

XVC HEVC 4K ENCODER

- ▶ 4Kp60 HEVC 4:2:2 10bit Encoding ▶ Ultra Low Latency Encoding
- ▶ HDMI 2.0 and 12G-SDI Inputs ▶ Supports Multiple Streaming Protocols

LIVE Streaming workflow



KEY FEATURES

- Next generation, HEVC UHD video over IP
- Broadcast level video quality
- Up-to 50% bandwidth reduction compared to H.264
- Supports HEVC (H.265), main 4:2:2 10bit, up-to level 5.1
- Ultra-Low encoding latency < 50ms
- HDMI 2.0a and 12G-SDI inputs
- RTP, RTSP/RTP, TS-UDP, TS-RTP, SRT streaming protocols
- Web interface/ REST API control
- Low power consumption/small form factor
- Scalable and future proof

EXCEPTIONAL VIDEO QUALITY OVER IP

The **XVC-HEVC** includes HDMI 2.0a and 12G-SDI inputs enabling 4Kp60 video.

The **XVC-HEVC** is capable of encoding video at UHD fully compliant to H.265/HEVC while maintaining ultra-low encoding latency below 50ms.

INNOVATIVE TECHNOLOGY

XVC-HEVC is an ultra-low latency Encoder supporting broadcast quality HEVC/H.265. The **XVC-HEVC** saves up to 50% of bitrate compared to H.264/AVC while maintaining 10 bit pixel accuracy and 4:2:2 color fidelity. The **XVC-HEVC** supports multiple streaming protocols enabling the user to stream virtually to any endpoint.

APPLICATIONS

- Broadcast - contribution Encoder
- Video distribution point-to-point and point-to-multipoint
- Video over wireless, cellular, satellite links
- Web casting and live streaming
- Medical
- eLearning
- Video matrixing over IP

VIDEO

Video Input

- HDMI Type A connector, HDMI v2.0a (Non HDCP)
 - Standard SDI BNC connector
- | | |
|-----------------|---------------------------------------|
| SD-SDI: | SMPTE 259M-C |
| HD-SDI: | SMPTE 292M |
| 3G-SDI: | SMPTE 424M (Level A Only), SMPTE 425M |
| 6G-SDI: | SMPTE 2081-1 |
| 12G-SDI: | SMPTE 2082-1 |

Input Resolution (SD/HD/UHD/4K)

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|-------------|---|
| 4K: | 4096x2160p 23.97, 24, 25, 29.97, 30, 50, 59.94, 60 Hz |
| UHD: | 3840x2160p 23.97, 24, 25, 29.97, 30, 50, 59.94, 60 Hz |
| FHD: | 1920x1080p 23.97, 24, 25, 29.97, 30, 50, 59.94, 60 Hz |
| HD: | 1280x720p 50, 59.94, 60 Hz
1920x1080i 25, 29.97, 30 Hz |
| SD: | 720x576p50 ^(*) , 720x576i25, 720x480p59.94 ^(*) ,
720x480i29.97 Hz
^(*) Not supported in SDI |

Output Stream

- Up to 4Kp60 HEVC over Ethernet

Video compression

HEVC/H.265

- ISO/IEC 23008-2 HEVC (H.265)
- Main 10 4:2:2, up-to level 5.1, high tier
- Pixel depth 8/10 bits
- Frame rates: 23.97, 24, 25, 29.97, 30, 50, 59.94, 60 Hz

Codec features:

- HEVC/H.265 support
- On the fly parameter settings
- Configurable GOP size, FPS, BPS
- I/P/B frame support
- 4:2:0 or 4:2:2 chroma sub-sampling
- Supports progressive and field based interlaced encoding
- Rate control: CBR and capped VBR
- Bitrates: from 500Kbps to 80Mbps
- Frame rate: full, half, quarter, quarter, one eighth of the input frame rate
- Low latency encoding mode (<50ms)

Encoding Performance

- Up to 4Kp60 4:2:2 10 bits HEVC stream

AUDIO

Audio Input

- HDMI embedded audio
- SDI Embedded audio
- Analog audio unbalanced (PL stereo connector)

Audio Output

- Compressed audio over Ethernet

Audio sample format (In/Out)

- Single stereo channel at Fs = 48KHz, 16bit per/sample

Audio Compression

- MPEG-2 AAC-LC (ISO/IEC 13818-7), configurable bitrate 64-256Kbps

LATENCY

- Low latency mode^(*): < 50ms (encoding latency, at 4kp60, 20Mbit)
- Normal mode latency: up to 1000ms depending on GOP structure

^(*) The stream is compliant to RFC-7798, RTP for HEVC, IPP GOP structure.

