Experience Flexible Multi 4K Streaming & Recording



Matrox® Maevex 6100 Series TAA Compliant Dual and Quad 4K Encoders and Decoders

Matrox® Maevex 6100 Series high compression, low latency video encoders and decoders are designed to capture, encode, stream, record, and decode multiple 4K/UHD and Full HD channels over IP. It also supports reliable, encrypted transmission over internet for the secure streaming of content. When paired, Maevex 6100 Series encoders and decoders can achieve exceptionally low latency at low network bitrate consumption.

System-independent standalone appliances, Maevex 6152 encoders feature quad input capture and Maevex 6122 encoders feature dual input capture with zero-latency pass-through for each input. Maevex 6100 is a single-slot, quad encoder card developed for high-density encoding or for use within existing systems. The Maevex 6152 quad decoder is a real-time H.264 video decoder capable of decoding up to four 4K live MPEG2-TS, RTSP, and SRT streams at low latency.

The complimentary Maevex SDK enables you to build new applications or integrate the functionalities of PowerStream Plus into existing applications. Maevex 6100 Series fits seamlessly into existing 1 GbE network infrastructures and interoperate with virtually any H.264 device, ensuring high-density content distribution and system scalability.



Maevex 6100 Series – Experience flexible 4K streaming & recording



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 subsampling 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, RTMP, MPEG2-TS, and HLS streaming protocols and recording with MP4, MOV, and fMP4 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®, Vimeo®, IBM® Video Streaming, 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 Maevex 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 Maevex unit on the subnet, and easy addition for units outside the subnet.
- Configure settings and parameters on each Maevex unit from a central application accessible from multiple locations on the network.
- Monitor and manage the entire Maevex installation of hardware, devices, and streams through the intuitive PowerStream Plus software and/or APIs¹.

Form factors: Appliance and card



Matrox Maevex 6122 dual 4K encoder appliance (front & back view)



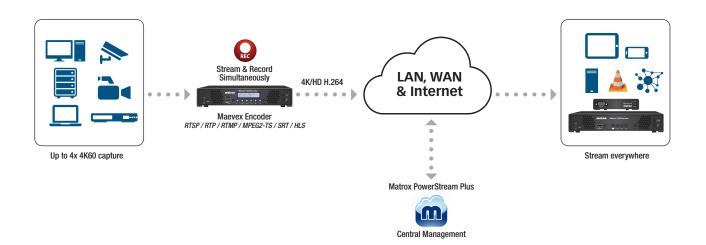
Matrox Maevex 6152 quad 4K encoder appliance (front & back view)

Markets

Maevex 6100 Series 4K Encoders and Decoders are a perfect fit for many applications. Have a specific idea in mind? Contact our sales team and work together to build a solution.



Maevex 6100 Series delivers workflow flexibility





Matrox Maevex 6152 quad 4K decoder appliance (front & back view)



Matrox Maevex 6100 quad 4K PCIe encoder card

Technical specifications: Maevex 6152 Encoder

Performance

Maximum Capture Resolution

• 4x 3840x2160 @60Hz or 4x 4096x2160 @60Hz 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)1

- œ4:2:0
- 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)² • 50 Kbps to 120 Mbps

- 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 Formats

• 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 drive
- 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
- RTSP over TCP (interleaved)

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 Maevex 6100 Series and Maevex 5100 Series
- Network discovery
- · Multi-encoding and recording management
- · Multi-protocol management
- Frame rate management
- Resolution control
- Administrator and user credential management
- Scaling managementSNMP support

Maevex 6100 Series RS-232 API

(Free download)

- Control Maevex 6100 appliances via Crestron™ Kramer™, Extron™, or other tabletop touch-screen controllers
- · Access basic commands including list, start/stop streaming and recording, and device reboot

Maevex SDK for Windows and Linux³

- Full access to entire feature set via SDK
- NET 4.5.1 or higher, standalone library and

