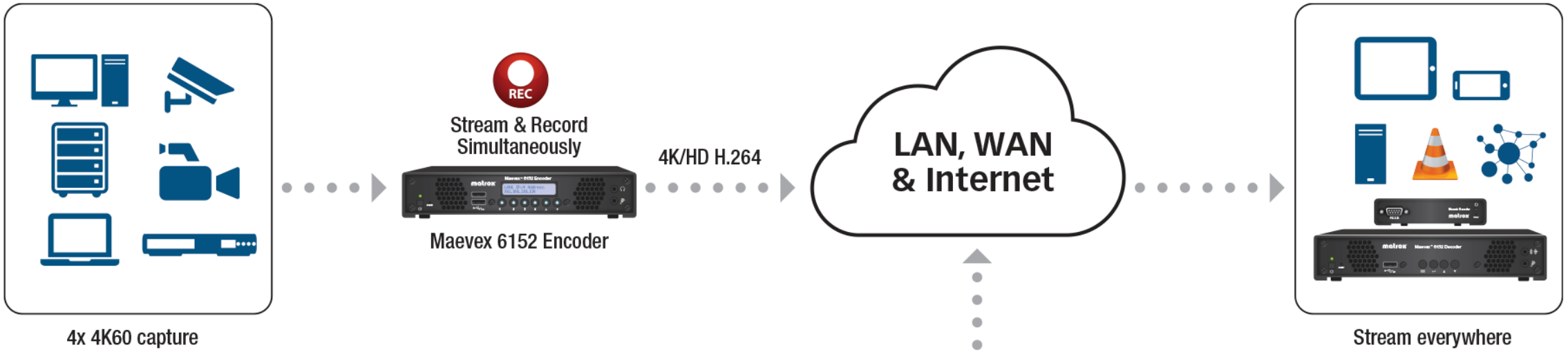
Matrox Maevex 6100 Series: Management

- PowerStream Plus Application
  - Windows app for management & setup
  - Easy to use
  - Free of charge

- APIs for custom implementation
  - PowerStream Plus API Windows & Linux
  - REST API for rapid customization
  - RS-232 API for easy implementation for control panels



Matrox Maevex 6100 Series: Workflow



IP KVM Extender:

Matrox Extio3 Series

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Matrox Extio3 Series: High Performance IP KVM Extender

- DisplayPort IP KVM, Fiber-optic and copper
- 4Kp60 4:4:4 and up to quad 1080p60 support (N3408)
- Dual 1080p60 (N3208)
- Standard 1GbE network infrastructure
- Multicast, unicast, and multi-unicast
- Longer distances over WAN and Internet
- Encrypted audio, video and USB signals
- Stereo analog audio and digital embedded audio
- Link redundancy
- EDID management
- Direct point-to-point or over IP operation

