

# VIDEOJET multi 4000

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**BOSCH**  
Invented for life



- ▶ 16 video input channels with Dual Streaming
- ▶ Deinterlacing at video input and progressive encoding with H.264 High Profile
- ▶ Network-attached iSCSI recording
- ▶ Motion detection and privacy masking
- ▶ ONVIF conformant

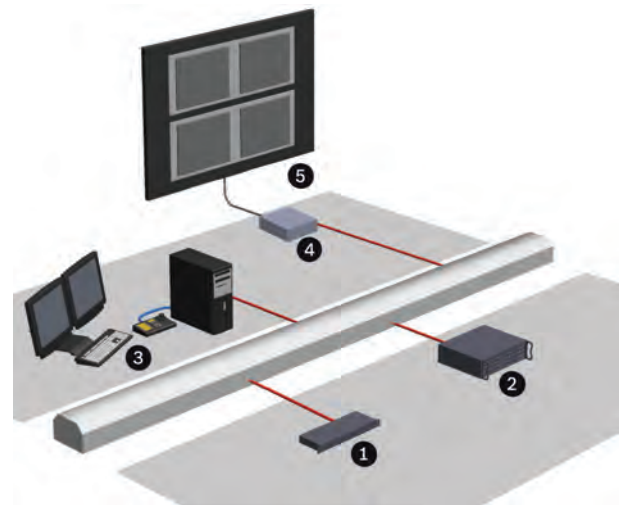
VIDEOJET multi 4000 from Bosch is a 16-channel CCTV video encoder that offers top-of-the-line Video-over-IP performance for CCTV today.

The VIDEOJET multi 4000 H.264 High Profile encoder delivers real-time H.264 compressed video over IPv4 and IPv6 networks. It provides Dual Streaming per camera with full frame rate at best quality. The unit supports PAL and NTSC sources and offers bidirectional audio communication in parallel to video.

View the video on a PC using Bosch's comprehensive video management system, with or without Bosch's IntuiKey keyboard. Alternatively, use a Web browser. Bosch VideoSDK provides the means to integrate the encoder with other video management systems.

With 16 channels in a rack-mountable 1HU form factor VIDEOJET multi 4000 offers the highest port density at this quality of video. Its 1 Gbps Ethernet interface allows to deliver IP video fast and with low delay.

## System overview



- 1 VIDEOJET multi 4000 with 16 analog cameras, network-attached iSCSI storage, or streaming only
- 2 Network-attached iSCSI RAID unit
- 3 Management station with CCTV keyboard
- 4 Decoder
- 5 Monitors

## Functions

### Flexibility

The encoder supports external iSCSI storage across an IP network.

It also supports VRM (Video Recording Manager), Bosch's flexible and scalable recording management software. This allows a flexible assignment of recording space on camera level including load balancing and decent redundancy features. VRM is available as stand-alone system or embedded into Bosch Video Management System.

### Dual Streaming

The encoder uses the feature Dual Streaming to generate two independent IP video streams per channel at variable resolutions.

### Recording

You can record each video input independently on different media. Thus video can be recorded centrally on iSCSI drives managed by VRM.

The encoder features 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 quality on alarm, saving recording space during non-alarm periods.

### Access security

The encoder offers various security levels for accessing the network, the unit, and the data channels. As well as password protection with up to three levels, they support 802.1x authentication using a RADIUS server for identification. You can secure Web browser access by HTTPS using an SSL certificate that is stored in the unit.

Also the communication channels—video, audio, or serial I/O—are then AES encrypted.

### Intelligence

The encoder comes with built-in MOTION+ video motion detection. This motion detection algorithm is based on pixel change and includes object size filtering capabilities.

On alarm, the device can send an e-mail with JPEG images attached.

### Viewing

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

### Easy upgrade

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

## ONVIF conformance

Conformance to ONVIF 1.02 and ONVIF Profile S provides interoperability between network video products regardless of manufacturer. In addition, the firmware of the device supports all applicable features of the ONVIF 2.2 specification.

ONVIF conformant devices are able to exchange live video, audio, metadata, and control information and ensure that they are automatically discovered and connected to network applications such as video management systems.