Mono 5.2 or higher for Linux[®] Maevex 6100 Series REST API³

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®

Connectivity

Network Connector

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

Video Input

4x HDMI® (Type A) with audio support

Video Output/Pass-Through

4x HDMI® (Type A) with audio support

Video Monitoring Output⁴

1x DisplayPort™ 1.1 Audio Input

- 4x HDMI digital LPCM two-channel stereo audio
- 4x 3.5 mm analog stereo audio
- 1 Vrms (0 dBV)
- $14.3 \text{ k}\Omega \text{ (gain = 0 dB)}$
- -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 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 Numbers⁵

• Part Number: MVX-E6152-4 Accessories

• Rackmount Kit (part number: RMK-19TR-A) Secure Cable Solution for HDMI

- (part number: SK-SLND-4)
- NRG Redundant Power Supply Unit Rack tray with one NRG RPSU pre-installed (part number: NRG-5-1DB)
- Rack tray with two NRG RPSU pre-installed (part number: NRG-5-2DB)

^{1.} Each encoding capability is independent of the others listed, and excludes any additional processing such as compositing, scaling, etc. Content can affect results. For more details and encoding capability support, contact Matrox Video.

Maximum operational bitrate per stream is dependent on number of streams and features enabled.
 For more information, contact Matrox Video.

^{4.} Maximum resolution: 1920x1080.

^{5.} Please contact your Matrox Video representative to verify the TAA part number for your product.

Technical specifications: Maevex 6152 Decoder

Decoding

- Video codec: H.264/MPEG-4 Part 10 (AVC)
- · Audio codec: MPEG-4 AAC-LC / HEv1 / HEv2
- · Low latency mode
- Profile: 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 steam): 50 Kbps to 120 Mbps
- · Audio sample frequency: 32 kHz, 44.1 kHz, and 48 kHz
- Audio bitrates: Up to 576 Kbps (AAC-LC), up to 288 Kbps (AAC-HEv1), up to 144 Kbps (AAC-HEv2)
- YUV 4:0:0, 4:2:0, 4:2:2, or 4:4:4 to RGB 4:4:4 8-bit

Maximum Output Resolution

• 4x 3840x2160 @60Hz or 4x 4096x2160 @60Hz

Maximum Decode Capability Examples (4:2:0)

- 4x 3840x2160 @30Hz
- 3x 4096x2160 @30Hz
- 2x 3840x2160 @60Hz
- 4x 2560x1600 @60Hz
- 8x 1920x1080 @60Hz
- 16x 1920x1080 @30Hz

Networking Interface

- Streaming Protocols:
 - RTSP (TCP), RTCP & RTP (UDP) all required
 - RTSP over TCP (Interleaved)
- SRT over UDP
- MPEG2.TS over UDP
- · Command & control: HTTPS over TCP, UPnP (discovery)
- Network Standards:
- Auto speed
- Half/full duplex 100/1,000 base-T Ethernet
- IPv4, DHCP (default) and static IP address support
- Unicast, multicast

Connectivity

- 4x HDMI (Type A) output with digital LPCM two-channel stereo audio
- 1x RJ45 Ethernet port with status LED indicators
- 1x 3.5mm line-out
- RS-232*
- 1x USB 2.0 (front)* and 1x USB 3.0 (back)1

On-Device Button Control

- · Menu, enter, scroll forward, scroll back
- · Choose output, content, and zoom to full screen

Software

- PowerStream Plus control application:
- Microsoft® Windows® 10 (64-bit), Windows Server® 2016, Windows 7 (32-bit, 64-bit), Windows Server 2008 R2 Windows Server 2019
- PowerStream Plus SDK for Windows and Linux
- Maevex SDK for Windows and Linux²
- Full access to entire feature set via SDK
- NET 4.5.1 or higher, standalone library and Mono 5.2 or higher for Linux®
- Maevex 6100 Series REST API2
- · Available for lower-level development

Hardware

- Noise emission: ~25 dB at full decode capacity
- · Power supply: 100-240 VAC in, 12 VDC out, 60W (45W max consumption), DIN4 locking connector
- Power cords included: US, EU, UK, Aus/NZ
- Dimensions: 8.53 x 7.52 x 1.68 in (21.7 x 19.1 x 4.3 cm) Rack-mountable 1U, 1/2 R
- Part number3: MVX-D6152-4

Accessories

- Rackmount Kit (part number: RMK-19TR-A)
- Secure Cable Solution for HDMI
- (part number: SK-SLND-4)

 NRG Redundant Power Supply Unit
- Rack tray with one NRG RPSU pre-installed (part number: NRG-5-1DB)
- Rack tray with two NRG RPSU pre-installed (part number: NRG-5-2DB)

Currently not supported.
 For more information, contact Matrox Video.
 Please contact your Matrox Video representative to verify the TAA part number for your product.