NETWORK

Communication Ethernet

- ETH - RJ45, Ethernet 10/100/1000 Base-T, auto-neg, auto-sense, half/full duplex
- SFP⁽¹⁾ - Empty SFP slot for 1GbE SFP module

Network protocols

- **Streaming:**
 - RTP/RTSP
 - RTP streaming (unicast, multicast)
 - MP2TS over UDP (unicast, multicast)
 - TS over SRT
 - TS over RTP
- **Other:** HTTP, IGMP V1/V2, DHCP client, SSH, SNMP V3, 802.1X⁽¹⁾ authentication⁽¹⁾

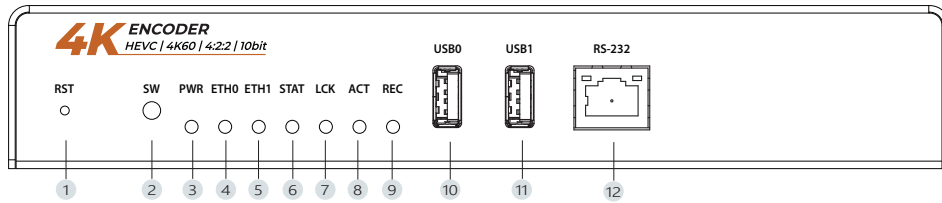
Encoder management

- HTTP browser Interface
- REST API
- Remote F/W upgrade via browser or REST API
- H/W button for factory defaults

OTHER PORTS / CONNECTORS

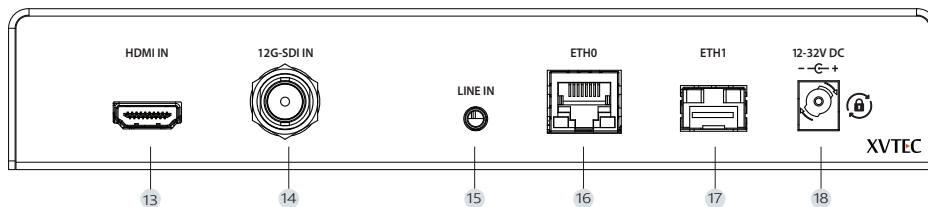
- 2 x USB 2.0/3.0 host ports
- RS-232 (RJ45 CISCO cable compatible)
- LED indicators (Streaming, Video lock, Status, Ethernet link)
- Tactile switches

FRONT - PANEL VIEW



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|--|---|
| <ul style="list-style-type: none"> 1 RST – Reset system 2 SW – General switch 3 PWR – Power LED indicator 4 ETH0 – Ethernet link 5 ETH1 – Ethernet link 6 STAT – Status LED
(Indicated various conditions of the unit) | <ul style="list-style-type: none"> 7 LCK – Video lock indicator 8 ACT – Streaming activity 9 REC – Recording activity 10 USB0 – USB 2.0/3.0 host port⁽¹⁾ 11 USB1 – USB 2.0/3.0 host port⁽¹⁾ 12 RS-232 – (RJ45 CISCO cable compatible)⁽¹⁾ |
|--|---|

REAR - PANEL VIEW



- | | |
|---|--|
| <ul style="list-style-type: none"> 13 HDMI IN - HDMI v2.0 video input 14 12G-SDI IN - Video input 15 LINE IN - Analog audio input (unbalanced) | <ul style="list-style-type: none"> 16 ETH0 - RJ-45 auto sensing 10/100/1000 Mbit 17 ETH1 - SFP slot supporting 1GbE module⁽¹⁾ 18 12-32V DC - Input voltage |
|---|--|

PHYSICAL / ENVIRONMENTAL

Dimension (LxWxH):	214x155x37 mm
Connectors and Ports:	HDMI in, 12G-SDI in, PL in, RJ-45, SFP ⁽¹⁾ , USB0 ⁽¹⁾ , USB1 ⁽¹⁾ , LEDs, Switches, RS-232 ⁽¹⁾ , DC jack, RST
Weight:	730g
Operational temperature:	(0-50)°C
Humidity:	Up to 90% non-condensing
Nominal Power:	18W
DC voltage:	12-32V DC, Max 35W
Regulatory compliance:	FCC part 15 class A, CE HDMI sink certification

ORDER INFORMATION

- XVC-HEVC Encoder: XVC-E5UH-001

Notes:

⁽¹⁾ Future release

Specifications subject to change without prior notice. Typical values shown unless min or max is specified