

Experience Flexible Multi 4K Streaming & Recording

SRT
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Matrox® MaeveX 6100 Series Dual and Quad 4K Enterprise Encoders



InfoComm 2018 NAB 2018

- Industry-Leading Technology
- Flexible Communication
- Complete Reach and Control

Maevox 6100 Series – Experience flexible 4K streaming & recording

Leveraging ever-expanding IP networks to push and pull content, networked technologies make it easier than ever to meet the growing demand for increased capacity and any-to-any connectivity. Compressed H.264 technology meets almost every need and requirement for quality, low bitrate streaming and recording—including 4K—and allows for multiple streams of almost every type of content to be delivered over standard 1 Gigabit Ethernet networks.

The Matrox Maevox 6100 Series is the next generation in Matrox's AV-over-IP portfolio—the world's first to deliver quad 4K input capture and encode for real-time streaming and/or recording four or more 4K/UHD and Full HD channels simultaneously. Ideally suited for process control, digital signage, military, healthcare, government, education, and other applications, the Maevox 6100 Series enterprise encoders are available in both appliance and card forms, providing convenient deployment options. Maevox 6150 featuring quad input capture and Maevox 6120 featuring dual input capture are system-independent, standalone encoder appliances with zero-latency pass-through for each input, whereas Maevox 6100 is a single-slot, quad encoder card developed for high-density encoding or for use within existing systems.

Built on H.264, Maevox 6100 Series plug-and-play solutions fit seamlessly into existing infrastructures and interoperate with virtually any H.264 decode device, ensuring high-density content distribution and system scalability. Robust Maevox PowerStream Plus software—the market's most advanced AV-over-IP software tool—completes the solution and provides flexible management of local or remote Maevox devices across the entire network.



Industry-leading technology

- Drive up-to-quad 4K/UHD and Full HD capture, encoding, streaming, and recording—simultaneously.
- Deliver best-in-breed H.264 encoding support for up to 4K/UHD with configurable multi chroma sub-sampling options for 4:4:4, 4:2:2, 4:2:0, and 4:0:0.
- Deliver content to on-premises end points, to the cloud and internet services, and also record for later editing and viewing—all simultaneously.



Flexible communication

- Stream and record simultaneously with support for SRT, RTSP, RTP, RTMP, MPEG2.TS, and HLS streaming protocols and recording with MP4 and MOV file formats.
- Employ simultaneous video streaming, processing, and recording on all channels, while customizing settings independently on each channel.
- Carry out multiple encoder tasks (stream and record) in multiple settings, without compromising quality, by using a single appliance or card.
- Webcast easily and conveniently to multiple platforms—such as Facebook Live, YouTube, Twitch, Wowza®, UStream™, LiveScale, and Restream—via simple and dedicated UI connectivity, and many more with custom hostname-URL support.



Complete reach and control

- Use PowerStream Plus software to control multiple Maevox devices (both 6100 Series and 5100 Series), to configure multi-protocol streaming, multi-bitrate streaming, multiple source capture, multiple Picture-in-Picture (PiP) and quadrant composite options, and more.
- Simplify workflow with auto discovery of any Maevox unit on the subnet, and easy addition for units outside the subnet.
- Configure settings and parameters on each Maevox unit from a central application accessible from multiple locations on the network.
- Monitor and manage the entire Maevox installation of hardware, devices, and streams through the intuitive PowerStream Plus software and/or APIs¹. Choose from three levels of implementation:



Included PowerStream Plus for easy deployment

Gain plug-and-play functionality and full access to the complete feature set immediately after download and control the entire Maevox network from centralized locations.



PowerStream Plus API for Windows & Linux and REST API for rapid customization

PowerStream Plus API supports customization from single-function application creation to full integration of all PowerStream Plus features. The REST API is also available for more flexible and portable software development and allows direct access to Maevox devices.