Technical specifications: Maevex 6122 Encoder

Performance

Maximum Capture Resolution

- 2x 3840x2160 @60Hz or 2x 4096x2160 @60Hz 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)1

- 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)2

- 50 Kbps to 120 Mbps
- 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

Recording

File Formats

• 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 drive
- 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
- RTSP over TCP (interleaved)

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 Maevex 6100 Series and Maevex 5100 Series
- · Network discovery
- Multi-encoding and recording management
 Multi-protocol management
- Frame rate management
- Resolution control
- · Administrator and user credential management
- Scaling managementSNMP support

Maevex SDK for Windows and Linux3

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

Maevex 6100 Series RS-232 API

(Free download)

- Control Maevex 6100 appliances via Crestron™ Kramer™, Extron™, or other tabletop touch-screen
- · Access basic commands including list, start/stop streaming and recording, and device reboot
 Maevex 6100 Series REST API³

• 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®

Connectivity

Network Connector

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

Video Input

2x HDMI® (Type A) with audio support

Video Output/Pass-Through

2x HDMI® (Type A) with audio support

Video Monitoring Output⁴

1x DisplayPort™ 1.1

- Audio Input

 2x HDMI digital LPCM two-channel stereo audio
 - 2x 3.5 mm analog stereo audio
 - 1 Vrms (0 dBV)
 - $14.3 \text{ k}\Omega$ (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 k Ω (gain = 0 dB), 5 k Ω (gain≥ 10 dB)
- -74 dB to +41 dB (default is 0 dB)

Audio Output

- 2x HDMI digital LPCM two-channel stereo audio
- 1x 3.5 mm headphones out1.2 Vrms (1.6 dBV)
- $32 \text{ mW into } 32\Omega$ -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

- Part Number⁵: MVX-E6122-2 Accessories
- Rackmount Kit (part number: RMK-19TR-A) Secure Cable Solution for HDMI
- (part number: SK-SLND-4)
- NRG Redundant Power Supply Unit Rack tray with one NRG RPSU pre-installed
- (part number: NRG-5-1DB) Rack tray with two NRG RPSU pre-installed (part number: NRG-5-2DB)

- 4. Maximum resolution: 1920x1080.
- 5. Please contact your Matrox Video representative to verify the TAA part number for your product.

Each encoding capability is independent of the others listed, and excludes any additional
processing such as compositing, scaling, etc. Content can affect results. For more details and encoding capability support, contact Matrox Video

Maximum operational bitrate per stream is dependent on number of streams and features enabled.For more information, contact Matrox Video.

Technical specifications: Maevex 6100 Encoder

Performance

Maximum Capture Resolution

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

• 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 Mbps
- 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

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

IP Stream Support

Unicast, multi-unicast, multicast

Software

PowerStream Plus

(Free download)

- Compatible with Maevex 5100 Series and Maevex 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

Maevex 6100 Series RS-232 API (Free download)

- Control Maevex 6100 appliances via Crestron™, Kramer™, Extron™, or other tabletop touchscreen controllers
- Access basic commands including list, start/ stop streaming and recording, and device reboot

Maevex SDK for Windows and Linux⁵

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

Maevex 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®

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 Number⁷

• MVX-E6100X16-4

Accessories

Secure HDMI cable solution (part number: SK-SLNA-0F)

^{1.} Requires specific source timings. For more information, contact Matrox Video.

Each encoding capability is independent of the others listed, and excludes any additional processing such as compositing, scaling, etc.
 Content can affect results. Contact Matrox for more details and encoding capability support.
 Maximum operational bitrate per stream is dependent on number of streams and features enabled.

^{4.} Maevex 6150 and 6120 only. 5. Contact Matrox Video for more details.

^{6.} Maximum resolution: 1920x1080.

^{7.} Please contact your Matrox Video representative to verify the TAA part number for your product



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