Extio 3 N3408

4Kp60, dual 4kp30 or quad 1080p60 video

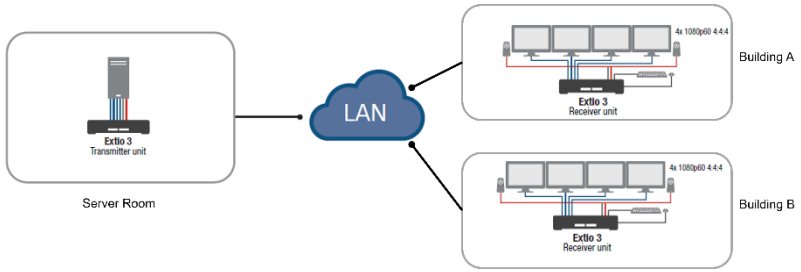
Extio 3 N3208

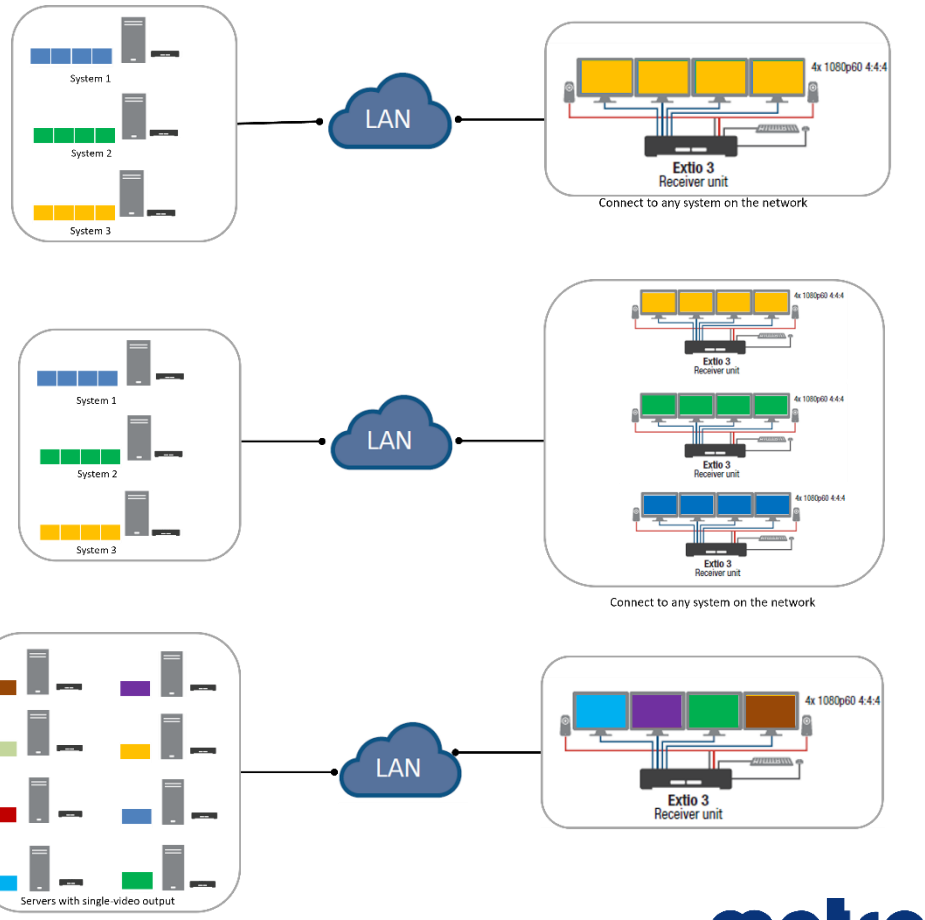
Dual 1080p60 video

More details: https://video.matrox.com/en/products/kvm-extenders/extio-3-series

Matrox Extio3 Series: Flexible Operating Modes

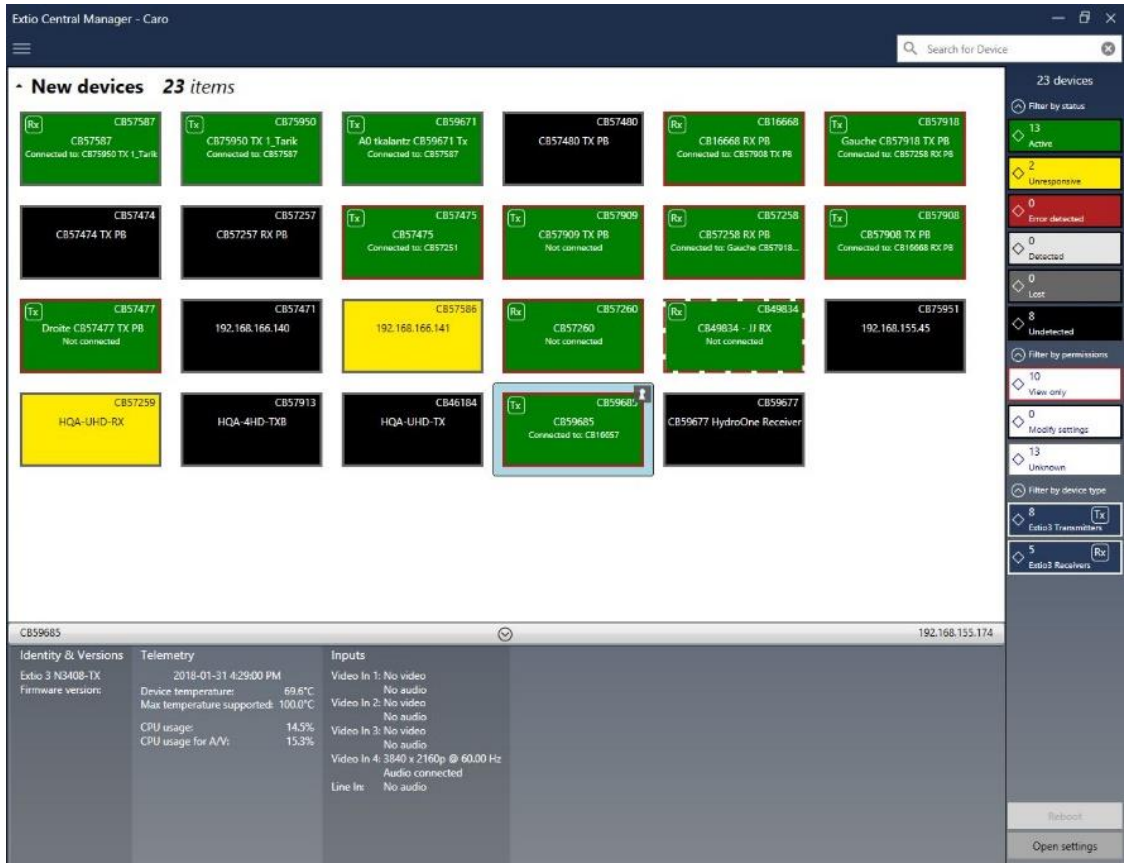
- Point-to-Point (direct)
- Point-to-Point (networked)
- One-to-many
- Many-to-One
- Many-to-Many
- Aggregator Mode
  - Multi-system control in Aggregator mode
  - Share a single set of keyboard and mouse across system
- Tile-View Mode
  - Position and control up to 4 systems on a single display



