Onyx HEVC Decoder

Onyx HEVC is a broadcast quality H.265 Decoder, offering exceptional compression ratios on video resolutions up to 4K UHD. The Onyx Decoder is ideal for remote production applications over leased lines or satellite, handling 4xHD or 1xUHD feed with ultra-low latency.

Onyx is a feature-rich family of professional broadcast encoders and decoders, able to stream across dual networks using a variety of IP formats including SRT, at bitrates of up to 120Mb/s. The use of ST2022-7 technology at the decoder ensures glitch free recovery from network errors or path fail over. For legacy systems and satellite modem connection, the Onyx encoder is equipped with ASI inputs and outputs. Built in encryption mechanisms such a BISS and DES can be employed to protect valuable content.

Onyx is ultra-compact and in QuadSync mode can deliver up to 4x decoded HD signal streams in a single half-width 1RU enclosure allowing it to be integrated with minimal disturbance to existing rack layouts. Onyx's unique QuadSync mode encodes 4x non-synchronous HD signals of differing formats (frame-rate must be the same) and at the decode side, output is then converted to a single production format and is fully synchronised. There is a genlock input for studio synchronisation.

Each video can support 2 stereo pairs of embedded audio. As well as embedded audio outputs, Onyx is equipped with a two stereo analogue audio outputs as well as return 'talk back' audio interfaces.

SFP cages are provided for ST2110 interfacing.

The separate control port offers web-browser control and a front panel is supplied for local control and monitoring.

A dual input power supply is included for use where redundant power systems are available.

FEATURES

Up to 50% bit-rate reduction compared with H.264

Decoding of 4x simultaneous HD signals from a single half-rack unit (QuadSync mode)

Reception of true 4K UHD signals with HDR

Ultra-low Latency for live applications

IP and DVB-ASI in

2x in 1RU rack kit for high-density mounting

SRT stream decoding and ST2022-7 packet switching

BENEFITS

Saves Rack Real-Estate – up to 8x HD Decoders in a single 1RU!

Software upgrade to 4K/UHD

Supports high rate IP streaming formats including SRT

Feature-rich interfaces and options

Supports redundant network inputs with packet switching

For the moments that matter

Connectors	
Video Out 1-4	3G / 12G SDI HD-BNC x 4
Video Monitor	3G / 12G SDI HD-BNC
ASI In	HD-BNC
ASI Out	HD-BNC
Genlock	HD-BNC
Stream 1 / 2	1000Base-T ethernet RJ45 × 2
Control	1000Base-T ethernet RJ45
Audio In / Out / Data	High Density DType 26 way
SFP Port	SFP Cage
DC In	Hirose 6 way
Mains In	IEC Connector

Video Decoder	
Profiles	4K UHD. 4:2:2/4:2:0, 8/10-bit 2160p / 23.98 / 24 / 25 / 29.97 / 30 / 50 / 59.94 / 60
	HD. 4:2:2/4:2:0, 8/10-bit 720p / 50 / 59.94 / 60 1080i / 50 / 59.94 / 60 1080p / 23.98 / 24 / 25 / 29.97 / 30 / 50 / 59.94 / 60
	SD 4.2.2/4.2.0 480i / 29.97 576i / 25

Latency (if used with with Sapphire or Onyx Encoder)	
Encoder + Decoder	<40mS in ULL

Audio Decoder	
Format	Embedded
Decoder	MPEG-1 Layer2, AAC-LC (Linear PCM in Ultra-Low Delay)
Quantity	4 pairs (8 pairs MPEG or Linear PCM)

Analogue Audio	
Format	2 pairs line / mic level

Talk Back Output	
Format	2 pairs line level

Stream Inputs / Outputs	
DVB_ASI	Transport stream to 60Mb/s
IP Interface	3 × 1000Base-T ethernet
IP Stream Format (option)	Unicast / Multicast / UDP / RTP / SRT
IP Stream Rate	120Mb/s maximum
Packet Switching	ST2022-7

HDR/WGC	
We support	Rec. ITU-R BT.2100-2 (PQ and HLG)
	Rec. ITU-R BT.2020

Indicators	
Display	Hi-brightness OLED

Control	
Local	Joystick and menu screen
Remote	IP web-browser Control RS232 (module only)

Dimensions	
Size (WxDxH)	210mm x 352mm x 1RU
Weight	1.9Kg
Mounting	Full-width and side-by-side mount kits available as an option

Power	
AC In:	90-255VAC
	15W @ 4K Decoding
DC In	9-16V (12V nominal)

Order Codes	
ONYX-E-RACK	Onyx HEVC Encoder Rack Unit
ONYX-D-RACK	Onyx HEVC Decoder Rack Unit
LIC-4K	4K Licence
LIC-QUAD	QuadSync (4x HD Inputs/Outputs)
LIC-PSF	PSF Video Formats

* Future Development – please check for availability