

VIP XD – Network video server



Security Systems

EN | Installation and Operating Manual
Network Video Server

DE | Installations- und Bedienungshandbuch
Netzwerk Video Server

NL | Installatie- en bedieningshandleiding
Netwerkvideoserver

FR | Manuel d'installation et d'utilisation
Serveur vidéo réseau

IT | Manuale di installazione e operativo
Server video di rete

ES | Manual de instalación y funcionamiento
Servidor de canal de vídeo

PT | Manual de Instalação e Funcionamento
Servidor de Vídeo de Rede

PL | Podręcznik instalacji i obsługi
Sieciowy serwer wideo

CS | Návod k instalaci a použití
Síťový video server

HU | Telepítési és kezelési útmutató
Hálózati videoszerver

RU | Руководство по установке и эксплуатации
Сетевой видеосервер

TR | Kurulum ve Kullanma Kılavuzu
Ağ Video Sunucusu

EL | Εγχειρίδιο εγκατάστασης και λειτουργίας
Video Server δικτύου

DA | Installations- og betjeningsvejledning
Netværksvideoserver

NO | Installerings- og brukerhåndbok
Nettverksvideoserver

FI | Asennus- ja käyttöopas
Network Video Server

SV | Installations- och användarhandbok
Nätverksvideoserver

ZH | 安装和使用手册
网络视频服务器

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1

Preface

This user guide is intended for persons responsible for the installation and operation of the VIP XD. International, national and any regional regulations regarding electronics must be followed at all times. Relevant knowledge of network technology is required. The user guide describes the installation and operation of the unit.

Conventions

In this user guide, the following symbols and notation are used to draw attention to special situations:

**Warning!**

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.

**Note**

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

Intended use

The VIP XD network video server receives video and control signals over data networks (Ethernet LAN, Internet). Audio signals can also be transmitted with the audio versions of the server. The servers are designed for use in CCTV systems. By incorporating external alarm sensors, various functions can be triggered automatically. Other applications are not permitted.

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

Bosch Sicherheitssysteme GmbH
Robert-Koch-Straße 100
85521 Ottobrunn
Germany
www.bosch-sicherheitssysteme.de

EU Directives

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

Rating plate

For exact identification, the model name and serial number are inscribed on the rating plate on the bottom of the housing. Please note this information if necessary before installation so it will be available in case of questions or for spare parts orders.

2

Safety information

Electric shock hazard

- Never attempt to connect the unit to any power network other than the type for which it was intended.
- Use only the power supply provided.
- Never open the housing!
- If a fault occurs, disconnect the power supply unit from the mains supply and from all other devices.
- Install the power supply and the unit only in dry, weather-protected areas.
- If safe operation of the unit cannot be ensured, remove it from service and secure it to prevent unauthorized start-up. 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 works properly,
 - if the unit has been exposed to rain or moisture,
 - if foreign matter has infiltrated the unit,
 - after long storage under adverse conditions or
 - after exposure to extraordinary transport stress.

In such cases, have the unit checked by Bosch Security Systems.

Installation and operation

- The relevant electrical 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, such as cameras. This contains important safety instructions and information about permitted uses.
- Perform only the installation and operating steps described in this manual. Actions beyond these may lead to personal injury, damage to property or damage to the equipment.

Maintenance and repair

- Never open the casing of the VIP XD. 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 performed only by qualified personnel (electrical engineering or network technology specialists).

3

Product description

Components supplied

- VIP XD network video server (basic version or audio version)
- Power supply unit with four primary adapters
- Configuration cable
- Quick start guide in English/German
- Product CD with the following content:
 - Quick start guide in English/German
 - User guide in English/German
 - System requirements data sheet
 - MPEG ActiveX control
 - MPEG viewer
 - DirectX control
 - Microsoft Internet Explorer
 - Microsoft Virtual Machine
 - Adobe Acrobat Reader



Note

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.