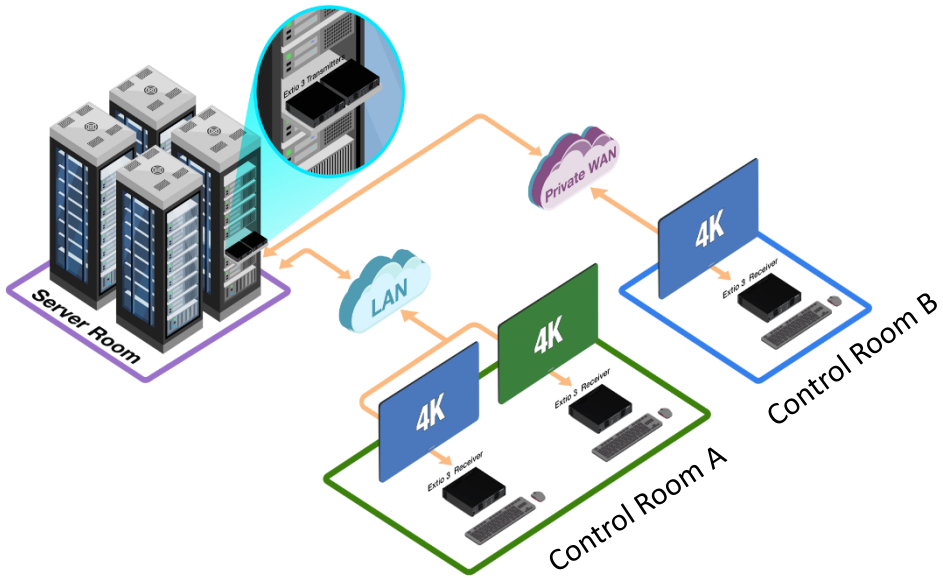


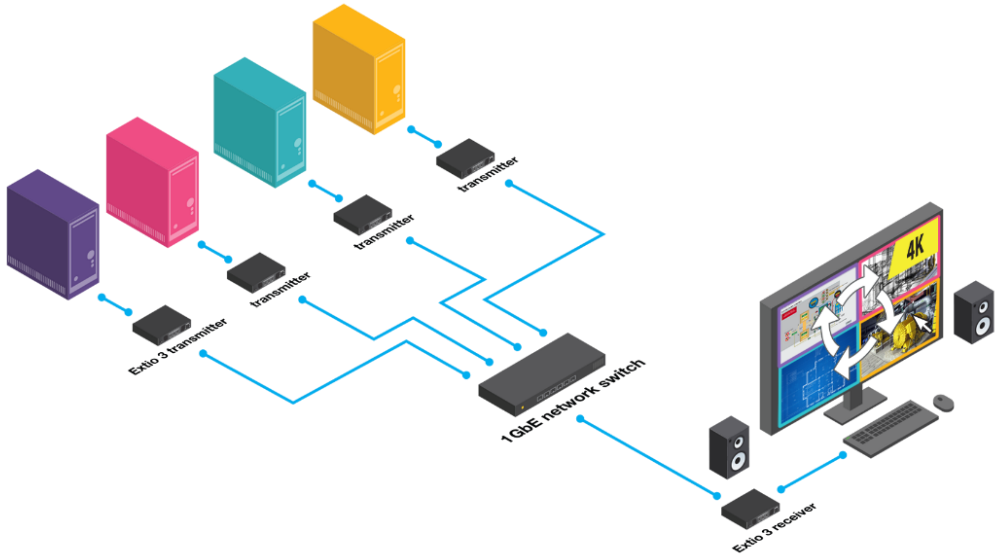
Matrox Extio Central Manager

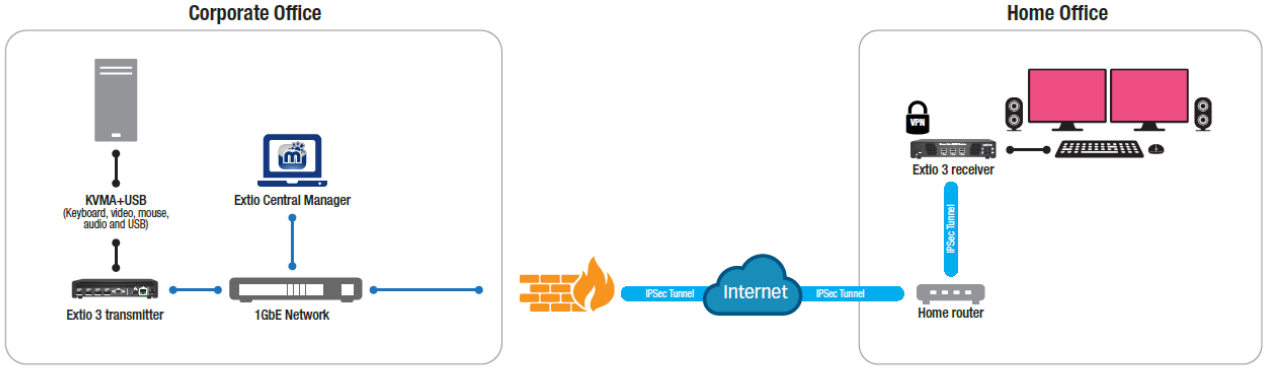
- Easy to use and intuitive software to configure, manage and monitor all devices
- Define Tx/Rx links, user access rights, and various device settings
- Distributed model – settings and parameters reside locally in each transmitter and receiver device
- Complimentary software, no licensing fees
- .NET and REST API available for developers



