

Matrox[®] Maevox MGX Series

4K60 H.265/H.264 IPMX-ready encoders & decoders.

The Matrox Maevox MGX Series encoders and decoders deliver industry-leading low-latency 4K60 AV-over-IP streaming with H.265 4:4:4 image quality at up to 1/20th the bitrate of virtually all other ProAV codecs. Its highly efficient streaming architecture dramatically reduces network congestion, complexity, and infrastructure costs, creating a paradigm shift in the way video moves over IP. Built for enterprise and mission-critical environments, Maevox MGX supports both open-standard IPMX and Matrox IQ Mode with as low as one frame of latency, enabling organizations to optimize for interoperability or maximum performance depending on their workflow needs.

With advanced codec support, multi-protocol streaming, and integrated USB functionality for interactive workflows, Maevox MGX goes beyond traditional video distribution, enabling real-time collaboration, remote access, and scalable network deployments, all while dramatically reducing bandwidth requirements.

Key features and benefits.

High-quality 4:4:4 4K60 streaming with flexible codec support

Maevex MGX delivers exceptional 4K60 video quality with H.265 4:4:4 support, enabling bandwidth-efficient and visually lossless workflows at incredibly low bitrates. With single- and dual-channel options, they provide the flexibility to support a wide range of applications—from mission-critical control rooms to enterprise high-fidelity content distribution.

Matrox IQ Mode for industry-leading low latency and high-compression workflows

Matrox IQ Mode delivers an additional performance boost on top of MGX's high-performance encoding, achieving latency as low as 1 frame while using up to 1/20th the bandwidth of virtually all current ProAV codecs. Designed for use between compatible Matrox Video devices, it enables organizations to reduce network footprint, complexity, and cost.

Network bandwidth efficiency for scalable deployment

Built with network optimization at its core, Maevex MGX encoders and decoders deliver high-quality streams at exceptionally low bitrates. This lowers network congestion, reduces infrastructure requirements, and frees up capacity for additional streams and devices, making it easier and more cost-effective to scale deployments.

Flexible streaming and interoperability

Maevex MGX encoders and decoders support simultaneous multi-stream and multi-protocol streaming, including RTSP, MPEG-TS, SRT, and IPMX. With broad support for industry-standard codecs and streaming protocols, Maevex MGX enables interoperability with a wide range of third-party devices and systems. This flexibility lets the same MGX device distribute high-fidelity content to multiple endpoints, simplifying system design while maximizing interoperability and deployment efficiency. When using IPMX or Matrox IQ Mode, use NMOS technology for simplified and interoperable routing functionality.

Interactive workflows with USB extension

Integrated USB support for keyboard, mouse, and webcam connectivity enable real-time interaction with remote systems and applications beyond traditional video streaming. This allows users to work directly on remote computers and access desktop applications while increasing productivity.



