



VideoJet XF E

VJT-X20XF-E | VJT-X40XF-E



BOSCH

en Installation and Operating Manual

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1 Preface

1.1 About this manual

This manual is intended for persons responsible for the installation and operation of the VideoJet XF E and applies to all variants. In the drawings the VideoJet X40XF E is displayed standing for all versions. International, national and any regional electrical engineering regulations must be followed at all times. Relevant knowledge of network technology is required. The manual describes the installation and operation of the unit.

1.2 Conventions in this manual

In this manual, the following symbols and notations are used to draw attention to special situations:



CAUTION!

This symbol indicates that failure to follow the safety instructions described may endanger persons and cause damage to the unit or other equipment. It is associated with immediate, direct hazards.



NOTICE!

This symbol refers to features and indicates tips and information for easier, more convenient use of the unit.

1.3 Intended use

The VideoJet XF E network video server transfers video, audio and control signals over data networks (Ethernet LAN, Internet). There are various memory options for recording the images captured by the connected cameras. The unit is intended for use with CCTV systems. Various functions can be triggered automatically by incorporating external alarm sensors. Other applications are not permitted.

In the event of questions concerning the use of the unit which are not answered in this manual, please contact your sales partner or:

Bosch Sicherheitssysteme GmbH
Robert-Bosch-Ring 5
85630 Grasbrunn
Germany
www.boschsecurity.com

1.4 EU Directives

The VideoJet XF E network video server complies with the requirements of EU Directives 89/336 (Electromagnetic Compatibility) and 73/23, amended by 93/68 (Low Voltage Directive).

1.5 Rating plate

For exact identification, the model name and serial number are inscribed on the bottom of the housing. Please make a note of this information before installation, if necessary, so as to have it to hand in case of questions or when ordering spare parts.

2 Safety information

2.1 Electric shock hazard

- Never attempt to connect the unit to any power network other than the type for which it is intended.
- Use only the power supply provided or power supply units with UL approval and a power output according to LPS or NEC Class 2.
- Never open the housing.
- Never open the housing of the power supply unit.
- If a fault occurs, disconnect the power supply unit from the power supply and from all other units.
- Install the power supply and the unit only in a dry, weather-protected location.
- When installing in a switch cabinet, ensure that the unit and the power supply units have sufficient grounding.
- If safe operation of the unit cannot be ensured, remove it from service and secure it to prevent unauthorized operation. In such cases, have the unit checked by Bosch Security Systems.

Safe operation is no longer possible in the following cases:

- if there is visible damage to the unit or power cables,
- if the unit no longer operates correctly,
- if the unit has been exposed to rain or moisture,
- if foreign bodies have penetrated the unit,
- after long storage under adverse conditions, or
- after exposure to extreme stress in transit.

2.2 Installation and operation

- The relevant electrical engineering regulations and guidelines must be complied with at all times during installation.
- Relevant knowledge of network technology is required to install the unit.
- Before installing or operating the unit, make sure you have read and understood the documentation for the other equipment connected to it, such as cameras. The documentation contains important safety instructions and information about permitted uses.
- Perform only the installation and operation steps described in this manual. Any other actions may lead to personal injury, damage to property or damage to the equipment.
- Please ensure the following installation conditions:
 - Do not install the unit close to heaters or other heat sources. Avoid locations exposed to direct sunlight.
 - Allow sufficient space for running cables.
 - Ensure that the unit has adequate ventilation. Bear the total heat output in mind, particularly when installing multiple units in a switch cabinet.
 - When making connections, use only the cables supplied or use appropriate cables immune to electromagnetic interference.
 - Position and run all cables so that they are protected from damage, and provide adequate cable strain relief where needed.
 - When installing in a switch cabinet, ensure that the screw joints are free of tension and subject to as little mechanical stress as possible. Ensure that the unit and the power supply units have sufficient grounding.

2.3

Maintenance and repair

- Never open the housing of the VideoJet XF E. The unit does not contain any user-serviceable parts.
- Never open the housing of the power supply unit. The power supply unit does not contain any user-serviceable parts.
- Ensure that all maintenance or repair work is carried out only by qualified personnel (electrical engineers or network technology specialists).

3 Product description

3.1 Parts included

- VideoJet X20 XF E or VideoJet X40 XF E network video server
- 2 terminal blocks (6-pin, 8-pin)
- 4 self-adhesive elastic bumpers
- 1 wall-mounting panel
- 2 screws
- 2 wall plugs
- 1 power supply unit with 3 primary adapters (EU, US, UK)
- 1 Quick Installation Guide
- 1 Safety Hints document

**NOTICE!**

Check that the delivery is complete and in perfect condition. Arrange for the unit to be checked by Bosch Security Systems if you find any damage.

3.2 System requirements

General requirements

- Computer with Windows XP or Windows 7 operating system
- Network access (Intranet or Internet)
- Screen resolution at least 1,024 × 768 pixels
- 16- or 32-bit color depth
- Installed Sun JVM

**NOTICE!**

Also note the information in the **Releaseletter** document for the respective firmware. For the latest version of the firmware, required programs and controls, and the current version of the Bosch Video Client (BVC) management software, access your Bosch product catalog on the Internet.

The Web browser must be configured to enable cookies to be set from the IP address of the unit.

In Windows 7, deactivate protected mode on the **Security** tab under **Internet Options**.

You can find notes on using Microsoft Internet Explorer in the online Help in Internet Explorer.

Additional configuration requirements

- Microsoft Internet Explorer (version 7.0 or higher)
or
- Installed Configuration Manager application (version 4.30 or higher)

Additional operational requirements

- Microsoft Internet Explorer (version 7.0 or higher)
or
- Receiver software, for example Bosch Video Client (version 1.3 or higher) or Bosch Video Management System (version 3.0 or higher)
or
- H.264 compatible hardware decoder from Bosch Security Systems (for example VIP XD HD) as a receiver and connected video monitor
- For playing back recordings: connection to storage medium

3.3 Overview of functions

Network video server

The VideoJet XF E is a compact network video server for two (VideoJet X20 XF E) or four (VideoJet X40 XF E) connected video sources. It is primarily designed for encoding video, audio and control data for transfer over an IP network. With its encoding in the H.264 format, the VideoJet XF E is ideally suited for making existing analog CCTV cameras IP-compatible and for remote access to digital VCRs and multiplexers.

The use of existing networks means that integration with CCTV systems or local networks can be achieved quickly and easily.

Two units, for example a VideoJet XF E as a sender and a VIP XD HD as a receiver, can create a standalone system for data transfer without a PC. Video images from a single sender can be received simultaneously on multiple receivers. Audio signals can also be transmitted from and to compatible units.

Triple Streaming

The VideoJet X20/X40 XF E encoders use Dual Streaming to generate two independent IP video streams per channel. This allows viewing and recording at two different quality levels to save disk space and bandwidth. As a third stream for easier third-party integration they provide an independently configured M-JPEG stream. On alarm, they can send an e-mail with JPEG images attached.

Video encoding

The VideoJet XF E uses the H.264 video compression standard. Thanks to efficient encoding, the data rate remains low even with high image quality and can also be adapted to local conditions within wide limits.

Audio encoding

The VideoJet XF E uses the G.711 and L16 audio compression standards. G.711 is the default setting both for live transmission and recording. When configuring with a Web browser, you can select L16 for recording. Using video management systems, L16 is also available for live audio.

Viewing

View the VideoJet X20/X40 XF E 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 HD video decoder you can present the video with ultimate clarity. Adaptive bit rate encoding enables viewing from remote sites over bandwidth-limited connections and wireless connections to mobile clients. Latest HTML5 technologies provide easy access from Android, Windows Phone and iOS based mobile devices.

Region of interest (ROI)

Get every detail even on lower bandwidth or smaller video window by panning, tilting and zooming a region-of-interest cut-out from the full image. ROI is possible on both live viewing and playback of recordings.

Advanced remote playback

Bosch's latest enhancements—adaptive bit rate encoding and transcoding—allow replay of recordings over bandwidth-limited connections with smooth browsing through the footage while not missing any detail. Be it a remote guard searching for a specific evidence or alerted by alarm notification, quick access to the relevant recording is easily achieved, and recorded images are presented in original quality even over weak links.

Multicast

In suitably configured networks, the multicast function enables simultaneous real-time video transmission to multiple receivers. The UDP and IGMP V2 protocols must be implemented on the network for this function.

Access security

The VideoJet X20/X40 XF E 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.

Remote control

For remote control of external units such as pan or tilt heads for cameras or motorized zoom lenses, control data is transmitted via the VideoJet XF E's bidirectional serial interface. This interface can also be used to transmit transparent data.

Motion detector

VideoJet X20/X40 XF E comes with built-in MOTION+ video motion detection. This motion detection algorithm is based on pixel change and includes object size filtering capabilities and sensitivity settings.

Dual recording

You can record the streams independently on different media. Thus video can be recorded centrally on iSCSI drives managed by VRM Video Recording Manager and redundantly on the local media. If necessary, for example in case of a network failure VRM can fill up the gap in the central recording (ANR, Automatic Network Replenishment).

Backup

A function for storing the video images displayed on the hard drive of your computer is available on the **LIVEPAGE** as well as on the **RECORDINGS** page. Video sequences can be stored by means of a mouse click.

ONVIF conformance

Firmware 5.50 introduces conformance to ONVIF 1.02 and ONVIF Profile S, providing interoperability between network video products regardless of manufacturer. In addition, Firmware 5.50 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.

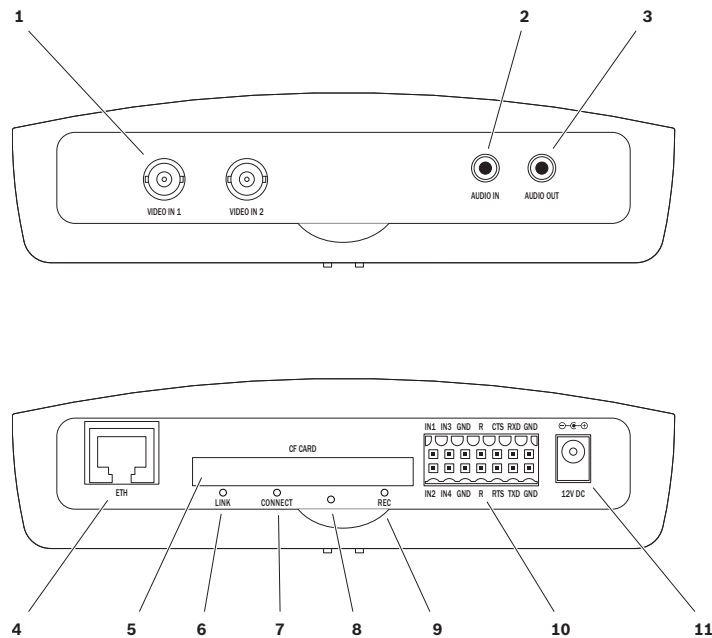
Summary

The VideoJet XF E encoders provide the following main functions:

- Video and data transmission over IP data networks
- Dual Streaming function for the encoder for simultaneous encoding with two individually definable profiles
- Multicast function for simultaneous image transmission to multiple receivers
- Two (VideoJet X20 XF E) or four (VideoJet X40 XF E) analog BNC composite video inputs (PAL/NTSC)
- Video encoding to international standard H.264
- Integrated Ethernet port (10/100 Base-T)
- CF slot for standard Type I/II CompactFlash memory card for local storage
- Transparent, bidirectional data channel via RS-232/RS-422/RS-485 serial interface
- Configuration and remote control of all internal functions via TCP/IP, also secured via HTTPS
- Password protection to prevent unauthorized connection or configuration changes
- Extensive, flexible storage options
- Four alarm inputs and one relay output
- Built-in video sensor for motion alarms
- Event-controlled automatic connection
- Convenient maintenance via uploads
- Flexible encryption of control and data channels
- Authentication according to international standard 802.1x
- Bidirectional audio (mono) for line connections
- Audio encoding to international standards AAC, G.711, and L16

3.4 Connections, controls and displays

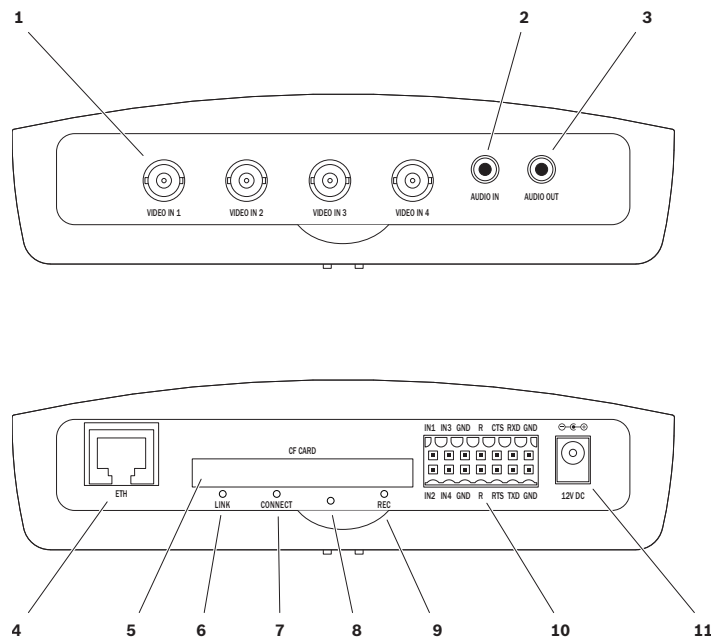
VideoJet X20 XF E



- 1 VIDEO IN 1 and VIDEO IN 2** video inputs
BNC socket for connecting the video source
- 2 AUDIO IN** audio connection (mono)
3.5 mm / 1/8 in stereo socket line-in for connecting two audio sources
- 3 AUDIO OUT** audio connection (mono)
3.5 mm / 1/8 in stereo socket line-out for connecting one audio connection
- 4 ETH** RJ45 socket
for connecting to an Ethernet LAN (local network), 10/100 MBit Base-T
- 5 CF CARD** slot
for one standard Type I/II CompactFlash memory card
- 6 LINK** LED
lights up when the unit is connected to the network
- 7 CONNECT** LED
lights up when supplied with power and during data transmission
- 8** Factory reset button
to restore factory default settings
- 9 REC** LED
flashes during recordings
- 10** Terminal block
for alarm inputs, relay output and serial interface
- 11 12V DC** power connector
for connecting the power supply unit

Further topics:

- *Section 8.4 LEDs, page 108*
- *Section 8.8 Terminal block, page 109*

VideoJet X40 XF E

- 1 VIDEO IN 1 to VIDEO IN 4** video inputs
BNC socket for connecting the video source
- 2 AUDIO IN** audio connection (mono)
3.5 mm / 1/8 in stereo socket line-in for connecting two audio sources
- 3 AUDIO OUT** audio connection (mono)
3.5 mm / 1/8 in stereo socket line-out for connecting one audio connection
- 4 ETH** RJ45 socket
for connecting to an Ethernet LAN (local network), 10/100 MBit Base-T
- 5 CF CARD** slot
for one standard Type I/II CompactFlash memory card
- 6 LINK** LED
lights up when the unit is connected to the network
- 7 CONNECT** LED
lights up when supplied with power and during data transmission
- 8** Factory reset button
to restore factory default settings
- 9 REC** LED
lights up during recordings
- 10** Terminal block
for alarm inputs, relay output and serial interface
- 11 12V DC** power connector
for connecting the power supply unit

Further topics:

- *Section 8.4 LEDs, page 108*
- *Section 8.8 Terminal block, page 109*

4 Installation

4.1 Preparations

**CAUTION!**

The unit is intended for use indoors or in housings.

Select a suitable location for installation that guarantees to meet the environmental conditions. The ambient temperature for the delivered power supply unit must be between 0 and +40 °C (+32 and +104 °F). The relative humidity must be between 20% and 80%. The ambient temperature for the VideoJet XF E must be between 0 and +50 °C (+32 and +122 °F). The relative humidity must not exceed 90%.

The VideoJet XF E generates heat during operation, so you should ensure that there is adequate ventilation and enough clearance between the unit and heat-sensitive objects or equipment. During installation, please note the maximum heat value of 31 BTU/h per unit without the power supply.

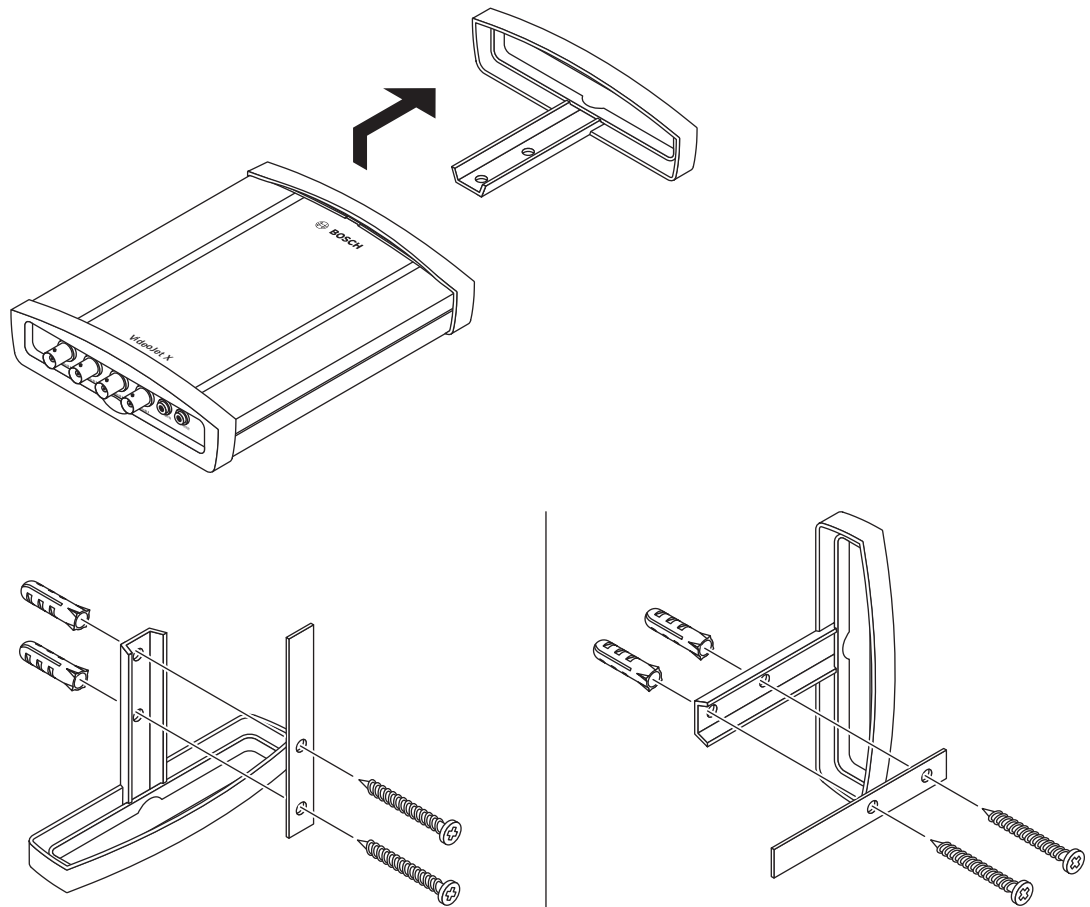
Please ensure the following installation conditions:

- Do not install the unit close to heaters or other heat sources. Avoid locations exposed to direct sunlight.
- Allow sufficient space for running cables.
- Ensure that the unit has adequate ventilation. Bear the total heat output in mind, particularly when installing multiple units in a switch cabinet.
- When making connections, use only the cables supplied or use appropriate cables immune to electromagnetic interference.
- Position and run all cables so that they are protected from damage, and provide adequate cable strain relief where needed.
- When installing in a switch cabinet, ensure that the screw joints are free of tension and subject to as little mechanical stress as possible. Ensure that the unit and the power supply units have sufficient grounding.
- Avoid impacts, blows and severe vibrations that exceed the specification limits, as these can irreparably damage the unit.

Further topics:

- *Section 9 Specifications, page 113*

4.2 Mounting



You can secure the VideoJet XF E to walls, below ceilings or any other load-bearing locations using the wall-mounting panel, in either a vertical or a horizontal position.

CAUTION!



The mounting location must be able to reliably hold the unit. The load-bearing capacity must be adequate for four times the weight of the unit.

If mounting the unit in a vertical position, you will need to use the lower plastic frame and then place the unit onto the frame from above. If mounting the unit in a horizontal position, you can use either of the two frames.

- Lift the plastic frame on one side of the housing and carefully remove it from the unit.
- Screw the plastic frame in the required position together with the wall-mounting panel.
- Check that the plastic frame is secure.
- Place the unit on the wall-mounting panel, with the panel positioned between the housing and the second plastic frame.
- Slide the unit into the plastic frame until you feel it lock securely into place.
- Finally, check that the unit is securely attached in the installation location.

4.3 Installing in a Switch Cabinet

4.3.1 Preparations

The VideoJet XF E can be installed in a 19-inch rack. A Rack Mount Kit for the installation of up to 3 VideoJet XF E can be obtained from Bosch. For more information access your Bosch product catalog on the Internet.



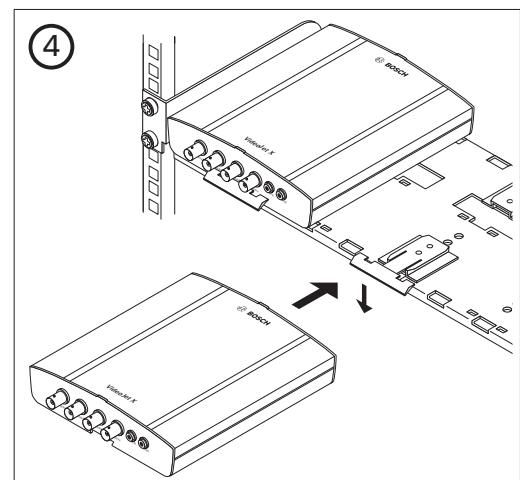
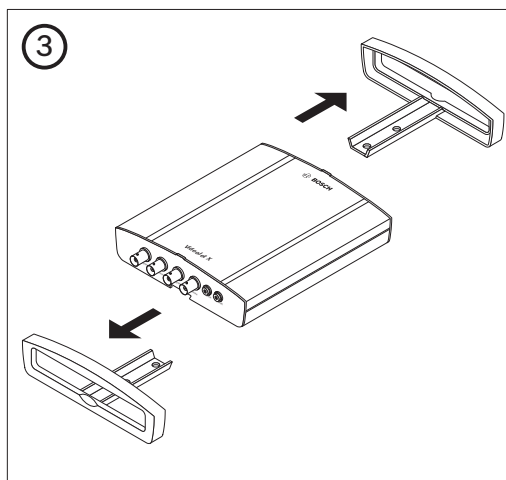
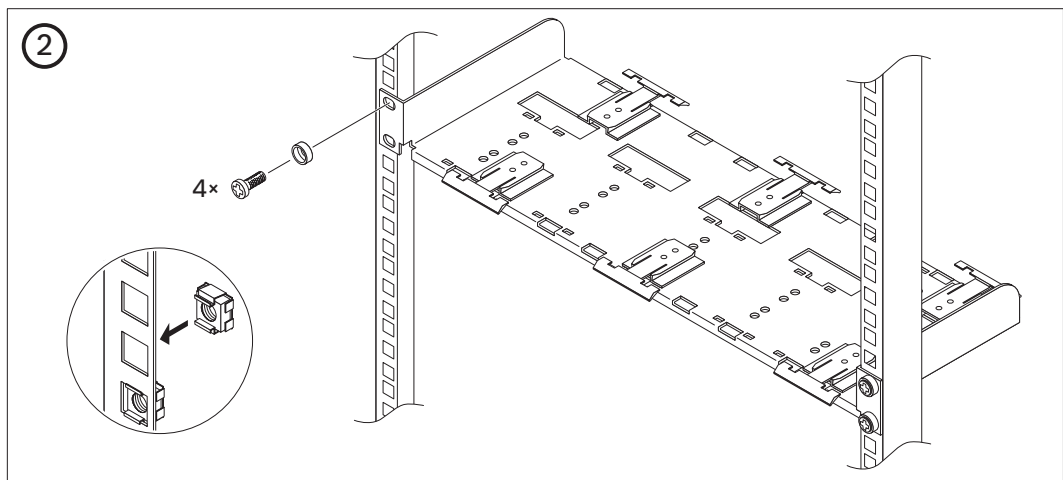
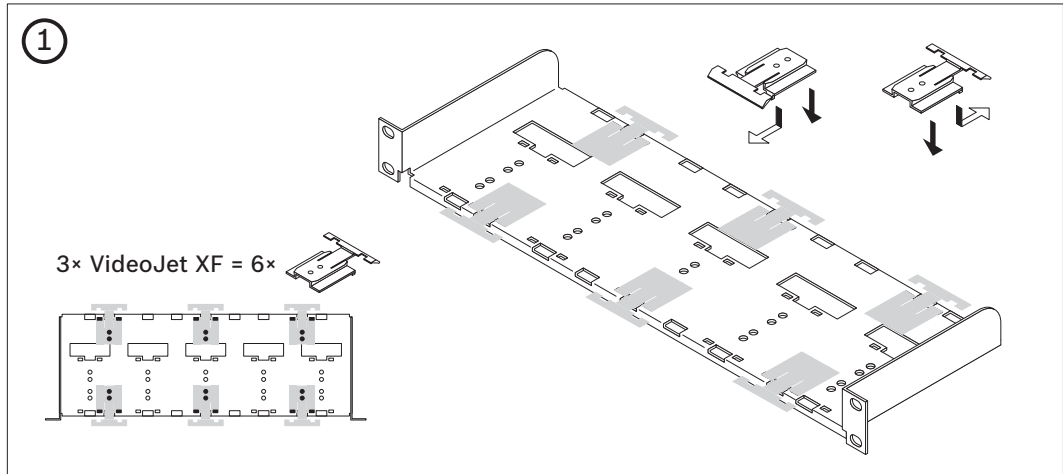
CAUTION!