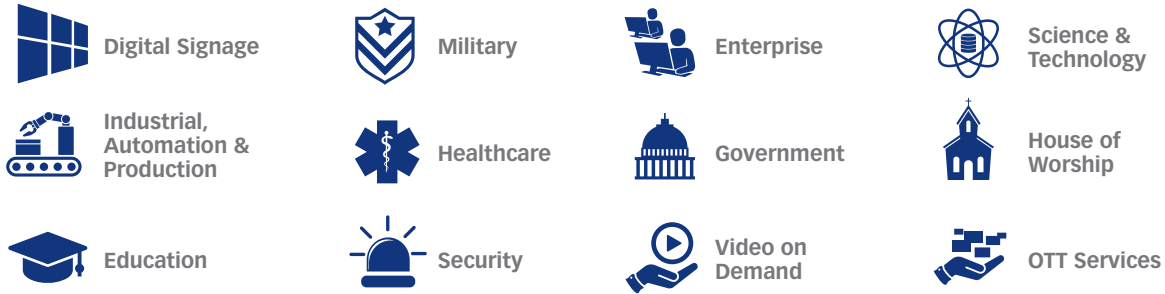


White-label re-branding solutions

Available OEM customization package provides the option to customize the graphic appearance of the PowerStream Plus user interface with enterprise naming, logos, colors, and identity for complete corporate integration.

Markets

Maevox 6100 Series Enterprise Encoders are a perfect fit for many applications. Have a specific idea in mind? Contact our sales team and work together to build a solution.



Maevox 6100 Series delivers workflow flexibility



Form factors: Appliance and card

The Maevox 6100 Series is available as system-independent, standalone encoder appliances (Maevox 6150 quad and 6120 dual), as well as a single-slot, high-density PCIe x8 quad encoder card (Maevox 6100).



Matrox Maevox 6120 dual 4K encoder appliance (front & back view)



Matrox Maevox 6150 quad 4K encoder appliance (front & back view)



Matrox Maevox 6100 quad 4K PCIe encoder card

Technical specifications

Maevox 6100 Series appliances and cards (Common specifications)

Performance

Maximum Capture Resolution

- 2x 3840x2160 @60Hz or 2x 4096x2160 @60Hz¹
- 4x (2x for Maevox 6120) 3840x2160 @30Hz or 4x (2x for Maevox 6120) 4096x2160 @30Hz

Color Space Capture

- RGB and YUV 8- and 10-bit support
- Color space conversion support

Encoding

Formats (Codecs)

- Video: H.264/MPEG-4 Part 10 (AVC)
- Audio: MPEG-4 AAC-LC/HEV1/HEV2

Chroma Sub-Sampling

- 4:0:0, 4:2:0 (8-bit and 10-bit)
- 4:2:2 (8-bit), 4:4:4 (8-bit)

Encoding Capability

(Maximum & Other Examples)²

- @4:2:0
- 2x 3840x2160 @60Hz
- 1x 4096x2160 @60Hz
- 4x 3840x2160 @30Hz
- 3x 4096x2160 @30Hz
- 2x 1920x1080 @60Hz
- 4x 1920x1080 @60Hz
- 8x 1920x1080 @60Hz
- 16x 1920x1080 @30Hz
- @4:4:4
- 1x 3840x2160 @30Hz
- 1x 4096x2160 @30Hz
- 2x 1920x1080 @60Hz
- 3x 1920x1080 @60Hz
- 6x 1920x1080 @30Hz

Profiles

- Baseline (BP), main (MP), high (HiP), high 10 (Hi10P), high 4:2:2 (Hi422P), high 4:4:4 predictive profile separate plane (Hi444PP), CAVLC 4:4:4 intra (44)

Encoding Level

- Up to 5.2

Bitrate Range (Per Stream)

- 50 Kbps to 120 Mbps³
- 15 Mbps (default)

Rate Control

- CBR, VBR, adjustable GOP size

Audio Sample Frequency

- 32 kHz, 44.1 kHz, and 48 kHz

Audio Bitrates

- Up to 576 Kbps (AAC-LC), 288 Kbps (AAC-HEV1), 144 Kbps (AAC-HEV2)

Video Compositing

- Yes, fixed formats including Picture-in-Picture (PiP), Picture-by-Picture (PbP), quadrant

Scaling

- Yes

Recording

File Format

- MP4, • MOV, • fMP4

Programmability

- Start date and time, duration, maximum file length, file frequency

Recording Locations

- Shared network drive or NAS
- Local USB ports for USB flash drive and external hard drive⁴
 - 2x USB 2.0 (front) and 1x USB 3.0 (back)