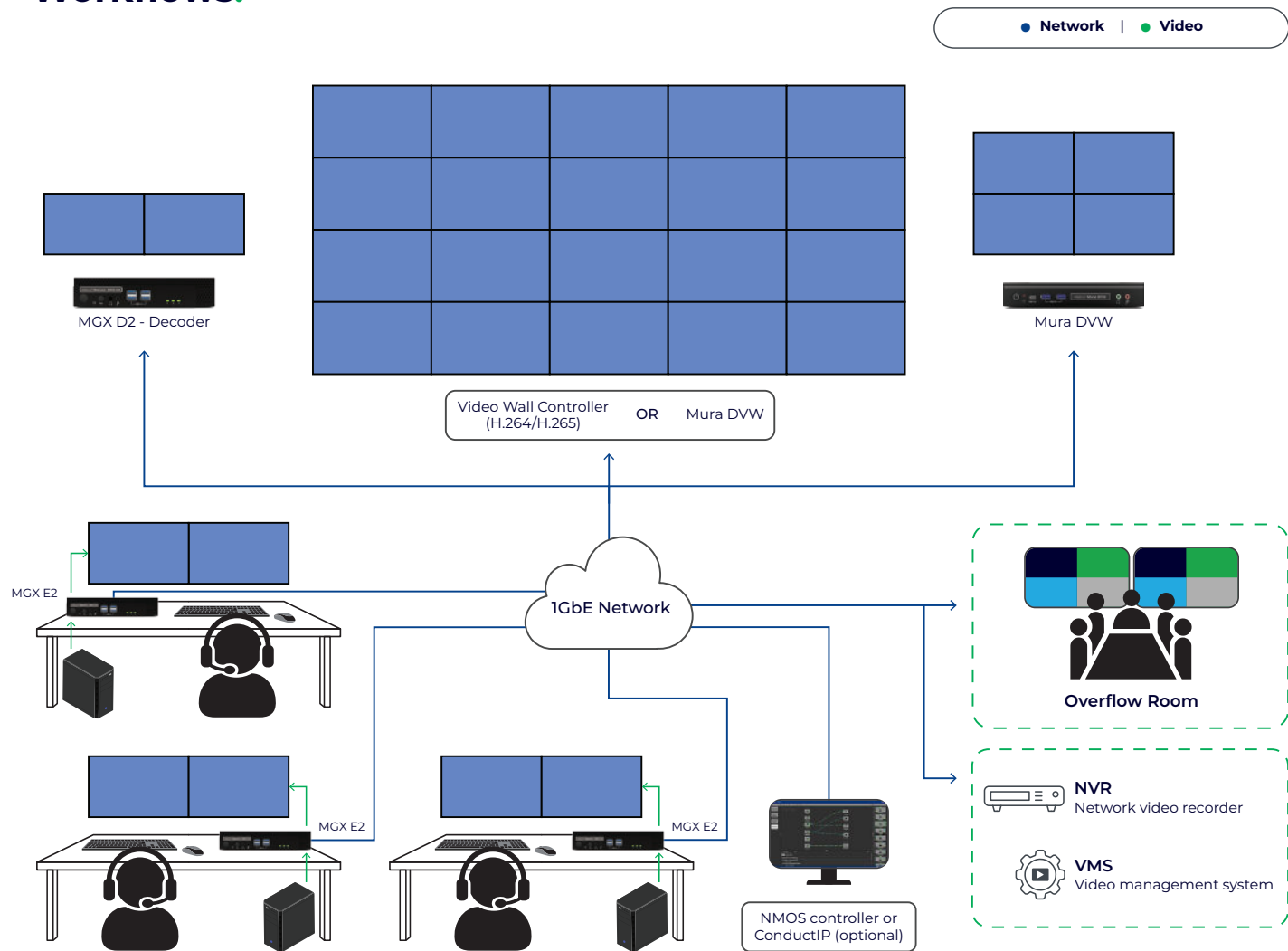
Appliance overview



Maevex MGX E1 (front/back view)



Maevex MGX E2 (front/back view)



Markets and applications.

