BOSCH
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VIP X1 Single-channel Video Encoder

- **Single-channel encoder with Dual Streaming**
- **High-quality MPEG-4 from QCIF to 4CIF**
- **USB and iSCSI recording**
- **Ultra-compact size**
- **Multicast and Internet streaming**
- **Alarm inputs and relay output**

The VIP X1 features DVD-like quality MPEG-4 video, at up to 25/30 images per second, over IP networks. This unit supports PAL and NTSC sources.

The audio models of the VIP X1 provide bidirectional audio communication in parallel to video. Besides the standard line level interface, built in amplifiers allow direct connection to microphone and speaker.

The VIP X1 Power-over-Ethernet models can be power-fed via the network cable.

The VIP X1 provides Dual Streaming. It is able to generate two independently configurable MPEG-4 video streams. The VIP X1 is ultra-compact, so it is perfect for any application that depends on space-saving solutions.

Functions

Viewing

The VIP X1's video can be viewed on a PC using a simple Web browser such as Internet Explorer or the Bosch Video Management System. It can also be integrated into other video management systems using the Bosch VideoSDK.

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 on an analog CCTV or large, flat-screen VGA monitor or TV.

Recording

The VIP X1 offers unparalleled recording options—locally on a USB hard disk, network-attached utilizing iSCSI devices, and of course centrally using Network Video Recorders. The iSCSI RAID storage enables the VIP X1 to act as a conventional DVR as well as to stream high-performance live video across the network.

Dual Streaming

The VIP X1 uses 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, it may send out e-mail with JPEG images attached.

Access Security

The VIP X1 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, VIP X1 supports increased intelligence at the edge. VIP X1 comes with MOTION+ video motion detection built-in.

MOTION+ is a pixel-change-based motion detection algorithm that includes object size filtering capabilities and sophisticated tamper detection capabilities including:

- video loss
- image too bright (detect blinding)
- image too dark (hooding, spray painting)
- image too noisy (camera defocused)
- gross scene change (camera repositioned)

More advanced video content analysis (VCA) applications are offered with Bosch's Intelligent Video Motion Detection (IVMD). A licensable option, the IVMD algorithm is based on digital imaging technology and uses multi-level image analysis of pixel, texture, and motion changes.

IVMD dynamically adapts to global lighting changes and weather conditions (e.g. rain, snow, blowing leaves, etc.). IVMD detects objects entering or leaving an area (detector field) and includes user definable filters for object size, direction of travel (single and dual), and speed. IVMD includes the same tamper detection filters as MOTION+.

These powerful devices represent the cutting edge of high-performance Video-over-IP for CCTV today.

Easy Upgrade

Remotely upgrade the VIP X1 encoders whenever new firmware becomes available. This ensures up-to-date products, thus protecting investment with little effort.

Certifications and Approvals

Approvals

Region	Certification	
Europe	CE	VIP X
USA	UL	VIP X
		UL online certifications directory (link)

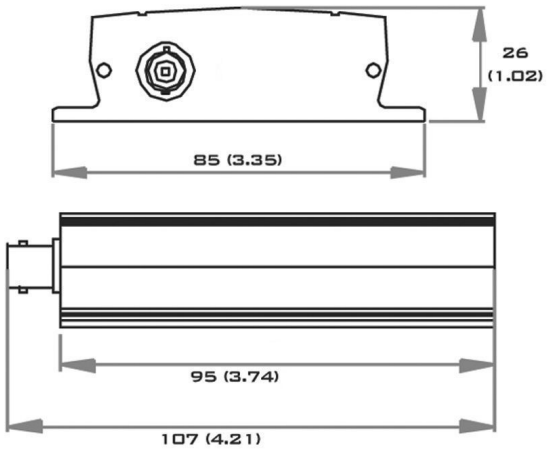
Safety

Region	Number
	IEC 60950

Electromagnetic Compatibility

Region	Number
EU	EN55103-1 Video and audio equipment
	EN55103-2 Video and audio equipment
	EN50130-4 Alarm systems
	EN55022 ITE
	EN55024 ITE
	EN61000-3-2
	EN61000-3-3
US	FCC 47 CFR Chapter 1 Part 15

Installation/Configuration Notes



Dimensions in mm (inches)