Matrox Extio3 Series: Workflows







NEW

Keyboard & Mouse Switch

Matrox KMLync

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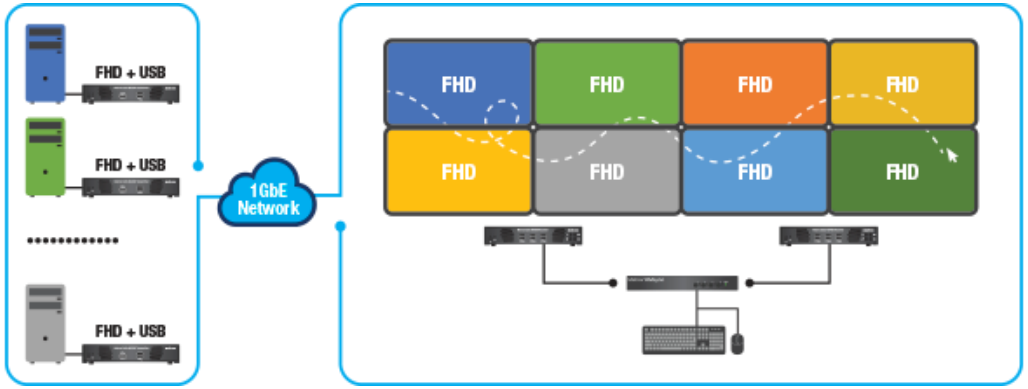
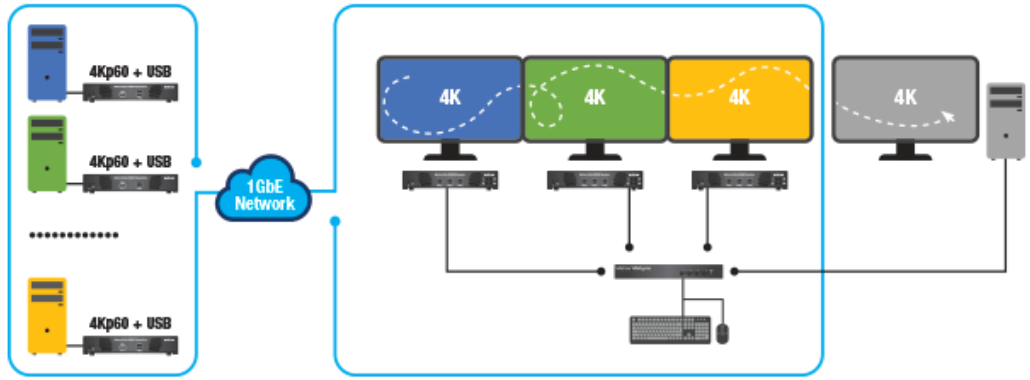
Matrox KMLync: Keyboard & Mouse Switch

Control multiple systems with one set of keyboard & mouse

- 4-port keyboard & mouse switch appliance
- Supports seamless mouse across multiple systems
- Can be used in combination with:
  - Up to 4 Extio3 receiver devices
  - Up to 4 workstations/systems
  - A mix of both

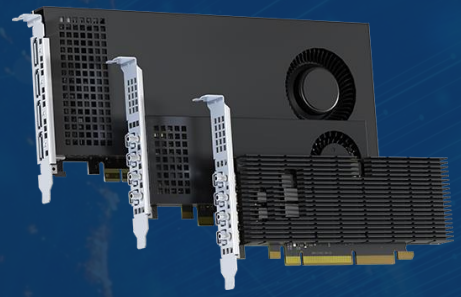




More details: https://video.matrox.com/en/products/kvm-extenders/keyboard-mouse-switch/kmlync

NEW

Multi Display Graphics Cards



Matrox LUMA Series

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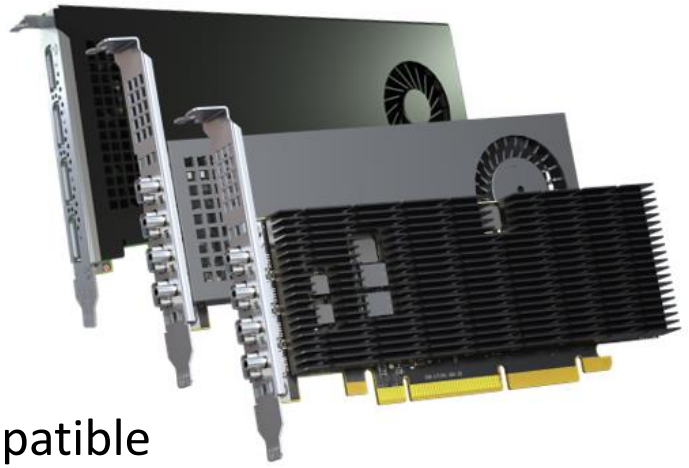
Matrox LUMA Series Graphics Cards: Key Features

- Single-slot PCI Express Gen 4 x16 (x8 electrical) graphic cards with 4x DP outputs
- 4x 5Kp60 or 2x 8Kp60
- Easy to setup and to configure through Matrox PowerDesk
- Hardware Encode/Decode of H.264, H.265 (HEVC), AV1 and VP9
- DirectX 12 Ultimate, OpenGL 4.6, OpenCL 3.0, Vulkan 1.3 and OneAPI compatible
- Long life cycle with a longevity of more than 5 years
- Powered by Intel® Arc™ GPU
- Supported OS: Win10 & 11, Linux Ubuntu



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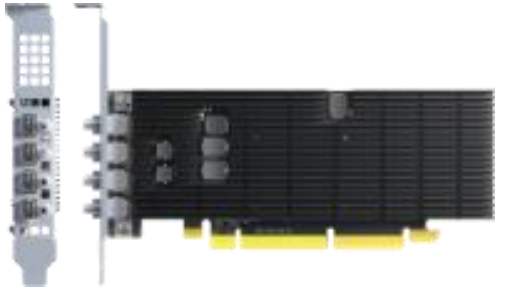
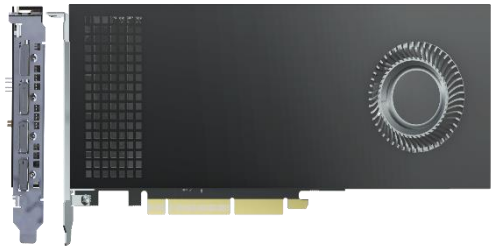
Matrox LUMA Series Graphics Cards: Multiple Options

