

XVC ULTRA ENCODER

4KP60
H.265/H.264
4:2:2 10BIT

ULTRA-LOW
LATENCY

SECURED

MULTIPLE
STREAMING
PROTOCOLS

LOW POWER
SMALL SIZE

HIGHEST VIDEO QUALITY

ULTRA LOW LATENCY



KEY FEATURES

- ▶ Next generation, H.265/H.264 UHD video-over-IP
- ▶ Exceptional video quality at low bitrate
- ▶ Enterprise security (HTTPS, REST API over SSL, LDAP/AD, 802.1x, encrypted streaming)
- ▶ End-to-End latency < 40ms
- ▶ HDMI 2.0a input, HDR10 support
- ▶ RTP, RTSP/RTP, TS-UDP, TS-RTP, SRT, RTMP[S]
- ▶ Recording to NAS or local storage
- ▶ Low power consumption
- ▶ small form factor
- ▶ Scalable and future-proof

ULTRA LOW LATENCY

Pairing the XVC-ULTRA encoder with the XVC-ULTRA decoder achieves an ultra low End-to-End latency of below 40ms at 2160p60



INNOVATIVE TECHNOLOGY

XVC-ULTRA is a highly secured ultra-low latency encoder supporting broadcast quality H.265 and H.264. The XVC-ULTRA can save up to 50% of bandwidth in H.265 compared to H.264.

The XVC-ULTRA supports multiple streaming protocols enabling the user to virtually stream to any endpoint.

APPLICATIONS



Video distribution
point-to-point and
point-to-multipoint



Multiple CDN support
(Twitch, YouTube,
Facebook...)



Video-over-wireless,
cellular, satellite
links



Command
and control
applications



Medical
Share surgical and
simulation video



eLearning
Live content
streaming

VIDEO

Video Input

- ▶ HDMI v2.0 input, type A connector, non HDCP
- ▶ Automatic video standard detection

Supported Resolutions

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

SD: 720x576p50, 720x480p59.94

VESA: From VGA to QSXGA

Scaler

- ▶ Scale to any arbitrary resolution prior to encoding

Output Stream

- ▶ Encoding: Up to 4Kp60 H.264/H.265 over Ethernet
- ▶ Recording: To NAS or a local USB⁽¹⁾ storage device

Video CODEC Standard

Multi-standard encoding:

- ▶ H.264: Baseline, Main, High, High10, High4:2:2, High10 Intra, High 4:2:2 Intra up to Level 5.2
- ▶ H.265: Main, Main Intra, Main10, Main10 Intra, Main 4:2:2 10, Main 4:2:2 10 Intra up to Level 5.1 High Tier

CODEC Features:

- ▶ On the fly parameter settings
- ▶ Configurable GOP size, FPS, BPS
- ▶ I/P/B frame support
- ▶ Advanced settings of Qmin, Qmax, CPB, max frame size
- ▶ 4:2:0 or 4:2:2 chroma sub-sampling
- ▶ Rate control: CBR, capped VBR, low latency CBR
- ▶ Bitrates: from 500Kbps to 60Mbps
- ▶ Frame rate: full, half, quarter of the input frame rate
- ▶ Low latency encoding mode (<10ms)

CODEC Performance

- ▶ Up to 2160p60 4:2:2 10 bits H.264/H.265 stream

AUDIO

Audio Input

- ▶ HDMI embedded audio
- ▶ Analog audio unbalanced (PL stereo connector), genlocked to the video input

Audio Sample Format

- ▶ Single stereo channel at $F_s = 48\text{KHz}$, 44.1KHz, 32 KHz, 16bits per/sample

Audio CODEC

- ▶ MPEG-2 AAC-LC (ISO/IEC 13818-7), configurable bitrate 64-256Kbps
- ▶ Linear PCM, 16bits per sample
- ▶ OPUS

LATENCY

- ▶ End-to-End Ultra Low latency(**): < 40ms (3840x2160p60, 20Mbit) when paired with the XVC-ULTRA decoder
- ▶ End-to-End typical latency: 100-1000ms depending on encoder and decoder settings

(**) The stream is compliant to RFC-7798, RTP for H.265, IPP GOP structure

NETWORK

Ethernet Communication

- ▶ RJ45, Ethernet 10/100/1000 Base-T, auto-neg, auto-sense, half/full duplex

Streaming Protocol

- ▶ TS over UDP (unicast, multicast)
- ▶ TS over RTP (unicast, multicast)
- ▶ RTP (unicast, multicast)
- ▶ SRT caller/listener
- ▶ RTSP/RTP (unicast, multicast)
- ▶ RTMP & RTMPS (Secured)

