

Resilient Surveillance Networks

Low latency IP video codec

Flexible robust IP video link (COE X-Stream®)



Digital Barriers

The COE X-Stream range of low latency IP video encoders and decoders utilise the latest H.264 encoding algorithms for efficient transmission of video across IP, copper or fibre based networks. X-Stream includes video motion detection, on screen text display and video quality monitoring.

Flexible, intelligent infrastructures by design

COE X-Stream IP video encoders have been developed to provide real-time, ultra low latency video transmission over IP networks. They deliver superior picture quality at reduced bandwidths, with a range of configurations and features that make X-Stream the intelligent, comprehensive and proven solution for IP surveillance networking.

X-Stream is a range of encoder and decoder units that provides H.264 video encoding/decoding, IP Ethernet transmission and enhanced features for up to 4 channels of analogue video. With best-of-breed video performance (D1 resolution at 25/30 frames per second) and features such as video loop-through, in-built protocol translation, remote network diagnostics and a direct-to-fibre SFP optical interface, X-Stream exemplifies the flexible network approach of the COE networking range.

Practical operational benefits

X-Stream is proven in some of the world's most critical and high-capacity surveillance networks. With experience of very large scale systems, complex network topologies and safety-critical requirements, COE solutions are engineered for exacting, fault-free core performance.

X-Stream modules include a number of powerful features to enhance their operational capabilities. These include:

- On Screen Display (OSD) text is available on both encoders and decoders with the ability to upload bespoke bitmaps onto the encoded image, ideal for corporate logos or camera titles in different languages.
- Video Quality Monitor (VQM) alarms are generated if an attempted camera sabotage is carried out via hooding, spray painting, de-focusing, smearing etc.

Product codes on reverse



By adhering to the ONVIF standard, COE assures interoperability between X-Stream and other ONVIF compliant IP security devices.

Key features

- H.264 compression technology, providing high quality very low latency and bandwidth video streams
- Up to three multicast /unicast streams per video channel
- Built-in Video Motion Detection (VMD) feature can be used to generate alarms and automate video binding
- Video loop-through option for direct connection to devices such as DVRs available on all channels
- Direct to Fibre transmission option (via SFP optic interface) for long distance transmission, negates the need for additional media converters
- Robust design (built for transport/industrial) with two year warranty and MTFB in excess of 100,000 hours
- Decoding channels can automatically reconnect to a home stream after a set period of time.

Operational domains and installed base

X-Stream has been specifically designed for use in safety critical environments where the safety and protection of high value assets is paramount.

- Legacy systems requiring migration to IP
- Extension of analogue systems over an IP network wired or wireless
- Transmission of video channels over an Ethernet network as a point to point link
- Integration of analogue cameras into ONVIF compliant network



4 channel Encoder
(X-Stream 400)

4 channel
Direct to Fibre Encoder
(X-Stream 400-FX-VL)



Video

Video Channel:	1/2/4, PAL/NTSC, 1v p-p, 75 ohm
Compression Algorithm:	H.264 Main Profile, H.264 Baseline Profile, MPEG4, MJPEG
Frame Rate:	1fps up to 25/30 fps (PAL/NTSC)
Video Encoding Latency:	Encoding <80ms Encoding to I-Command <100ms Encoder to Decoder (Analogue) 160ms
Bandwidth Control:	64Kb/s to 6Mb/s per stream
Resolution:	D1 (720 x 576), 2CIF, CIF QCIF
Streaming (400):	Primary D1, Secondary CIF
Streaming (102/202):	Primary D1, Secondary D1, Tertiary CIF

Data

Channels:	1 x Transparent or Protocol Translator, 1 x Transparent or console
Rate:	1 up to 38.4kbps, 1 up to 115.2kbps
Format:	RS232/422/485 (2W and 4W)

Contact Closure

Input:	2 x (4 x on VL versions) TTL, 48Vrms max. isolation
Output:	1 x (3 x on VL versions) Max load 0.1A, 48V. Max RON 16 Ohm

Audio

Channels:	1 duplex
Input:	Line 2V p-p typ. Level selectable
Output:	Line 2V p-p typ. 600 Ohm Balanced, User volume control
Signal to Noise Ratio:	>60dB

Regulatory

EMC: Standard (Alarms/CCTV equipment)

CE, EN55130-4 - Immunity; EN61000-6-3 - Emissions Light Industrial; ENV50204 - Radiated (mobile phone frequencies); EN60950- 1:2002 + A1:2003 - Electrical Safety

EMC: Additional (Railways and Transport)

EN55011: 1998 (inc. low freq. magnetic emissions); EN50121-4 - Traction Frequency voltages; GS/ES1914, GM/RC1500 - Radiated Emissions; EN61000-4-16 - Signal lines conducted RF immunity

Elxon Charge Code: 870 0009 000 100

Product codes

X-Stream 102/202/400	X-Stream 1/2/4 channel H.264 video encoder, 2 Data , 1 Audio 2 Contacts, 1 Relay
X-Stream 202/400-VL	X-Stream 202/400 + Video loop-through
X-Stream 202/400-DE-VL	X-Stream 202/400 + 2 nd Ethernet port + Video loop-through + 2 additional Contacts + 2 additional Relays
X-Stream 202/400-FX-VL	X-Stream 202/400 + SFP port + Video loop-through + 2 additional Contacts + 2 additional Relays
X-Stream 100D/200D	X-Stream 1/2 channel H.264 video decoder, 2 Data, 1 Audio, 2 Contacts, 1 Relay

Optical (FX versions only)

Optical Budget:	20dB*
Multimode Range:	4km (50 or 62.5/125um fibre)
Singlemode Range:	60km (9/125um fibre)
Wavelength:	1310/1550nm

*High powered versions with optical budget up to 37dB for distances in excess of 120kms are available on request.

Connectors

5x RJ-45:	Ethernet, Serial Data, Audio, Alarms, Contact Closure
2 nd Ethernet port	Dual Ethernet (DE versions only)
LC SFP:	Optical Network (FX versions only)
4x BNC:	Video Inputs/Outputs
4x Loop-through BNC:	Loop Video Out (VL versions only)
Samtec:	Power Supply, NMS diagnostics

Hardware

Physical Size:	6HP x 4U x 167mm (Rack Module) 202 x 32 x 172mm (Box Unit)
Physical Size (VL Versions):	12HP x 4U x 167mm (Rack Module) 202 x 64 x 172mm (Box Unit)
Operating Temperature:	-30°C to +60°C
Storage Temperature:	-40°C to +74°C
Operating Humidity:	20% to 95% RH (non-condensing)
Power Requirements:	12Vdc, 800mA (10W)
MTBF:	>100,000 hours (HRD5)

Ethernet and Network

Channels:	1/2 x 10-100 BaseT (auto sensing)
Protocols:	DHCP, ARP, HTTP, RTP, NTP, UDP unicast, UDP multicast, TCP/IP, ICMP, IGMP, SNMP, RTCP, RTSP

Configuration

Local:	Via Console port, Hyper terminal, USB memory stick
Remote:	Via web browser

