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 bit-rates 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. Optional 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 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 output can support 2 stereo pairs of embedded audio or a single video can support 8x stereo pairs. Onyx can also be equipped with an optional analogue audio interface allowing two stereo analogue audio outputs.

The separate control port offers web-browser control and a touch-screen 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

End-to-end latencies as low as 40ms for live applications

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

Decoding of 4x simultaneous HD signals from a single 1RU unit

Reception of true 4K UHD signals with HDR

IP and DVB-ASI in

SRT stream decoding and ST2022-7 packet switching

Comprehensive touch-screen front panel display

Optional ST-2110 interface and JPEG XS decoding*

BENEFITS

Saves Rack Real-Estate – up to 4x HD Decoders in a single 1RU!

Software upgradable to 4K/UHD

Supports high-rate IP streaming formats including SRT

Feature-rich interfaces and options

Supports redundant network inputs with packet switching

DOMO BROADCAST SYSTEMS

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
Serial Data	9-way D-type female
Analogue Audio In/Out	3x Hirose 6W Female (OPTION)
ST2110 I/O	SFP Cages (OPTION)
Single SFP Interface	HDMI or IP Gateway SFP
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 Sapphire or Onyx Encoder)

Encoder + Decoder	End-to end as low as 40ms (format dependant)

Audio Decoder

Format	Embedded
Decoder	8 pairs LPCM/MPEG1-L1/MPEG1-L2

Analogue Audio (OPTION)

Audio Outputs	2x pairs, Mic/Line-level

Stream Inputs / Outputs

DVB_ASI	
IP Interface	3 × 1000Base-T ethernet
IP Stream Format	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	Full colour capacitive touch-screen

Control

Front panel touch-screen	
Remote	IP web-browser Control RS232

Dimensions

Size (WxDxH)	482mm x 352mm x 1RU
Weight	2.9Kg

Power

AC in:	2x 90-255VAC 15W @ 4K Decoding
DC in	9-36VDC (OPTION)

Order Codes

ONYX-E	Onyx HEVC Encoder Rack Unit
ONYX-D	Onyx HEVC Decoder Rack Unit
ONYX-DL	Onyx HEVC Decoder (de-featured, lower cost version - see separate datasheet)

Options

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

*** Future Development – please check for availability**