- LUMA-A310 Fanless Low-Profile single slot with 4GB, 30W and 4 mini-DP++ 2.1 provides increased reliability through its passive cooling design



- LUMA-A310F/LUMA-A310FP* Low-Profile single slot with 4GB, 50W and 4 mini-DP++ 2.1 with secure connectors delivers increase performance in a small form factor systems.

- LUMA-A380/LUMA-A380P* Full height single slot with 6 GB, 75W and 4 DP++ 2.1 delivers best display density, resolution and performance for demanding multi-monitor applications



* LUMA Pro version has board-to-board connector for framelock support

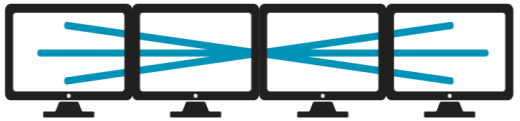
More details: https://video.matrox.com/en/products/graphics-cards/luma-series

Matrox PowerDesk Software

- Robust, field-proven Matrox PowerDesk desktop management software for Windows
- Let users easily configure and manage multi-display setups
- Included with all LUMA graphics cards

Stretched Desktop
Create a single surface across a GPU to span applications across its screens

Independent Desktop
Set displays independently from one another to open different applications within each screen.



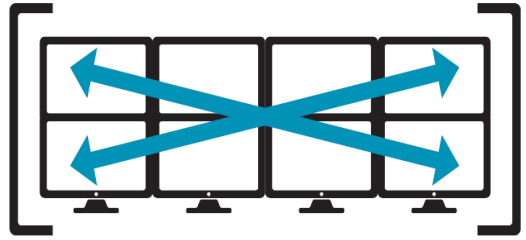
Bezel Management
Compensate for the physical space created by monitor bezels to output a continuous image across multiple displays.

Edge Overlap
Adjust the number of overlapping pixels between edge blending projectors to build a seamless, unified image.

Pivot Mode
Select any combination of portrait or landscape and set the orientation that works best for you.

EDID Management
Provide consistent EDID signal to the graphics card to ensure video is displayed correctly.

Clone Mode
Duplicate content to show the same information on all displays.



Join Mode*
Create an ultra-large desktop spanning multiple GPUs to expand applications across all screens.

*Join Mode available only on the LUMA Pro models

Multi-Monitor- Controller:

Matrox QuadHead2Go Series

Matrox QuadHead2Go – Multi Monitor Controller

- QuadHead2Go is a 4K video wall appliance or PCIe card designed to
  - display a single video source across dual, triple and quad-displays,
  - in 2x2, 2x1, 3x1, 4x1, 1x2, 1x3, 1x4 or other (artistic) configurations.
- Drive up to four pristine quality Full HD displays from a single 4Kp60 video signal.
- Expand to a video wall configuration of any size by using multiple QuadHead2Go units.

- Create a video wall from **any content source** with a valid video and audio signal.
- Design modern and artistic video wall layouts
  - each output can have its own resolution, be independently rotated (90, 180, and 270 degrees), cropped, upscaled, downscaled, and positioned anywhere.

- Easy to configure – either with push-buttons or with PowerWall software

More details: https://video.matrox.com/en/products/video-walls/quadhead2go-series

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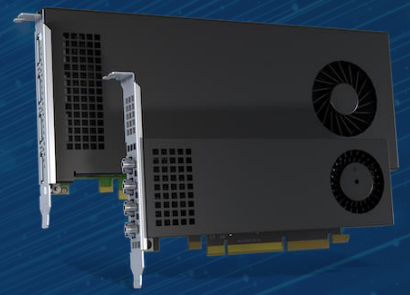
Video Wall Products:



Matrox LUMA Pro & MURA IPX Series

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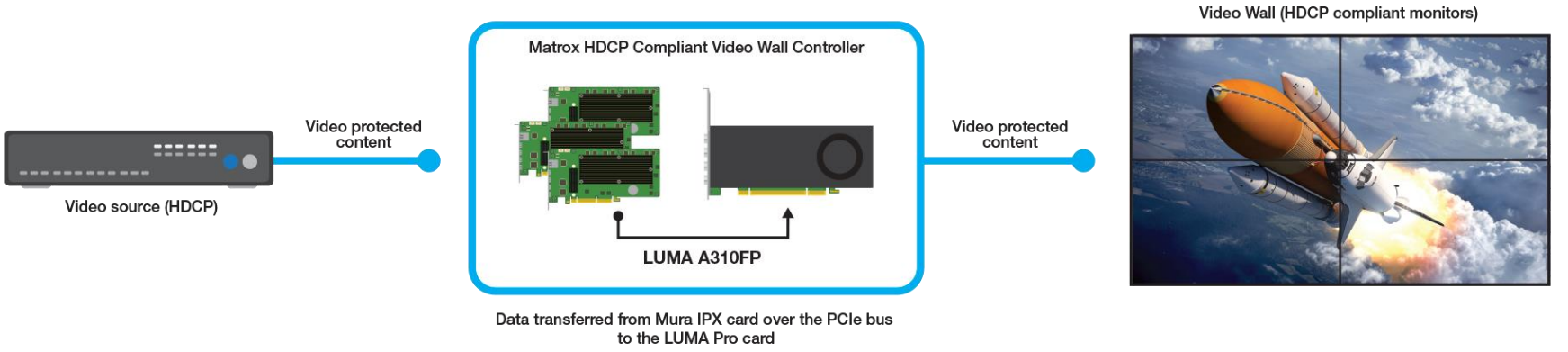
Matrox LUMA-Series Pro: Output cards for your video wall