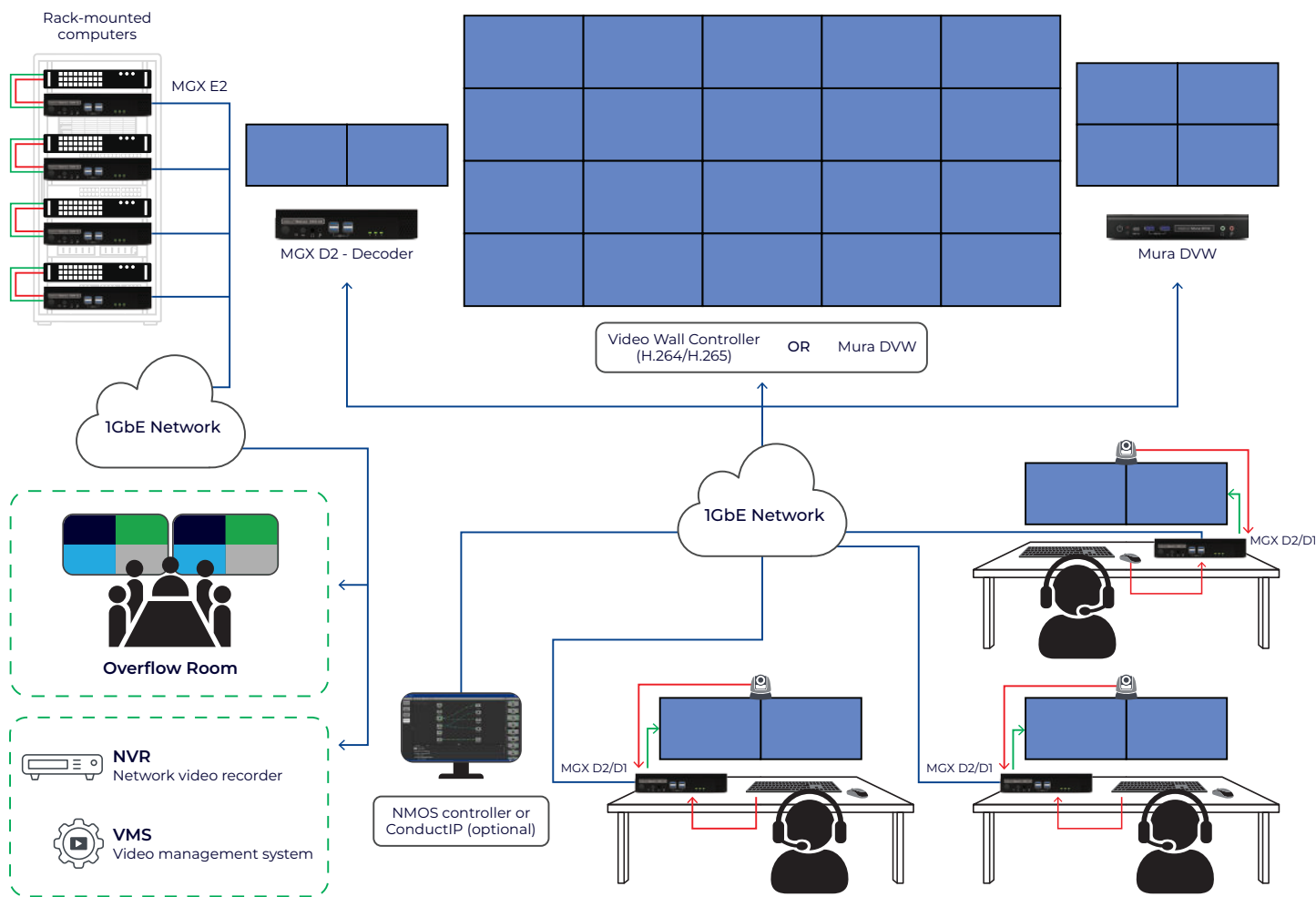
- Government and defense
- Security and monitoring
- Corporate AV
- Industrial operations
- Real-time crime centers
- Medical



Maevex MGX D1 (front/back view)



Maevex MGX D2 (front/back view)



Matrox MaeveX MGX feature comparison

	Maevex MGX E1	Maevex MGX E2	Maevex MGX D1	Maevex MGX D2
Type	Encoder	Encoder	Decoder	Decoder
HDMI channels	1 input	2 inputs	2 outputs	2 outputs
Max encode/decode capability	Encode 1x 4K60	Encode 2x 4K60	Decode 1x 4K60 or decode 2x 1080p60	Decode 2x 4K60
Matrox IQ Mode latency Class-to-glass	2 frames	1 frame	1-2 frames, depending on encoder	1-2 frames, depending on encoder
Multiview	No	Yes: 2x1	Yes: 2x1, 2x2	Yes: 2x1, 2x2