System requirements for setup

- Computer with Windows 2000/XP operating system, access to network and Microsoft Internet Explorer (version 6.0 or later)
- or
- Computer with Windows 2000/XP operating system, an available serial port and terminal software

Configuration requirements

- Computer with Windows 2000/XP operating system, network access and Microsoft Internet Explorer web browser (version 6.0 or later)

or

- Computer with Windows 2000/XP operating system, network access and management software, for example VIDOS



Note

You should also take note of the information in the **System requirements** document on the product CD supplied.

Make sure the graphics card is set to 16 or 32 bit color depth and that Microsoft Virtual Machine is installed on your PC. If necessary, the required software and controls can be installed from the product CD provided (see **Components supplied**, page 9).

Operational requirements

- Computer with Windows 2000/XP operating system, network access and Microsoft Internet Explorer web browser (version 6.0 or later)

or

- Computer with Windows 2000/XP operating system, network access and management software, for example VIDOS



Note

You should also take note of the information in the **System requirements** document on the product CD supplied.

Make sure the graphics card for reception on the computer monitor is set to 16 or 32 bit color depth and that Microsoft Virtual Machine is installed and activated on the PC. If necessary, the required software and controls can be installed from the product CD provided (see **Components supplied**, page 9).

Overview of functions

Network video receiver with Quad View

The VIP XD is an ultra-compact network video receiver for simultaneous reception of up to four video streams. It is primarily designed for decoding video data after transfer over an IP network and for transmission of control data. When connected to a monitor and used in conjunction with compatible MPEG-4 video servers, the VIP XD is ideally suited for making previously analog CCTV systems IP-compatible.

About the size and shape of a cigarette packet, it can be integrated into small housings without difficulty if necessary. 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 VIP X1 / VIP X2 as the transmitter and another VIP XD as the receiver, can form a stand-alone system for data transfer without a PC. Video images from a single transmitter can be simultaneously received on several receivers. A VIP XD receiver can simultaneously receive up to four video streams from one or more compatible transmitters.

The audio version of the VIP X also allows the transmission of audio signals from and to compatible units.

Transmitter

MPEG-4 compatible hardware decoders, for example VIP X 1, VIP X 2 or VideoJet 8008 can be used as transmitters. Computers with the VIDOS software installed are suitable for connecting the desired transmitters to the relevant receiver.

Multicast

In suitably configured networks, the multicast function enables simultaneous, real time transmission to multiple receivers. The prerequisite for this is that the UDP and IGMP V3 protocols are implemented on the network.

Configuration

The VIP XD can be configured using a browser on the local network (Intranet) or from the Internet.

Similarly, firmware updates and rapid loading of device configurations are also possible.

Summary

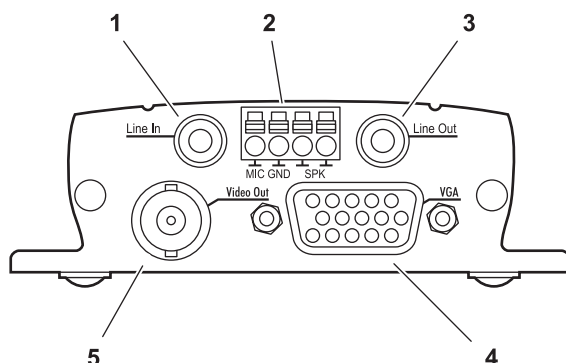
The VIP XD provides the following main functions:

- Video and data reception over IP data networks
- Quad View function with simultaneous decoding of four video streams
- BNC video output FBAS (PAL/NTSC) for connection of analog monitor and Sub-D video interface (VGA/SVGA) for connection of computer monitor
- Video decoding using MPEG-4 with expansions
- Integrated Ethernet interface (10/100 Base-T)
- Transparent bi-directional data channel using a serial interface RS232/RS422/RS485
- Remote control of all built-in functions via TCP/IP
- Password protection to prevent unauthorized connection or configuration changes
- Four relay inputs for external sensors (such as door contacts)
- Relay output for switching external devices (such as luminaires or sirens)
- Event-driven, automatic connection (for example at switch-on and for alarms)
- Automatic transmission of alarm e-mails
- Fast and convenient configuration using integrated web server and browser
- Firmware update using flash memory
- Convenient upload of configuration data

