

HEVC/UHD Low Latency Encoder X500E

IP Video distribution with HEVC/UHD
Low Latency
Encoder **X500E**



X500E is a next-generation low-latency encoder, supporting broadcast level quality HEVC/H.265 compression for live IP streaming. Based on Socionext's highly reliable codec technology, X500E meets and exceeds the rigorous demands for UHD/HEVC elevated processing power, using reduced bandwidth transport capacity.

■ Features

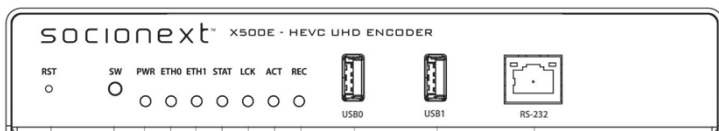
- Broadcast level video quality
- Next-generation, HEVC UHD video over IP
- Supports HEVC (H.265), main 4:2:2 10bit, up-to level 5.1
- Low encoding latency < 50ms
- HDMI 2.0a input
- TS-UDP, RTP, RTSP streaming protocols
- Web interface/HTTP control

■ Application

- Video distribution point-to-point and point-to-multipoint
- Web-casting and live-streaming
- Medical
- eLearning
- Audio/video Surveillance

■ Control Panel

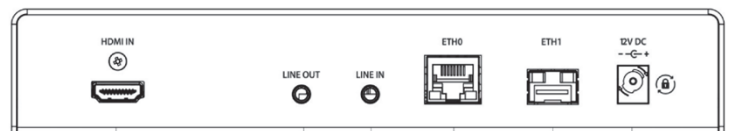
[Front]



- | | |
|-----------------------------|---|
| 1 RST – Reset system | 7 LCK – Video lock indicator |
| 2 SW – General switch | 8 ACT – Streaming activity |
| 3 PWR – Power LED indicator | 9 REC – Recording activity |
| 4 ETH0 – Ethernet link | 10 USB0 – USB 2.0/3.0 host port |
| 5 ETH1 – Ethernet link | 11 USB1 – USB 2.0/3.0 host port |
| 6 STAT – Status LED | 12 RS-232 – (RJ45 CISCO cable compatible) |

(Indicated various conditions of the unit)

[Rear]



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|---|--|
| 1 HDMI IN - HDMI v2.0 video input | 4 ETH0 - RJ-45 auto sensing 10/100/1000 Mbit |
| 2 LINE OUT - Analog audio output (unbalanced) | 5 ETH1 - SFP slot supporting 1GbE module |
| 3 LINE IN - Analog audio input (unbalanced) | 6 12V DC - Input voltage |

Specifications

Item		Specification	
Video	Video Input	HDMI Type A connector, HDMI v2.0a (Non HDCP)	
	Input Resolution	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 Hz, 720x576i25 Hz, 720x480p59.94 Hz, 720x480i29.97 Hz
	Output Streams	Up to 4Kp60 HEVC over IP	
	Video Compression		HEVC/H.265
			ISO/IEC 23008-2 HEVC (H.265)
	Codec features		Main 10 4:2:2, up-to level 5.1, high tier
			Configurable GOP size, FPS, BPS
		I/P/B frames support	
		4:2:0 and 4:2:2 color space	
		10/8 pixel depth	
		Supports progressive and field based interlaced coding	
		Rate control: CBR and capped VBR	
Encoding Performance		Bitrates: from 500 kbps to 80 Mbps	
		Frame rate: full, 1/2, 1/4, 1/8 of the input frame rate	
		Up to 4Kp60 4:2:2 10 bit HEVC stream	
Audio	Audio Input (Audio output: no support)	HDMI embedded audio Analog audio unbalanced (PL stereo connector)	
	Audio Sample Format	Single stereo channel audio at Fs = 48kHz, 16bit per/sample	
	Audio Compression	MPEG-2 AAC-LC (ISO/IEC 13818-7), configurable bitrate 64-256kbps	
Latency	Latency Modes	Low latency mode: < 50 ms (encoding latency at 4Kp60 20 Mbps with 1GbE I/F) Normal mode latency: up to 2000 ms depending on GOP structure Note: The stream is compliant to RFC-7798, RTP for HEVC	
Interfaces	Ethernet	Eth0: RJ45, Ethernet 10/100/1000 Base-T, auto-neg, auto-sense, half/full duplex Eth1: no support	
	Streaming Protocols	TS-UDP	Transport Stream over UDP (Unicast/Multicast)
		RTP	Real-Time Protocol over UDP (Unicast/Multicast)
		RTSP	Real-Time Streaming Protocol (Unicast, single client)
	Other Protocols	HTTP, IGMP V1/V2, DHCP client	
	Other Interfaces		2 x USB 2.0/3.0 host ports (not for storage)
			RS-232 (RJ45 Cisco cable compatible): no support
			LED indicators (Power on, Ethernet link, Status, Video lock, Streaming, Recording(no support)) Tactile switches
	Encoder Management		Web-based interface via browser
			REST API
		Remote firmware upgrade via browser or REST API	
		Hardware button for resetting factory defaults	
Dimensions (W x H x D)		214mm x 37mm x 155mm	
Weight		730g	
Operational Temperature		0-50°C	
Operational Humidity		Up to 90%, non-condensing	
Power Supply		12 VDC @5A	
Power Consumption		Typical: 18-20W (varies according to use case)	
Regulatory Compliance		FCC part 15 class B, CE, KC class A	

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