When installing in a switch cabinet, ensure that there is sufficient ventilation for the unit. The VideoJet XF E generates heat during operation. During installation, please note the maximum heat value of 31 BTU/h per unit without the power supply. The ambient temperature for the delivered power supply unit must be between 0 and +40 °C (+32 and +104 °F). The relative humidity must be between 20% and 80%. The ambient temperature for the VideoJet XF E must be between 0 and +50 °C (+32 and +122 °F). The relative humidity must not exceed 90%.

When installing in a switch cabinet, ensure that the screw joints are free of tension and subject to as little mechanical stress as possible. Ensure that the unit and the power supply units have sufficient grounding.

4.3.2 Installing the VideoJet XF E

1. Install the required number of fixing plates, two for each unit.
2. Prepare the switch cabinet in such a manner that you are easily able to insert the rack mount frame directly at the installation point.
3. Place the cage nuts in the corresponding drillings or spaces in the switch cabinet frame.
4. Lift the empty rack mount frame into the switch cabinet frame and insert the fastening screws together with the washers.
5. Tighten the screws one after the other and then check once more that all the screws are tight.
6. Remove the plastic frames from both sides of each VideoJet XF E to be installed.
7. Slide each VideoJet XF E onto the corresponding fixing plates until you feel it lock securely into place.



4.4 Connections

Camera

You can connect a maximum of two video sources to the VideoJet X20 XF E or a maximum of four video sources to the VideoJet X40 XF E. Any cameras and other video sources that produce a standard PAL or NTSC signal are suitable.

1. Connect the cameras or other video sources to the BNC **VIDEO IN** sockets using a video cable (75 Ohm, BNC plug).
2. If the video signal is not looped through, termination is performed by a software setting if necessary.

Further topics:

- Section 5.19 Advanced Mode: Privacy Masks, page 42

Audio connection

The VideoJet XF E has two audio ports for audio line signals (stereo input and mono output). The audio signals are transmitted two-way and in sync with the video signals. As a result, you can connect a speaker or door intercom system at the destination point, for example. The following specifications should be complied with in all cases.

2 × AUDIO IN:	Impedance 9 kOhm typ., 5.5 V _{p-p} max. input voltage
1 × AUDIO OUT:	3 V _{p-p} typ. output voltage at 10 kOhm impedance, 2.3 V _{p-p} typ. output voltage at 32 Ohm impedance, 1.7 V _{p-p} typ. output voltage at 16 Ohm impedance

The stereo plugs must be connected as follows:

Contact	AUDIO IN function	AUDIO OUT function
Tip	Line In 1	Line Out 1
Middle ring	Line In 2	Line Out 1
Lower ring	Ground	Ground

1. Connect one or two audio sources with line level to the **AUDIO IN** socket of the VideoJet XF E with a 3.5 mm stereo plug.
2. Connect a speaker to the **AUDIO OUT** socket of the VideoJet XF E with a 3.5 mm stereo plug.

Network

You can connect the VideoJet XF E to a 10/100 Base-T network using a standard UTP category 5 cable with RJ45 plugs.

- ▶ Connect the VideoJet XF E to the network via the **ETH** socket.

CF slot

You can insert a standard Type I/II CompactFlash memory card into the **CF CARD** slot to enable recordings to be saved locally. CF cards are the ideal solution for shorter storage times and temporary recordings, for example alarm recordings or local buffering in the event of network interruptions.



NOTICE!

The release letter for the current firmware version includes a list of compatible CF cards.

Playing back recordings is also possible using a different VideoJet XF E.



CAUTION!

If the card is formatted, all existing data is deleted from the card.

You should therefore check whether the CF card contains any data that needs to be backed up before it is inserted.

1. Carefully slide the CF card into the slot as far as it will go, until it locks into place.
2. To remove the CF card, pull and remove the card.

Data interface

The bidirectional data interface is used to control units connected to the VideoJet XF E, such as a dome camera with a motorized lens. The connection supports the RS-232, RS-422 and RS-485 transmission standards. A video connection is necessary to transmit transparent data. The VideoJet XF E offers the serial interface via the orange terminal block.

The range of controllable equipment is expanding constantly. The manufacturers of the relevant equipment provide specific information on installation and control.



CAUTION!

Please take note of the appropriate documentation when installing and operating the unit to be controlled.

The documentation contains important safety instructions and information about permitted uses.

Further topics:

- *Section 8.8 Terminal block, page 109*

Alarm inputs

The VideoJet XF E has four alarm inputs on the orange terminal block. The alarm inputs are used to connect to external alarm devices such as door contacts or sensors. With the appropriate configuration, an alarm sensor can automatically connect the VideoJet XF E to a remote location, for example.

A zero potential closing contact or switch can be used as the actuator.



NOTICE!

If possible, use a bounce-free contact system as the actuator.

- ▶ Connect the lines to the appropriate terminals **IN1** to **IN4** on the orange terminal block and check that the connections are secure.

Further topics:

- *Section 8.8 Terminal block, page 109*

Relay output

The VideoJet XF E has one relay output for switching external units such as lamps or alarm sirens. You can operate the relay output manually while there is an active connection to the VideoJet XF E. The output can also be configured to automatically activate a siren or another alarm unit in response to an alarm signal. The relay output is also located on the orange terminal block.



CAUTION!

A maximum load of 30 V_{p-p} (SELV) and 200 mA may be applied to the relay contact.

- ▶ Connect the lines to the appropriate terminals **R** on the orange terminal block and check that the connections are secure.

Further topics:

- Section 8.8 Terminal block, page 109

4.5 Power on/Power off

Power supply

The VideoJet XF E does not have a power switch. Power is supplied via a separate unit. Connect the VideoJet XF E to the power supply unit and plug this into the mains. The unit is now ready for use. The VideoJet XF E comes supplied with an appropriate power supply unit.



CAUTION!

Use only the power supply unit provided or another power supply unit with UL approval and a power output according to LPS or NEC Class 2.

Where necessary, use suitable equipment to ensure that the power supply is free from interference such as voltage surges, spikes or voltage drops.

Do not connect the VideoJet XF E to the power supply until all other connections have been made.

1. Connect the power supply unit to the **12V DC** socket on the VideoJet XF E. The jack must fit a pin of 2 mm (0.079 in) in diameter (polarity:).
2. Connect the power supply unit to the mains. The VideoJet XF E is ready for use as soon as the **CONNECT** LED changes from a red light, indicating the start-up procedure, to a green light.

Provided the network connection has been correctly made, the green **LINK** LED also lights up. The flashing green LED **CONNECT** signals that data packets are being transmitted via the network.

4.6 Setup using Bosch Video Client

For the current version of the Bosch Video Client (BVC) management software, access your Bosch product catalog on the Internet. This program allows you to implement and set up the encoder in the network quickly and conveniently.



Installing the program

1. Download the Bosch Video Client from the Bosch product catalog on the Internet.
2. Unzip the file.
3. Double-click the installer file.
4. Follow the instructions on the screen to complete the installation.

Configuring the VideoJet XF E

You can start Bosch Video Client immediately after installation.



1. Double-click the  icon on the desktop to start the program. Alternatively, start the application via the **Start** button and the **Programs** menu (path: Start/Programs/Bosch Video Client/Bosch Video Client).
2. When the program is started for the first time, a wizard opens to help you detect and configure devices on the network.
3. If the wizard does not start automatically, click  to open the Configuration Manager application. Then, click **Configuration Wizard...** on the **Tools** menu.



4. Follow the instructions given in the **Configuration Wizard** window.

Additional parameters

You can check and set additional parameters with the assistance of the Configuration Manager application in Bosch Video Client. You can find detailed information on this in the documentation for these applications.

5 Configuration using a Web browser

5.1 Connecting

The integrated HTTP server in the VideoJet XF E provides you with the option to configure the unit over the network with a Web browser. This option is an alternative to configuration using the Configuration Manager application and is considerably richer in function and more convenient than configuration using the terminal program.

System requirements

- Computer with Windows XP or Windows 7 operating system
- Network access (Intranet or Internet)
- Microsoft Internet Explorer (version 7.0 or higher)
- Screen resolution at least 1,024 × 768 pixels
- 16- or 32-bit color depth
- Installed Sun JVM



NOTICE!

Also note the information in the **Releaseletter** document for the respective firmware. For the latest version of the firmware, required programs and controls, access your Bosch product catalog on the Internet.

The Web browser must be configured to enable cookies to be set from the IP address of the unit.

In Windows 7, deactivate protected mode on the **Security** tab under **Internet Options**.

You can find notes on using Microsoft Internet Explorer in the online Help in Internet Explorer.

Establishing the connection

Before you can operate the VideoJet XF E within your network, it must have a valid IP address for your network and a compatible subnet mask.



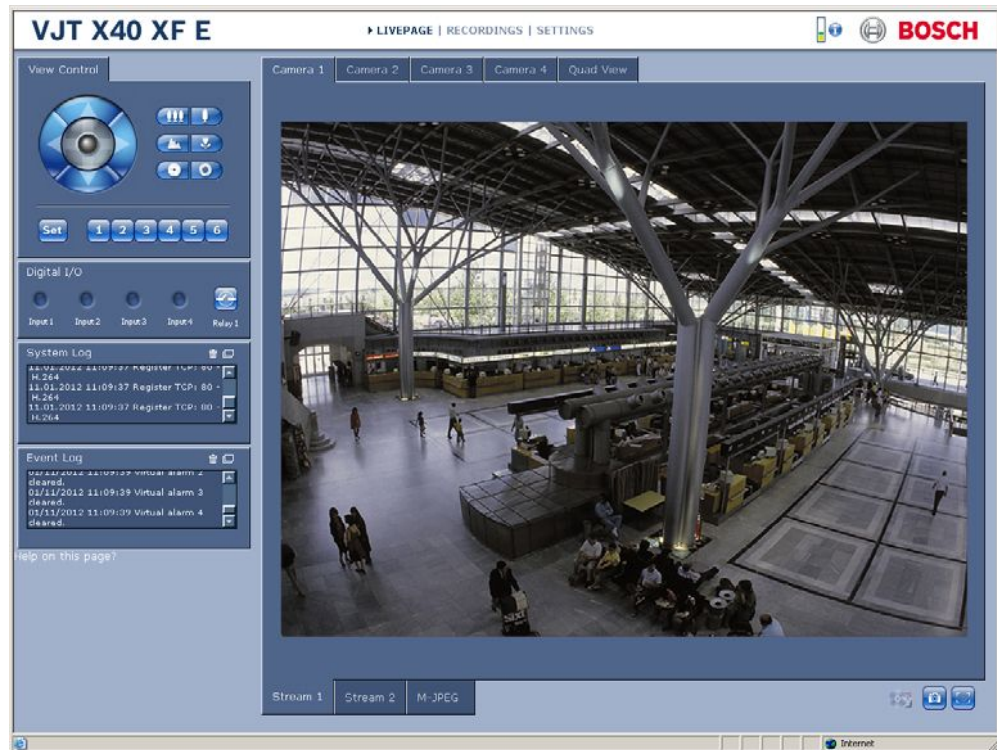
NOTICE!

As a default DHCP is enabled in the VideoJet XF E settings.

With an active DHCP server in the network you must know the IP address assigned by the DHCP server to operate the VideoJet XF E.

The following default address is preset at the factory: **192.168.0.1**

1. Start the Web browser.
2. Enter the IP address of the VideoJet XF E as the URL.
3. During initial installation, confirm the security questions that appear. The connection is established and after a short time you will see the **LIVEPAGE** with the video image.



Maximum number of connections

If you do not connect, the unit may have reached its maximum number of connections. Depending on the unit and network configuration, each VideoJet XF E can have up to 25 Web browser connections or up to 50 connections via Bosch Video Client or Bosch Video Management System.

Protected VideoJet XF E

The VideoJet XF E offers the option to limit the extent of access using various authorization levels. If the VideoJet XF E is password protected against unauthorized access, the Web browser displays a corresponding message and prompts you to enter the password when you attempt to access protected areas.

1. Enter the user name and associated password in the corresponding text fields.
2. Click **OK**. If the password is entered correctly, the Web browser displays the page that was called up.

Further topics:

- *Section 5.11 Advanced Mode: Password, page 34*

Protected network

If a RADIUS server is employed in the network for managing access rights (802.1x authentication), the VideoJet XF E must be configured accordingly, otherwise no communication is possible.

To configure the unit, you must connect the VideoJet XF E directly to a computer using a network cable. This is because communication via the network is not enabled until the **Identity** and **Password** parameters have been set and successfully authenticated.

Further topics:

- *Section Authentication, page 82*

5.2 Configuration menu

The **SETTINGS** page provides access to the configuration menu, which contains all the unit's parameters arranged in groups. You can view the current settings by opening one of the configuration screens. You can change the settings by entering new values or by selecting a predefined value from a list field.

There are two options for configuring the unit or checking the current settings:

- Basic Mode
- Advanced Mode

In Basic Mode the most important parameters are arranged in seven groups. This allows you to change the basic settings with just a few entries and then put the device into operation.

Advanced Mode is recommended for expert users or system support personnel. You can access all device parameters in this mode. Settings that affect the fundamental functionality of the device (such as firmware updates) can only be altered in Advanced Mode.

All parameter groups are described in this chapter in the order in which they are listed in the configuration menu, from the top of the screen to the bottom.



CAUTION!

The settings in the Advanced Mode should only be processed or modified by expert users or system support personnel.

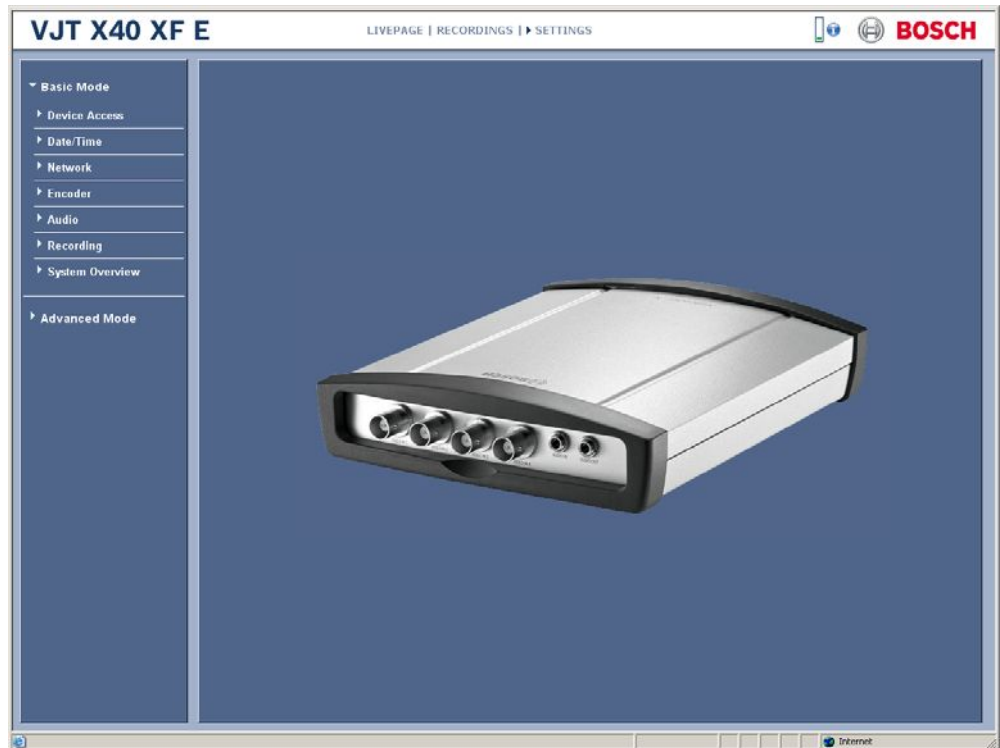
All settings are backed up in the VideoJet XF E memory so they are not lost even if the power fails. The exception is the time settings, which are lost after 72 hours without power if no central time server is selected.

Further topics:

- *Section 5.4 Basic Mode: Date/Time, page 28*
- *Section 5.12 Advanced Mode: Date/Time, page 35*

Starting configuration

- ▶ Click the **SETTINGS** link in the upper section of the window. The Web browser opens a new page with the configuration menu.



Navigation

1. Click one of the menu items in the left window margin. The corresponding submenu is displayed.
2. Click one of the entries in the submenu. The Web browser opens the corresponding page.

Making changes

Each configuration screen shows the current settings. You can change the settings by entering new values or by selecting a predefined value from a list field.

- After each change, click **Set** to save the change.



CAUTION!

Save each change with the associated **Set** button.

Clicking the **Set** button saves the settings only in the current field. Changes in any other fields are ignored.

5.3 Basic Mode: Device Access

Device Access

Device name	<input style="width: 90%;" type="text"/>
Camera 1	<input style="width: 90%;" type="text" value="Camera 1"/>
Camera 2	<input style="width: 90%;" type="text" value="Camera 2"/>
Camera 3	<input style="width: 90%;" type="text" value="Camera 3"/>
Camera 4	<input style="width: 90%;" type="text" value="Camera 4"/>
Password 'service'	<input style="width: 90%;" type="password"/>
Confirm password	<input style="width: 90%;" type="password"/>
Password 'user'	<input style="width: 90%;" type="password"/>
Confirm password	<input style="width: 90%;" type="password"/>
Password 'live'	<input style="width: 90%;" type="password"/>
Confirm password	<input style="width: 90%;" type="password"/>

Device name

You can give the VideoJet XF E a name to make it easier to identify. The name makes the task of administering multiple units in larger video monitoring systems easier, for example using the Bosch Video Client or Bosch Video Management System programs.

The device name is used for the remote identification of a unit, in the event of an alarm for example. For this reason, enter a name that makes it as easy as possible to quickly identify the location.



CAUTION!

Do not use any special characters, for example **&**, in the name. Special characters are not supported by the system's internal management.

Camera 1 to Camera 4

The camera name makes it easier to identify the remote camera location, in the event of an alarm for example. It will be displayed in the video screen if configured to do so. The camera name makes the task of administering cameras in larger video monitoring systems easier, for example using the Bosch Video Client or Bosch Video Management System programs. Enter unique, unambiguous names for each camera in these fields.



CAUTION!

Do not use any special characters, for example **&**, in the name. Special characters are not supported by the system's internal management.

Further topics:

- *Section Camera name stamping, page 36*

Password

A VideoJet XF E is generally protected by a password to prevent unauthorized access to the unit. You can use different authorization levels to limit access.

The VideoJet XF E operates with three authorization levels: **service**, **user** and **live**.

The highest authorization level is **service**. After entering the correct password, you can access all the functions of the VideoJet XF E and change all configuration settings.

With the **user** authorization level, you can operate the unit, play back recordings and also control cameras, for example, but you cannot change the configuration.

The lowest authorization level is **live**. It can only be used to view the live video image and switch between the different live image displays.

Proper password protection is only guaranteed when all higher authorization levels are also protected with a password. Therefore, you always have to start from the highest authorization level when assigning passwords.

You can define and change a password for each authorization level if you are logged in as **service** or if the unit is not password protected.

Enter the password for the appropriate authorization level here. The maximum password text length is 19 characters.



CAUTION!

Do not use any special characters, for example **&**, in the password. Special characters are not supported by the system's internal management.

Confirm password

In each case, enter the new password a second time to eliminate typing mistakes.

5.4

Basic Mode: Date/Time

Device date / Device time / Device time zone

If there are multiple devices operating in your system or network, it is important to synchronize their internal clocks. For example, it is only possible to identify and correctly evaluate simultaneous recordings when all units are operating on the same time. If necessary, you can synchronize the unit with your computer's system settings.

- ▶ Click the **Sync to PC** button to copy your computer's system time to the VideoJet XF E.

Time server IP address

The VideoJet XF E can receive the time signal from a time server using various time server protocols, and then use it to set the internal clock. The unit polls the time signal automatically once every minute.

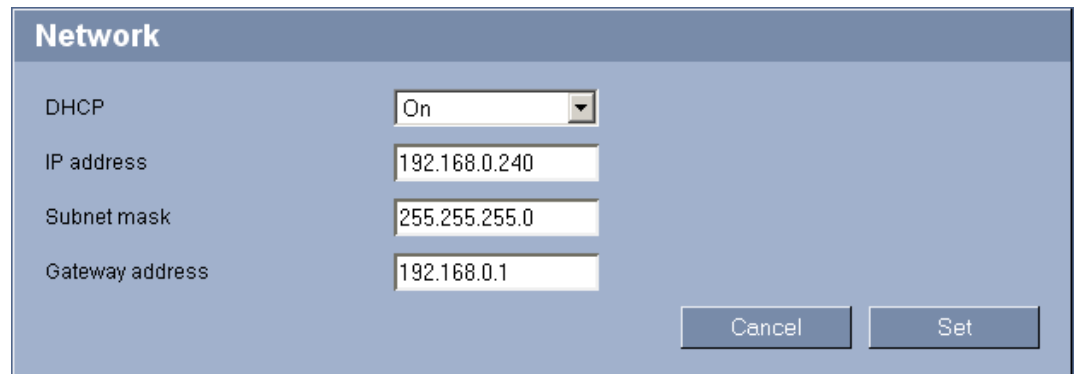
- ▶ Enter the IP address of a time server here.

Time server type

Select the protocol that is supported by the selected time server. Preferably, you should select **SNTP server** as the protocol. This supports a high level of accuracy and is required for special applications and subsequent function extensions.

Select **Time server** for a time server that works with the protocol RFC 868.

5.5 Basic Mode: Network



The settings on this page are used to integrate the VideoJet XF E into an existing network. Some changes only take effect after the unit is rebooted. In this case, the **Set** button changes to **Set and Reboot**.

1. Make the desired changes.
2. Click the **Set and Reboot** button. The VideoJet XF E is rebooted and the changed settings are activated.



CAUTION!

If you change the IP address, subnet mask, gateway address or the DHCP setting, the VideoJet XF E is only available under the new addresses after the reboot.

DHCP

If a DHCP server is employed in the network for the dynamic assignment of IP addresses, you can activate acceptance of IP addresses automatically assigned to the VideoJet XF E. Certain applications (Bosch Video Client, Bosch Video Management System) use the IP address for the unique assignment of the unit. If you use these applications, the DHCP server must support the fixed assignment between IP address and MAC address, and must be appropriately set up so that, once an IP address is assigned, it is retained each time the system is rebooted.

IP address

Enter the desired IP address for the VideoJet XF E in this field. The IP address must be valid for the network.

Subnet mask

Enter the appropriate subnet mask for the selected IP address here.

Gateway address

If you want the unit to establish a connection to a remote location in a different subnet, enter the IP address of the gateway here. Otherwise leave the box blank (**0.0.0.0**).

5.6 Basic Mode: Encoder

Encoder

Video input Video 1

Non-recording profile Low bandwidth (CIF)

Property H.264 MP SD

Low bandwidth (CIF)

Profile #	1
Encoding interval	1 (0.00 ips)
Video resolution	CIF
Target bit rate	1500 kbps
Maximum bit rate	1500 kbps

Cancel
Set

Video input

Select a video input of the VideoJet XF E here; the profile selected in the next field will be applied to this input. You can select a specific profile for each video input.

Non-recording profile

You can select a profile for encoding the video signal.

You can use this to adapt the video data transmission to the operating environment (for example network structure, bandwidth, data load).

Pre-programmed profiles are available, each giving priority to different perspectives. When selecting a profile, details are displayed in the list field. Below is a brief description of the factory default settings for the encoder profiles.



NOTICE!