Technical specifications

Product	Maevox MGX E1	Maevox MGX E2	Maevox MGX D1	Maevox MGX D2
Part number	• MVX-MGXET1Y	• MVX-MGXET2Y	• MVX-MGXDT1Y	• MVX-MGXDT2Y
Form factor	• Standalone appliance • Rack-mountable: 1U, ½ rack (horizontal)			
Connectivity				
Input – HDMI	• 1x HDMI (Type A) with retention screw	• 2x HDMI (Type A) with retention screw	—	—
Input – audio	• HDMI digital LPCM two-channel stereo audio	• HDMI digital LPCM two-channel stereo audio	—	—
Input – microphone	• 1x 3.5mm port ¹	• 1x 3.5mm port ¹	• 1x 3.5mm port ¹	• 1x 3.5mm port ¹
Input – line In	• 1x 3.5mm port ¹	• 1x 3.5mm port ¹	—	• 1x 3.5mm port ¹
Output – HDMI	• 2x HDMI (Type A) with retention screw	• 2x HDMI (Type A) with retention screw	• 2x HDMI (Type A) with retention screw	• 2x HDMI (Type A) with retention screw
Output – headphone	• 1x 3.5mm port ¹	• 1x 3.5mm port ¹	• 1x 3.5mm port ¹	• 1x 3.5mm port ¹
Output – line out	• 1x 3.5mm port ¹	• 1x 3.5mm port ¹	• N/A	• 1x 3.5mm port ¹
Network	• Lan 1: 1000/2500 Base-T RJ45 • Lan 2: 1000/2500 Base-T RJ45 • Separate MAC addresses	• Lan 1: 1000/2500 Base-T RJ45 • Lan 2: 1000/2500 Base-T RJ45 • Separate MAC addresses	• Lan 1: 1000 Base-T RJ45 • Lan 2: 1000 Base-T RJ45 • Separate MAC addresses	• Lan 1: 1000/2500 Base-T RJ45 • Lan 2: 1000/2500 Base-T RJ45 • Separate MAC addresses
USB ports	• 4x USB Type A (front) • 1x USB Type C (back) • USB type C support for USB host connection	• 4x USB Type A (front) • 1x USB Type C (back) • USB type C support for USB host connection	• 3x USB Type A (front) • 2x USB Type A (back) • 1x USB Type C (back) • All USB ports support keyboard, mouse and webcam	• 4x USB Type A (front) • 1x USB Type C (back) • All USB ports support keyboard, mouse and webcam
COM port	• 5 Pin Com port ¹	• 5 Pin Com port ¹	—	• 5 Pin Com port ¹
Performance				
Baseband video input resolutions	• All common resolutions and refresh rates up to 3840x2160@60Hz (Progressive only)	• All common resolutions and refresh rates up to 4096x2160@60Hz (Progressive only)	—	—
Baseband video output resolutions	• Passthrough: All common resolutions and refresh rates up to 3840x2160@60Hz (Progressive only)	• Passthrough: All common resolutions and refresh rates up to 4096x2160@60Hz	• Output: - Up to 1x 4Kp60 - Up to 2x 1080p60	• Output: - Up to 2x 4Kp60
Encode	• H.265 (in 4:2:0 or 4:4:4): - Up to 1x 4Kp60 • H.264 (in 4:2:0 only): - Up to 1x 4Kp60	• H.265 (in 4:2:0 or 4:4:4): - Up to 2x 4Kp60 • H.264 (in 4:2:0 only): - Up to 2x 4Kp60	—	—
Decode	—	—	• H.265 (in 4:2:0 or 4:4:4): - Up to 1x 4Kp60 - Up to 2x 1080p60 • H.264 (in 4:2:0 only): - Up to 1x 4Kp60 - Up to 2x 1080p60	• H.265 (in 4:2:0 or 4:4:4): - Up to 2x 4Kp60 - Up to 8x 1080p60 • H.264 (in 4:2:0 only): - Up to 2x 4Kp60 - Up to 8x 1080p60
Recording	• Available in future firmware release.		—	—
Latency	• Matrox IQ Mode (glass-to-glass): as low as 32ms (2 frames) • IPMX (glass-to-glass): as low as 120ms	• Matrox IQ Mode (glass-to-glass): as low as 16ms (1 frame) • IPMX (glass-to-glass): as low as 120ms	• Matrox IQ Mode (glass-to-glass): as low as 16ms (1 frame) <i>Note: If using an E1, add 1 frame of latency (2 frames total)</i> • IPMX (glass-to-glass): as low as 120ms	• Matrox IQ Mode (glass-to-glass): as low as 16ms (1 frame) <i>Note: If using an E1, add 1 frame of latency (2 frames total)</i> • IPMX (glass-to-glass): as low as 120ms

