ONYX

IP Encoder



Onyx HEVC is a broadcast quality H.265 Encoder, offering exceptional compression ratios on video resolutions up to 4K UHD.

The Onyx Encoder is ideal for remote production applications over leased lines or satellite, handling 4x HD or 1x UHD/4K feed with ultra-low latency. Onyx is a feature-rich family of professional broadcast encoders and decoders.

Onyx encoders can stream across dual networks using a variety of IP formats including SRT, at bit rates of up to 75Mb/s. When used with an ST2022-7-enabled decoder, the dual-network workflow supports glitch-free recovery from network errors or path failover. For legacy systems and satellite modem connection the Onyx encoder is equipped with ASI inputs and outputs.

The unique quad mode allows four non-synchronous HD inputs to be encoded with end-to-end latencies as low as 40ms. This high density and low latency of encoding is ideal for the coverage of live sporting events.

Each video output can support 2 stereo pairs of embedded audios, or a single video can support 8 stereo pairs. Onyx can also be equipped with an optional analogue audio interface allowing two stereo analogue audio outputs as well as return ‘talk back’ audio interfaces.

SFP cages are provided for ST2110 interfacing (Optional). Prometheus interface enables remote monitoring of key information about multiple units simultaneously and gives the history of key metrics for each unit. A dual input power supply is provided for use where redundant power systems are available.

LIVE APPLICATIONS

- **Remote Production**
- **Live sports coverage**
- **Events and entertainment**
- **Live production houses**

KEY FEATURES

- **End-to-end Latency as low as 40ms (format dependent)**
- **Encoding of 4x simultaneous HD signals from a single 1RU unit (QuadSync mode)**
- **True 4K/UHD Encoding with HDR (OPTION)**
- **IP and DVB-ASI Out SRT stream encoding and ST2022 7 packet switching**
- **Optional ST-2110 interface and JPEG XS encoding**

CONNECTORS

Video Input 1-4	4 x micro-BNC 3/12G
ASI Output	micro -BNC
Genlock	micro-BNC
Stream 1&2	2 x RJ45 1000 Base-T
Remote Control	RJ45 1000 Base-T
Serial Data	9-pin D – Type Female
ST2110 In/Out	SFP Cages (Optional)
Single SFP Interface	HDMI and IP Gateway SFP
Power Input	2 x IEC Connector, Supporting Power Redundancy
Analog Audio In/Out	3 x Hirose (Optional)

VIDEO ENCODER

Video Formats	4H UHD 4:2:2/4:2:0, 8/10 Bit 2160p/23.98/24/25/29.97/30/50/59.95/60 HD 4:2:2/4:2:0 8/10 Bit 1080p 23.98/24/25/29.97/30/50/59.94/60 1080i 50/59.94/60 720p 60/59.94/50 SD 4:2:2/4:2:0 480i 29.97 576i 25
Latency	40mS End-to-End (Format Dependent)

AUDIO

SDI Embedded	8 Stereo Pairs
Analog	2 Pair Mic/Line
Compression Type	MPEG 1 Layer 1 MPEG 1 Layer 2 LPCM

STREAM

DVB ASI	
IP Stream Format	Unicast/Multicast/UDP/RTP/SRT
IP Stream Rate	120Mpbs Maximum

HDR/WGC

Rec. ITU-R BT2100-2 (PQ and HLG)
Rec. ITU-R BT2020

CONTROL

Local	Push Button with OLED Display
Remote	Web GUI via RJ45 RS232

ENVIRONMENT

Temperature Range	14 - 122° Fahrenheit -10 - 50° Celsius

PHYSICAL

Dimensions (WxDxH)	19 x 13.85 x 1RU inches 482 x 352 x 1RU mm
Weight	6.4lbs 2.9kg

POWER

AC Input	90 - 255 VAC
DC Input (Optional)	9-36 VDC

PRODUCT CODES

ONYX-ENC	Onyx HEVC Ultra-low delay Encoder; 4K, QuadSYNC, ST2022-7 Dual IP streaming with SRT, Dolby pass-thru, PSF Video, Dual AC/DC, 3x Ethernet, 1RU rack

OPTION

LIC-4K	Enable 4K/UHD Encoding (software license key)
LIC-BISS1	Enable BISS 1 Encryption
LIC BISS2	Enable BISS 2 Encryption
LIC-JPG	Enable JPEG-XS Encoding*
HWOPT-25G	Add ST2110 I/O*
HWOPT-AUD	Add Analogue Audio I/O
HWOPT-DCIN	Convert one AC input to DC 9-36V



ONYX IP Encoder Connector View