The names and the technical details for the encoder profiles depend on the configuration of the device.

- **High resolution 1**
High quality for connections with the highest bandwidth, resolution 704 × 576/480 pixels
- **High resolution 2**
High quality for high bandwidth connections, resolution 704 × 576/480 pixels
- **Low bandwidth**
High resolution for low bandwidth connections, resolution 704 × 576/480 pixels
- **DSL**
For DSL connections with 500 kbps, resolution 704 × 576/480 pixels
- **ISDN (2B)**
For ISDN connections via two B-channels, resolution 352 × 288/240 pixels
- **ISDN (1B)**
For ISDN connections via one B-channel, resolution 352 × 288/240 pixels

- **MODEM**
For analog modem connections with 20 kbps, resolution 352 × 288/240 pixels
- **GSM**
For GSM connections at 9,600 baud, resolution 352 × 288/240 pixels

5.7 Basic Mode: Audio

The screenshot shows the 'Audio' configuration window. At the top, the title 'Audio' is displayed. Below the title, there is a dropdown menu labeled 'Audio' with the value 'Off' selected. Underneath, there are three sliders: 'Line In 1', 'Line In 2', and 'Line Out'. Each slider has a blue handle and a numerical value of 0 to its right. At the bottom right of the window, there are two buttons: 'Cancel' and 'Set'.

You can set the gain of the audio signals to suit your specific requirements. Your changes are effective immediately.

If you connect via Web browser, you must activate the audio transmission on the **LIVEPAGE Functions** page. For other connections, the transmission depends on the audio settings of the respective system.

Further topics:

- *Section 5.15 Advanced Mode: LIVEPAGE Functions, page 38*

Audio

The audio signals are sent in a separate data stream parallel to the video data, and so increase the network load. The audio data are encoded according to the selected format and require additional bandwidth. If you do not want any audio data to be transmitted, select **Off**.

Line In 1 / Line In 2

You can set the gain for the line inputs. Make sure that the display does not go beyond the green zone during modulation.

Line Out

You can set the line output gain.

5.8 Basic Mode: Recording

The screenshot shows the 'Recording' configuration window. At the top, the title 'Recording' is displayed. Below the title, there is a dropdown menu labeled 'Storage medium' with the value 'CompactFlash card' selected. At the bottom right of the window, there is a 'Start' button.

You can record the images from the camera connected to the VideoJet XF E on the local CompactFlash card. CompactFlash cards are the ideal solution for shorter storage times. Here you can start or stop the recording.

5.9 Basic Mode: System Overview

System Overview	
Hardware version	F0002743
Firmware version	42500550
Device type	VJT-X40XF-E
IP address	192.168.0.240
Audio option	Yes
Storage medium attached	Yes
Initiator name	iqn.2005-12.com.bosch:unit00075f7a44cb
MAC address	00-07-5F-7A-44-CB
Major version number	5.50
Build number	42
Temperature	104°F / 40°C (max 168°F / 75.5°C)
Serial number	044608611018010039

The data on this page are for information purposes only and cannot be changed. Keep a record of these numbers in case technical assistance is required.

You can select all required text on this page with the mouse and copy it to the clipboard with the [Ctrl]+[C] key combination, for example if you want to send it via e-mail.

5.10 Advanced Mode: Identification

Identification	
Device name	<input type="text"/>
Device ID	<input type="text"/>
Camera 1	<input type="text" value="Camera 1"/> <input type="checkbox"/>
Camera 2	<input type="text" value="Camera 2"/> <input type="checkbox"/>
Camera 3	<input type="text" value="Camera 3"/> <input type="checkbox"/>
Camera 4	<input type="text" value="Camera 4"/> <input type="checkbox"/>
Initiator extension	<input type="text"/>
<input type="button" value="Set"/>	

Device name

You can give the VideoJet XF E a name to make it easier to identify. The name makes the task of administering multiple units in larger video monitoring systems easier, for example using the Bosch Video Client or Bosch Video Management System programs.

The device name is used for the remote identification of a unit, in the event of an alarm for example. For this reason, enter a name that makes it as easy as possible to quickly identify the location.

**CAUTION!**

Do not use any special characters, for example **&**, in the name.

Special characters are not supported by the system's internal management.

Device ID

Each VideoJet XF E should be assigned a unique identifier that you can enter here as an additional means of identification.

Camera 1 to Camera 4

The camera name makes it easier to identify the remote camera location, in the event of an alarm for example. It will be displayed in the video screen if configured to do so. The camera name makes the task of administering cameras in larger video monitoring systems easier, for example using the Bosch Video Client or Bosch Video Management System programs.

Enter unique, unambiguous names for each camera in these fields. You can use both lines for this.

**CAUTION!**

Do not use any special characters, for example **&**, in the name.

Special characters are not supported by the system's internal management.

You can use the second line for entering additional characters; these can be selected from a table.

1. Click the icon next to the second line. A new window with the character map is opened.
2. Click the required character. The character is inserted into the **Result** field.
3. In the character map, click the **<<** and **>>** icons to move between the different pages of the table, or select a page from the list field.
4. Click the **<** icon to the right of the **Result** field to delete the last character, or click the **X** icon to delete all characters.
5. Now click the **OK** button to apply the selected characters to the second line of the **Camera 1** parameters. The window will close.

Further topics:

- *Section Camera name stamping, page 36*

Initiator extension

You can attach your own text to the initiator name of the VideoJet XF E to make the unit easier to identify in large iSCSI systems. This text is added to the initiator name, separated from it by a full stop. You can see the initiator name in the system overview.

Further topics:

- *Section 5.49 Advanced Mode: System Overview, page 90*

5.11 Advanced Mode: Password

A VideoJet XF E is generally protected by a password to prevent unauthorized access to the unit. You can use different authorization levels to limit access.

Password

The VideoJet XF E operates with three authorization levels: **service**, **user** and **live**.

The highest authorization level is **service**. After entering the correct password, you can access all the functions of the VideoJet XF E and change all configuration settings.

With the **user** authorization level, you can operate the unit, play back recordings and also control cameras, for example, but you cannot change the configuration.

The lowest authorization level is **live**. It can only be used to view the live video image and switch between the different live image displays.

Proper password protection is only guaranteed when all higher authorization levels are also protected with a password. Therefore, you always have to start from the highest authorization level when assigning passwords.

You can define and change a password for each authorization level if you are logged in as **service** or if the unit is not password protected.

Enter the password for the appropriate authorization level here. The maximum password text length is 19 characters.



CAUTION!

Do not use any special characters, for example **&**, in the password.

Special characters are not supported by the system's internal management.

Confirm password

In each case, enter the new password a second time to eliminate typing mistakes.

5.12 Advanced Mode: Date/Time

Date/Time

Date format DD.MM.YYYY

Device date Wednesday, 11.01.2012

Device time 12:04:31 Sync to PC

Device time zone (UTC +1:00) Western & Central Europe

Daylight saving time Details

Time server IP address

Time server type SNTP server Set

Date format

Select your required date format.

Device date / Device time

If there are multiple devices operating in your system or network, it is important to synchronize their internal clocks. For example, it is only possible to identify and correctly evaluate simultaneous recordings when all units are operating on the same time.

1. Enter the current date. Since the unit time is controlled by the internal clock, there is no need to enter the day of the week – it is added automatically.
2. Enter the current time or click the **Sync to PC** button to copy your computer's system time to the VideoJet XF E.

Device time zone

Select the time zone in which your system is located.

Daylight saving time

The internal clock can switch automatically between normal and daylight saving time (DST). The unit already contains the data for DST switch-overs up to the year 2018. You can use these data or create alternative time saving data if required.



NOTICE!

If you do not create a table, there will be no automatic switching. When changing and clearing individual entries, remember that two entries are usually related to each other and dependent on one another (switching to summer time and back to normal time).

1. First check whether the correct time zone is selected. If it is not correct, select the appropriate time zone for the system, and click the **Set** button.
2. Click the **Details** button. A new window will open and you will see the empty table.
3. Select the region or the city that is closest to the system's location from the list field below the table.
4. Click the **Generate** button to generate data and enter it into the table.
5. Make changes by clicking an entry in the table. The entry is selected.
6. Clicking the **Delete** button will remove the entry from the table.
7. Select other values from the list fields below the table to change the entry. Changes are made immediately.

8. If there are empty lines at the bottom of the table, for example after deletions, you can add new data by marking the row and selecting required values from the list fields.
9. Now click the **OK** button to apply and activate the table.

Time server IP address

The VideoJet XF E can receive the time signal from a time server using various time server protocols, and then use it to set the internal clock. The unit polls the time signal automatically once every minute.

Enter the IP address of a time server here.

Time server type

Select the protocol that is supported by the selected time server. Preferably, you should select **SNTP server** as the protocol. This supports a high level of accuracy and is required for special applications and subsequent function extensions.

Select **Time server** for a time server that works with the protocol RFC 868.

5.13

Advanced Mode: Display Stamping

Display Stamping

Camera name stamping

Time stamping

Alarm mode stamping

Alarm message (max. 31 characters)

Video watermarking

Various overlays or "stamps" in the video image provide important supplementary information. These overlays can be enabled individually and are arranged on the image in a clear manner.

Camera name stamping

This field sets the position of the camera name overlay. It can be displayed at the **Top**, at the **Bottom**, or at a position of your choice that you can then specify using the **Custom** option. Or it can be set to **Off** for no overlay information.

1. Select the desired option from the list.
2. If you select the **Custom** option, additional fields are displayed where you can specify the exact position (**Position (XY)**).
3. In the **Position (XY)** fields, enter the values for the desired position.

Time stamping

This field sets the position of the time overlay. It can be displayed at the **Top**, at the **Bottom**, or at a position of your choice that you can then specify using the **Custom** option. Or it can be set to **Off** for no overlay information.

1. Select the desired option from the list.
2. If you select the **Custom** option, additional fields are displayed where you can specify the exact position (**Position (XY)**).
3. In the **Position (XY)** fields, enter the values for the desired position.

Alarm mode stamping

Select **On** to display a text message overlay in the image in the event of an alarm. It can be displayed at a position of your choice that you can then specify using the **Custom** option. Or it can be set to **Off** for no overlay information.

1. Select the desired option from the list.
2. If you select the **Custom** option, additional fields are displayed where you can specify the exact position (**Position (XY)**).
3. In the **Position (XY)** fields, enter the values for the desired position.

Alarm message

Enter the message to be displayed in the image in the event of an alarm. The maximum text length is 31 characters.

Video watermarking

Choose **On** if you wish the transmitted video images to be "watermarked". After activation, all images are marked with an icon. The icon indicates if the sequence (live or saved) has been manipulated.

Further topics:

- *Section Display stamping, page 93*

5.14**Advanced Mode: Appearance**

On this page you can adapt the appearance of the web interface and change the website language to meet your requirements. If necessary, you can replace the manufacturer's logo (top right) and the product name (top left) in the top part of the window with individual graphics.

**NOTICE!**

You can use either GIF or JPEG images stored on a web server (for example **http://www.mycompany.com/images/logo.gif**).

Ensure that a connection to the web server is always available to display the image. The image file is not stored in the VideoJet XF E.

If you want to use the original graphics again, simply delete the entries in the **Company logo** and **Device logo** fields.

Website language

Select the language for the user interface here.

There are always two languages to choose from: English and another language. If the language you require is not available for selection, you can download the current firmware with another language combination from the Bosch product catalog on the Internet.

Company logo

Enter the path to a suitable graphic if you want to replace the manufacturer's logo. The image file must be stored on a web server.

Device logo

Enter the path to a suitable graphic if you want to replace the product name. The image file must be stored on a web server.

JPEG size

Select the image size for displaying the M-JPEG on the **LIVEPAGE**. If the **From JPEG stream** option is selected, the image size defined in the encoder profile is used.

JPEG interval

You can specify the interval at which the individual images should be generated for the M-JPEG image on the **LIVEPAGE**.

JPEG quality

You can specify the image quality for displaying the M-JPEG on the **LIVEPAGE**.

5.15

Advanced Mode: LIVEPAGE Functions

LIVEPAGE Functions

Transmit audio	<input type="checkbox"/>
Lease time [s]	<input style="width: 50px;" type="text" value="0"/>
Show alarm inputs	<input checked="" type="checkbox"/>
Show relay outputs	<input checked="" type="checkbox"/>
Show VCA metadata	<input type="checkbox"/>
Show overlay icons	<input checked="" type="checkbox"/>
Show event log	<input checked="" type="checkbox"/>
Show system log	<input checked="" type="checkbox"/>
Allow snapshots	<input checked="" type="checkbox"/>
Allow local recording	<input checked="" type="checkbox"/>
Path for JPEG and video files	<input style="width: 250px;" type="text"/> <input style="margin-left: 10px;" type="button" value="Browse"/>

On this page you can adapt the **LIVEPAGE** functions to your requirements. You can choose from a variety of different options for displaying information and controls.

1. Check the box for the items that are to be made available for the **LIVEPAGE** user. The selected items are indicated by a check mark.
2. Check whether the required functions are available for the **LIVEPAGE** user.

Transmit audio

You can only select this option if audio transmission is actually switched on. The audio signals are sent in a separate data stream parallel to the video data, and so increase the network load. The audio data are encoded according to G.711 and require an additional bandwidth of approx. 80 kbps per connection in each direction.

Further topics:

- *Section 5.22 Advanced Mode: Audio, page 48*

Lease time [s] (standard version only)

The lease time in seconds determines the time beyond which a different user is authorized to control the camera after no further control signals are received from the current user. After this time interval, the camera is automatically enabled.

Show alarm inputs

Alarm inputs are shown next to the video image as icons, along with their assigned names. If an alarm is active, the corresponding icon changes color.

Show relay outputs

Relay outputs are shown next to the video image as icons, along with their assigned names. If the relay is switched, the icon changes color.

Show VCA metadata

When the analysis function is activated, the additional information from the video content analysis (VCA) will be displayed in the live video image. With the **MOTION+** analysis type, for example, the sensor fields in which motion is recorded will be marked with rectangles.

Further topics:

- *Section 5.34 Advanced Mode: VCA Event triggered, page 69*

Show overlay icons

Various overlays or "stamps" in the video image provide important status information.

Further topics:

- *Section Display stamping, page 93*

Show event log

The event messages are displayed along with the date and time in a field next to the video image.

Show system log

The system messages are displayed along with the date and time in a field next to the video image and provide information about establishing and ending connections, for example.

Allow snapshots

Here you can specify whether the icon for saving individual images should be displayed below the live image. Individual images can only be saved if this icon is visible.

Allow local recording

Here you can specify whether the icon for saving video sequences on the local memory should be displayed below the live image. Video sequences can only be saved if this icon is visible.

Path for JPEG and video files

1. Enter the path for the storage location of individual images and video sequences that you can save from the **LIVEPAGE**.
2. If necessary, click **Browse** to find a suitable directory.

5.16 Advanced Mode: Logging

Save event log

Check this option to save event messages in a text file on your local computer. You can then view, edit and print this file with any text editor or the standard Office software.

File for event log

1. Enter the path for saving the event log here.
2. If necessary, click **Browse** to find a suitable directory.

Save system log

Check this option to save system messages in a text file on your local computer. You can then view, edit and print this file with any text editor or the standard Office software.

File for system log

1. Enter the path for saving the system log here.
2. If necessary, click **Browse** to find a suitable directory.

5.17 Advanced Mode: Installer Menu

Reboot device

Click **Reboot** to restart the VideoJet XF E.

Factory defaults

Click **Defaults** to restore the factory defaults for the VideoJet XF E. A confirmation screen appears.

5.18 Advanced Mode: Video Input

Video Input

75 Ohm termination input 1	<input type="text" value="On"/>
75 Ohm termination input 2	<input type="text" value="On"/>
75 Ohm termination input 3	<input type="text" value="On"/>
75 Ohm termination input 4	<input type="text" value="On"/>

You can activate the 75 Ohm terminating resistance for each video input of the VideoJet XF E. The terminating resistance must be deactivated for the video signal to be looped through. Every video input is closed at the time of delivery.



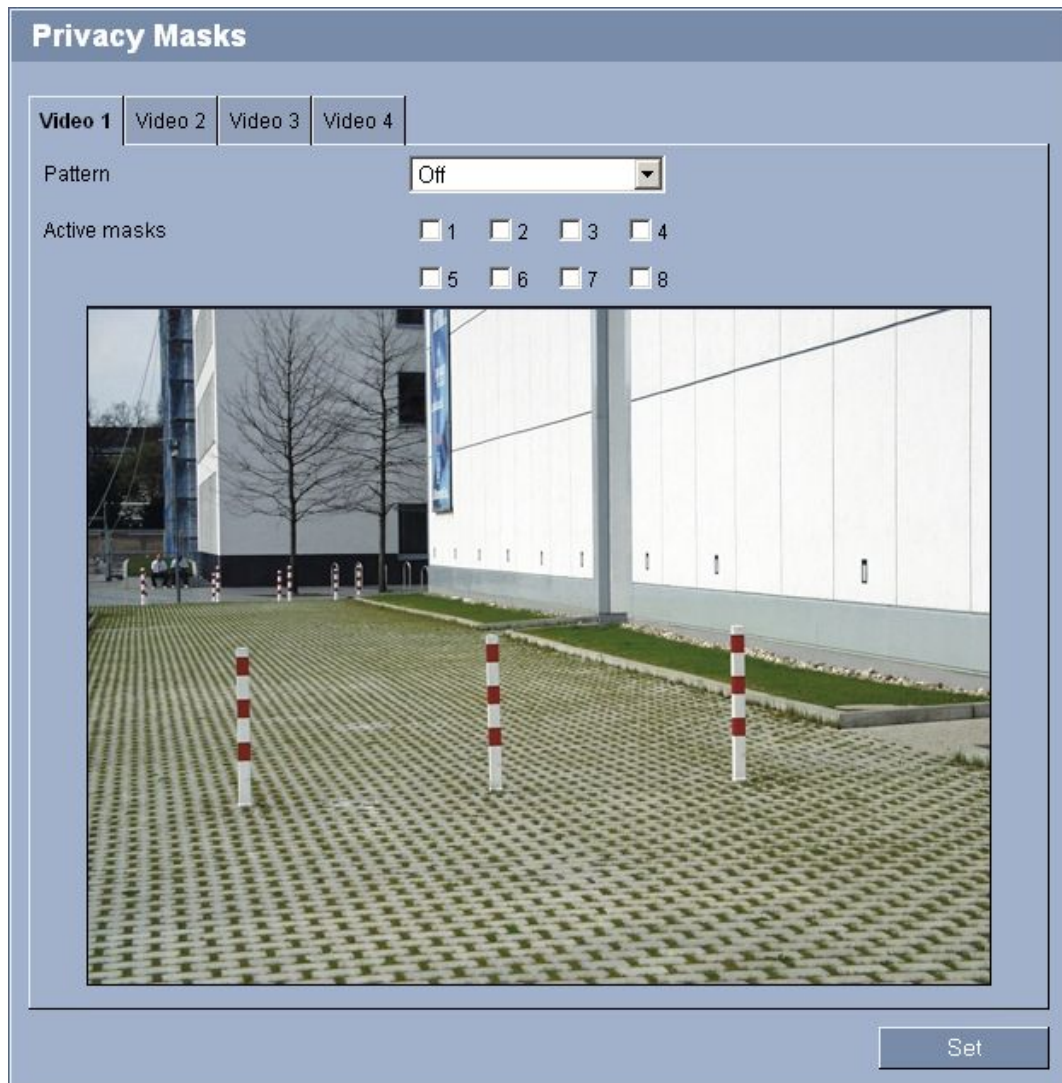
NOTICE!

The numbering follows the labeling of the video inputs on the VideoJet XF E.

75 Ohm termination

Select **Off** if the video signal is to be looped through.

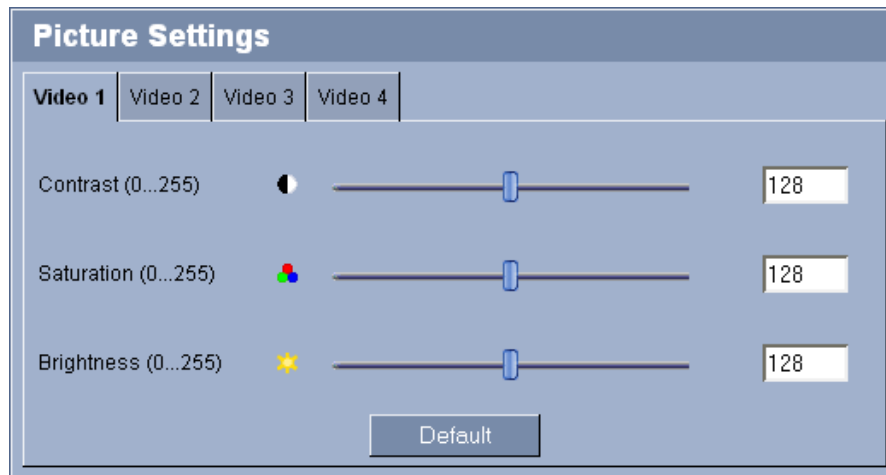
5.19 Advanced Mode: Privacy Masks



You can cover up to eight different rectangular areas in the video image of each camera, so that private areas are protected in the camera's field of view. This can be useful when public spaces are in the coverage area or monitoring will be limited to a particular zone. The areas covered are indicated by a gray pattern in the video image.

1. Click a tab to select the corresponding camera.
2. In the list field **Pattern**, select option **Gray** to activate the function.
3. Click a checkbox in the **Active masks** area to activate the corresponding zone. A check mark appears and the zone is shown in the preview as a rectangular mark.
4. To reposition a zone, place the cursor over the zone, hold down the mouse button and drag into position.
5. To amend the shape of a zone, place the cursor over the edge of the zone, hold down the mouse button and drag the edge of the zone to the required position.
6. Set other zones in the same way.
7. In the **Active masks** area, click one of checked boxes to deactivate the corresponding zone. The check mark is hidden and the zone is only displayed as a faint mark in the preview.
8. Click the zone with the right mouse button and then click **Remove** to delete the zone.

5.20 Advanced Mode: Picture Settings



You can set the video image of the camera to suit your requirements. The current video image is displayed in the small window next to the slide controls as confirmation. Your changes are effective immediately.

1. Move the slide control to the required position.
2. Click **Default** to reset all settings to their default values.

Contrast (0...255)

You can use this function to adapt the contrast of the video image to your working environment.

Saturation (0...255)

You can use this function to adjust color saturation in order to correct unnatural camera signal colors.

Brightness (0...255)

You can use this function to adapt the brightness of the video image to your working environment.

5.21 Advanced Mode: Encoder Profile

Encoder Profile

Active profile

Video 1 | Video 2 | Video 3 | Video 4

Stream 1: Low bandwidth (CIF) H.264 MP

Stream 2: Low bandwidth (CIF) H.264 MP

M-JPEG: Low bandwidth (CIF)

Preview for Stream 1 Stream 2

Profile configuration

Profile 1 | Profile 2 | Profile 3 | Profile 4 | Profile 5 | Profile 6 | Profile 7 | Profile 8

Profile name: Low bandwidth (CIF)

Maximum bit rate: 1500 kbps

Encoding interval: 1 (0.00 ips)

Video resolution: CIF

I-frame distance: 25

Min. P-frame QP: 16

I/P-frame delta QP: -6

Deblocking filter:

CABAC:

GOP structure: IP

H.264 MP | H.264 BP+ | M-JPEG

For the video signal encoding, you can select three profiles and a code algorithm for each video input, and you can change the presets for the profiles.

You can use this to adapt the video data transmission to the operating environment (for example network structure, bandwidth, data load). You can select the compression settings for the two data streams individually, for example one setting for transmissions to the Internet and one for LAN connections.

Pre-programmed profiles are available, each giving priority to different perspectives. Below is a brief description of the factory default settings for the encoder profiles.

- **High resolution 1**

High quality for connections with the highest bandwidth, resolution 704 × 576/480 pixels

- **High resolution 2**
High quality for high bandwidth connections, resolution 704 × 576/480 pixels
- **Low bandwidth**
High resolution for low bandwidth connections, resolution 704 × 576/480 pixels
- **DSL**
For DSL connections with 500 kbps, resolution 704 × 576/480 pixels
- **ISDN (2B)**
For ISDN connections via two B-channels, resolution 352 × 288/240 pixels
- **ISDN (1B)**
For ISDN connections via one B-channel, resolution 352 × 288/240 pixels
- **MODEM**
For analog modem connections with 20 kbps, resolution 352 × 288/240 pixels
- **GSM**
For GSM connections at 9,600 baud, resolution 352 × 288/240 pixels

You can choose between the code algorithms H.264 MP and H.264 BP+ for each H.264 data stream. As well as the Stream profiles, you can also select a profile for the M-JPEG image transmission.