- Specifications see Matrox LUMA Series
- Frame-lock capability with up to 4 cards per system
- Create a single large canvas using multiple cards
- Native HDCP compatibility with Matrox HDMI capture cards
- GPU H.264 & H.265 streams decoding supported by Mura libraries



Matrox LUMA Series: Overview

	LUMA-A310	LUMA-A310F	LUMA-A380	LUMA-A310FP	LUMA-A380P
8Kp60 HDR	√	√	√	√	√
Quad output	√	√	√	√	√
HDCP compliant with Matrox input card				√	√
Low-profile form factor	√	√		√	
Fanless design	√				
Card Power	30W	50W	75W	50W	75W
DisplayPort 2.1	√	√	√	√	√
Multi-GPU Framelock Synchronized video outputs				√	√
Video Wall Software with GPU codec support				√	√
Multi-GPU/SLS				√	√
Extended Life	√	√	√	√	√

More details: https://video.matrox.com/en/products/graphics-cards/luma-series

And https://video.matrox.com/en/products/video-walls/luma-pro-series

Matrox MURA IPX-Series: 4K Capture and IP Encode/Decode cards

- 4K Video Input Capture
  - Quad mini HDMI connectors or
  - Dual DP connectors or
  - Quad SDI connectors
- Video Decoding & Encoding
  - Supports H.264 up to L5.2
  - Support up to dual 4K60, quad 4K30, eight 1080p60, 16 1080p30 and many more SDs (in YUV 4:2:0) on a single board
  - Support for YUV 4:2:0, 4:2:2 and 4:4:4, RGB 8:8:8 and 10:10:10 color space
  - 8 and 10 bit per pixel color depth
  - Bit Rates: CBR, VBR and VBR with Constraints
- HDCP support in combination with Matrox D-Series and LUMA Pro
- RJ45 connector for separate network
- PCIe x8 Gen2 Host Interface (electrically). PCIe x16 mechanically.

More details: https://video.matrox.com/en/products/video-walls/mura-ipx-series

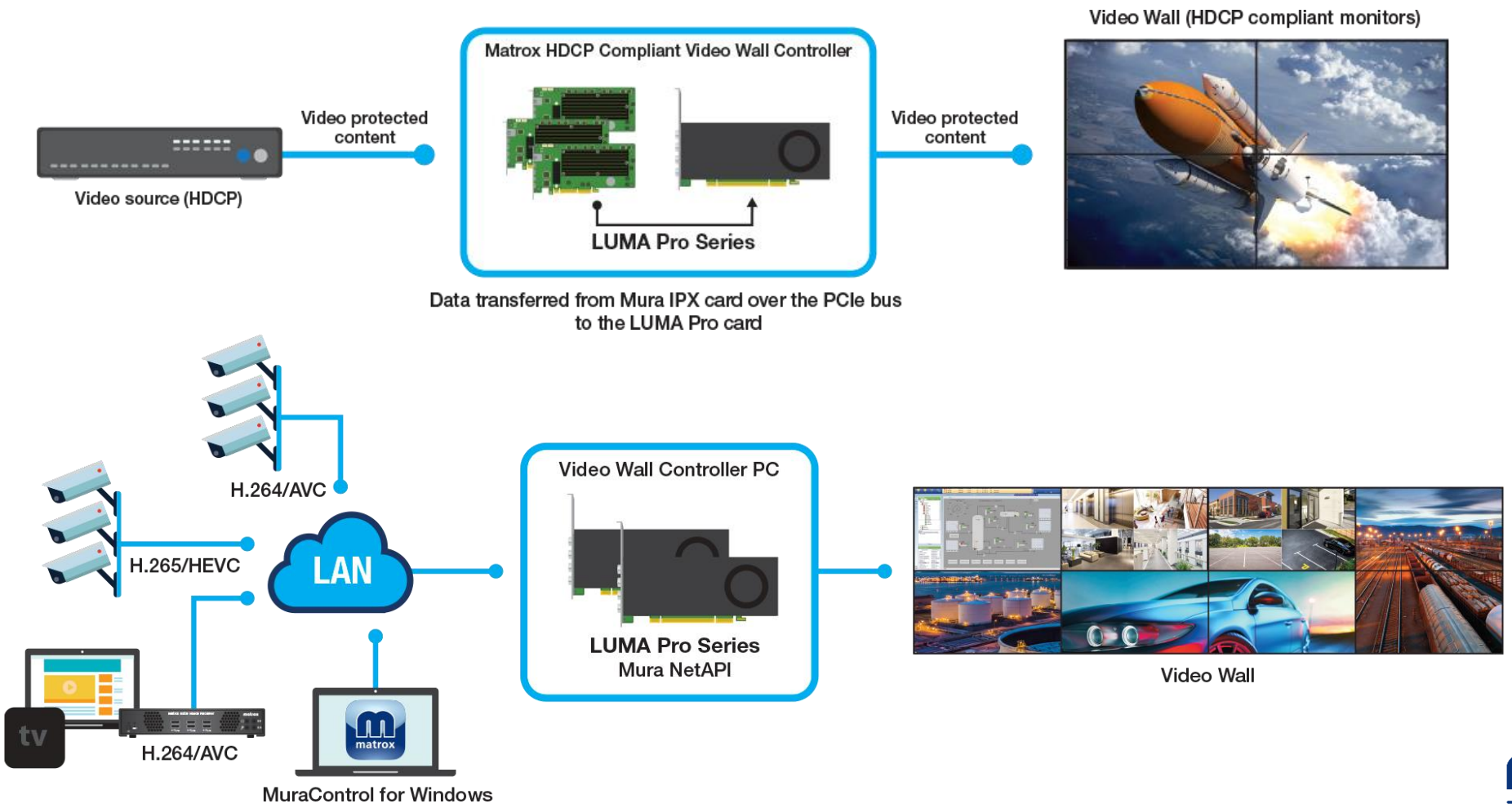
Matrox MuraControl Application for Video Wall Control