Networking Interface

Streaming Protocols

- RTSP (TCP), RTCP & RTP (UDP) - all required
- RTP/RTCP (both required) over UDP
- SRT over UDP
- RTMP
- MPEG2.TS over UDP
- HLS

Command & Control

- HTTPS over TCP, UPnP (discovery)

Network Standard

- 100/1,000 base-T Ethernet, auto speed, half/full duplex

IP Addressing

- IPv4, IPv6, DHCP (default) and static IP address support

IP Stream Support

- Unicast, multi-unicast, multicast

Software

PowerStream Plus

(Free download)

- Compatible with Maevox 5100 Series and Maevox 6100 Series
- Network discovery
- Multi-encoding and recording management
- Multi-protocol management
- Frame rate management
- Resolution control
- Administrator and user credential management
- Scaling management
- SNMP support

PowerStream Plus API for

Windows and Linux⁵

- Full-access to entire feature set via API
- .NET 4.5.1 or higher, standalone library and Mono 5.2 or higher for Linux

Maevox 6100 Series REST API⁵

- Available for lower-level development

Supported Operating Systems

- Microsoft® Windows® 10 (64-bit), Windows Server 2016, Windows 7 (32-bit, 64-bit), Windows Server® 2008 R2, Windows Server 2019

Maevox 6150 and 6120 appliances

Connectivity

Network Connector

- 2x RJ45 with status LED indicators
 - 1x control and stream
 - 1x stream only

Video Input

- 4x (2x for Maevox 6120) HDMI (Type A) with audio support

Video Output/Pass-Through

- 4x (2x for Maevox 6120) HDMI (Type A) with audio support

Video Monitoring Output⁶

- 1x DisplayPort 1.1

Audio Input

- 4x (2x for Maevox 6120) HDMI digital LPCM two-channel stereo audio
- 4x (2x for Maevox 6120) 3.5 mm analog stereo audio
 - 1 Vrms (0 dBV)
 - 14.3 kΩ (gain = 0 dB)
 - -60 dB to +6 dB (default is 0 dB)
- 1x 3.5 mm stereo mic in
 - 2.5 V
 - 1 Vrms (0 dBV)
 - 15 kΩ (gain = 0 dB), 5 kΩ (gain ≥ 10 dB)
 - -74 dB to +41 dB (default is 0 dB)

Audio Output

- 4x (2x for Maevox 6120) HDMI digital LPCM two-channel stereo audio
- 1x 3.5 mm headphones out
 - 1.2 Vrms (1.6 dBV)
 - 32 mW into 32Ω
 - -74 dB to 0 dB (default is 0 dB)

USB (For Recording)

- 2x USB 2.0 (front)
- 1x USB 3.0 (back)

Hardware

Noise Emission

- ~25 dB at full stream/record capacity

Power Supply

- 100-240 VAC in, 12 VDC out, 60W
- DIN4 locking power connector

Power Cords Included

- US, EU, UK, Aus/NZ

Product Dimensions

- 8.53 x 7.52 x 1.68 in (21.7 x 19.1 x 4.3 cm)

Form Factors

- Standalone appliance
- Rack-mountable (1U, 1/2R)

Part Numbers

- MVX-E6150-4
- MVX-E6120-2

Accessories

- Rackmount Kit (RMK-19TR-A)

Maevox 6100 Series cards

Connectivity

Network Connector

- 1x RJ45 with status LED indicators

Video Input

- 4x Mini HDMI (Type C) with audio support

Audio Input

- 4x HDMI digital LPCM two-channel stereo audio

Hardware

Product Dimensions

- 9.02 x 4.38 inches (22.91 x 11.13 cm)

Form Factor

- Single-slot, full-height card
- PCIe x16

Part Number

- MVX-E6100X16-4

Accessories

- Secure HDMI cable solution (SK-SLNA-0F)

1. Requires specific source timings, in YUV 4:2:0, 12 bits per pixel (8 bits per component); contact Matrox for more details.

2. Each encoding capability is independent of the others listed, and excludes any additional processing such as compositing, scaling, etc.

3. Content can affect results. Contact Matrox for more details and encoding capability support.

4. Maximum operational bitrate per stream is dependent on number of streams and features enabled.

5. Maevox 6150 and 6120 only.

6. Contact Matrox for more details.

7. Maximum resolution: 1920x1080.

Contact Matrox

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