CAUTION!

Hardware decoders VIP XD and VIP X1600 XFMD can only process algorithm H.264 BP+. Bear this in mind when configuring profile settings.

1. Select the required profile for every data stream.
2. Select the required code algorithm for every H.264 data stream.

You can change individual parameter values of a profile and you can also change the name. You can switch between profiles by clicking the appropriate tabs. Click **H.264 MP**, **H.264 BP+** and **M-JPEG** at the bottom of the tabs to change specific settings for the code algorithm in question:

- **H.264 MP**
This profile setting represents H.264 Main Profile and offers the maximum configuration options for the H.264 code algorithm. With it, you can achieve the best image quality at the lowest bandwidth.
- **H.264 BP+**
This profile setting represents H.264 Baseline Profile plus, which uses a function from the Main-Profile tool set to support interlace video. In contrast to the pure H.264 Baseline Profile, a resolution of 4CIF is possible. This setting should be selected if you want the video stream to be displayed by a hardware decoder. In the process, the bit rate is limited to 2.5 Mbps.
- **M-JPEG**
The bit rate can be set at a higher value for the M-JPEG stream than for the video stream.



CAUTION!

The profiles are rather complex. They include a large number of parameters that interact with one another, so it is generally best to use the default profiles.

Change the profiles only once you are fully familiar with all the configuration options. In the default setting, Stream 2 is transmitted for alarm connections and automatic connections. Bear this fact in mind when assigning the profile.

**NOTICE!**

All parameters combine to make up a profile and are dependent on one another. If you enter a setting that is outside the permitted range for a particular parameter, the nearest permitted value will be substituted when the settings are saved.

Preview for

Select which video data stream should be displayed in the previews. You can deactivate the display of the video images if the performance of the computer is affected too strongly by the decoding of the data streams.

- ▶ Check the box for the required data stream.

Profile name

You can enter a new name for the profile here. The name is then displayed in the list of available profiles.

**CAUTION!**

Do not use any special characters, for example **&**, in the name. Special characters are not supported by the system's internal management.

Maximum bit rate

This maximum bit rate is not exceeded under any circumstances. Depending on the video quality settings for the I and P-frames, this fact can result in individual images being skipped.

Encoding interval

The setting here determines the interval at which images are encoded and transmitted. For example, entering **4** means that only every fourth image is encoded, the following three are skipped – this can be particularly advantageous with low bandwidths. The image rate in ips (images per second) is displayed next to the text field.

Video resolution

Here you can select the desired resolution for the video image. The following resolutions are available:

- **QCIF**
176 × 144/120 pixels
- **CIF**
352 × 288/240 pixels
- **1/2 D1**
352 × 576/480 pixels
- **2CIF**
704 × 288/240 pixels
- **4CIF/D1**
704 × 576/480 pixels
- **2/3 D1**
464 × 576/480 pixels

I-frame distance

This parameter allows you to set the intervals in which the I-frames will be coded. **0** means auto mode, whereby the video server inserts I-frames as necessary. An entry of **3** indicates that only every third image is an I-frame. Note that the values supported depend on the **GOP structure** setting. For example, only even values are supported with **IBP**; if you have selected **IBBP**, only 3 or multiples of 3 are supported.

Min. P-frame QP

In the H.264-protocol, the Quantization Parameter (QP) specifies the degree of compression and thus the image quality for every frame. The lower the QP value, the higher the encoding quality. A higher quality produces a higher data load. Typical QP values are between 18 and 30. Define the lower limit for the quantization of the P-frames here, and thus the maximum achievable quality of the P-frames.

I/P-frame delta QP

This parameter sets the ratio of the I-frame QP to the P-frame QP. For example, you can set a lower value for I-frames by moving the slide control to a negative value. Thus, the quality of the I-frames relative to the P-frames is improved. The total data load will increase, but only by the portion of I-frames.

To obtain the highest quality at the lowest bandwidth, even in the case of increased movement in the picture, configure the quality settings as follows:

1. Observe the coverage area during normal movement in the preview images.
2. Set the value for **Min. P-frame QP** to the highest value at which the image quality still meets your needs.
3. Set the value for **I/P-frame delta QP** to the lowest possible value. This is how to save bandwidth and memory in normal scenes. The image quality is retained even in the case of increased movement, since the bandwidth is then filled up to the value that is entered under **Maximum bit rate**.

Deblocking filter

You can activate a filter that reduces blocking in the image, thereby providing a smoother image. Please note that this option requires additional computing power.

CABAC

You can activate an additional lossless compression of the video data. The same image quality is retained while the data rate is reduced. This compression necessitates high computing power.

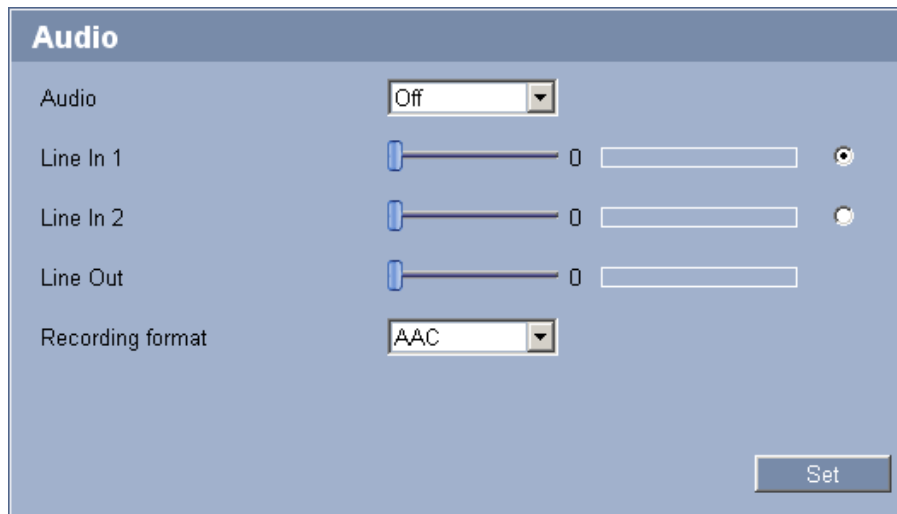
GOP structure

Select the structure you require for the group of pictures depending on whether you place greater priority on having the lowest possible delay (IP frames only) or using as little bandwidth as possible.

Default

Click **Default** to return the profile to the factory default values.

5.22 Advanced Mode: Audio



You can set the gain of the audio signals to suit your specific requirements. The current video image is shown in the small window next to the slide controls to help you check the audio source and improve assignments. Your changes are effective immediately.

If you connect via Web browser, you must activate the audio transmission on the **LIVEPAGE Functions** page. For other connections, the transmission depends on the audio settings of the respective system.

Further topics:

- Section 5.15 Advanced Mode: LIVEPAGE Functions, page 38

Audio

The audio signals are sent in a separate data stream parallel to the video data, and so increase the network load. The audio data are encoded according to the selected format and require additional bandwidth. If you do not want any audio data to be transmitted, select **Off**.

Line In 1 / Line In 2

You can set the gain for the line inputs. Make sure that the display does not go beyond the green zone during modulation.

Line Out

You can set the line output gain. Make sure that the display does not go beyond the green zone during modulation.

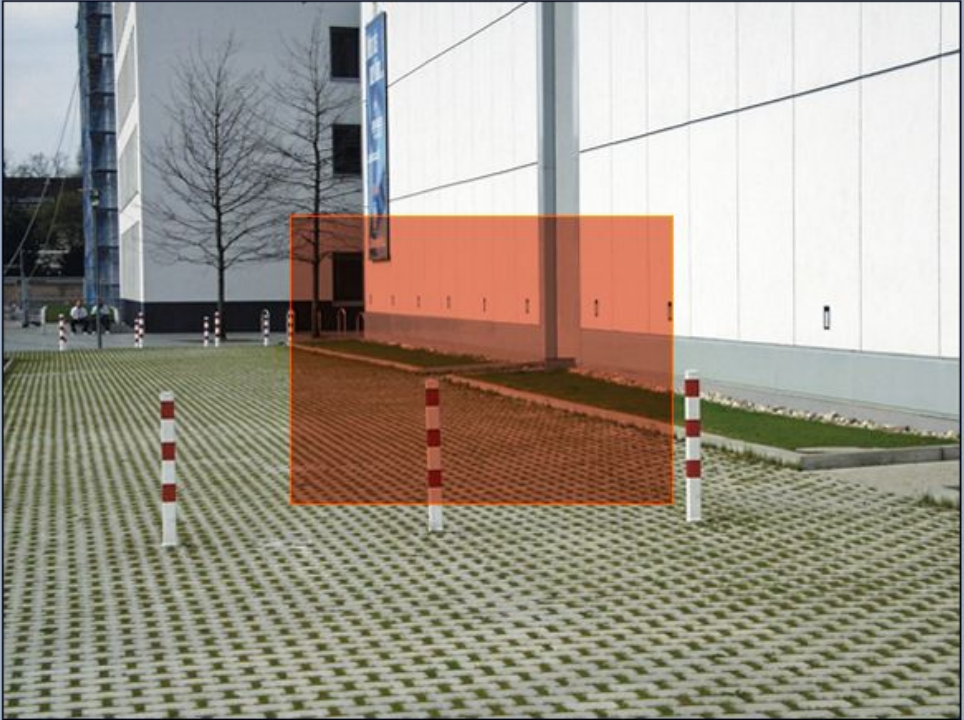
Recording format

Select a format for audio recording. The default value is **AAC**. If your system does not support AAC, select **G.711** or **L16** depending on the required audio quality or sampling rate.

5.23 Advanced Mode: Pixel Counter

Pixel Counter

Video 1 | Video 2 | Video 3 | Video 4



Freeze

Pixels covered by the selected area:

Stream 1:	140 x 96 px
Stream 2:	140 x 96 px

The numbers of horizontal and vertical pixels covered by the highlighted area are displayed below the picture. With these values you can check for each camera whether the requirements for specific functions, e.g. identification tasks, are fulfilled.

1. Click a tab to select the corresponding camera.
2. Click **Freeze** to freeze the camera image if the object that you want to measure is moving.
3. To reposition a zone, place the cursor over the zone, hold down the mouse button and drag into position.
4. To amend the shape of a zone, place the cursor over the edge of the zone, hold down the mouse button and drag the edge of the zone to the required position.
5. Click **Update** to have the camera image automatically updated at regular intervals.
6. Check the other cameras in the same way.

5.24 Advanced Mode: Storage Management

Storage Management

Device manager

Managed by VRM

Recording media

iSCSI Media Local Media

iSCSI IP address

Password

Storage overview

- 192.168.0.123
 - IDX 0 - iqn.2007-01.com.bosch.de:fwm.iscsi.disk1
 - LUN 0 - Size 10000 MB - Locked by iqn.2005-12.com.bosch:uvm00075f71ca30
 - LUN 1 - Size 40000 MB - Locked by iqn.2005-12.com.bosch:uvm00075f75a527
 - LUN 2 - Size 30000 MB - Locked by iqn.2005-12.com.bosch:uvm00075f76a975
 - IDX 1 - iqn.2007-01.com.bosch.de:fwm.iscsi.disk0
 - LUN 0 - Size 10000 MB - Locked by iqn.2005-12.com.bosch:uvm00075f75a527
 - LUN 1 - Size 10000 MB - Locked by iqn.2005-12.com.bosch:uvm00075f71dc99

Managed storage media

Target	Media Type	Size [MB]	Status	Rec. 1	Rec. 2
Local Media	CompactFlash card	1920	Online	<input checked="" type="checkbox"/>	<input type="checkbox"/>
192.168.0.123 / 0 / 1	iSCSI system	39936	Not active	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Overwrite older recordings Recording 1 Recording 2

You can record the images from the camera connected to the VideoJet XF E on the local CF card or on an appropriately configured iSCSI system.

CF cards are the ideal solution for shorter storage times and temporary recordings, for example alarm recordings or local buffering in the event of network interruptions.

For long-term, authoritative images, it is essential that you use an appropriately sized iSCSI system.

It is also possible to let the VRM Video Recording Manager control all recordings when accessing an iSCSI system. This is an external program for configuring recording tasks for video servers. For further information please contact your local customer service at Bosch Security Systems.

Device manager

If you have added the device to a VRM system, the VRM Video Recording Manager will manage all recording. In this case the **Managed by VRM** box is checked and you will not be able to configure any further settings here.

Recording media

Select the required recording media here so that you can then activate them and configure the recording parameters.

iSCSI Media

If you want to use an iSCSI system as a recording medium, you must set up a connection to the required iSCSI system and set the configuration parameters.



NOTICE!

The iSCSI storage system selected must be available on the network and completely set up. Amongst other things, it must have an IP address and be divided into logical drives (LUN).

1. Enter the IP address of the required iSCSI target in the **iSCSI IP address** field.
2. If the iSCSI target is password protected, enter this into the **Password** field.
3. Click the **Read** button. The connection to the IP address will be established. In the **Storage overview** field, you can see the corresponding logical drives.

Local Media

The supported local recording media are displayed in the **Storage overview** field.

Activating and configuring storage media

The storage overview displays the available storage media. You can select individual media or iSCSI drives and transfer these to the **Managed storage media** list. You can activate the storage media in this list and configure them for storage.



CAUTION!

Each storage medium can only be associated with one user. If a storage medium is already being used by another user, you can decouple the user and connect the drive with the VideoJet XF E. Before decoupling, make absolutely sure that the previous user no longer needs the storage medium.

1. In the **Recording media** section, click the **iSCSI Media** and **Local Media** tabs to display the applicable storage media in the overview.
2. In the **Storage overview** section, double-click the required storage medium, an iSCSI LUN or one of the other available drives. The medium is then added to the **Managed storage media** list. In the **Status** column, newly added media are indicated by the status **Not active**.
3. Click the **Set** button to activate all media in the **Managed storage media** list. In the **Status** column, these are indicated by the status **Online**.
4. Check the box in the **Rec. 1** or **Rec. 2** column to specify which recording should be recorded on the storage media selected.
5. Check the boxes for the **Overwrite older recordings** option to specify which older recordings can be overwritten once all the available memory capacity has been used.



CAUTION!

If older recordings are not allowed to be overwritten when the available memory capacity has been used, the recording in question will be stopped. You can specify limitations for overwriting old recordings by configuring the retention time.

Further topics:

- *Section 5.27 Advanced Mode: Retention Time, page 56*

Formatting storage media

You can delete all recordings on a storage medium at any time.



CAUTION!

Check the recordings before deleting and back up important sequences on the computer's hard drive.

1. Click a storage medium in the **Managed storage media** list to select it.
2. Click the **Edit** button below the list. A new window will open.
3. Click the **Format** button to delete all recordings in the storage medium.
4. Click **OK** to close the window.

Deactivating storage media

You can deactivate any storage medium from the **Managed storage media** list. It is then no longer used for recordings.

1. Click a storage medium in the **Managed storage media** list to select it.
2. Click the **Remove** button below the list. The storage medium is deactivated and removed from the list.

5.25

Advanced Mode: Remote Video Device

The screenshot shows a web-based configuration window titled "Remote Video Device". It features two input fields: "IP Address" containing "0.0.0.0" and "Initiator Name" which is empty. Below these fields are two buttons: "Network Scan" and "Set".

You can allow a remote video device to use the VideoJet XF E storage media. This means you can record video images from a camera that does not have its own storage media, for example. Once you have entered the IP address of the remote video device and saved it by pressing **Set**, the VideoJet XF E is then displayed for selection in the Storage Management for the remote video device.

IP Address

Enter the IP address for the remote video device.

1. If you do not know the IP address, click the **Network Scan** button. The search for possible devices in the network is started. A small arrow is then displayed next to the **IP Address** field.
2. Click the arrow to display the list of devices detected.
3. Click the required device in the list to transfer its IP address.

5.26 Advanced Mode: Recording Profiles

Recording Profiles

Day
Night
Weekend

BASIC

Camera	Recording	Standard Profile	Post-Alarm Profile
Camera 1	1	Low bandwidth (CIF)	Standard profile
Camera 2	1	Low bandwidth (CIF)	Standard profile
Camera 3	1	Low bandwidth (CIF)	Standard profile
Camera 4	1	Low bandwidth (CIF)	Standard profile

Settings for selected cameras

Standard recording

Continuous
 Pre-alarm
 Off

Standard profile: Low bandwidth (CIF)

Post-alarm recording

Pre-alarm time: 0 s

Post-alarm time: 0 s

Post-alarm profile: Standard profile

Alarm input: 1 2 3 4

Analysis alarm: 1 2 3 4

Video loss alarm: 1 2 3 4

Virtual alarm: 1 2 3 4

Recording options

Recording includes: Audio Metadata

Export to FTP: (IP address: 0.0.0.0)

Default

Copy Settings
Set

You can define up to ten different recording profiles. You will then use these recording profiles in the recording scheduler, where they are linked with the individual days and times.



NOTICE!

You can change or add to the recording profile description on the tabs on the **Recording Scheduler** page.

Further topics:

- Section 5.28 Advanced Mode: Recording Scheduler, page 57

1. Click one of the tabs to edit the corresponding profile.
2. In the table, click the name of the camera input for which you want to edit the settings.
3. You can select multiple camera inputs by holding down the shift or [Ctrl] key as usual in Windows. The following settings apply to all selected entries.
4. If necessary, click the **Default** button to return all settings to their default values.

5. Click the **Copy Settings** button if you want to copy the currently visible settings to other profiles. A new window will open and you can select the profiles in which you want to copy the settings.
6. For each profile, click the **Set** button to save the settings in the unit.

Standard recording

Here you can select the mode for standard recordings.

If you select **Continuous**, the recording proceeds continuously. If the maximum memory capacity is reached, older recordings will automatically be overwritten. If you select the **Pre-alarm** option, the unit uses a special recording mode for optimal usage of storage capacity: As soon as a time window for alarm recording begins, recording takes place continuously on one segment that corresponds in size to a complete alarm sequence (pre- and post-alarm time). This segment functions in a similar manner to a ring buffer and is overwritten until an alarm is actually triggered. Recording occurs on the segment only for the duration of the preset post-alarm time and a new segment is used subsequently in the same manner.

If you select **Off**, no automatic recording takes place.



CAUTION!

You can specify limitations for overwriting older recordings in **Continuous** mode by configuring the retention time.

Further topics:

- *Section 5.27 Advanced Mode: Retention Time, page 56*

Standard profile

Select the encoder profile to be used for recording. The recording profile can differ from the setting for the stream on the **Encoder Profile** page and is only used during an active recording.

Further topics:

- *Section 5.21 Advanced Mode: Encoder Profile, page 44*

Pre-alarm time

You can select the required pre-alarm time from the list field. With pre-alarm times between 1 and 5 seconds the unit's RAM is used instead of the CF card or the network. This helps to reduce the loading of the CF card and increases the service life of the card. On the other hand the network load is reduced in case of not using a CF card but external iSCSI storage.

Post-alarm time

You can select the required post-alarm time from the list field.

Post-alarm profile

You can select the encoder profile to be used for recording during the post-alarm time. Select **Standard profile** to inherit the **Standard profile** setting from above.

Further topics:

- *Section 5.21 Advanced Mode: Encoder Profile, page 44*

Alarm input / Analysis alarm / Video loss alarm

Here you can select the alarm sensor that is to trigger a recording.

The alarm inputs are configured and activated on the **Alarm Inputs** page. The numbering of the checkboxes for the alarm inputs corresponds to the labeling of the alarm inputs on the device.

The analysis alarm is configured and activated on the **VCA** page.

The audio alarm is configured and activated on the **Audio Alarm** page.

Further topics:

- *Section 5.38 Advanced Mode: Alarm Inputs, page 74*
- *Section 5.31 Advanced Mode: VCA, page 63*
- *Section 5.35 Advanced Mode: Audio Alarm, page 70*

Virtual alarm

Here you can select the virtual alarm sensors that are to trigger a recording, via RCP+ commands or alarm scripts, for example.

**NOTICE!**

For more information, please see the **Alarm Task Script Language** document and the RCP+ documentation. For the latest version of these documents access your Bosch product catalog on the Internet.

Recording includes

You can specify whether, in addition to video data, audio data and metadata (for example alarms, VCA data and serial data) should also be recorded. Including metadata could make subsequent searches of recordings easier but it requires additional memory capacity.

**CAUTION!**

Without metadata, it is not possible to include video content analysis in recordings.

Export to FTP

Select this parameter if you want all alarm recordings to be exported to an FTP server automatically. Make sure to have inserted all relevant data for FTP posting.

Further topics:

- *Section 5.44 Advanced Mode: FTP Posting, page 85*

5.27 Advanced Mode: Retention Time

Retention Time

Recording 1

Retention time camera 1	<input type="text" value="0"/>	Hours ▼
Retention time camera 2	<input type="text" value="0"/>	Hours ▼
Retention time camera 3	<input type="text" value="0"/>	Hours ▼
Retention time camera 4	<input type="text" value="0"/>	Hours ▼

Recording 2

Retention time camera 1	<input type="text" value="0"/>	Hours ▼
Retention time camera 2	<input type="text" value="0"/>	Hours ▼
Retention time camera 3	<input type="text" value="0"/>	Hours ▼
Retention time camera 4	<input type="text" value="0"/>	Hours ▼

You can specify the retention times for recordings. If the available memory capacity of a medium has been used, older recordings are only overwritten if the retention time entered here has expired.



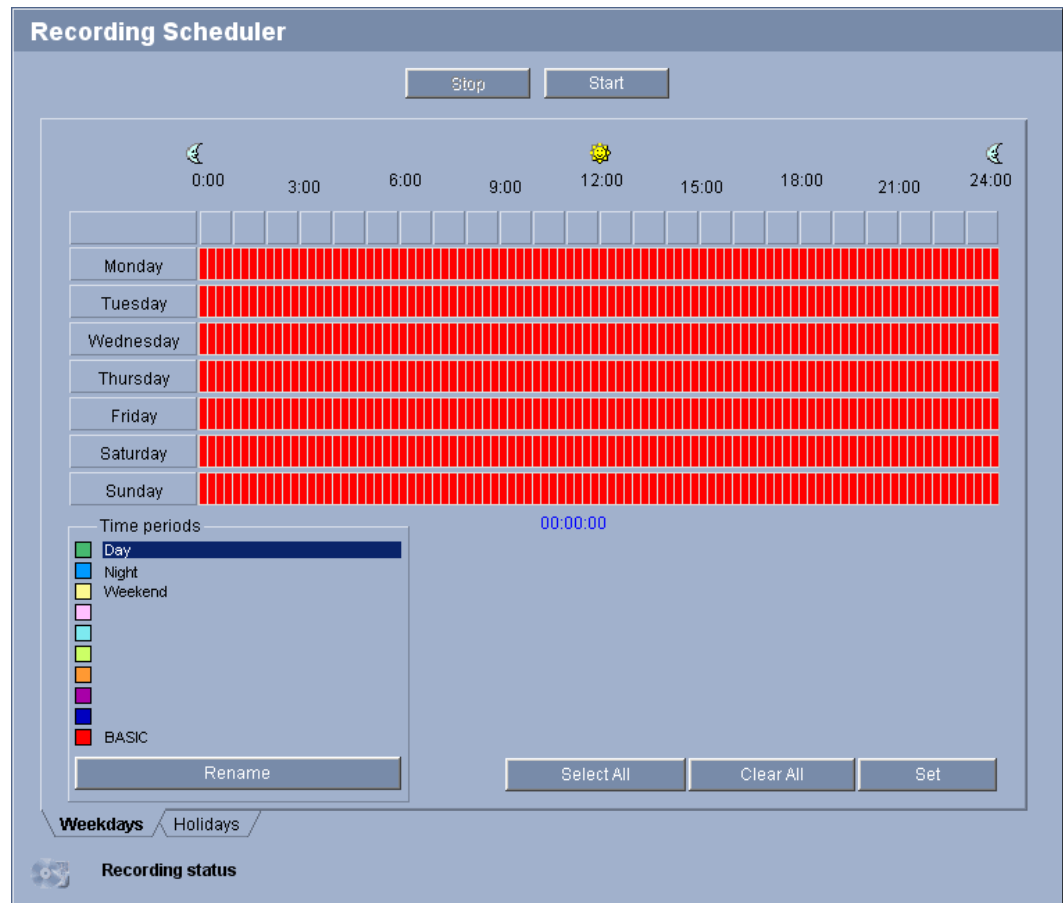
NOTICE!

Make sure that the retention time corresponds with the available memory capacity. A rule of thumb for the memory requirement is as follows: 1 GB per hour retention time with 4CIF for complete frame rate and high image quality.

Retention time

Enter the required retention time in hours or days for each recording. **Recording 1** corresponds to Stream 1, **Recording 2** corresponds to Stream 2.