Matrox® MuraControl™ is a low-cost, premium performance, video wall management software that provides an easy and intuitive way to manage Matrox-based video wall, multi-viewer, or personal video wall locally or remotely.

- Fully compatible with LUMA series cards
- Supports Windows 10 and 11
- Free 21-day trial software available
- Free application on iPad

Additional Management via SDK & API

Video Wall Products: Workflows



IPMX / ST2110 Encoders & Decoders:

Matrox ConvertIP Series & ConductIP

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Matrox ConvertIP Series: ST 2110 and IPMX Video Converter

ConvertIP are external senders and receivers, transmitting and converting A/V-Signals over IP.

- Lossless signal-transmission (uncompressed)
- Visually lossless signal-transmission (compressed)
- Ultra-Low latency (< 1Frame)
    - 10 lines uncompressed
    - 6-8 ms compressed
- Based on open standards for better compatibility and interoperability
    - IPMX (https://ipmx.io/resources/)
    - SMPTE ST2110
    - NMOS (AMWA)

Matrox ConvertIP Series: Specifications

- ✓ Video I/O up to 4K60 4:4:4
  - HDMI
  - SDI or
  - HDBase-T
- ✓ Transmitter (TX) and receiver (RX) identical HW
- ✓ Support for copper or fibre networks
  - RJ45 for 1GB and 2,5GB
  - SFP for 10GB and 25GB
- ✓ Audio
  - Digital via HDMI, SDI or HDBase-T
  - Analog via 3,5 mm connector
- ✓ Power via
  - PoE
  - External power supply (optional)

Award-Winning

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Matrox ConvertIP Series: Multiple Options

Model	DSS	DRS	DRH	DSH	SRH	SRST
Video Input/Output	SDI	SDI	HDMI	HDMI	HDMI	HDBaseT™
Resolution	Up to 4Kp60	Up to 4Kp60	Up to 4Kp60	Up to 4Kp60	Up to 4Kp60	Up to 4Kp60
Bit Depth and Color Space	4:2:2 10 bit YCbCr	4:2:2 10 bit YCbCr	4:2:0 8/10 bit YCbCr[1], 4:2:2 8/10 bit YCbCr, 4:4:4 8/10 RGB	4:2:0 8/10 bit YCbCr[1], 4:2:2 8/10 bit YCbCr, 4:4:4 8/10 RGB	4:2:0 8/10 bit YCbCr[1], 4:2:2 8/10 bit YCbCr, 4:4:4 8/10 RGB	4:2:0 8/10 bit YCbCr[1], 4:2:2 8/10 bit YCbCr, 4:4:4 8/10 RGB
Pass-through	No	No	Yes	Yes	No	No
Network Connections	2 x SFP28 (10/25GbE) 1 x RJ45 control port (1GbE)	2 x RJ45 (1/2.5GbE) 1 x RJ45 control port (1GbE)	2 x RJ45 (1/2.5GbE) 1 x RJ45 control port (1GbE)	2 x SFP28 (10/25GbE) 1 x RJ45 control port (1GbE)	1 x RJ45 (1/2.5GbE)	1 x SFP28 (10/25GbE) 1 x RJ45 (1/2.5GbE)
Redundant Media/ Control Port	Yes	Yes	Yes	Yes	No	No
Independent Control Port	Yes	Yes	Yes	Yes	No	No
ST 2110 Support	Yes	Yes	Yes	Yes	Yes	Yes
IPMX Ready	Yes	Yes	Yes	Yes	Yes	Yes
Genlock	Yes	Yes	No	No	No	No
Analog Audio	Stereo	Stereo	Stereo	Stereo	No	No
Codec Support	Colibri 4:4:4 JPEG XS 4:2:2 optional Uncompressed	Colibri 4:4:4 JPEG XS 4:2:2 optional	Colibri 4:4:4 JPEG XS 4:2:2 optional	Colibri 4:4:4 JPEG XS 4:2:2 optional Uncompressed	Colibri 4:4:4 JPEG XS 4:2:2 optional	Colibri 4:4:4 JPEG XS 4:2:2 optional Uncompressed
Dimensions	7.13 (D) x 7.53 (W) x 1.42 (H) in 181 (D) x 191 (W) x 36 (H) mm	7.13 (D) x 7.53 (W) x 1.42 (H) in 181 (D) x 191 (W) x 36 (H) mm	7.13 (D) x 7.53 (W) x 1.42 (H) in 181 (D) x 191 (W) x 36 (H) mm	7.13 (D) x 7.53 (W) x 1.42 (H) in 181 (D) x 191 (W) x 36 (H) mm	7.13 (D) x 5.5 (W) x 1.42 (H) in 181 (D) x 138 (W) x 36 (H) mm	7.13 (D) x 7.53 (W) x 1.42 (H) in 181 (D) x 191 (W) x 36 (H) mm
Mounting Options	2 per rack, QuickZip[2] or Vesa mount	2 per rack, QuickZip[2] or Vesa mount	2 per rack, QuickZip[2] or Vesa mount	2 per rack, QuickZip[2] or Vesa mount	3 per rack, QuickZip[2] or Vesa mount	2 per rack, QuickZip[2] or Vesa mount
RS-232	Yes	Yes	Yes	Yes	No	Yes

