



BOSCH
Invented for life

VideoJet X10/X20/X40 SN Video Encoder



- ▶ High-quality MPEG-4 video over IP
- ▶ Units with one, two, or four video inputs
- ▶ Built-in Intelligence-at-the-Edge
- ▶ Network-attached RAID storage via iSCSI
- ▶ Local recording on CF card or USB hard drive

The Bosch VideoJet X SN encoders belong to a family of high-performance, single, dual, or quad input CCTV video encoders that feature DVD-like quality MPEG-4 video, at up to 30 images per second, over IP networks. The units support PAL/NTSC sources and provide bidirectional audio communication in parallel to video. They are built into a housing that can be easily wall-mounted or rack-mounted. These powerful and flexible devices represent the cutting edge of high performance video over IP for CCTV today.

Functions

Viewing

View the VideoJet X SN encoder video on a PC using a Web browser, in the Bosch Video Management System, or integrate it into another video management system. By routing the IP video to a high performance VIP XD video decoder or a VIDOS Monitor Wall, you can present the video with ultimate clarity.

Dual Streaming

The VideoJet X SN encoders use Dual Streaming to generate two independent IP video streams per channel if sufficient computational power is available. This allows viewing and recording at two different quality levels to save disk space and bandwidth. On alarm, they can send an e-mail with JPEG images attached.

Flexibility

VideoJet X SN encoders offer unparalleled recording flexibility. Stream video across the network and store it using Network Video Recorders (NVRs). Record locally on CompactFlash, an external USB hard drive, or network-attached RAID iSCSI storage devices. The built-in iSCSI support enables the VideoJet X SN encoders to act as conventional DVRs while streaming high performance live video across the network.

Frame Rates and Resolution

When one or two inputs are used, the encoders deliver MPEG-4 video over IP at a full frame rate of 25 (PAL) or 30 (NTSC) images per second with up to 4CIF resolution on every channel. If four inputs are used, the maximum frame rate is 12.5/15 images per second at 4CIF resolution and no Dual Streaming is possible.

The maximum frame rates listed in the table below depend on the resolution, picture content and movement, and the number of inputs used.

	4 inputs	2 inputs	1 input
4CIF	12.5/15 ips	25/30 ips	25/30 ips
2/3 D1	25/30 ips	25/30 ips	25/30 ips
2CIF	25/30 ips	25/30 ips	25/30 ips

ips = frame rate in images per second

Recording Profiles

The encoders feature a highly flexible recording scheduler, providing up to ten programmable recording profiles and allowing individually assigned camera profiles. With these profiles, you can accelerate the frame rate as well as increase the resolution on alarm, saving recording space during non-alarm periods.

Access Security

The VideoJet X SN encoders offer various security levels for accessing the network, the unit, and the data channels. As well as password protection with three levels, they support 802.1x authentication using a RADIUS server for identification. You can secure Web browser access by HTTPS using a SSL certificate that is stored in the unit. For total data protection, each communication channel – video, audio, or serial I/O – can be independently AES encrypted with 128-bit keys, once the Encryption Site License has been applied.

Intelligence

With built-in video content analysis, VideoJet X SN encoders reinforce the Intelligence-at-the-Edge concept where edge devices become increasingly intelligent. The VideoJet X SN comes with built-in MOTION+ video motion detection. This motion detection algorithm is based on pixel change and includes object size filtering capabilities and sophisticated tamper detection capabilities.

Bosch offers more advanced video content analysis (VCA) applications with its Intelligent Video Analysis (IVA). A licensable option, it bases the IVA algorithm on digital imaging technology that uses multi-level image analysis of pixel, texture, and motion (trajectory) changes.

Easy Upgrade

Remotely upgrade the VideoJet X SN encoders whenever new firmware becomes available. This ensures up-to-date products, thus protecting investment with little effort.

Certifications and Approvals

Safety

Region	Number
EU	IEC60950

Electromagnetic Compatibility

Region	Number
EU	EN55103-1 Video and audio equipment
	EN50130-4 Alarm systems
	EN55022 ITE
	EN55024 ITE
	EN61000-3-2
	EN61000-3-3

Region	Number
AUS/NZ	AS/NZS 3548 Class B
USA	FCC 47 CFR Chapter 1 Part 15

Installation/Configuration Notes

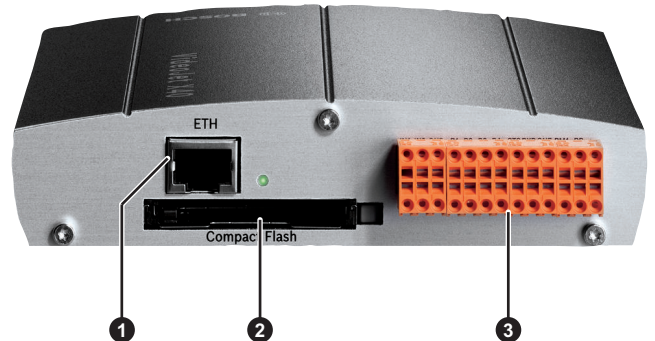
Front Connectors and Indicators



VideoJet X40 SN - front

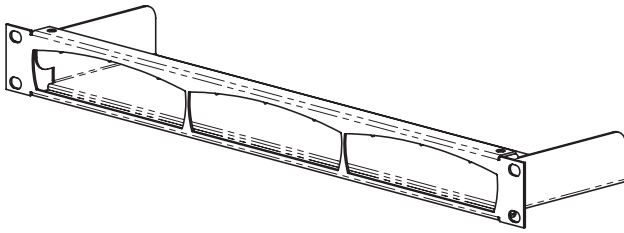
- 1 USB
- 2 Video input 1 (2, 3, and 4 where applicable)
- 3 2-channel audio input (1-channel for X10)
- 4 1-channel audio output
- 5 LED CF (only operates if CF card is mounted)
- 6 LED Connect

Rear Connectors and Indicators



VideoJet X SN series - rear

- 1 Ethernet
- 2 Compact Flash slot
- 3 Alarm input, relay output, serial interface and power input on separate connector blocks

Rack Mounting Kit (Optional)**Parts Included****Quantity Component**

1	VideoJet X SN encoder
1	Quick Installation Guide
1	CD-ROM with software and documentation
1	Set of spring clamp contact connectors

An optional power supply with primary adaptors for EU, US, UK, and AUS can be ordered separately.