5.28 Advanced Mode: Recording Scheduler



The recording scheduler allows you to link the created recording profiles with the days and times at which the camera's images are to be recorded in the event of an alarm. You can link any number of 15-minute intervals with the recording profiles for each day of the week. Moving the mouse cursor over the table displays the time below it. This aids orientation.

In addition to the normal weekdays, you can define holidays that are not in the standard weekly schedule on which recordings are to apply. This allows you to apply a schedule for Sundays to other days with dates that fall on varying weekdays.

1. Click the profile you want to link in the **Time periods** field.
2. Click in a field in the table, hold down the mouse button and drag the cursor over all the periods to be assigned to the selected profile.
3. Use the right mouse button to deselect any of the intervals.
4. Click the **Select All** button to link all time intervals to the selected profile.
5. Click the **Clear All** button to deselect all of the intervals.
6. When you are finished, click the **Set** button to save the settings in the unit.

Holidays

You can define holidays that are not in the standard weekly schedule on which recordings are to apply. This allows you to apply a schedule for Sundays to other days with dates that fall on varying weekdays.

1. Click the **Holidays** tab. Any days that have already been selected will be shown in the table.

2. Click the **Add** button. A new window will open.
3. Select the desired date from the calendar. You can select several consecutive calendar days by holding down the mouse button. These will later be displayed as a single entry in the table.
4. Click **OK** to accept the selection. The window will close.
5. Assign the individual holidays to the recording profiles, as described above.

Deleting holidays

You can delete holidays you have defined yourself at any time.

1. Click the **Delete** button. A new window will open.
2. Click the date you wish to delete.
3. Click **OK**. The item will be deleted from the table and the window will close.
4. The process must be repeated for deleting additional days.

Time periods

You can change the names of the recording profiles.

1. Click a profile and then the **Rename** button.
2. Enter your chosen name and then click the **Rename** button again.

Activating the recording

After completing configuration you must activate the recording scheduler and start the recording. The configuration can be changed at any time.

1. Click **Start** to activate the recording scheduler.
2. Click **Stop** to deactivate the recording scheduler. Running recordings are interrupted.

Recording status

The graphic indicates the recording activity of the VideoJet XF E. You will see an animated graphic while recording is taking place.

5.29 Advanced Mode: Recording Status

Recording Status		
Video 1		
	Recording 1	Recording 2
Status	Offline	Offline
Last error	None	None
Recording target	0.0.0.0	0.0.0.0
Media		
Bit rate	0 kbps	0 kbps
Video 2		
	Recording 1	Recording 2
Status	Offline	Offline
Last error	None	None
Recording target	0.0.0.0	0.0.0.0
Media		
Bit rate	0 kbps	0 kbps
Video 3		
	Recording 1	Recording 2
Status	Offline	Offline
Last error	None	None
Recording target	0.0.0.0	0.0.0.0
Media		
Bit rate	0 kbps	0 kbps
Video 4		
	Recording 1	Recording 2
Status	Offline	Offline
Last error	None	None
Recording target	0.0.0.0	0.0.0.0
Media		
Bit rate	0 kbps	0 kbps

Certain details on the recording status are displayed here for information purposes. You cannot change any of these settings.

5.30 Advanced Mode: Alarm Connections

Alarm Connections

Connect on alarm	Off	
Number of destination IP address	1	
Destination IP address	0.0.0.0	
Destination password		
Video transmission	UDP	
Stream	1	
Remote port	80	
Video output	First available	
Decoder	First available	
SSL encryption	Off	
Auto-connect	Off	
Audio	Off	
Default camera	1	<input type="button" value="Set"/>

You can select how the VideoJet XF E responds to an alarm. In the event of an alarm, the unit can automatically connect to a pre-defined IP address. You can enter up to ten IP addresses to which the VideoJet XF E will connect in sequence in the event of an alarm, until a connection is made.

Connect on alarm

Select **On** so that the VideoJet XF E automatically connects to a predefined IP address in the event of an alarm.

By setting **Follows input 1** the unit maintains the connection that has been automatically established for as long as an alarm exists on alarm input 1.



NOTICE!

In the default setting, Stream 1 is transmitted for alarm connections. Bear this fact in mind when assigning the profile.

Further topics:

- *Section 5.21 Advanced Mode: Encoder Profile, page 44*

Number of destination IP address

Specify the numbers of the IP addresses to be contacted in the event of an alarm. The unit contacts the remote stations one after the other in the numbered sequence until a connection is made.

Destination IP address

For each number, enter the corresponding IP address for the desired remote station.

Destination password

If the remote station is password protected, enter the password here.

In this page, you can save a maximum of ten destination IP addresses and hence up to ten passwords for connecting to remote stations. If connections to more than ten remote stations are to be possible, for example when initiating connections via higher-ranking systems such as Bosch Video Client or Bosch Video Management System, you can store a general password here. The VideoJet XF E can use this general password to connect to all remote stations protected with the same password. In this case, proceed as follows:

1. In the **Number of destination IP address** list field, select **10**.
2. Enter the address **0.0.0.0** in the **Destination IP address** field.
3. Enter your chosen password in the **Destination password** field.
4. Define this password as the **user** password for all remote stations to which a connection is to be possible.



NOTICE!

If you enter the destination IP address 0.0.0.0 for destination 10, the VideoJet XF E will no longer use this address for the tenth attempt at automatic connection in the event of an alarm. The parameter is then used only to save the general password.

Video transmission

If the unit is operated behind a firewall, **TCP (HTTP port)** should be selected as the transfer protocol. For use in a local network, select **UDP**.



CAUTION!

Please note that in some circumstances, a larger bandwidth must be available on the network for additional video images in the event of an alarm, in case multicast operation is not possible. To enable multicast operation, select the **UDP** option for the **Video transmission** parameter here and on the **Network** page.

Further topics:

- *Section Video transmission, page 78*

Stream

Select the stream for transmission in case of an alarm.

Remote port

Depending on the network configuration, select a browser port here. The ports for HTTPS connections will be available only if the **On** option is selected in the **SSL encryption** parameter.

Video output

If you know which unit is being used as the receiver, you can select the analog video output to which the signal should be switched. If the destination unit is unknown, it is advisable to select the **First available** option. In this case, the image is placed on the first free video output. This is an output on which there is no signal. The connected monitor only displays images when an alarm is triggered. If you select a particular video output and a split image is set for this output on the receiver, you can also select from **Decoder** the decoder in the receiver that is to be used to display the alarm image.



NOTICE!

Refer to the destination unit documentation concerning image display options and available video outputs.

Decoder

Select a decoder of the receiver to display the alarm image. The decoder selected has an impact on the position of the image in a split screen. For example, you can specify that the upper-right quadrant should be used to display the alarm image on a VIP XD by selecting Decoder 2.

**CAUTION!**

Hardware decoder VIP XD can only process algorithm H.264 BP+. Bear this in mind when configuring profile settings.

SSL encryption

The data for the connection, for example the password, can be securely transmitted with SSL encryption. If you have selected the **On** option, only encrypted ports are offered in the

Remote port parameter.

Please note that the SSL encryption must be activated and configured at both ends of a connection. This requires the appropriate certificates to be uploaded onto the VideoJet XF E. You can activate and configure encryption of the media data (video, audio and metadata) on the **Encryption** page.

Further topics:

- *Section SSL certificate, page 88*
- *Section 5.46 Advanced Mode: Encryption, page 87*

Auto-connect

Select the **On** option to automatically re-establish a connection to one of the previously specified IP addresses after each reboot, after a connection breakdown or after a network failure.

**NOTICE!**

In the default setting, Stream 1 is transmitted for automatic connections. Bear this fact in mind when assigning the profile.

Further topics:

- *Section 5.21 Advanced Mode: Encoder Profile, page 44*

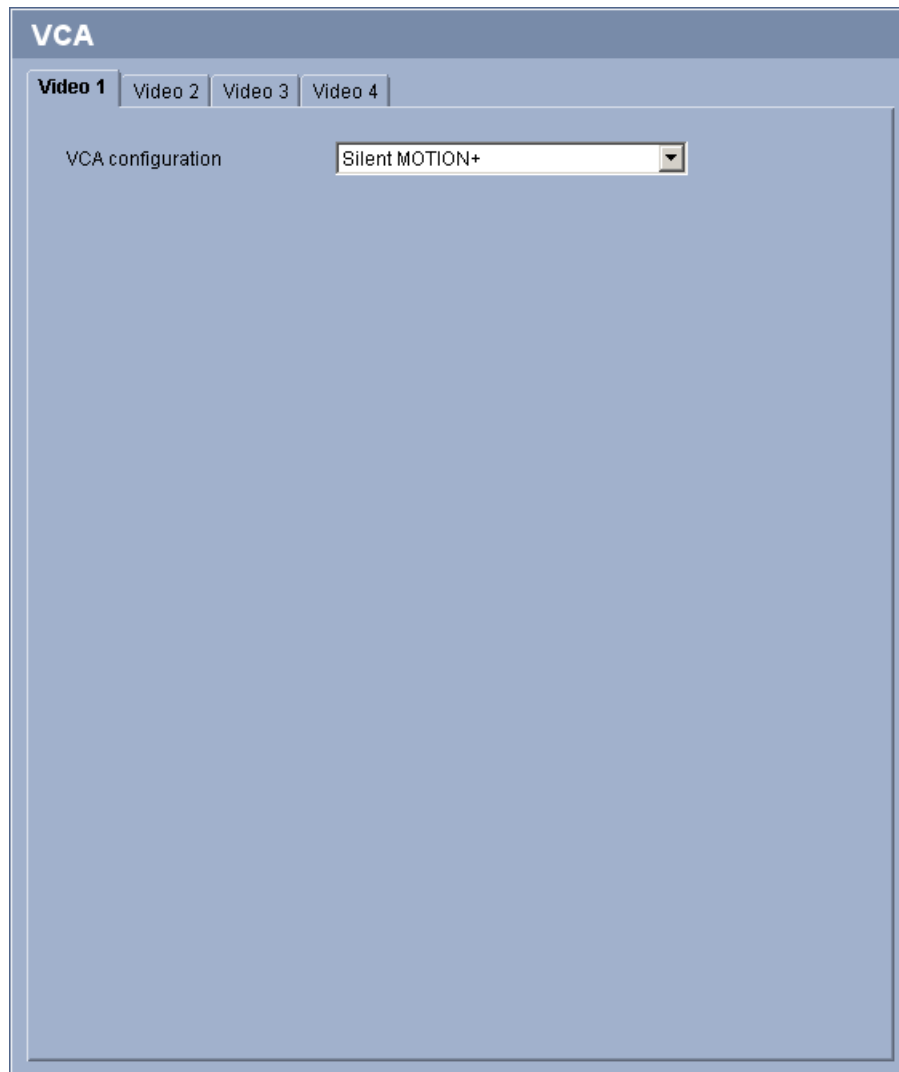
Audio

Select the **On** option if you wish to additionally transmit a standalone G.711 encoded audio stream with alarm connections.

Default camera

Here you can select the camera whose image will be automatically displayed first on the receiver when the alarm connection is made. The numbering follows the labeling of the video inputs on the device. Depending on the system configuration, the receiver can then select the other cameras as well.

5.31 Advanced Mode: VCA



The VideoJet XF E contains an integrated video content analysis (VCA), which can detect and analyze changes in the signal using image processing algorithms. Such changes can be due to movements in the camera's field of view.

You can select various VCA configurations and adapt these to your application as required.

The **Silent MOTION+** configuration is active by default. In this configuration, metadata is created to facilitate searches of recordings; however, no alarm is triggered.

You can switch off the video content analysis completely if the device's full power is to be made available for the encoder.

1. Select a VCA configuration and make the required settings.
2. If necessary, click the **Default** button to return all settings to their default values.

5.32 Advanced Mode: VCA profiles

The screenshot shows a web-based configuration interface for Videojet XF E. The main heading is 'VCA'. Below it are four tabs: 'Video 1', 'Video 2', 'Video 3', and 'Video 4'. The 'Video 1' tab is active. The configuration options are as follows:

- VCA configuration:** A dropdown menu showing 'Profile #1' with a small icon to its right.
- Alarm status:** A text label 'Off'.
- Aggregation time [s]:** A slider control and a text input field containing '0'.
- Analysis type:** A dropdown menu showing 'MOTION+'.
- Motion detector:** A sub-section containing:
 - Sensitivity:** A slider control and a text input field containing '90'.
 - Minimum object size:** A slider control and a text input field containing '4'.
 - Debounce time 1 s:** An unchecked checkbox.
 - Select Area:** A button.

At the bottom of the interface are four buttons: 'Load...', 'Save...', 'Default', and 'Set'.

You can configure two profiles with different VCA configurations. You can save profiles on your computer's hard drive and load saved profiles from there. This can be useful if you want to test a number of different configurations. Save a functioning configuration and test new settings. You can use the saved configuration to restore the original settings at any time.

1. Select a VCA profile and enter the required settings.
2. If necessary, click the **Default** button to return all settings to their default values.
3. Click the **Save...** button to save the profile settings to a file. A new window is opened, in which you can specify where you want to save the file and what name you want to save it under.
4. Click the **Load...** button to load a saved profile. A new window opens in which you can select the profile file and specify where to save the file.

VCA configuration

Select one of the profiles here to activate it or edit it.

You can rename the profile.

**CAUTION!**

Do not use any special characters, for example **&**, in the name. Special characters are not supported by the system's internal management.

1. To rename the file, click the icon to the right of the list field and enter the new profile name in the field.
2. Click the icon again. The new profile name is saved.

Alarm status

The alarm status is displayed here for information purposes. This means you can check the effects of your settings immediately.

Aggregation time [s]

You can set an aggregation time of between 0 and 20 seconds if necessary. The aggregation time always starts when an alarm event occurs. It extends the alarm event by the value set. This prevents alarm events that occur in quick succession from triggering several alarms and successive events in a rapid sequence. No further alarm is triggered during the aggregation time.

Note that the value for the pre-alarm time must be greater than the value for the aggregation time, so that also the alarm event is recorded. The post-alarm time set for alarm recordings only starts once the aggregation time has expired.

Further topics:

- *Section Pre-alarm time, page 54*

Analysis type

The VideoJet XF E comes with built-in **MOTION+** video motion detection. This motion detection algorithm is based on pixel change and includes object size filtering capabilities and sensitivity settings.

Metadata is always created for a video content analysis, unless this was explicitly excluded. Depending on the analysis type selected and the relevant configuration, additional information overlays the video image in the preview window next to the parameter settings. With the **MOTION+** analysis type, for example, the sensor fields in which motion is recorded will be marked with rectangles.

On the **LIVEPAGE Functions** page, you can also enable additional information overlays for the video image.

Further topics:

- *Section 5.15 Advanced Mode: LIVEPAGE Functions, page 38*

Motion detector

For the detector to function, the following conditions must be met:

- Analysis must be activated.
- At least one sensor field must be activated.
- The individual parameters must be configured to suit the operating environment and the desired responses.
- The sensitivity must be set to a value greater than zero.

**CAUTION!**

Reflections of light (off glass surfaces, etc.), switching lights on or off or changes in the light level caused by cloud movement on a sunny day can trigger unintended responses from the motion detector and generate false alarms. Run a series of tests at different times of the day and night to ensure that the video sensor is operating as intended.

For indoor surveillance, ensure constant lighting of the areas during the day and at night.

Sensitivity

The basic sensitivity of the motion detector can be adjusted for the environmental conditions to which the camera is subject.

The sensor reacts to variations in the brightness of the video image. The darker the observation area, the higher the value that must be selected.

Minimum object size

You can specify the number of sensor fields that a moving object must cover to generate an alarm. This is to prevent objects that are too small from triggering an alarm.

A minimum value of **4** is recommended. This value corresponds to four sensor fields.

Debounce time 1 s

The debounce time is intended to prevent very brief alarm events from triggering individual alarms. If the **Debounce time 1 s** option is activated, an alarm event must last at least one second to trigger an alarm.

Select Area

The areas of the image to be monitored by the motion detector can be selected. The video image is subdivided into square sensor fields. Each of these fields can be activated or deactivated individually. If you wish to exclude particular regions of the camera's field of view from monitoring due to continuous movement (by a tree in the wind, etc.), the relevant fields can be deactivated.

1. Click **Select Area** to configure the sensor fields. A new window will open.
2. If necessary, click **Clear All** first to clear the current selection (fields marked yellow).
3. Left-click the fields to be activated. Activated fields are marked yellow.
4. If necessary, click **Select All** to select the entire video frame for monitoring.
5. Right-click any fields you wish to deactivate.
6. Click **OK** to save the configuration.
7. Click the close button **X** in the window title bar to close the window without saving the changes.

5.33 Advanced Mode: VCA Scheduled

The screenshot displays the VCA configuration interface. At the top, there are tabs for 'Video 1', 'Video 2', 'Video 3', and 'Video 4'. Below these, the 'VCA configuration' is set to 'Scheduled' in a dropdown menu. The 'Alarm status' is 'Off'. There are two tabs: 'Weekdays' (selected) and 'Holidays'. A grid shows time slots from 0:00 to 24:00 in 15-minute increments for each day of the week. A 'Time periods' legend shows 'Profile #1' (green) and 'Profile #2' (blue). Buttons for 'Select All', 'Clear All', and 'Set' are at the bottom right.

This configuration allows you to link the created VCA profile with the days and times at which the video content analysis is to be active.

You can link any number of 15-minute intervals with the VCA profiles for each day of the week. Moving the mouse cursor over the table displays the time below it. This aids orientation. In addition to the normal weekdays, you can define holidays that are not in the standard weekly schedule on which recordings are to apply. This allows you to apply a schedule for Sundays to other days with dates that fall on varying weekdays.

1. Click the profile you want to link in the **Time periods** field.
2. Click in a field in the table, hold down the mouse button and drag the cursor over all the periods to be assigned to the selected profile.
3. Use the right mouse button to deselect any of the intervals.
4. Click the **Select All** button to link all time intervals to the selected profile.
5. Click the **Clear All** button to deselect all of the intervals.
6. When you are finished, click the **Set** button to save the settings in the unit.

Holidays

You can define holidays on which a profile should be active that are different to the standard weekly schedule. This allows you to apply a schedule for Sundays to other days with dates that fall on varying weekdays.

1. Click the **Holidays** tab. Any days that have already been selected will be shown in the table.
2. Click the **Add** button. A new window will open.
3. Select the desired date from the calendar. You can select several consecutive calendar days by holding down the mouse button. These will later be displayed as a single entry in the table.
4. Click **OK** to accept the selection. The window will close.
5. Assign the individual holidays to the VCA profiles, as described above.

Deleting holidays

You can delete holidays you have defined yourself at any time.

1. Click the **Delete** button. A new window will open.
2. Click the date you wish to delete.
3. Click **OK**. The item will be deleted from the table and the window will close.
4. The process must be repeated for deleting additional days.

5.34 Advanced Mode: VCA Event triggered

The screenshot shows the VCA configuration interface for Video 1. The interface is titled 'VCA' and has tabs for 'Video 1', 'Video 2', 'Video 3', and 'Video 4'. The 'Video 1' tab is selected. The configuration is as follows:

- VCA configuration:** Event triggered (dropdown menu)
- Alarm status:** Off
- Configuration:**
 - Trigger:** Alarm input 1 (dropdown menu)
 - Trigger active:** Silent MOTION+ (dropdown menu)
 - Trigger inactive:** Silent MOTION+ (dropdown menu) with a green checkmark to its right.
 - Delay [s]:** 1 (slider)

A 'Set' button is located at the bottom right of the configuration area.

This configuration allows you stipulate that the video content analysis is only to be activated when triggered by an event. As long as no trigger is activated, the **Silent MOTION+** configuration in which metadata is created is active; this metadata facilitates searches of recordings, but does not trigger an alarm.

Trigger active

Select the VCA configuration here that is to be enabled via an active trigger. A green check mark to the right of the list field indicates that the trigger is active.

Trigger inactive

Select the VCA configuration here that is to be activated if the trigger is not active. A green check mark to the right of the list field indicates that the trigger is inactive.

Delay [s]

Select the delay period here for the reaction of the video content analysis to trigger signals. The alarm is only triggered after a set time interval in seconds has elapsed and then only if the triggering condition still exists. If the original condition has been restored before this time interval elapses, the alarm is not triggered. A delay period may be useful in avoiding false

alarms or frequent triggering, for example. During the delay period, the **Silent MOTION+** configuration is always enabled.

5.35 Advanced Mode: Audio Alarm

The VideoJet XF E can create alarms on the basis of audio signals. You can configure signal strengths and frequency ranges in such a way that false alarms, for example due to machine noise or background noise, are avoided. Configure the required settings for each audio input. Make sure that you have set up normal audio transmission before you configure the audio alarm here.

Further topics:

- *Section 5.22 Advanced Mode: Audio, page 48*

Audio alarm

Select **On** if you want the device to generate audio alarms.

Name

The name makes it easier to identify the alarm in extensive video monitoring systems, for example with the Bosch Video Client and Bosch Video Management System programs. You can also use the name in the Forensic Search program function as a filter option for quick search in recordings. Enter a unique and clear name here.



CAUTION!

Do not use any special characters, for example **&**, in the name. Special characters are not supported by the system's internal management.

Threshold

Set up the threshold on the basis of the signal visible in the graphic. You can set the threshold using the slide control or, alternatively, you can move the white line directly in the graphic using the mouse.

Sensitivity

You can use this setting to adapt the sensitivity to the sound environment and its variations. A high value represents a high level of sensitivity, so that even little variations in the sound level cause an alarm.

Signal ranges

You can exclude particular signal ranges in order to avoid false alarms. For this reason the total signal is divided into 13 tonal ranges (mel scale). Check or uncheck the boxes below the graphic to include or exclude individual ranges.

5.36**Advanced Mode: Alarm E-Mail**

As an alternative to automatic connecting, alarm states can also be documented by e-mail. In this way it is possible to notify a recipient who does not have a video receiver. In this case, the VideoJet XF E automatically sends an e-mail to a previously defined e-mail address.

Send alarm e-mail

Select **On** if you want the unit to automatically send an alarm e-mail in the event of an alarm.

Mail server IP address

Enter the IP address of a mail server that operates on the SMTP standard (Simple Mail Transfer Protocol). Outgoing e-mails are sent to the mail server via the address you entered. Otherwise leave the box blank (**0.0.0.0**).

SMTP user name

Enter a registered user name for the chosen mailserver here.

SMTP password

Enter the required password for the registered user name here.

Format

You can select the data format of the alarm message.

- **Standard (with JPEG)**
E-mail with JPEG image file attachment.
- **SMS**
E-mail in SMS format to an e-mail-to-SMS gateway (for example, to send an alarm by cell phone) without an image attachment.

**CAUTION!**

When a cellphone is used as the receiver, make sure to activate the e-mail or SMS function, depending on the format, so that these messages can be received.

You can obtain information on operating your cellphone from your cellphone provider.

Image size

Select the resolution you wish the JPEG images to have:

- **Small**
176 × 144/120 pixels (QCIF)
- **Medium**
352 × 288/240 pixels (CIF)
- **Large**
704 × 576/480 pixels (4CIF)

Attach JPEG from camera

Click the checkbox to specify that JPEG images are sent from the camera in question. An enabled video input is indicated by a check mark.

Destination address

Enter the e-mail address for alarm e-mails here. The maximum address length is 49 characters.

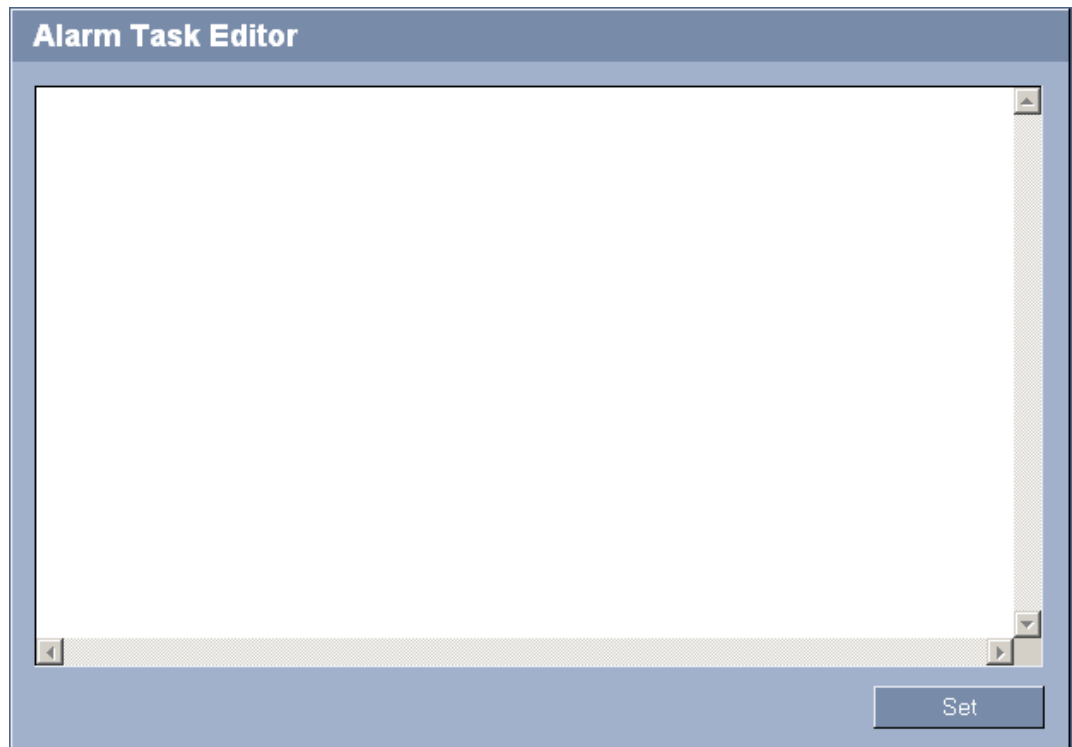
Sender name

Enter a unique name for the e-mail sender, for example the location of the unit. This will make it easier to identify the origin of the e-mail.