## Certifications and approvals

### Safety

Region	Number
	IEC 60950

### System

Region	Number
	IEC 62676-2
	EN 50132-5-2

### Electromagnetic Compatibility

Region	Number
EU	EN55022 ITE
	EN55024 ITE
	EN50130-4 Alarm systems
	EN50121-4
	EN61000-3-2
	EN61000-3-3
US	FCC 47 CFR, Part 15 Subpart B Class B
AU	AS/NZS 3548 Class B

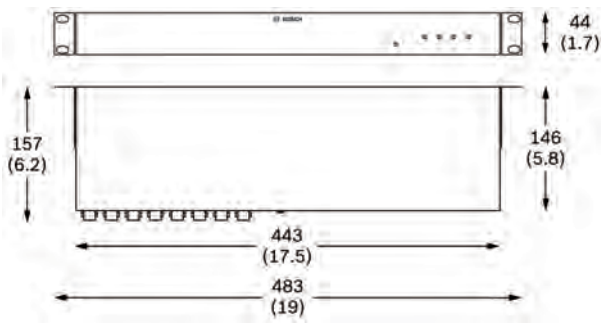
### Approvals

Region	Certification	
Europe	CE	VIDEOJET multi 4000
USA	UL	Bosch UL online certifications directory (link)

## Installation/configuration notes

	Stream 1	Stream 2
4CIF/D1	25/30 fps	25/30 fps
2CIF	25/30 fps	25/30 fps
CIF	25/30 fps	25/30 fps

**Dimensions**



Dimensions in mm (in)

**Front view**



VIDEOJET multi 4000 front

- 1 Factory reset button
- 2 LED ACTIVITY
- 3 LED LINK
- 4 LED STATUS
- 5 LED CONNECT

**Rear view**



VIDEOJET multi 4000 rear

- 1 VIDEO IN 1 to 16
- 2 1 x 10/100/1000 Base-T Gigabit Ethernet
- 3 AUDIO IN
- 4 Alarm in, relay out, COM (RS-232/422/485)
- 5 AUDIO OUT
- 6 Power supply input

**Parts included**

**VIDEOJET multi 4000**

Quantity	Component
1	VIDEOJET multi 4000
1	Accessory bag
1	Installation manual
1	Optional power cord (only for specific countries, e.g. UK, Japan)

**VIDEOJET multi 4000 EU/US**

Quantity	Component
1	VIDEOJET multi 4000 EU or VIDEOJET multi 4000 US
1	Accessory bag
1	Installation manual
1	Power cord with IEC lock system

**Technical specifications**

Input/output	
Video	16 x input
<ul style="list-style-type: none"> <li>• connector</li> <li>• impedance</li> <li>• signal</li> </ul>	BNC 75 ohm, terminated Analog composite, 0.7 to 1.2 Vpp, NTSC or PAL
Audio	2 x mono in, microphone/line 1 x mono line out
<ul style="list-style-type: none"> <li>• connector</li> <li>• signal line in</li> <li>• signal line out</li> </ul>	2 x 3.5 mm (1/8 in) stereo jack 9 kohm typical, 5.5 Vpp max, microphone amplifier 60 dB max 3.0 Vpp at 10 kohm
Alarm	4 x input
<ul style="list-style-type: none"> <li>• connector</li> <li>• activation resistance</li> </ul>	Clamp (non-isolated closing contact) 10 ohm max
Relay	1 x output
<ul style="list-style-type: none"> <li>• connector</li> <li>• signal</li> </ul>	Clamp 30 Vpp (SELV), 0.2 A
COM port	Clamp, RS-232/422/485
<b>Video</b>	
Standards	H.264 High Profile (ISO/IEC 14496-10) M-JPEG
Data rates	9.6 kbps to 2 Mbps per channel
Resolution	Horizontal x vertical PAL/NTSC
<ul style="list-style-type: none"> <li>• 4CIF/D1</li> <li>• 2CIF</li> <li>• CIF</li> </ul>	704 x 576/480 (25/30 ips) 704 x 288/240 (25/30 ips) 352 x 288/240 (25/30 ips)
GOP structure	I, IP
Total delay	260 ms typical

Video	
Dual Streaming	Full performance and full frame rate on both streams for every video input channel
Frame rate	1 to 25/30 fps
Audio	
AAC	
• Profile	AAC-LC
• Frequency rate	300 Hz to 6.4 kHz
• Data rate	48/80 kbps at 16 kHz sampling rate
G.711	
• Frequency rate	300 Hz to 3.4 kHz
• Data rate	80 kbps at 8 kHz sampling rate
L16	
• Frequency rate	300 Hz to 6.4 kHz
• Data rate	640 kbps at 16 kHz sampling rate
Signal-to-noise ratio	> 50 dB
Network	
Ethernet	10/100/1000 Base-T, auto sensing, half/full duplex, RJ45
Protocols	IPv4, IPv6, UDP, TCP, HTTP, HTTPS, RTP/RTCP, IGMP V2/V3, ICMP, ICMPv6, RTSP, FTP, Telnet, ARP, DHCP, APIPA (Auto-IP, link local address), NTP (SNTP), SNMP (V1, MIB-II), 802.1x, DNS, DNSv6, DDNS (DynDNS.org, selfHOST.de, no-ip.com), SMTP, iSCSI, UPnP (SSDP), DiffServ (QoS), LLDP, SOAP, Dropbox, CHAP, digest authentication
Connections	32 simultaneous unicast/multicast min
Encryption	TLS 1.0, SSL, DES, 3DES, AES
Control	
Software update	Flash ROM, remote programmable
Configuration	Configuration Manager or web browser
Camera control	Via serial interface; supported* protocols and devices:
• Bosch	AUTODOME, HSPT, MIC1-300 IP, TC8x00
• Canon	VCC1, VC-C4R
• CBC	SMD 12P/12PII/20P
• JVC	TK-C676

