

XVC HEVC 4K ENCODER

- ▶ 4K60 HEVC 4:2:2 10bit encoding ▶ Ultra low latency encoding
- ▶ HDMI 2.0 & 12G-SDI inputs ▶ Supports multiple CDNs

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 & 12G-SDI inputs
- RTP, RTSP/RTP, MP2TS, SRT⁽¹⁾ 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 a 12G-SDI enabling 4Kp60 video.

The XVC-HEVC is capable of encoding video at UHD fully to 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)
- Single BNC connector, supporting:

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)

- | | |
|-------------|---|
| 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 coding
- Rate control: CBR and capped VBR
- Bitrates: from 500Kbps to 80Mbps
- Frame rate: full, half, quarter, quater, one eight 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 2000ms 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⁽¹⁾
- **Other:** HTTP, IGMP V1/V2, DHCP client, SSH, SNMP V3, 802.1X⁽¹⁾ authentication⁽¹⁾

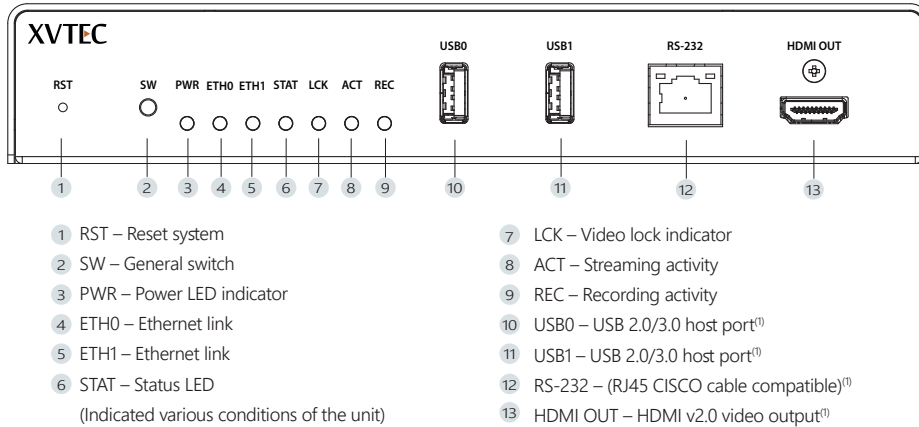
Encoder management

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

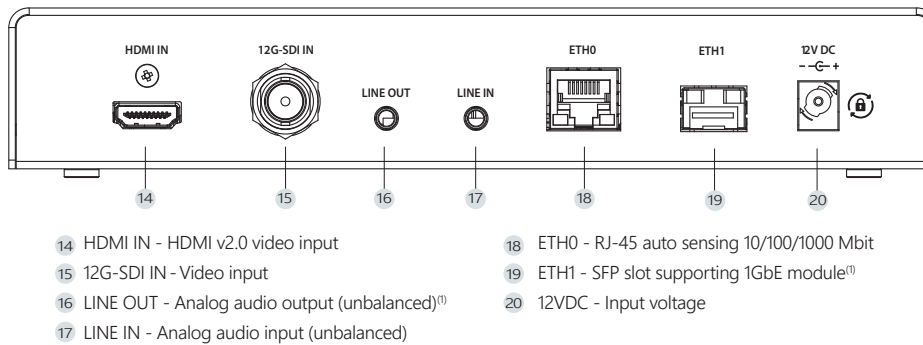
OTHER PORTS / CONNECTORS

- 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



REAR - PANEL VIEW



PHYSICAL / ENVIRONMENTAL

Dimension (LxWxH):	214x155x37 mm
Connectors and Ports:	HDMI in, 12G-SDI in, HDMI out ⁽¹⁾ PL in, PL out ⁽¹⁾ , 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:	18-20W
DC voltage:	12V@5A
Regulatory compliance:	FCC part 15 class A, CE HDMI sink certification, test specification: 2.1b

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