Test e-mail

You can test the e-mail function by clicking the **Send Now** button. An alarm e-mail is immediately created and sent.

5.37 Advanced Mode: Alarm Task Editor



CAUTION!

Editing scripts on this page overwrites all settings and entries on the other alarm pages. This procedure cannot be reversed.

In order to edit this page, you must have programming knowledge and be familiar with the information in the **Alarm Task Script Language** document. For the latest version of this document access your Bosch product catalog on the Internet.

As an alternative to the alarm settings on the various alarm pages, you can enter your desired alarm functions in script form here. This will overwrite all settings and entries on the other alarm pages.

1. Click the **Examples** link under the **Alarm Task Editor** field to see some script examples. A new window will open.
2. Enter new scripts in the **Alarm Task Editor** field or change existing scripts in line with your requirements.
3. When you are finished, click the **Set** button to transmit the scripts to the unit. If the transfer was successful, the message **Script successfully parsed.** is displayed over the text field. If it was not successful, an error message will be displayed with further information.

5.38 Advanced Mode: Alarm Inputs

Alarm Inputs

Alarm input 1	<input type="text" value="N.O."/>	Name	<input type="text" value="Input 1"/>
Alarm input 2	<input type="text" value="N.O."/>	Name	<input type="text" value="Input 2"/>
Alarm input 3	<input type="text" value="N.O."/>	Name	<input type="text" value="Input 3"/>
Alarm input 4	<input type="text" value="N.O."/>	Name	<input type="text" value="Input 4"/>

You can configure the alarm inputs of the VideoJet XF E.

Alarm input

Select **N.O.** if the alarm is to be triggered when the contact closes. Select **N.C.** if the alarm is to be triggered when the contact opens.

Name

You can enter a name for each alarm input. If the **LIVEPAGE** functions are configured accordingly, this name is displayed below the icon for the alarm input. You can also use the name in the Forensic Search program function as a filter option for quick search in recordings. Enter a unique and clear name here.



CAUTION!

Do not use any special characters, for example **&**, in the name. Special characters are not supported by the system's internal management.

Further topics:

- [Section 5.15 Advanced Mode: LIVEPAGE Functions, page 38](#)

5.39 Advanced Mode: Relay

Relay

Idle state	<input type="text" value="Open"/>
Operating mode	<input type="text" value="Bistable"/>
Relay follows	<input type="text" value="Off"/>
Relay name	<input type="text" value="Relay 1"/>
Trigger relay	<input type="button" value="Relay 1"/>

You can configure the switching behavior of the relay output. You can specify an open switch relay (normally closed contact) or a closed switch relay (normally open contact).

You can also specify whether the output should operate as a bistable or monostable relay. In bistable mode, the triggered state of the relay is maintained. In monostable mode, you can set the time after which the relay will return to the idle state.

You can select different events that automatically activate an output. It is possible, for example, to turn on a floodlight by triggering a motion alarm and then turning the light off again when the alarm has stopped.

Idle state

Select **Open** if you want the relay to operate as an NO contact, or select **Closed** if the relay is to operate as an NC contact.

Operating mode

Select an operating mode for the relay.

For example, if you want an alarm-activated lamp to stay on after the alarm ends, select **Bistable**. If you wish an alarm-activated siren to sound for ten seconds, for example, select **10 s**.

Relay follows

If required, select a specific event that will trigger the relay. The following events are possible triggers:

- **Off**
Relay is not triggered by events
- **Connection**
Triggering when connection established
- **Video alarm**
Triggering by interruption of the video signal
- **Analysis alarm**
Triggering by motion alarm, as configured on the **VCA** page
- **Local input**
Triggering by corresponding external alarm input
- **Remote input**
Triggering by remote station's corresponding switching contact (only if a connection exists)



NOTICE!

The alarm events relate to the **VIDEO IN 1** connection, the input events relate to the **IN1** connection.

Further topics:

- *Section 5.34 Advanced Mode: VCA Event triggered, page 69*

Relay name

You can assign a name for the relay here. The name is shown on the button next to **Trigger relay**. The Livepage can also be configured to display the name under the relay icon. You can also use the name in the Forensic Search program function as a filter option for quick search in recordings. Enter a unique and clear name here.



CAUTION!

Do not use any special characters, for example **&**, in the name. Special characters are not supported by the system's internal management.

Trigger relay

Click the button to trigger the relay manually (for testing or to operate a door opener, for example).

5.40 Advanced Mode: COM1

COM1

Serial port function	<input type="text" value="Terminal"/>		
Camera ID	<input type="text" value="-1"/>		
Baud rate	<input type="text" value="19200"/>	bps	
Data bits	<input type="text" value="8"/>		
Stop bits	<input type="text" value="1"/>		
Parity check	<input type="text" value="None"/>		
Interface mode	<input type="text" value="RS-232"/>		<input type="button" value="Set"/>

You can configure the serial interface parameters (orange terminal block) to meet your requirements.

If the VideoJet XF E is working in multicast mode, the first remote location to establish a video connection to the unit is also assigned the transparent data connection. However, after about 15 seconds of inactivity the data connection is automatically terminated and another remote location can exchange transparent data with the unit.

Serial port function

Select a controller or a protocol from the list matching the connected camera. If you wish to use the serial port to transmit transparent data, select **Transparent**. Select **Terminal** if you wish to operate the unit from a terminal.



NOTICE!

After selecting a controller or protocol, the remaining parameters in the window are set automatically and should not be changed apart of the camera ID.

Camera ID

If necessary, enter the ID of the peripheral you wish to control (for example a dome camera or pan/tilt). The entered ID relates to the peripheral that is connected to the first video input. For further video inputs, the ID is automatically counted up. The connected peripheral devices are addressed via the respective ID.

Baud rate

Select the value for the transmission rate in bps.

Data bits

The number of data bits per character cannot be changed.

Stop bits

Select the number of stop bits per character.

Parity check

Select the type of parity check.

Interface mode

Select the desired protocol for the serial interface.

5.41 Advanced Mode: Network

Network

DHCP

Automatic IP assignment

Ethernet

IPv4

IP address

Subnet mask

Gateway address

IPv6

IP address

Prefix length

Gateway address

DNS server address

[Details <<](#)

Video transmission

HTTP browser port

HTTPS browser port

RCP+ port 1756

Telnet support

Interface mode ETH

Network MSS [Byte]

iSCSI MSS [Byte]

Network MTU [Byte]

DynDNS

Enable DynDNS

Host name

User name

Password

Force registration now

Status DynDNS function switched off

The settings on this page are used to integrate the VideoJet XF E into an existing network. Some changes only take effect after the unit is rebooted. In this case, the **Set** button changes to **Set and Reboot**.

1. Make the desired changes.
2. Click the **Set and Reboot** button. The VideoJet XF E is rebooted and the changed settings are activated.

**CAUTION!**

If you change the IP address, subnet mask, gateway address or the DHCP setting, the VideoJet XF E is only available under the new addresses after the reboot.

Automatic IP assignment

If a DHCP server is employed in the network for the dynamic assignment of IP addresses, you can activate acceptance of IP addresses automatically assigned to the VideoJet XF E. Certain applications (Bosch Video Client, Bosch Video Management System) use the IP address for the unique assignment of the unit. If you use these applications, the DHCP server must support the fixed assignment between IP address and MAC address, and must be appropriately set up so that, once an IP address is assigned, it is retained each time the system is rebooted.

IP address

Enter the desired IP address for the VideoJet XF E in this field. The IP address must be valid for the network.

Subnet mask

Enter the appropriate subnet mask for the selected IP address here.

Gateway address

If you want the unit to establish a connection to a remote location in a different subnet, enter the IP address of the gateway here. Otherwise leave the box blank (**0.0.0.0**).

Prefix length

Enter the appropriate prefix length for the set IP address.

DNS server address

The unit can use a DNS server to resolve a mail or FTP server address specified as a name. Enter the IP address of the DNS server here.

Video transmission

If the unit is operated behind a firewall, **TCP (HTTP port)** should be selected as the transfer protocol. For use in a local network, select **UDP**.

**CAUTION!**

Multicast operation is only possible with the UDP protocol. The TCP protocol does not support multicast connections.

HTTP browser port

Select a different HTTP browser port from the list if required. The default HTTP port is 80. If you want to allow only secure connections via HTTPS, you must deactivate the HTTP port. In this case, select **Off**.

HTTPS browser port

If you wish to allow browser access on the network via a secure connection, select an HTTPS browser port from the list if necessary. The default HTTPS port is 443. Select the **Off** option to deactivate HTTPS ports; only unsecured connections will now be possible.

The VideoJet XF E uses the TLS 1.0 encryption protocol. You may have to activate this protocol via your browser configuration. You must also activate the protocol for the Java applications (via the Java control panel in the Windows control panel).

**NOTICE!**

If you want to allow only secure connections with SSL encryption, you must select the **Off** option for each of the parameters **HTTP browser port**, **RCP+ port 1756** and **Telnet support**. This deactivates all unsecured connections. Connections will then only be possible via the HTTPS port.

You can activate and configure encryption of the media data (video, audio and metadata) on the **Encryption** page.

Further topics:

– *Section 5.46 Advanced Mode: Encryption, page 87*

RCP+ port 1756

To exchange connection data, you can activate the unsecured RCP+ port 1756. If you want connection data to be transmitted only when encrypted, select the **Off** option to deactivate the port.

Telnet support

If you want to allow only secure connections with encrypted data transmission, you must select the **Off** option to deactivate Telnet support. The unit will then no longer be accessible using the Telnet protocol.

Interface mode ETH

If necessary, select the Ethernet link type for the **ETH** interface. Depending on the unit connected, it may be necessary to select a special operation type.

Network MSS [Byte]

You can set the maximum segment size for the IP packet's user data. This gives you the option to adjust the size of the data packets to the network environment and to optimize data transmission. In UDP mode, comply with the MTU value set below.

iSCSI MSS [Byte]

You can specify a higher MSS value for a connection to the iSCSI system than for the other data traffic via the network. The potential value depends on the network structure. A higher value is only useful if the iSCSI system is located in the same subnet as the VideoJet XF E.

Network MTU [Byte]

Specify a maximum value in bytes for the package size (including IP header) to optimize data transmission.

Enable DynDNS

DynDNS.org is a DNS hosting service that stores IP addresses in a database ready for use. It allows you to select the VideoJet XF E via the Internet using a host name, without having to know the current IP address of the unit. You can enable this service here. To do this, you must have an account with DynDNS.org and you must have registered the required host name for the unit on that site.

**NOTICE!**

Information about the service, registration process and available host names can be found at DynDNS.org.

Host name

Enter the host name registered on DynDNS.org for the VideoJet XF E here.

User name

Enter the user name you registered at DynDNS.org here.

Password

Enter the password you registered at DynDNS.org here.

Force registration now

You can force the registration by transferring the IP address to the DynDNS server. Entries that change frequently are not provided in the Domain Name System. It is a good idea to force the registration when you are setting up the device for the first time. Only use this function when necessary and no more than once a day, to avoid the possibility of being blocked by the service provider. To transfer the IP address of the VideoJet XF E, click the **Register** button.

Status

The status of the DynDNS function is displayed here for information purposes. You cannot change any of these settings.

5.42 Advanced Mode: Advanced

Advanced

SNMP	
SNMP	<input type="text" value="On"/>
1. SNMP host address	<input type="text" value="0.0.0.0"/>
2. SNMP host address	<input type="text" value="0.0.0.0"/>
SNMP traps	<input type="button" value="Select"/>
802.1x	
Authentication	<input type="text" value="Off"/>
Identity	<input type="text"/>
Password	<input type="text"/>
RTSP	
RTSP port	<input type="text" value="554"/>
UPnP	
UPnP	<input type="text" value="On"/>
TCP metadata input	
TCP port	<input type="text" value="Off"/>
Sender IP address	<input type="text" value="0.0.0.0"/>
Quality of service	
Audio	<input type="text" value="0"/>
Video	<input type="text" value="0"/>
Control	<input type="text" value="0"/>
Alarm video	<input type="text" value="0"/>
Post-alarm time	<input type="text" value="15 s"/>

The settings on this page are used to implement advanced settings for the network. Some changes only take effect after the unit is rebooted. In this case, the **Set** button changes to **Set and Reboot**.

1. Make the desired changes.
2. Click the **Set and Reboot** button. The VideoJet XF E is rebooted and the changed settings are activated.

SNMP

The VideoJet XF E supports the SNMP V2 (Simple Network Management Protocol) for managing and monitoring network components, and can send SNMP messages (traps) to IP addresses. The unit supports SNMP MIB II in the unified code. If you wish to send SNMP traps, enter the IP addresses of one or two required target devices here.

If you select **On** for the **SNMP** parameter and do not enter an SNMP host address, the VideoJet XF E does not send the SNMP traps automatically, but only replies to SNMP requests. If you enter one or two SNMP host addresses, SNMP traps are sent automatically. Select **Off** to deactivate the SNMP function.

1. SNMP host address / 2. SNMP host address

If you wish to send SNMP traps automatically, enter the IP addresses of one or two required target units here.

SNMP traps

You can select which traps are to be sent.

1. Click **Select**. A list is opened.
2. Click the checkboxes to select the required traps. All the checked traps will be sent.
3. Click **Set** to accept the selection.

Authentication

If a RADIUS server is employed in the network for managing access rights, authentication must be activated here to allow communication with the unit. The RADIUS server must also contain the corresponding data.

To configure the unit, you must connect the VideoJet XF E directly to a computer. This is because communication via the network is not enabled until the **Identity** and **Password** parameters have been set and successfully authenticated.

Identity

Enter the name that the RADIUS server is to use for identifying the VideoJet XF E.

Password

Enter the password that is stored in the RADIUS server.

RTSP port

If necessary, select a different port for the exchange of the RTSP data from the list. The standard RTSP port is 554. Select **Off** to deactivate the RTSP function.

UPnP

You can activate the Universal Plug and Play (UPnP) function. If the function is turned on, the unit responds to requests from the network and is automatically registered on the requesting computers as a new network device. For example, access to the unit can then be made using Windows Explorer without knowledge of the IP address of the unit.



NOTICE!

To use the UPnP function on a computer, both the Universal Plug and Play Device Host and SSDP Discovery Service must be active in Windows XP and Windows 7.

This function should not be used in large installations because of the variety of potential registration notifications.

TCP port

The device can receive data from an external TCP sender, for example an ATM or POS device, and store it as metadata. Select the port for TCP communication. Select **Off** to deactivate the TCP metadata function.

Sender IP address

Enter the IP address of the TCP metadata sender here.

Audio / Video / Control / Alarm video

The quality of service of the different data channels can be set by defining the DiffServ Code Point (DSCP). Enter a number between 0 and 252 as a multiple of four. For alarm video you can set a higher priority than for regular video.

Post-alarm time

You can define a post-alarm time over which this priority is maintained.

5.43**Advanced Mode: Multicast**

	Enable	Multicast Address	Port	Streaming
Video 1	<input type="checkbox"/>	0.0.0.0	60000	<input type="checkbox"/>
Video 2	<input type="checkbox"/>	0.0.0.0	60003	<input type="checkbox"/>
Video 3	<input type="checkbox"/>	0.0.0.0	60006	<input type="checkbox"/>
Video 4	<input type="checkbox"/>	0.0.0.0	60009	<input type="checkbox"/>

Stream 1 | Stream 2

Multicast packet TTL: 64 Set

In addition to a 1:1 connection between an encoder and a single receiver (unicast), the VideoJet XF E can enable multiple receivers to receive the video signal from an encoder simultaneously. The device either duplicates the data stream itself and then distributes it to multiple receivers (Multi-unicast) or it sends a single data stream to the network, where the data stream is simultaneously distributed to multiple receivers in a defined group (Multicast). You can enter a dedicated multicast address and port for each stream. You can switch between the streams by clicking the appropriate tabs.

**NOTICE!**

Multicast operation requires a multicast-enabled network that uses the UDP and the Internet Group Management IGMP protocols. Other group management protocols are not supported. The TCP protocol does not support multicast connections.

A special IP address (class D address) must be configured for multicast operation in a multicast-enabled network.

The network must support group IP addresses and the Internet Group Management Protocol (IGMP V2). The address range is from 225.0.0.0 to 239.255.255.255.

The multicast address can be the same for multiple streams. However, it will be necessary to use a different port in each case so that multiple data streams are not sent simultaneously using the same port and multicast address.

**NOTICE!**

The settings must be made individually for each stream.

Enable

To enable simultaneous data reception on several receivers you need to activate the multicast function. To do this, check the box. You can then enter the multicast address.

Multicast Address

Enter a valid multicast address for each stream to be operated in multicast mode (duplication of the data streams in the network).

With the setting **0.0.0.0** the encoder for the relevant stream operates in multi-unicast mode (copying of data streams in the unit). The VideoJet XF E supports multi-unicast connections for up to five simultaneously connected receivers.

**NOTICE!**

Duplication of data places a heavy demand on the unit and can lead to impairment of the image quality under certain circumstances.

Port

Assign a different port to each data stream if there are simultaneous data streams at the same multicast address.

Enter the port address of the required stream here.

Streaming

Click the checkbox to activate multicast streaming mode for the relevant stream. An enabled stream is indicated by a check mark. The device even streams multicast data if there is no active connection.

Streaming is typically not required for standard multicast operation.

Multicast packet TTL

You can enter a value to specify how long the multicast data packets are active on the network. This value must be greater than one if multicast is to be run via a router.

5.44 Advanced Mode: FTP Posting

FTP Posting

JPEG posting

Image size Medium ▾

File name Overwrite ▾

Posting interval 0 s (0 = Off)

Post JPEG from camera 1 2 3 4

FTP server

FTP server IP address 0.0.0.0

FTP server login

FTP server password Check

Path on FTP server Browse

Max. bit rate 10000 kbps

Set

You can save individual JPEG images on an FTP server at specific intervals. You can then retrieve these images at a later date to reconstruct alarm events if required. The resolution corresponds to the highest setting from the two data streams.

Furthermore, you can export selected recordings manually from the **RECORDINGS** page or activate the automatic export of alarm recordings on the **Recording Profiles** settings page.

Image size

Select the resolution you wish the JPEG images to have:

- **Medium**
352 × 288/240 pixels (CIF)
- **Large**
704 × 576/480 pixels (4CIF)

File name

You can select how file names will be created for the individual images that are transmitted.

- **Overwrite**
The same file name is always used and any existing file will be overwritten with the current file.
- **Increment**
A number from 000 to 255 is added to the file name and automatically incremented by 1. When it reaches 255 it starts again from 000.
- **Date/time suffix**
The date and time are automatically added to the file name. When setting this parameter,

ensure that the unit's date and time are always correctly set. Example: the file snap011005_114530.jpg was stored on October 1, 2005 at 11:45 and 30 seconds.

Posting interval

Enter the interval in seconds at which the images will be sent to an FTP server. Enter zero if you do not want any images to be sent.

Post JPEG from camera

Click the checkbox to select the cameras from which JPEG images are sent. An enabled video input is indicated by a check mark.



NOTICE!

The creation of JPEG images has a lower priority than video encoding and image analysis. This can result in JPEG images being created with a delay of up to several seconds after the triggering event. If reliable, real-time recording of the alarm is required, ensure that the encoder has enough computing power available.

FTP server IP address

Enter the IP address of the FTP server.

FTP server login

Enter your login name for the FTP server.

FTP server password

Enter the password that gives you access to the FTP server.

Path on FTP server

Enter the exact path on the FTP server.

Max. bit rate

You can limit the bit rate for FTP posting.

5.45

Advanced Mode: IPv4 Filter

IPv4 Filter

IP address 1	<input style="width: 90%;" type="text" value="0.0.0.0"/>	
Mask 1	<input style="width: 90%;" type="text" value="0.0.0.0"/>	
IP address 2	<input style="width: 90%;" type="text" value="0.0.0.0"/>	
Mask 2	<input style="width: 90%;" type="text" value="0.0.0.0"/>	

To restrict the range of IP addresses within which you can actively connect to the device, fill in an IP address and mask. Two ranges can be defined.

To do so, enter one or two IP addresses and define the range with the help of the corresponding mask. For example: With IP address 192.168.0.0 and corresponding mask 255.255.255.128 only IP addresses in the range from 192.168.0.0 to 192.168.0.127 are allowed to actively connect to the camera/encoder.

If either of these ranges are set, no IPv6 addresses are allowed to actively connect to the device. The device itself may initiate a connection (for example, to send an alarm) outside the defined ranges if it is configured to do so.

5.46 Advanced Mode: Encryption

A special license, with which you will receive a corresponding activation key, is required to encrypt user data. You can enter the activation key to release the function on the **Licenses** page.

Further topics:

- Section 5.48 *Advanced Mode: Licenses*, page 89

5.47 Advanced Mode: Maintenance

Firmware

The VideoJet XF E is designed in such a way that its functions and parameters can be updated with firmware. To do this, transfer the current firmware package to the unit via the selected network. It will then be automatically installed there.

In this way, a VideoJet XF E can be serviced and updated remotely without a technician having to change the installation on site.

You obtain the current firmware from your customer service or from the download area at www.boschsecurity.com.

CAUTION!

Before launching the firmware upload make sure that you have selected the correct upload file. Uploading the wrong files can result in the unit no longer being addressable, in which case you must replace the unit.

You should never interrupt the installation of firmware. An interruption can lead to the flash-EPROM being incorrectly programmed. This in turn can result in the unit no longer being addressable, in which case it will have to be replaced. Even changing to another page or closing the browser window leads to an interruption.



1. First store the firmware file on your hard drive.
2. Enter the full path of the firmware file in the field or click **Browse** to locate and select the file.

- Next, click **Upload** to begin transferring the file to the unit. The progress bar allows you to monitor the transfer.

The new firmware is unpacked and the Flash EPROM is reprogrammed. The time remaining is shown in the message **going to reset Reconnecting in ... seconds**. The unit reboots automatically once the upload has successfully completed.

If the **CONNECT** LED then flashes red, the upload has failed and must be repeated. To perform the upload you must now switch to a special page:

- In the address bar of your browser, enter **/main.htm** after the IP address of the VideoJet XF E (for example **192.168.0.10/main.htm**).
- Repeat the upload.

Configuration

You can save configuration data for the VideoJet XF E on a computer and then load saved configuration data from a computer to the unit.

Upload

- Enter the full path of the file to upload or click **Browse** to select the required file.
- Make certain that the file to be loaded comes from the same unit type as the unit you want to configure.
- Next, click **Upload** to begin transferring the file to the unit. The progress bar allows you to monitor the transfer.

Once the upload is complete, the new configuration is activated. The time remaining is shown in the message **going to reset Reconnecting in ... seconds**. The unit reboots automatically once the upload has successfully completed.

Download

- Click the **Download** button. A dialog box opens.
- Follow the on-screen instructions to save the current settings.

SSL certificate

To be able to work with an SSL encrypted data connection, both ends of a connection must hold the relevant certificates. You can upload the SSL certificate, comprising one or multiple files, onto the VideoJet XF E.

If you wish to upload multiple files onto the VideoJet XF E, you must select them consecutively.



NOTICE!

The certificate must be created in the format *.pem so that it can be accepted by the unit.

- Enter the full path of the file to upload or click **Browse** to select the required file.
- Next, click **Upload** to begin transferring the file to the unit.
- Once all files have been successfully uploaded, the unit must be rebooted. In the address bar of your browser, enter **/reset** after the IP address of the VideoJet XF E (for example **192.168.0.10/reset**), or use the **Reboot** button on the **Installer Menu** page.