Control	
• Panasonic	WV-CS850
• Pelco	Spectra D/P
• Sensomatic	SpeedDome Ultra
• Sony	EVI D30/31/D100
• Ultrak	KD6
• VT	VPT4x
* Basic functions only, no claim for full functionality valid. Bosch may not be made responsible if functions are not implemented or not working under all circumstances.	

Mechanical	
Dimensions (H x W x D)	44 x 483 x 157 mm (1.7 x 19 x 6.2 in)
Color	RAL 9017 (Traffic Black)
Weight	Approx. 1.7 kg (3.7 lb)

Electrical	
Input voltage	100 to 240 VAC, 47 to 63 Hz
Input current	0.32 to 0.15 A
Power consumption	23 W
Connectors	IEC 320 C14

Environmental	
Operating temperature	0 °C to +50 °C (+32 °F to +122 °F)
Storage temperature	0 °C to +50 °C (+32 °F to +122 °F)
Relative humidity	0 to 95%, non-condensing
Thermal value	79 BTU/h max

### Ordering information

#### VIDEOJET multi 4000

High-performance multi-channel encoder. H.264 High Profile; Dual Streaming; audio; MOTION+; iSCSI recording; 16 channels; power cord added for specific countries only  
Order number **VJM-4016**

#### VIDEOJET multi 4000 EU

High-performance multi-channel encoder. H.264 High Profile; Dual Streaming; audio; MOTION+; iSCSI recording; 16 channels; EU power cord with IEC lock  
Order number **VJM-4016-EU**

**VIDEOJET multi 4000 US**

High-performance multi-channel encoder. H.264 High Profile; Dual Streaming; audio; MOTION+; iSCSI recording; 16 channels; US power cord with IEC lock  
Order number **VJM-4016-US**

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**Accessories**

**DIVAR IP 2000, 2 x 2 TB HDD**

All-in-one recording solution for network surveillance systems of up to 16 channels, 2 x 2 TB storage capacity  
Order number **DIP-2042-2HD**

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**DIVAR IP 2000, 4 x 2 TB HDD**

All-in-one recording solution for network surveillance systems of up to 16 channels, 4 x 2 TB storage capacity  
Order number **DIP-2042-4HD**

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**DIVAR IP 3000, 2 x 2 TB HDD**

All-in-one recording, viewing, and management solution for network surveillance systems of up to 32 channels, 2 x 2 TB storage capacity  
Order number **DIP-3042-2HD**

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**DIVAR IP 3000, 4 x 2 TB HDD**

All-in-one recording, viewing, and management solution for network surveillance systems of up to 32 channels, 4 x 2 TB storage capacity  
Order number **DIP-3042-4HD**

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**Represented by:**

**Americas:**

Bosch Security Systems, Inc.  
130 Perinton Parkway  
Fairport, New York, 14450, USA  
Phone: +1 800 289 0096  
Fax: +1 585 223 9180  
security.sales@us.bosch.com  
www.boschsecurity.us

**Europe, Middle East, Africa:**

Bosch Security Systems B.V.  
P.O. Box 80002  
5617 BA Eindhoven, The Netherlands  
Phone: + 31 40 2577 284  
Fax: +31 40 2577 330  
emea.securitysystems@bosch.com  
www.boschsecurity.com

**Asia-Pacific:**

Robert Bosch (SEA) Pte Ltd, Security Systems  
11 Bishan Street 21  
Singapore 573943  
Phone: +65 6571 2808  
Fax: +65 6571 2699  
apr.securitysystems@bosch.com  
www.boschsecurity.asia

**China:**

Bosch (Shanghai) Security Systems Ltd.  
203 Building, No. 333 Fuquan Road  
North IBP  
Changning District, Shanghai  
200335 China  
Phone +86 21 22181111  
Fax: +86 21 22182398  
www.boschsecurity.com.cn

**America Latina:**

Robert Bosch Ltda Security Systems Division  
Via Anhanguera, Km 98  
CEP 13065-900  
Campinas, Sao Paulo, Brazil  
Phone: +55 19 2103 2860  
Fax: +55 19 2103 2862  
latam.boschsecurity@bosch.com  
www.boschsecurity.com