Video and audio processing	Maevex MGX E1	Maevex MGX E2	Maevex MGX D1	Maevex MGX D2
Video scaling	· Yes			
Video compositing	· No	· Yes, fixed formats including Picture-in-Picture (PiP), Picture-by-Picture (PbP)	· Yes, fixed formats including Picture-in-Picture (PiP), Picture-by-Picture (PbP), quadrant (1080p)	· Yes, fixed formats including Picture-in-Picture (PiP), Picture-by-Picture (PbP), quadrant (1080p)
Preview mode	· Yes			
HDCP support	· 1.4 and 2.3			
Audio encoding format	· MPEG-4 AAC-LC (Raw and ADTS)			
Audio bitrates	· Up to 1152 Kbps (AAC-LC)			
Codecs and color space support	· H265 (HEVC), 4:2:0 8/10-bit: 4:4:4: 8/10-bit up to 100 Mbps · H264/MPEG-4 part 10 (AVC): 4:2:0 8-bit up to 100 Mbps · Uncompressed audio: for IPMX & Matrox IQ Mode · AAC - LC: 32 to 1152 Kbps per stereo pair			
Supported codecs				
Encoder/decoder bitrate range	· 50Kbps to 400Mbps (per stream)			
Encoding level	· Up to 6.0	· Up to 6.0	—	—
Encoding profile	· H.264 Baseline - H.264 Main - H.264 High - H.265 Main · H.265 Main 10 bits - H.265 Main 4:4:4 - H.265 Main 4:4:4 10-bit			
Encoding rate control	· Adjustable GOP size · Constant Bitrate (CBR) · Variable Bitrate (VBR)	· Adjustable GOP size · Constant Bitrate (CBR) · Variable Bitrate (VBR)	—	—
Network				
Network standard	· Auto speed · Half/full duplex · IGMP Version 2 and 3			
Routing scheme	· Unicast · Multicast · Multi-unicast	· Unicast · Multicast · Multi-unicast	· Unicast · Multicast	· Unicast · Multicast
IP addressing	· IPv4 · IPv6 · DHCP (default) and static IP			
Command and control	· mDNS and LLMNR · HTTPS over TCP			
Discovery, registration and control	· NMOS discovery and control according to standards IS-04 and IS-05			
Streaming formats	· IPMX · Matrox IQ Mode · RTP/RTSP · SRT [Caller, Sender and Rendez-Vous] · MPEG2-TS			
Physical				
Product dimensions	· 206mm (L) x 185mm (W) x 46mm (H)	· 206mm (L) x 185mm (W) x 46mm (H)	· 199mm (L) x 152mm (W) x 30mm (H)	· 206mm (L) x 185mm (W) x 46mm (H)
Unit weight	· Device only: 1.22kg	· Device only: 1.265kg	· Device only: 1.08kg	· Device only: 1.22kg
Regulatory	· CE (EU) Class A, FCC (US) Class A, ICES-003 (Canada) Class A, KC (S. Korea) Class A, RCM (Aus/NZ) Class A, UKCA (UK) Class A · Environmental Compliance China RoHS, EU RoHS, REACH, WEEE			
Operating conditions	· 0 - 40 °C (32-104 °F)			

Hardware and software	Maevex MGX E1	Maevex MGX E2	Maevex MGX D1	Maevex MGX D2
Hardware Included	• Maevex MGX E1 Encoder • Power supply: 110-240V AC, 12VDC 60W	• Maevex MGX E2 Encoder • Power supply: 110-240V AC, 19VDC 120W	• Maevex MGX D1 Decoder • Power supply: 110-240V AC, 12VDC 60W	• Maevex MGX D2 Decoder • Power supply: 110-240V AC, 19VDC 90W
Optional hardware	• ConductIP NMOS-based routing solution (Part #: CDCTIP-MRA2Y)			
Accessories (sold separately)	• Rackmount kit (Part #: RMK-19TR-A) • Secure cable solution for HDMI (Part #: SK-SLND-4) • Angle bracket kit (RMK-6BRKT-A)			
User interfaces	• Matrox Central Manager: Included app to discover, update and configure MGX devices • Web UI: Main GUI for configuration and settings • NMOS IS-04 and IS-05 API: Discovery and routing of IPMX signals			
Warranty	• Standard warranty: 2 years • Extended warranty: Contact a Matrox sales representative.			

1. Supported in future firmware release.



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