The new SSL certificate is valid.

Further topics:

- *Section 5.17 Advanced Mode: Installer Menu, page 40*

Maintenance log

You can download an internal maintenance log from the unit to send it to Customer Service for support purposes. When doing this, ensure that **HTTPS browser port** is not set to **Off** and

TLS 1.0-support is activated for your browser. Click **Download** and select a storage location for the file.

Further topics:

- Section *HTTPS browser port, page 78*

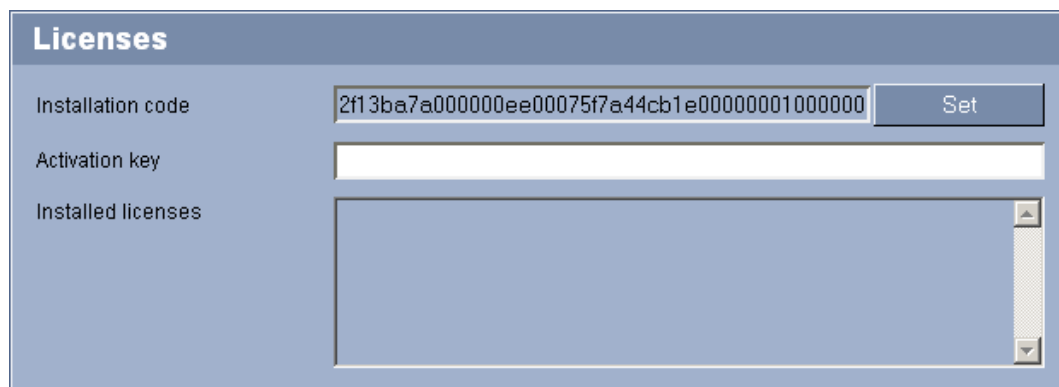
Upload history

You can lookup information on the last data uploads.

1. Click **Show** to display the upload history. A new window ist opened showing a list of the last uploads.

5.48

Advanced Mode: Licenses



Licenses

Installation code

Activation key

Installed licenses

You can enter the activation key to release additional functions or software modules.



NOTICE!

The activation key cannot be deactivated again and is not transferable to other units.

5.49 Advanced Mode: System Overview

System Overview	
Hardware version	F0002743
Firmware version	42500550
Device type	VJT-X40XF-E
IP address	192.168.0.240
Audio option	Yes
Storage medium attached	Yes
Initiator name	iqn.2005-12.com.bosch:unit00075f7a44cb
MAC address	00-07-5F-7A-44-CB
Major version number	5.50
Build number	42
Temperature	108°F / 42°C (max 168°F / 75.5°C)
Serial number	044608611018010039

The data on this page are for information purposes only and cannot be changed. Keep a record of these numbers in case technical assistance is required.



NOTICE!

You can select all required text on this page with the mouse and copy it to the clipboard with the [Ctrl]+[C] key combination, for example if you want to send it via e-mail.

5.50 Function test

The VideoJet XF E offers a variety of configuration options. You should therefore check that it is functioning correctly after installation and configuration.

The function test is the only way to ensure that the VideoJet XF E operates as expected in the event of an alarm.

Your check should include the following functions:

- Can the VideoJet XF E be called up remotely?
- Does the VideoJet XF E transmit all the required data?
- Does the VideoJet XF E respond to alarm events as required?
- Do the recordings occur as intended?
- Is it possible to control peripherals if necessary?

6 Operation

6.1 Operation with Microsoft Internet Explorer

A computer with Microsoft Internet Explorer (version 7.0 or higher) can receive live images from the VideoJet XF E, control cameras or other peripherals and replay stored video sequences.

System requirements

- Computer with Windows XP or Windows 7 operating system
- Network access (Intranet or Internet)
- Microsoft Internet Explorer (version 7.0 or higher)
- Screen resolution at least 1,024 × 768 pixels
- 16- or 32-bit color depth
- Installed Sun JVM
- For playing back recordings: connection to storage medium



NOTICE!

Also note the information in the **Releaseletter** document for the respective firmware. For the latest version of the firmware, required programs and controls, access your Bosch product catalog on the Internet.

The Web browser must be configured to enable Cookies to be set from the IP address of the unit.

In Windows 7, deactivate protected mode on the **Security** tab under **Internet Options**.

You can find notes on using Microsoft Internet Explorer in the online Help in Internet Explorer.

Establishing the connection

Before you can operate the VideoJet XF E within your network, it must have a valid IP address for your network and a compatible subnet mask.



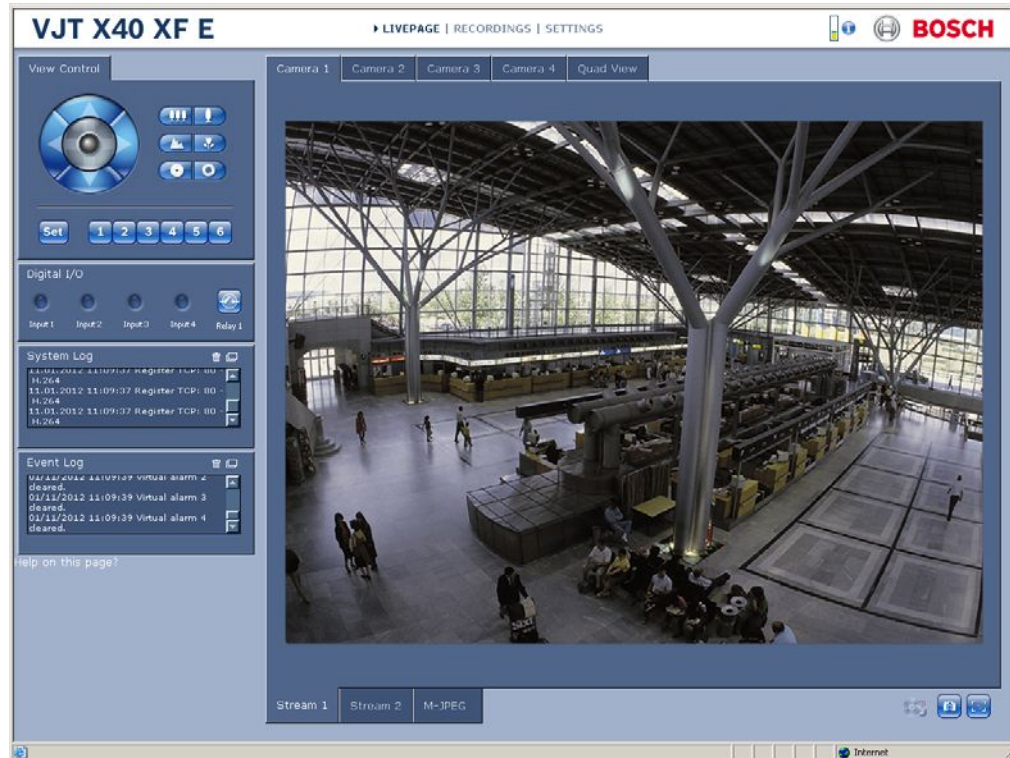
NOTICE!

As a default DHCP is enabled in the VideoJet XF E settings.

With an active DHCP server in the network you must know the IP address assigned by the DHCP server to operate the VideoJet XF E.

The following default address is preset at the factory: **192.168.0.1**

1. Start the Web browser.
2. Enter the IP address of the VideoJet XF E as the URL.
3. During initial installation, confirm the security questions that appear. The connection is established and after a short time you will see the **LIVEPAGE** with the video image.



6.2 The LIVEPAGE

Once the connection is established, the Web browser displays the **LIVEPAGE**. It shows the live video image on the right of the browser window. Depending on the configuration, various text overlays may be visible on the live video image.

Other information may be shown next to the live video image on the **LIVEPAGE**. The display depends on the settings on the **LIVEPAGE Functions** page.

Further topics:

- *Section 5.13 Advanced Mode: Display Stamping, page 36*
- *Section 5.15 Advanced Mode: LIVEPAGE Functions, page 38*

Maximum number of connections

If you do not connect, the unit may have reached its maximum number of connections. Depending on the unit and network configuration, each VideoJet XF E can have up to 25 Web browser connections or up to 50 connections via Bosch Video Client or Bosch Video Management System.

Protected VideoJet XF E

The VideoJet XF E offers the option to limit the extent of access using various authorization levels. If the VideoJet XF E is password protected against unauthorized access, the Web browser displays a corresponding message and prompts you to enter the password when you attempt to access protected areas.

1. Enter the user name and associated password in the corresponding text fields.
2. Click **OK**. If the password is entered correctly, the Web browser displays the page that was called up.

Further topics:

- *Section 5.11 Advanced Mode: Password, page 34*

Protected network

If a RADIUS server is employed in the network for managing access rights (802.1x authentication), the VideoJet XF E must be configured accordingly, otherwise no communication is possible.

Further topics:

- *Section Authentication, page 82*

Image selection

You can view the image of the camera in different displays.

- ▶ Click one of the tabs **Stream 1**, **Stream 2** or **M-JPEG** below the video image to toggle between the different displays of the camera image.

Display stamping

Various overlays or "stamps" in the video image provide important status information. The overlays provide the following information:



Decoding error. The frame might show artefacts due to decoding errors. If subsequent frames reference this corrupted frame, they might also show decoding errors as well but won't be marked with the "decoding error" icon.



Alarm flag set on media item



Communication error. Any kind of communication error is visualized by this icon. Cause can be a connection failure to the storage medium, a protocol violation with a sub component or simply a timeout. An automatic reconnection procedure is started in the background in order to recover from this error.
Gap; no video recorded



Watermarking not valid



Watermarking flag set on media item



Motion flag set on media item



Discovery of storage not completed. If the information about recorded video is not cached, a discovery procedure is started in order find all recorded video. During this time, the "discovery" symbol is shown. While discovery is executed, gaps might be shown in places which the discovery has not yet reached. The gap will automatically be replaced by the true video, as soon as the correct information is available.







View Control

Control options for peripherals (for example a pan/tilt head or dome camera) depend on the type of unit installed and on the configuration of the VideoJet XF E.

If a controllable unit is configured and connected to the VideoJet XF E, the controls for the peripheral are displayed next to the video image.



To control the view:

1. Click and hold  to zoom in; click and hold  to zoom out.
2. Click and hold  to focus close objects; click and hold  to focus distant objects.
3. Click and hold  to open the iris; click and hold  to close the iris.
4. Move the mouse cursor over the video image. Additional options for controlling peripherals are displayed with the mouse cursor.

To move the peripheral:

1. Click and hold the arrows to tilt and pan the peripheral.
2. Click and hold the center area to move in all directions.

To store the current view:

1. Select a view.
2. Click **Set**.
3. Click a number.

To display a pre-set view, click one of the buttons numbered one to six.

View Control ROI

With the **Stream 2** tab a specific type of **View Control** panel is activated for electronic pan/tilt/zoom functions.






To select a particular region of interest:

1. Click and hold the arrows to move up and down, and from side to side through the image.
2. Click and hold the center area to move in all directions.

When you use the electronic pan/tilt on the full image you also zoom into the region of interest automatically.

To zoom in on a region of interest:

1. Click and hold  to zoom in; click and hold  to zoom out.
2. Click  to see the full image.

To store the current view:

1. Select a region of interest.
2. Click **Set**.
3. Click a number.

To display a pre-set region of interest, click one of the buttons numbered one to six.

Digital I/O



The alarm icons **Input 1** to **Input 4** are for information purposes and indicate the status of an alarm input: When an alarm is triggered, the corresponding icon lights up blue. The unit's configuration determines whether the alarm is displayed, as well as additional details.

Further topics:

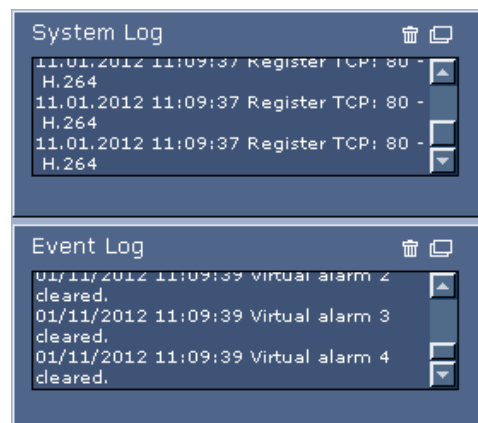
- *Section 5.15 Advanced Mode: LIVEPAGE Functions, page 38*

Triggering relay

You can switch a connected unit by means of the relay in the VideoJet XF E (for example a light or a door opener).

- ▶ To activate this, click the icon for the relay next to the video image. The icon will be red when the relay is activated.

System Log / Event Log



The **System Log** field contains information about the operating status of the VideoJet XF E and the connection. You can save these messages automatically in a file.

Events such as the triggering or end of alarms are shown in the **Event Log** field. You can save these messages automatically in a file.

1. If you want to delete the entries, click the delete icon in the top right-hand corner of the relevant field.
2. If you want to view a detailed log, click the icon in the top right-hand corner of the relevant field. A new window will open.

Further topics:

- *Section 5.15 Advanced Mode: LIVEPAGE Functions, page 38*

Audio function

Depending on the configuration, the VideoJet XF E can send and receive audio signals. All users who are connected by browsers receive the audio signals sent by the VideoJet XF E. Audio signals can only be sent to the VideoJet XF E by the user who connects to the unit first.

1. On the **LIVEPAGE**, click anywhere next to the video image to remove the focus from the ActiveX.
2. Hold down the **F12** key to establish a voice connection with the VideoJet XF E. The browser's status bar displays the message **Send Audio ON**.
3. Release the **F12** key when you want to stop sending audio signals to the VideoJet XF E. The status bar in Internet Explorer displays the message **Send Audio OFF**.



NOTICE!


When the connection maintaining voice contact with the VideoJet XF E is broken, the next user to make a connection to the VideoJet XF E can send audio data to the VideoJet XF E.

6.3

Saving snapshots

You can save individual images from the video sequence currently shown on the **LIVEPAGE** in JPEG format on your computer's hard drive. The icon for recording single images is only visible if the unit is configured to enable this process.

You can save snapshots from both cameras in the **Dual View** view (VideoJet X20 XF E) or each of the four cameras in the **Quad View** view (VideoJet X40 XF E). The icons below the camera images apply to the camera images in the following sequence: top left, top right, bottom left, bottom right.

- ▶ Click . The image is saved at a resolution of 704 × 576 pixels (4CIF). The storage location depends on the configuration of the VideoJet XF E.

Further topics:

- *Section Allow snapshots, page 39*
- *Section Path for JPEG and video files, page 39*

6.4

Recording video sequences

You can save sections of the video sequence currently shown on the **LIVEPAGE** on your computer's hard drive. The icon for recording video sequences is only visible if the unit is configured to enable this process.

You can save video sequences from both cameras in the **Dual View** view (VideoJet X20 XF E) or each of the four cameras in the **Quad View** view (VideoJet X40 XF E). The icons below the camera images apply to the camera images in the following sequence: top left, top right, bottom left, bottom right.



1. Click  to start recording. The storage location depends on the configuration of the VideoJet XF E. A red dot in the icon indicates that recording is in progress.
2. Click  to stop recording.


Image resolution

Sequences are saved at the resolution that has been preset in the configuration for the encoder.

Further topics:

- *Section Allow local recording, page 39*
- *Section Path for JPEG and video files, page 39*
- *Section 5.21 Advanced Mode: Encoder Profile, page 44*

6.5 Running recording program

The  hard drive icon below the camera image on the **LIVEPAGE** changes during an automatic recording.

A moving graphic will appear to indicate a running recording. If no recording is taking place, a static icon is displayed.

You can ascertain from the **Dual View** view (VideoJet X20 XF E) or the **Quad View** view (VideoJet X40 XF E) for which camera a recording is running by moving the cursor over the icon. A message is displayed below the cursor.

6.6 The RECORDINGS page

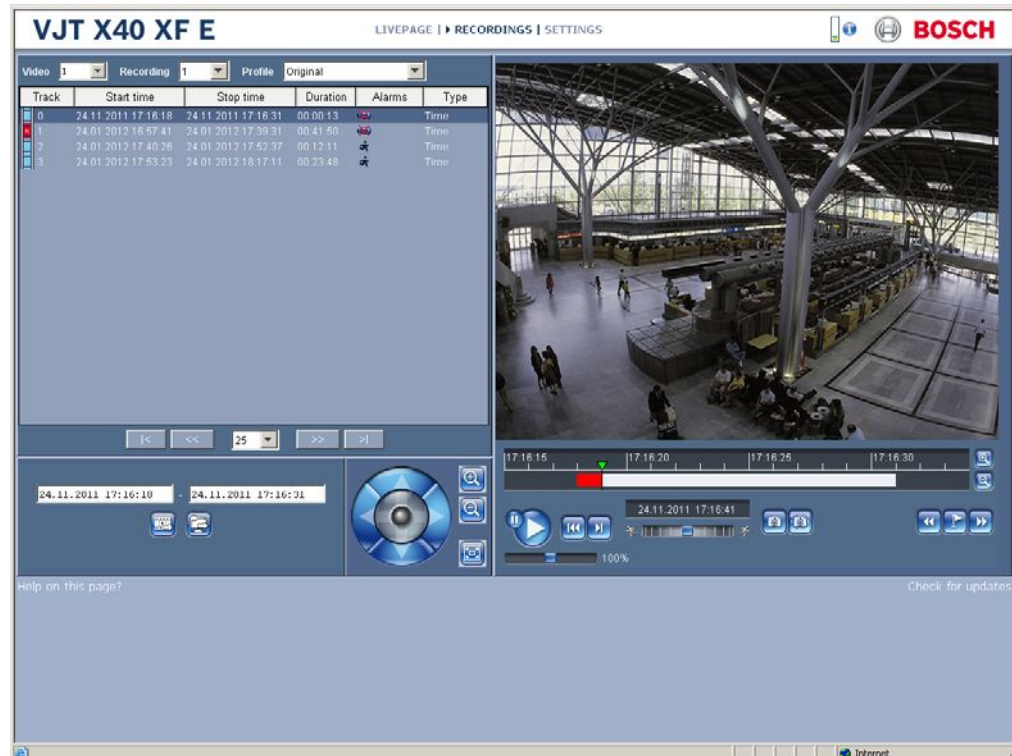
The **RECORDINGS** page for playing back recorded video sequences can be accessed from the **LIVEPAGE** and from the **SETTINGS** menu.

The **RECORDINGS** link is only visible if a storage medium has been selected.

Further topics:

- *Section 5.24 Advanced Mode: Storage Management, page 50*

- ▶ Click the **RECORDINGS** link in the navigation bar in the upper section of the window. The playback page appears.



Replay connections utilize the Adaptive Bit Rate encoding capability which automatically adjusts the generated replay data to the available bandwidth. You may also use the built-in transcoding function. Just select any other than the original profile to guarantee smooth replay and browsing through recordings even for bandwidth-limited connections.

The electronic pan/tilt/zoom control allows to zoom into a region of interest. Only this cut-out of the original recording will then be transcoded for best use of available bandwidth.

For example, if you select a replay profile defining CIF resolution for a 4CIF recording and set the region of interest to a quarter of the full image, you get the region of interest displayed in original and unscaled resolution.

If you pause the replay, the transcoder sharpens the image up to its original quality.

Selecting recordings


All recordings that are saved are displayed in the list. A running number (track) is assigned to each recording. Start time and stop time, recording duration, number of alarms, and recording type are displayed.

1. From the **Video** list select the video input from which you want to view the recordings.
2. Select **1** or **2** from the **Recording** list. The contents for 1 and 2 are identical, only the quality and location may be different.

3. From the **Profile** list select a quality profile for the replay to adapt the data stream to the network bandwidth available. With selecting other than the **Original** option, the replayed video will be transcoded.
4. Use the arrow buttons below the list to browse the list.
5. Select the number of entries that are displayed simultaneously.
6. Click a list entry. The playback for the selected track starts immediately in the video window.


Exporting recordings

You can export tracks or sequences to an FTP server. The FTP server is defined on the **FTP Posting** settings page.

1. In the list, select the tracks you want to export.
2. If required, change the times within the selected range. To do so, drag the mouse over the time bar or enter the values in the text fields below the list of recordings.
3. Click  to send the selected recordings to the FTP server. The information below the button allows you to monitor the export.

Saving recordings locally

You can save tracks or sequences locally. The path is defined on the **FTP Posting** settings page.

1. In the list, select the tracks you want to export.
2. If required, change the times within the selected range. To do so, drag the mouse over the time bar or enter the values in the text fields below the list of recordings.
3. Click  to save the selected recordings. The information below the button allows you to monitor the process.

View control






To select a particular region of interest:

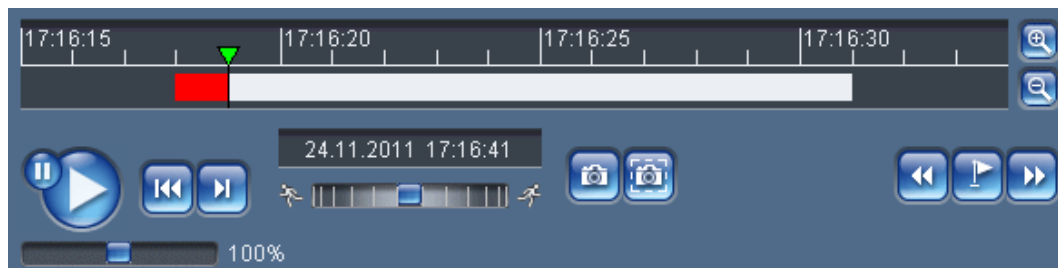
1. Click and hold the arrows to move up and down, and from side to side through the image.
2. Click and hold the center area to move in all directions.

When you use the electronic pan/tilt on the full image you also zoom into the region of interest automatically.

To zoom in on a region of interest:

- | | |
|---|---------------------|
|  | Zoom in |
|  | Zoom out |
|  | Reset to full image |

Controlling a playback



You will see a time bar below the video image for quick orientation. A green arrow above the bar indicates the position of the image currently being played back within the sequence.

The time bar offers various options for navigation.

Red bars indicate the points in time where alarms were triggered. Drag the green arrow to navigate to these points quickly.

1. You can change the time interval by clicking the zoom keys (magnifying glass icons). The display can span a range from two months to a few seconds.
2. Drag the green arrow to the point in time at which playback should begin. The date and time display below the bar provides orientation to the second.

Buttons

You can control playback by means of the buttons below the video image. The buttons have the following functions:



Start or pause playback



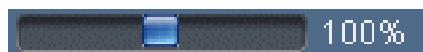
Leap to the start of the active video sequence or to the previous sequence



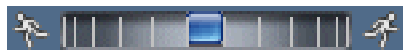
Leap to the start of the next video sequence

Slide controls

Use the slide control below the Start button to control playback speed. The default value of 100% represents real time speed. Higher values speed up the playback, lower values slow it down.



Use the slide control below the time bar to control playback direction. Drag the rectangle to the right for fast forwarding the playback. Drag it to the left for rewinding.



Saving snapshots

You can save individual images from the sequence currently shown in the video window in JPEG format on your computer's hard drive. The buttons have the following functions:



Save snapshot of full image



Save snapshot of visible area

Bookmarks

In addition, you can set markers in the sequences, so-called bookmarks, and leap directly to these. These bookmarks are indicated as small yellow arrows above the time interval.

Bookmarks are only valid while you are in the **RECORDINGS** page; they are not saved with the sequences. As soon as you leave the page all bookmarks are deleted.

Use the bookmarks as follows:



Jump to the previous bookmark



Set bookmark



Jump to the following bookmark

Check for updates

You can check for a newer version of the decoding software manually. After clicking the link a new window is opened with instructions how to proceed.

6.7

Hardware connections between video servers

A VideoJet XF E with a camera connected to it can be used as a sender and a compatible hardware decoder (such as the VIP XD HD) with a connected monitor as a receiver using an Ethernet network connection. The sender and receiver must be located in the same subnet to establish a hardware connection. In this way it is possible to cover long distances without the need for major installation or cabling work.



CAUTION!

Hardware decoders VIP XD and VIP X1600 XFMD can only process algorithm H.264 BP+. Bear this in mind when configuring profile settings.

Installation

Compatible video servers are designed to connect to one another automatically, provided they are correctly configured. They only need to be part of a closed network. Proceed as follows to install the units:

1. Connect the units to the closed network using Ethernet cables.
2. Connect them to the power supply.
3. Make sure that the units are configured for the network environment and that the correct IP address for the remote location to be contacted in the event of an alarm is set on the **Alarm Connections** configuration page.

Further topics:

- *Section 5.30 Advanced Mode: Alarm Connections, page 60*

Connecting

There are three options for establishing a connection between a sender and a compatible receiver in a closed network:

- an alarm,
- a terminal program, or
- Internet Explorer.