Front Connectors and Indicators

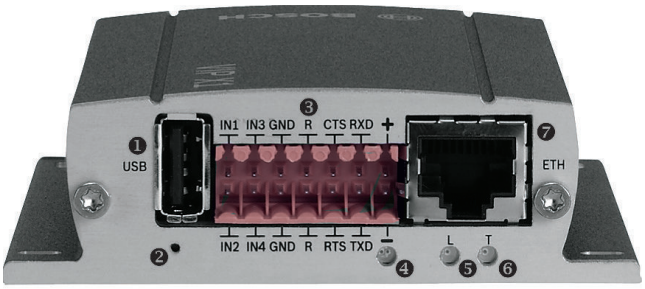
Non-audio models

1 Video In 1

Audio models

1 Video In 1
2 Line In
3 Microphone in , speaker out
4 Line Out

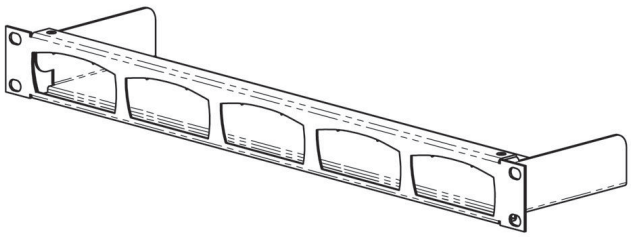
Rear Connectors and Indicators



All models

1 USB port
2 Reset: factory default
3 Alarm in, relay out, power, COM (RS-232/422/485)
4 LED Power
5 LED Link
6 LED Traffic
7 10/100 Base-T Fast Ethernet

Rack Mounting Kit (Optional)



Parts Included

Quantity	Component
1	VIP X1 single-channel video encoder, or VIP X1A single-channel video/audio encoder, or VIP X1P single-channel video encoder with PoE, or VIP X1AP single-channel video/audio encoder with PoE
1	International plug-in power supply
1	RS-232 null modem cable
1	Quick Installation Guide
1	CD-ROM with software and documentation

Technical Specifications

Electrical	
Power supply	VIP-X-PS included in the box
Input voltage	12 to 24 VDC
Power consumption	Approx. 6 VA
PoE models additionally	802.3af, class 2
• power output	2.5 W max

Input/output	
Video	1 x input
• connector	BNC
• impedance	75 ohm, switchable
• signal	Analog composite, 0.7 to 1.2 Vpp, NTSC or PAL
Audio (audio versions only)	1 x mono line in, 1 x mono line out, 1 x microphone input, 1 x speaker output
• connector	2 x 3.5 mm stereo jack, 1 x CombiCon
• signal line in	9 kohm typical, 5.5 Vpp max
• signal line out	16 ohm min, 3.0 Vpp max
• signal microphone	2 kohm typical, 2.8 Vpp max at -20 dB, 2.3 Vpp typical
• signal speaker	4 ohm min, 6 Vpp max, 1 W RMS
Alarm	4 x input
• connector	Clamp (non-isolated closing contact)
• activation resistance	10 ohm max
Relay	1 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
Resolution	Horizontal x vertical PAL/NTSC
• 4CIF	704 x 576/480 (25/30 ips*)
• 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 (audio versions only)	
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, FTP, DHCP, IGMP V2/V3, ICMP, ARP, SMTP, SNTP, SNMP, 802.1x
Encryption	TLS 1.0, SSL, AES (optional)

Control	
Software update	Flash ROM, remote programmable
Configuration	Configuration Manager or Web browser
Connections	
USB port	1 x USB 2.0 high-speed port, 2.5 W max feed
Mechanical	
Dimensions (H x W x D)	26 x 85 x 107 mm (1.02 x 3.35 x 4.21 in)
Weight	Approx. 0.17 kg (0.37 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	21 BTU/h max

Ordering Information

VIPX1 MPEG-4 dual-stream 1-channel encoder, USB, serial I/O, alarm in, relay	**VIPX1**
VIPX1A MPEG-4 dual-stream 1-channel encoder, USB, audio, serial I/O, alarm in, relay	**VIPX1A**
VIPX1P MPEG-4 dual-stream 1-channel encoder, USB, PoE, serial I/O, alarm in, relay	**VIPX1P**
VIPX1AP MPEG-4 dual-stream 1-channel encoder, USB, audio, PoE, serial I/O, alarm in, relay	**VIPX1AP**
Accessories	
VIPRMK1HU VIP X/10/1000 rack-mount kit for 5 units (1HU)	**VIPRMK1HU**
VIP-X-PS Power supply	**VIP-X-PS**
DVA-12T-04100RA iSCSI Diskarray 12-bay 4 HDD, 4 TB	**DVA-12T-04100RA**
DVA-12T-12100RA iSCSI Diskarray 12-bay 12 HDD, 12 TB	**DVA-12T-12100RA**

Ordering Information

Software Options	
VIP-X1-FS1 VIP X1 IVMD 1.0 VCA software license	**VIP-X1-FS1**
SFT-VASA Hybrid IP - Analog/Matrix Video over IP Integration Software	**SFT-VASA**
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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