The various audio versions also offer:

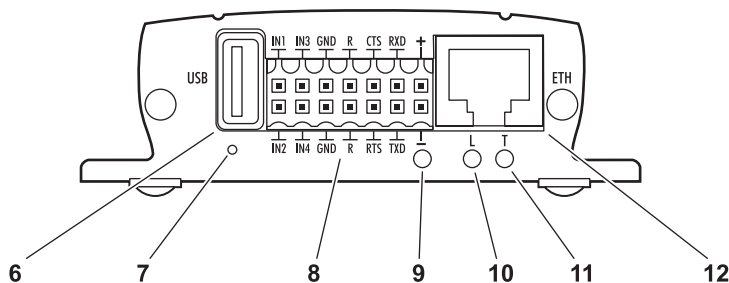
- Transmission and receipt of audio signals
- Two-way audio (mono) for line or microphone/speaker links
- Audio encoding to international standard G.711

Front panel connections



- 1 Audio line input **Line In** (audio version only)
3.5 mm stereo jack sockets for connecting an audio line input signal
- 2 Terminal connector (audio version only)
for microphone and loudspeaker connections
- 3 Audio line output **Line Out** (audio version only)
3.5 mm stereo jack socket for connecting an audio line output signal
- 4 Video output **VGA**
Sub-D jack for connection of computer monitor
- 5 Video output **Video Out**
BNC jack for connection of video monitor

Back panel connections



6 USB interface

for future expansion of recording function

7 Factory reset button

to restore factory default settings

8 Terminal block

for alarm inputs, relay output, serial interface and power supply

9 Operating status LED

lights up green when ready for operation

10 LED L

lit green when the unit is connected to the network

11 LED T

flashes orange when data is being transmitted over the network

12 RJ45 jack **ETH**

for connecting to an Ethernet LAN (local network), 10/100 MBit/s Base-T

Further information on the LEDs can be found on page 85. Information about the pin assignment can be found on page 86.

4

Installation

Thanks to its ultra-compact dimensions, the VIP XD is particularly well suited for installation in housings or consoles where space is at a premium.



Warning!

The unit is intended for use indoors or in protected spaces. Select a suitable location for installation where the unit will not be subjected to conditions of extreme temperature or humidity. The ambient temperature must be between 0 and +50 °C, and the relative humidity may not exceed 80%.

The unit generates heat during operation. Ensure that there is adequate ventilation and also that there is enough clearance between the unit and heat-sensitive objects or equipment.

Please ensure the following conditions for installation:

- Do not install the unit close to heaters or other heat sources. Avoid locations subject to direct sunlight.
- Allow sufficient space for running cables.
- Ensure that the unit has adequate ventilation.
- Use only the cables supplied for connections or appropriate cables resistant to electromagnetic interference.
- Position and run all cables so that they are protected from damage, and provide strain relief where needed.
- Avoid impacts, blows and severe vibrations as these can lead to irreparable damage to the unit.

Connections

Monitors

If required, you can connect an analog video monitor (PAL/NTSC) or a VGA-compatible computer monitor.

- Connect an analog video monitor to the BNC jack **Video Out** with a video cable (75 Ohm, BNC connector)
- or
- Connect a VGA compatible computer monitor to the Sub-D jack **VGA** with a video cable (VGA, 15-pin Sub-D connector).

Audio connections (audio version only)

The audio version of the VIP XD has two audio ports for audio line signals as well as a microphone input and a loudspeaker output.

The audio signals are transmitted both ways and in sync with the video signals. This means that you can operate, say, a loudspeaker or door interphone at the destination site.