NOTICE!

Connecting with a Web browser is described in the manual of the relevant unit that is to be used as the receiver, for example VIP XD HD.

Connecting on alarm

With the appropriate configuration, a connection between a sender and a receiver is made automatically when an alarm is triggered. After a short time the live video image from the sender appears on the connected monitor.

This option can also be used to connect a sender and a compatible receiver using a switch connected to the alarm input. You do not need a computer to make the connection in this case.

Further topics:

- *Section 5.30 Advanced Mode: Alarm Connections, page 60*

Connecting with a terminal program

Various requirements must be met in order to operate with a terminal program.

1. Start the terminal program and enter the command **4** in the main menu to switch to the **Rcp+** menu.
2. Enter the command **c** in the **Rcp+** menu to change the remote IP address, then enter the IP address of the unit you wish to connect to.
3. In the **Rcp+** menu, enter command **1** to activate automatic connection.

Closing the connection with a terminal program

1. Start the terminal program and enter the command **4** in the main menu to switch to the **Rcp+** menu.
2. In the **Rcp+** menu, enter command **3** to deactivate automatic connection.

Further topics:

- *Section 8.9 Communication with terminal program, page 110*

6.8

Operation using software decoders

The video server VideoJet XF E provides a highly efficient systems solution together with the Bosch Video Client software.

Bosch Video Client is a software package for operating, controlling and managing CCTV installations (such as surveillance systems) at remote locations. It runs under Microsoft Windows operating systems. It is primarily designed for decoding video, audio and control data received from a remote sender.

There are many options available for operation and configuration when using a VideoJet XF E with Bosch Video Client. Please refer to the software documentation for more details.

Another program that supports the VideoJet XF E is Bosch Video Management System. Bosch Video Management System is an IP video security solution that enables the seamless management of digital video, audio and data over any IP network. It was developed for use with Bosch CCTV products as one component of an extensive video security management system. It allows you to integrate your existing components into a simple-to-control system or into the entire Bosch range, benefiting from a complete security solution based on the latest technology and years of experience.

The VideoJet XF E video server is also designed for use with the DiBos 8 digital recorder. DiBos 8 records up to 32 video and audio streams and is available as IP software or hybrid DVR with additional analog camera and audio inputs. DiBos supports the most diverse functions on the VideoJet XF E video server, for example relay activation, remote control of peripherals and remote configuration. DiBos 8 can use the alarm inputs for event triggering

and, on release of the MOTION+ motion detector, record the activated cells to enable intelligent motion search.

7 Maintenance and upgrades

7.1 Testing the network connection

You can use the **ping** command to check the connection between two IP addresses. This allows you to test whether a unit in the network is active.

1. Open the DOS command prompt.
2. Type **ping** followed by the IP address of the unit.

If the unit is found, the response appears as **Reply from ...** followed by the number of bytes sent and the transmission time in milliseconds. If not, the unit cannot be accessed over the network. This might be because:

- The unit is not correctly connected to the network. Check the cable connections in this case.
- The unit is not correctly integrated into the network. Check the IP address, subnet mask and gateway address.

7.2 Unit reset

You can use the Factory Reset button to restore the unit to its original settings. Any changes to the settings are overwritten by the factory defaults. A reset may be necessary, for example, if the unit has invalid settings that prevent it from functioning as desired.

**CAUTION!**

All configured settings will be discarded during a reset.

If necessary, back up the current configuration using the **Download** button on the **Maintenance** configuration page.

**NOTICE!**

After a reset, the unit can only be addressed via the factory default IP address. The IP address can be changed as described in the **Installation** chapter.

1. If necessary, back up the current configuration using the **Download** button on the **Maintenance** configuration page.
2. Using a pointed object, press the Factory Reset button located below the CF slot until the **CONNECT** LED flashes red. All settings will revert to their defaults.
3. Change the IP address of the VideoJet XF E if necessary.
4. Configure the unit to meet your requirements.

Further topics:

- *Section 5.47 Advanced Mode: Maintenance, page 87*
- *Section 3.4 Connections, controls and displays, page 13*
- *Section 4.6 Setup using Bosch Video Client, page 21*

7.3 Repairs

**CAUTION!**

Never open the housing of the VideoJet XF E.

The unit does not contain any user-serviceable parts.

Ensure that all maintenance or repair work is carried out only by qualified personnel (electrical engineers or network technology specialists). In case of doubt, contact your dealer's technical service center.

7.4 Transfer and disposal

The VideoJet XF E should only be passed on together with this installation and operating manual.

Your Bosch product is designed and manufactured with high-quality materials and components which can be recycled and reused.



This symbol means that electrical and electronic equipment, at their end-of-life, should be disposed of separately from your household waste.

In the European Union, there are separate collection systems for used electrical and electronic products. Please dispose of this equipment at your local community waste collection/recycling center.

8 Appendix

8.1 Troubleshooting

If you are unable to resolve a malfunction, please contact your supplier or systems integrator, or go directly to Bosch Security Systems Customer Service.

You can view a range of information about your unit version on the **System Overview** page. Make a note of this information before contacting Customer Service. You can download an internal maintenance log from the unit on the **Maintenance** page if you wish to send it to Customer Service by e-mail.

Further topics:

- *Section 5.49 Advanced Mode: System Overview, page 90*
- *Section Maintenance log, page 88*

The following tables are intended to help you identify the causes of malfunctions and correct them where possible.

8.2 General malfunctions

Malfunction	Possible causes	Recommended solution
No connection between the unit and terminal program.	Incorrect cable connections.	Check all cables, plugs, contacts, terminals and connections.
	The computer's serial interface is not connected.	Check the other serial interface.
	Interface parameters do not match.	If necessary select a different interface and make sure that the computer's interface parameters match those of the unit. Try the following standard parameters: 19,200 baud, 8 data bits, no parity, 1 stop bit. Next, disconnect the unit from the power supply and reconnect it again after a few seconds.
No image transmission to remote station.	Camera error.	Connect local monitor to the camera and check the camera function.
	Faulty cable connections.	Check all cables, plugs, contacts and connections.
	Incorrect encoder stream property set for connection to hardware decoder.	Select the H.264 BP+ bit-rate-limited option on the Encoder Streams configuration page.

Malfunction	Possible causes	Recommended solution
No connection established, no image transmission.	The unit's configuration.	Check all configuration parameters.
	Faulty installation.	Check all cables, plugs, contacts and connections.
	Wrong IP address.	Check the IP addresses (terminal program).
	Faulty data transmission within the LAN.	Check the data transmission with ping .
	The maximum number of connections has been reached.	Wait until there is a free connection and then call the sender again.
No audio transmission to remote station.	Hardware fault.	Check that all connected audio units are operating correctly.
	Faulty cable connections.	Check all cables, plugs, contacts and connections.
	Incorrect configuration.	Check audio parameters on the Audio configuration and LIVEPAGE Functions pages.
	The audio voice connection is already in use by another receiver.	Wait until the connection is free and then call the sender again.
The unit does not report an alarm.	Alarm source is not selected.	Select possible alarm sources on the Alarm Inputs configuration page.
	No alarm response specified.	Specify the desired alarm response on the Alarm Connections configuration page, change the IP address if necessary.
Control of cameras or other units is not possible.	The cable connection between the serial interface and the connected unit is not correct.	Check all cable connections and ensure all plugs are properly fitted.
	The interface parameters do not match those of the other unit connected.	Make sure that the settings of all units involved are compatible.
The unit is not operational after a firmware upload.	Power failure during programming by firmware file.	Have the unit checked by Customer Service and replace if necessary.
	Incorrect firmware file.	Enter the IP address of the unit followed by /main.htm in your Web browser and repeat the upload.
Placeholder with a red cross instead of the ActiveX components.	JVM not installed on your computer or not activated.	Install Sun JVM from the Bosch product catalog on the Internet.

Malfunction	Possible causes	Recommended solution
Web browser contains empty fields.	Active proxy server in network.	Create a rule in the local computer's proxy settings to exclude local IP addresses.
The CONNECT LED flashes red.	Firmware upload failed.	Repeat firmware upload.

8.3 Malfunctions with iSCSI connections

Malfunction	Possible causes	Recommended solution
After connecting to the iSCSI target, no LUNs are displayed.	Incorrect LUN mapping during iSCSI system configuration.	Check the iSCSI system configuration and reconnect.
After connecting to the iSCSI target, "LUN FAIL" appears below a node.	The LUN list could not be read, as it was assigned to the wrong network interface.	Check the iSCSI system configuration and reconnect.
LUN mapping is not possible.	Some iSCSI systems do not support the use of an initiator extension.	Delete the initiator extension on the Identification configuration page.

8.4 LEDs

The VideoJet XF E network video server has LEDs on its front and rear panels that show the operating status and can give indications of possible malfunctions:

CONNECT LED

Does not light up:	VideoJet XF E is switched off.
Lights up green:	VideoJet XF E is switched on.
Lights up red:	Startup in progress.
Flashes green:	Data packet transmission via network.
Flashes red:	VideoJet XF E is faulty, for example following failed firmware upload.

LINK LED

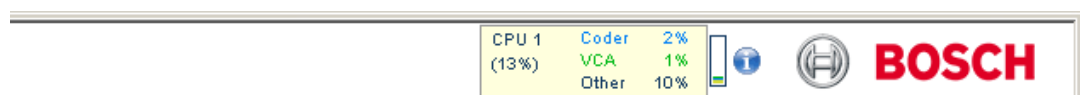
Lights up green:	Network connection established.
------------------	---------------------------------

REC LED

Flashes orange:	Recording in progress.
-----------------	------------------------

8.5 Processor load

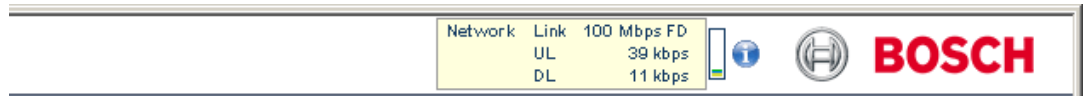
If the VideoJet XF E is accessed via the Web browser, you will see the processor load indicator in the top left of the window next to the manufacturer's logo.



You can obtain additional information to help you when troubleshooting or fine tuning the unit. The values indicate the proportions of the individual functions on the encoder load, shown as percentages.

- ▶ Move the cursor over the graphic indicator. Some additional numerical values are also displayed.

8.6 Network connection



You can display information about the network connection. To do this, move the cursor over



Link	Ethernet link type
UL	Uplink, speed of the outgoing data traffic
DL	Downlink, speed of the incoming data traffic

8.7 Serial interface

Options for using the serial interface include transferring transparent data, controlling connected units or operating the unit with a terminal program.

The serial interface supports the RS-232, RS-422 and RS-485 transmission standards. The mode used depends on the current configuration. Connection is via the terminal block.

Further topics:

- Section 5.40 Advanced Mode: COM1, page 76
- Section 8.8 Terminal block, page 109

8.8 Terminal block

The terminal block has several contacts for:

- 4 alarm inputs
- 1 relay output
- Serial data transmission

Pin assignment serial interface

The pin assignment of the serial interface depends on the interface mode used.

Contact	RS-232 mode	RS-422 mode	RS-485 mode
CTS	–	RxD- (receive data minus)	–
TXD	TxD (transmit data)	TxD- (transmit data minus)	Data-
RTS	–	TxD+ (transmit data plus)	Data+
RXD	RxD (receive data)	RxD+ (receive data plus)	–
GND	GND (ground)	–	–

Further topics:

- Section 5.40 Advanced Mode: COM1, page 76

Pin assignment I/O

Contact	Function
IN1	Input alarm 1
IN2	Input alarm 2
IN3	Input alarm 3

Contact	Function
IN4	Input alarm 4
GND	Ground
R	Relay output

Connect each alarm input to a ground contact (GND) when connecting alarm inputs.

8.9

Communication with terminal program

Data terminal

If a VideoJet XF E cannot be found in the network or the connection to the network is interrupted, you can connect a data terminal to the VideoJet XF E for initial setup and setting of important parameters. The data terminal consists of a computer with a terminal program. You require a serial transmission cable with a 9-pin Sub-D plug to connect to the computer and open ends for connection to the terminal block of the VideoJet XF E.

Further topics:

- Section *Pin assignment serial interface, page 109*

HyperTerminal, a communications accessory included with Microsoft Windows, can be used as the terminal program.



NOTICE!

Information on installing and using HyperTerminal can be found in the manuals or in the online help for Microsoft Windows.

1. Disconnect the VideoJet XF E from the Ethernet network before working with the terminal program.
2. Connect the serial interface of the VideoJet XF E using any available serial interface on the computer.

Configuring the terminal

Before the terminal program can communicate with the VideoJet XF E, the transmission parameters must be matched. Make the following settings for the terminal program:

- 19,200 bps
- 8 data bits
- No parity check
- 1 stop bit
- No protocol

Command inputs

After the connection has been established, you must log on to the VideoJet XF E to access the main menu. Other submenus and functions can be accessed using the on-screen commands.

1. If necessary, turn off the local echo so that entered values are not repeated on the display.
2. Enter one command at a time.
3. When you have entered a value, such as the IP address, check the characters you have entered before pressing Enter to transfer the values to the VideoJet XF E.

Assigning an IP address

Before you can operate a VideoJet XF E in your network you must first assign it an IP address that is valid for your network.

The following default address is preset at the factory: **192.168.0.1**

1. Start a terminal program such as HyperTerminal.
2. Enter the user name **service**. The terminal program displays the main menu.
3. Enter command **1** to open the **IP** menu.

```

-----
| VideoJet-X
-----
' 0' Exit menu IP      (* = reset after change necessary)
' 1' local IP        (*) 192.168.0.1
' 2' local subnet mask (*) 255.255.255.0
' 3' local gateway  (*) 0.0.0.0
' 4' remote IP       0.0.0.0
' 5' ntp server      0.0.0.0
' 6' ntp mode        1 (SNTP)
' 7' DHCP enabled   (*) NO
' 8' igmp version   (*) Auto
' 9' alarm IP ...
' a' discover ...
' b' iscsi ...
' c' http port      80
' d' https port     443
' e' ftp server IP  0.0.0.0
' f' syslog host IP 0.0.0.0
-----

```

4. Enter **1** again. The terminal program displays the current IP address and prompts you to enter a new IP address.
5. Enter the desired IP address and press Enter. The terminal program displays the new IP address.
6. Use the displayed commands for any additional settings you require.



NOTICE!

You must reboot to activate the new IP address, a new subnet mask or a gateway IP address.

Reboot

Briefly interrupt the power supply to the VideoJet XF E for a reboot (disconnect the power supply unit from the mains supply and switch on again after a few seconds).

Additional parameters

You can use the terminal program to check other basic parameters and modify them where necessary. Use the on-screen commands in the various submenus to do this.

8.10

Copyrights

Fonts

The firmware uses the fonts "Adobe-Helvetica-Bold-R-Normal--24-240-75-75-P-138-ISO10646-1" and "Adobe-Helvetica-Bold-R-Normal--12-120-75-75-P-70-ISO10646-1" under the following copyright:

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in supporting documentation, and that the names of Adobe Systems and Digital Equipment Corporation not be used in advertising or publicity pertaining to distribution of the software without specific, written prior permission.

Software

This software is based in part on the work of the Independent JPEG Group.

Audio

AAC audio technology licensed by Fraunhofer IIS (<http://www.iis.fraunhofer.de/amm/>).



9 Specifications

9.1 VideoJet XF E

Operating voltage	12 V DC, power supply via external unit
Power consumption	Approx. 9 VA
LAN interfaces	1 × Ethernet 10/100 Base-T, automatic adjustment, half/full duplex, RJ45
Data interfaces	1 × RS-232/RS-422/RS-485, bidirectional, push-in terminal
CF slot	1 × CF CARD, for standard Type I/II CF card, 2 TB max
Alarm inputs	4 × push-in terminals (non-isolated closing contact), maximum activation resistance 10 Ohm
Relay output	1 × push-in terminals, 30 V _{p-p} (SELV), 200 mA, 4 contacts
Video inputs	VideoJet X20 XF E: 2 × BNC socket VideoJet X40 XF E: 4 × BNC socket 0.7 to 1.2 V _{p-p} , 75 Ohm, PAL/NTSC
Audio input	1 × 3.5 mm stereo socket (mono line) 5.5 V _{p-p} max., impedance 9 kOhm typ.
Audio output	1 × 3.5 mm stereo socket (mono line) 3.0 V _{p-p} , impedance 10 kOhm typ. 2.3 V _{p-p} , impedance 32 Ohm typ. 1.7 V _{p-p} , impedance 16 Ohm typ.
Displays	3 × LED (operation, network connection, data transfer, recording) on the rear panel
Thermal value	31 BTU/h max.
Operating conditions	Temperature: 0 to +50 °C / +32 to +122 °F Relative humidity: 0 to 90%, non-condensing
Approvals	IEC 60950-1; IEC 62676-2; EN 50132-5-2; UL-listed; EN 50130-4; EN 50121-4; EN 55103-1; EN 55103-2; EN 55022; EN 55024; EN 61000-3-2; EN 61000-3-3; FCC 47 CFR Part 15 Subpart B Class B; AS/NZS 3548 Class B
Dimensions (H × W × D)	38 × 146 × 183 mm / 1.5 × 5.7 × 7.2 in, including BNC connectors
Weight	Approx. 0.6 kg / 1.3 lb

Protocols/standards

Video standards	PAL, NTSC
Video coding protocols	H.264 MP, H.264 BP+ (ISO/IEC 14496-10) M-JPEG, JPEG
Video data rate	9.6 kbps to 6 Mbps per channel
Image resolutions (PAL/NTSC)	704 × 576/480 pixels (4CIF) 352 × 288/240 pixels (CIF)
Total delay	120 ms max. (H.264 MP, GOP IP)

Image refresh rate	25/30 ips max.
Network protocols	IPv4, IPv6, UDP, TCP, HTTP, HTTPS, RTP, IGMP V2/V3, ICMP, RTSP, FTP, Telnet, ARP, DHCP, SNTP, SNMP (V1, MIB-II), 802.1x, SMTP, iSCSI, UPnP (SSDP)
Encryption	TLS 1.0, SSL, AES (optional)
Audio coding protocol	G.711, 300 Hz to 3.4 kHz L16, 300 Hz to 6.4 kHz AAC-LC, 300 Hz to 6.4 kHz
Audio sampling rate	G.711: 8 kHz L16: 16 kHz AAC-LC: 16 kHz
Audio data rate	G.711: 80 kbps L16: 640 kbps AAC-LC: 48 kbps
Signal-to-noise ratio	> 50 dB

9.2 Power supply unit delivered

Operating voltage	100 to 240 V AC
Operating conditions	Temperature: 0 to +40 °C / +32 to +104 °F Relative humidity: 20 to 80%, non-condensing
Storage conditions	Temperature: -20 to +80 °C / -4 to +176 °F Relative humidity: 10 to 95%, non-condensing

Glossary

0...9

10/100/1000 Base-T IEEE-802.3 specification for 10, 100 or 1000 Mbps Ethernet

802.1x The IEEE 802.1x standard provides a general method for authentication and authorization in IEEE-802 networks. Authentication is carried out via the authenticator, which checks the transmitted authentication information using an authentication server (*see* RADIUS server) and approves or denies access to the offered services (LAN, VLAN or WLAN) accordingly.

A

ARP Address Resolution Protocol: a protocol for mapping MAC and IP addresses

B

Baud Unit of measure for the speed of data transmission

bps Bits per second, the actual data rate

BVIP Bosch Video over IP unit

C

CF CompactFlash; interface standard, for digital storage media amongst other things. Used in computers in the form of CF cards, digital cameras and Personal Digital Assistants (PDA).

CIF Common Intermediate Format, video format with 352 × 288/240 pixels

D

DHCP Dynamic Host Configuration Protocol: uses an appropriate server to enable dynamic assignment of an IP address and other configuration parameters to computers on a network (Internet or LAN)

DNS Domain Name System, mainly used for converting domain names to IP addresses

DynDNS DNS hosting service that works according to RFC 2845 and stores the IP addresses of its clients in a database, ready for use

F

FTP File Transfer Protocol

Full duplex Simultaneous data transmission in both directions (sending and receiving)

G

GBIC GigaBit Interface Converter; applied in network technology to render interfaces flexible, for converting an electrical interface into an optical interface, for example. This enables flexible operation of an interface as a Gigabit Ethernet via twisted-pair cables or fiber optic cables.

GOP Group of Pictures

H

H.264	Standard for high-efficiency video compression, based on the predecessors MPEG-1, MPEG-2 and MPEG-4. H.264 typically achieves a coding efficiency around three times as high as MPEG-2. This means that comparable quality can be achieved at around a third of MPEG-2 data quantity.
HTTP	Hypertext Transfer Protocol: protocol for transmitting data over a network
HTTPS	Hypertext Transfer Protocol Secure: encrypts and authenticates communication between Web server and browser

I

ICMP	Internet Control Message Protocol
ID	Identification: a machine readable character string
IEEE	Institute of Electrical and Electronics Engineers
IGMP	Internet Group Management Protocol
Internet Protocol	The main protocol used on the Internet, normally in conjunction with the Transfer Control Protocol (TCP): TCP/IP
IP	See Internet Protocol
IP address	A 4-byte number uniquely defining each unit on the Internet. It is usually written in dotted decimal notation, for example "209.130.2.193"
iSCSI	Storage over IP process for storage networks; specifies how storage protocols are operated over IP
ISDN	Integrated Services Digital Network

J

JPEG	An encoding process for still images (Joint Photographic Experts Group)
------	---

K

kbps	Kilobits per second, the actual data rate
------	---

L

LAN	See Local Area Network
Local Area Network	A communications network serving users within a limited geographical area such as a building or university campus. It is controlled by a network operating system and uses a transfer protocol.
LUN	Logical Unit Number; logical drive in iSCSI storage systems

M

MAC	Media Access Control
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MIB	Management Information Base; a collection of information for remote servicing using the SNMP protocol
MPEG-2	Improved video/audio compression standard, compression on highest level allows images in studio quality; now established as broadcast standard
MPEG-4	A further development of MPEG-2 designed for transmitting audiovisual data at very low transfer rates (for example over the Internet)
MSS	Maximum Segment Size; maximum byte figure for the user data in a data packet

N

Net mask	A mask that explains which part of an IP address is the network address and which part is the host address. It is usually written in dotted decimal notation, for example "255.255.255.192."
NTP	Network Time Protocol; a standard for synchronizing computer system clocks via packet-based communication networks. NTP uses the connectionless network protocol UDP. This was developed specifically for enabling time to be reliably transmitted over networks with variable packet runtime (Ping).

O

OF	Optical Fiber; now used predominantly as the transmission medium for line-borne telecommunication processes (glass fiber cable)
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P

Parameters	Values used for configuration
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Q

QCIF	Quarter CIF, video format with 176 × 144/120 pixels
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R

RADIUS server	Remote Authentication Dial-In User Service: a client/server protocol for the authentication, authorization and accounting of users with dial-up connections on a computer network. RADIUS is the de-facto standard for central authentication of dial-up connections via Modem, ISDN, VPN, Wireless LAN (see 802.1x) and DSL.
RFC 868	A protocol for synchronizing computer clocks over the Internet
RS-232/-422/-485	Standards for serial data transmission
RTP	Real-Time Transport Protocol; a transmission protocol for real-time video and audio
RTSP	Real-Time Streaming Protocol; network protocol for controlling the continuous transmission of audiovisual data (streams) or software over IP-based networks

S

SD card	Secure Digital Memory Card; digital memory card that works on the flash principle
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SFP	Small Form-factor Pluggable; small, standardized module for network connections, designed as a plug connector for high-speed network connections
SNIA	Storage Networking Industry Association; association of companies for defining the iSCSI standard
SNMP	Simple Network Management Protocol; a protocol for network management, for managing and monitoring network components
SNTP	Simple Network Time Protocol; a simplified version of NTP (<i>see</i> NTP)
SSL	Secure Sockets Layer; an encryption protocol for data transmission in IP-based networks
Subnet mask	<i>See</i> Net mask

T

TCP	Transmission Control Protocol
Telnet	Login protocol with which users can access a remote computer (Host) on the Internet
TLS	Transport Layer Security; TLS 1.0 and 1.1 are the standard advanced developments of SSL 3.0 (<i>see</i> SSL)
TTL	Time-To-Live; life cycle of a data packet in station transfers

U

UDP	User Datagram Protocol
URL	Uniform Resource Locator
UTP	Unshielded Twisted Pair

W

WAN	<i>See</i> Wide Area Network
Wide Area Network	A long distance link used to extend or connect remotely located local area networks

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Bosch Sicherheitssysteme GmbH

Robert-Bosch-Ring 5

85630 Grasbrunn

Germany

www.boschsecurity.com

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