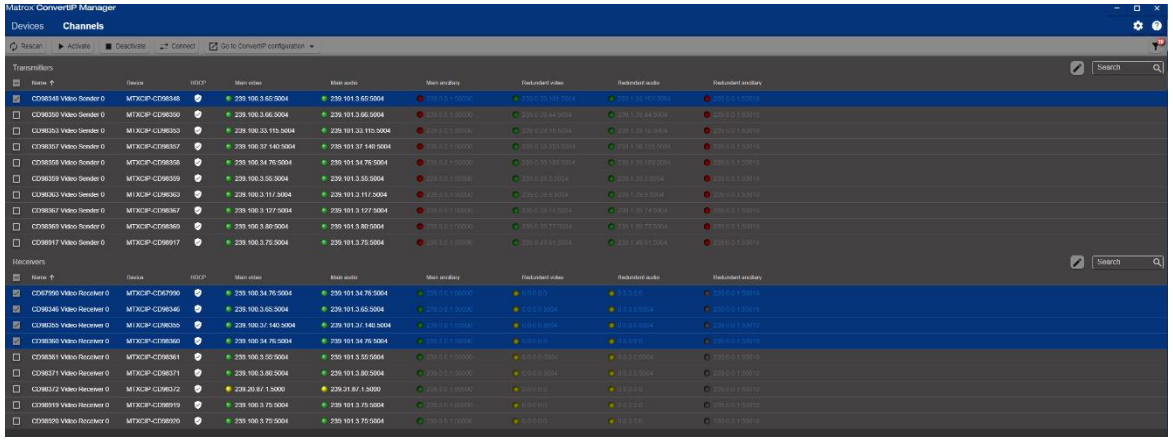
1. Available in a future software update.
2. QuickZip - ConvertIP provides on device attachment points to quickly support the device in temporary installations

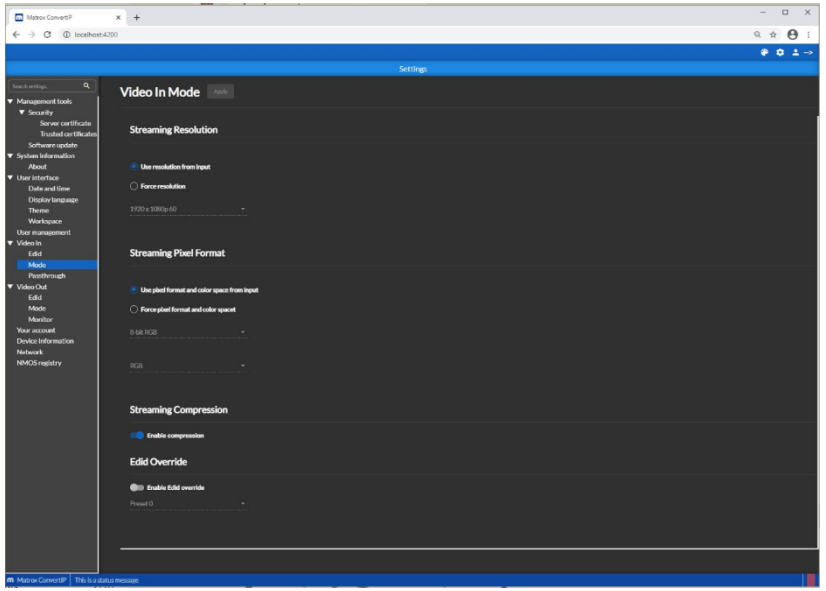
More details: https://video.matrox.com/en/products/infrastructure/convertip-series/pro-av-applications

Matrox ConvertIP Series: Management

Multiple Options to manage:

- Status LEDs & Buttons on the appliances
- WebUI based on REST API
- ConvertIP Manager: Windows application
- And…





Matrox ConductIP Routing Software

- Software for discovery, connection and routing of endpoints
- Intuitive, flexible and easy to use
- Webserver based
- Supports for NMOS compatible endpoints

Routing Software

NMOS

matrox video

Matrox VideoLab

- All products live in action
- All management SW live to see
- Live-Stream via YouTube / MS Teams etc

→ Ask for your individual session

спасибо 谢谢
GRACIAS
THANK YOU
ありがとうございました MERCI
DANKE धन्यवाद
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For more details please contact:

Joerg.Langeheine@matrox.com
Phone: +49 89 62170446