Note

If possible you should use the line ports of the interphone for transmitting audio signals on interphone systems. The following specifications should be complied with in all cases.

Line In: Impedance 9 kOhm typ., 5.5 V_{p-p} max. input voltage

Line Out: Impedance 16 Ohm min., 3 V_{p-p} max. output voltage

MIC (microphone): Impedance 2 kOhm typ., 2.8 V_{p-p} max. input voltage, -20 dB in, supply 2.3 V typ.

SPK (loudspeaker): Impedance 4 Ohm min., 6 V_{p-p} max. output voltage, power output 1 W rms

The stereo jack plugs must be connected as follows:

Contact	VIP XD
Tip	Channel 1
Middle ring	Not used
Lower ring	GND

- Connect an audio source with line level to the **Line In** jack socket of the VIP X with a 3.5 mm stereo jack plug.
- Connect a device with line-in connection to the **Line Out** jack socket of the VIP X with a 3.5 mm stereo jack plug.

If you wish to connect a microphone and a loudspeaker directly:

- Connect the microphone cords to the **MIC** and **GND** connections on the push-in terminal.
- Connect the loudspeaker cords to the **SPK** connections on the push-in terminal.

Data interface

The bi-directional data interface is used to transmit control data for a unit connected to the VIP XD, such as a control panel for dome cameras.

The interface supports the RS232, RS422 and RS485 transmission standards. The serial interface is made up of four terminals of the ST500 jack (for pin assignment see page 86).

The manufacturers of the relevant equipment can provide specific information on installation and operation.



Warning!

Refer to the associated documentation when installing and operating the control unit. This contains important safety instructions and information about permitted uses.



Note

A video connection is necessary to transmit transparent data.

Network

You can connect the VIP XD to a 10/100 Base-T network. Use a standard UTP Category 5 cable with RJ45 connectors for this.

- Connect the unit to the network using the **ETH** jack.

Alarm inputs

The VIP XD has four alarm inputs on the orange terminal block (for pin assignment, see page 86). 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, for example, trigger an automatic connection between the VIP XD and a particular transmitter.

A voltage free contact or switch can be used as an actuator.

**Note**

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

- Connect the lines to the appropriate terminals on the orange terminal block (**IN1** to **IN4**) and check that the connection is secure.

Relay output

The VIP XD has a relay output for switching external devices, such as lights or audible alarms. This relay output can be activated manually during a connection session with the VIP XD. Moreover, the output can be configured to activate audible alarms or other devices as a response to an alarm signal. The relay output is also located on the orange terminal block (for pin assignment see page 86).

**Warning!**

The maximum rating of the relay contact is 30 V and 2 A.

- Connect the lines to the appropriate terminals (**R**) on the orange terminal block and check that the connection is secure.

Turning on/off

Mains connection

The VIP XD includes a mains power supply with four primary adapters and terminal block. The VIP XD does not have a power switch. The unit is ready for operation as soon as it is connected to the power supply.

**Warning!**

To operate the VIP XD, use exclusively the power supply unit supplied with the correct primary adapter for your mains socket. Use suitable equipment where necessary to ensure that the mains supply is free of interference such as voltage surges, spikes or voltage drops.

**Warning!**

Only connect the VIP XD to the mains supply once everything else has been connected.

- Connect the cable to the power supply unit and the orange terminal block of the VIP XD.
- Ensure that the correct primary adapter is attached to the power supply unit and an appropriate mains socket is available.
- Plug the power supply unit into a grounded mains socket. The unit is ready for operation as soon as the "operating status" LED stops flashing red during start-up and is lit green.

If the network connection is in order, the green **L** LED is also lit. The flashing orange **T** LED indicates data traffic on the network.

Setup using a terminal program

Data terminal

You can connect a data terminal to the VIP XD for setup and local control. The data terminal consists of a computer with terminal software. You can use the configuration cable supplied for the connection (for assignment on the orange terminal block, see page 86).