Security

- ▶ Embedded secure web server (HTTPS)
- ▶ Local user or LDAP/AD support
- ▶ 802.1x MD5 and EAP-TLS⁽¹⁾
- ▶ Encrypted streaming⁽¹⁾
- ▶ Secured REST API (token based)
- ▶ Custom SSL/TLS certificate upload

Management

- ▶ HTTPS browser Interface
- ▶ REST API over SSL with token support
- ▶ Remote F/W upgrade via browser or REST API
- ▶ H/W button for factory defaults

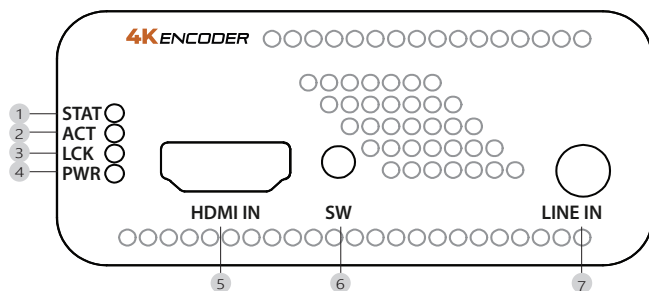
Other

- ▶ IGMP V1/V2, DHCP client, SSDP, IPv4, IPv6⁽¹⁾

PORTS / CONNECTORS

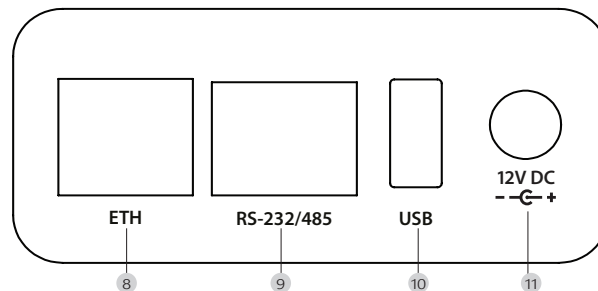
- ▶ USB 2.0/3.0 host port
- ▶ RS-232 and RS-485
- ▶ LED indicators (streaming, video lock, status, ethernet link)
- ▶ Tactile switches

FRONT PANEL VIEW

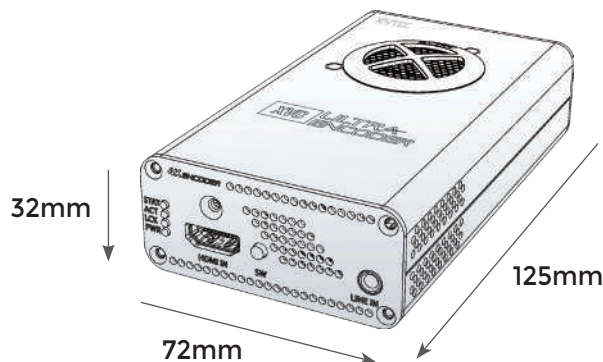


- 1 STAT - Status LED
- 2 ACT - Streaming activity LED
- 3 LCK - Video lock indicator LED
- 4 PWR - Power LED indicator
- 5 HDMI IN - HDMI v2.0 video input
- 6 SW - General switch
- 7 LINE IN - Analog audio input (unbalanced, genlocked)

REAR PANEL VIEW



- 8 Ethernet port
- 9 RS-232/RS-485 port
- 10 USB - USB 2.0/3.0 host port⁽¹⁾
- 11 12VDC - Input voltage



PHYSICAL / ENVIRONMENTAL

Dimension (LxWxH): 72x125x32 mm

Connectors and Ports: HDMI In, PL In, RJ-45, USB⁽¹⁾, LEDS, Switch, RS-232⁽¹⁾, RS-485⁽¹⁾, DC jack

Weight: 400g

Operational temperature: (0-50)°C

Humidity: Up to 90% non-condensing

Power: 10-13W

DC voltage: 12V@2A

Regulatory compliance: FCC part 15 class A, CE

Ordering Information

- **XVC-U-EH1:** XVC-U Encoder HDMI, single channel
- **XVC-U-DH1:** XVC-U Decoder HDMI, single channel

Notes:

⁽¹⁾ Future release

Specifications subject to change without prior notice.