Technical Specifications**Electrical**

Power supply	Via external unit or external battery
Input voltage	10 to 30 VDC
Power consumption	X10: approx. 11 VA, fully equipped X20/X40: approx. 19 VA, fully equipped

Input/output

Video	X10: 1 x input X20: 2 x input X40: 4 x input
connector	BNC
impedance	75 ohm, switchable
signal	Analog composite, 0.7 to 1.2 Vpp, NTSC or PAL
Audio	X10: 1 x mono line in, 1 x mono line out X20/X40: 2 x mono line in, 1 x mono line out
connector	2 x 3.5 mm stereo jack
signal line in	9 kohm typical, 5.5 Vpp max
signal line out	3.0 Vpp at 10 kohm / 1.7 Vpp at 16 ohm typical
Alarm	4 x input
connector	Clamp (non-isolated closing contact)
activation resistance	10 ohm max
Relay	4 x output
connector	Clamp
signal	30 Vpp, 2 A
COM port	Clamp, RS-232/422/485

Video

Standards	MPEG-4, M-JPEG, JPEG
Data rates	9.6 kbps to 6 Mbps per channel
Resolution	Horizontal x vertical PAL/NTSC
4CIF	X10/X20: 704 x 576/480 (25/30 ips*) X40: 704 x 576/480 (12.5/15 ips*; all inputs used)
2CIF	704 x 288/240 (25/30 ips*)
2/3 D1	464 x 576/480 (25/30 ips*)
1/2 D1	352 x 576/480 (25/30 ips*)
CIF	352 x 288/240 (25/30 ips*)
QCIF	176 x 144/120 (25/30 ips*)
	* Depending on picture content and movement
GOP structure	I, IP
Overall IP delay	120 ms
Frame rate	1 to 50/60 (PAL/NTSC)

Audio

Standard	G.711; 300 Hz to 3.4 kHz
Data rate	80 kbps at 8 kHz sampling rate

Network

Ethernet	10/100 Base-T, auto-sensing, half/full duplex, RJ45
Protocols	RTP, Telnet, UDP, TCP, IP, HTTP, HTTPS, DHCP, IGMP V2/V3, ICMP, ARP, RTSP, SMTP, SNMP, SNMP (V1/V2c/V3 MIB-II), 802.1x
Encryption	TLS 1.0, SSL, AES (optional)

Control

Software update	Flash ROM, remote programmable
Configuration	Configuration Manager or Web browser

Connections

CompactFlash	1 x CF slot for optional standard Type I/II CompactFlash memory card
USB port	1 x USB 2.0 high-speed port, 2.5 W max feed

Mechanical

Dimensions (H x W x D)	33 x 142 x 178 mm (1.3 x 5.6 x 7 in)
Weight	Approx. 0.6 kg (1.3 lb)

Environmental

Operating temperature	0 °C to +50 °C (32 °F to +122 °F) ambient temperature
Relative humidity	20 to 80% atmospheric humidity, non-condensing
Thermal value	X10: 37 BTU/h max, fully equipped X20/X40: 65 BTU/h max, fully equipped

Ordering Information

VJT-X10SN VideoJet X10 Normal Temp VideoJet X10 SN with 1 video input	VJT-X10SN
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VJT-X20SN VideoJet X20 Normal Temp VideoJet X20 SN with 2 video inputs	VJT-X20SN
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VJT-X40SN VideoJet X40 Normal Temp VideoJet X40 SN with 4 video inputs	VJT-X40SN
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Accessories

VJT-XACC-PSN VJX10/20/40 wide-range power supply	VJT-XACC-PSN
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VJT-XACC-RMK VJT-X SN Rack-mount Kit for 3 Units Rack mounting kit for 3 VJT-Xxx SN units.	VJT-XACC-RMK
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DVA-12T-04050RA iSCSI RAID5, 12 bay 1.5 TByte net capacity (4 hard drives installed)	DVA-12T-04050RA
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DVA-12T-12050RA iSCSI RAID5, 12 bay, 5.5 TByte net capacity (12 hard drives installed)	DVA-12T-12050RA
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Software Options

VJT-X10SN-FS1 VideoJet X10SN IVMD 1.0 VCA License	VJT-X10SN-FS1
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VJT-X20SN-FS1 VideoJet X20SN IVMD 1.0 VCA License 2CH	VJT-X20SN-FS1
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VJT-X40SN-FS1 VideoJet X40SN IVMD 1.0 VCA License 4CH	VJT-X40SN-FS1
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VJT-X10SN-FS3 VideoJet X10SN IVA 3.0 VCA License	VJT-X10SN-FS3
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VJT-X20SN-FS3 VideoJet X20SN IVA 3.0 VCA License, valid for 2 channels	VJT-X20SN-FS3
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VJT-X40SN-FS3 VideoJet X40SN IVA 3.0 VCA License, valid for 4 channels	VJT-X40SN-FS3
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MVC-FENC-AES BVIP AES 128 Bit Encryption BVIP AES 128-bit encryption site license. This license is required only once per installation. It enables encrypted communication between BVIP encoders, decoders and management stations.	MVC-FENC-AES
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