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



Note

Information on installing and using HyperTerminal can be found in the user guides or online help for MS Windows.

- Before using the terminal program, disconnect the VIP XD from the data network and disconnect the power supply unit from the mains socket.
- Connect the open lines of the configuration cable to the terminal block that is already connected to the power supply unit. The assignment can be seen from the labels on the configuration cable and the markings on the terminal block.
- Connect the terminal block to the orange socket on the unit.
- Connect the VIP XD configuration cable to a free serial port on your computer.
- Ensure that the correct primary adapter is fitted and connect the power supply unit to an appropriate mains socket.

Configuring the terminal

To establish communication between the terminal program and the VIP XD, the transmission parameters must be correctly defined. The following values should be set in the terminal program:

- 19,200 Bit/s
- 8 data bits
- No parity check
- 1 stop bit
- No protocol

Command entry

After the connection has been established, you must log on to the VIP XD. You can then access the main menu. You can call up additional submenus and functions using the on-screen commands.

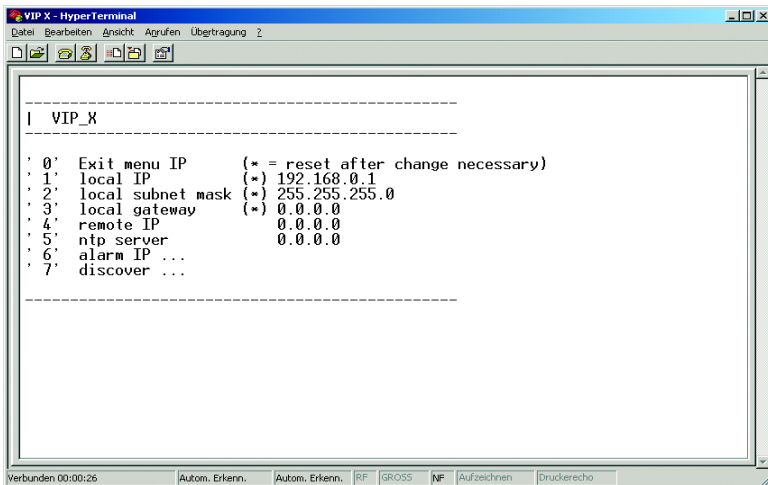
- If necessary, turn off the local echo so that entered values are not repeated on the display.
- Enter only one command at a time.
- After entering a value (such as an IP address), re-check the entry before pressing the ENTER key to transfer the values to the VIP XD.

Assigning an IP address

To operate the VIP XD in your network, a valid IP address for the network must be assigned.

The following default address has been pre-set at the factory: **192.168.0.1**

- Start up a terminal program such as HyperTerminal.
- Enter the user name `service`. The main menu will be displayed.
- Enter the command `1` to open the IP menu.



- Enter `1` again. The current IP address will be displayed, and you will be requested to enter a new IP address.

- Enter the desired IP address and press Enter. The new IP address will be shown.
- Use the commands displayed for any additional settings required.

**Note**

The new IP address and a new subnet mask or gateway address will only be valid after restarting.

Restart

Briefly disconnect the power supply to the VIP XD (disconnect power supply unit and re-connect after a few seconds).

Additional parameters

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

5

Configuration using a Web Browser

Connecting

The integrated HTTP server allows the unit to be configured over the network with a Web browser. This option is significantly more comprehensive and convenient than configuration using a terminal program.



Note

Make sure the graphics card is set to 16 or 32 bit colour depth and that Microsoft Virtual Machine is installed on your PC. If necessary, the required software and controls can be installed from the product CD provided (see **Components supplied**, page 9).

Instructions for using the Web browser can be found in its online help.

System requirements

- Microsoft Internet Explorer (version 6.0 or higher)
- Monitor resolution 1024 × 768 pixels
- Network access (Intranet or Internet)



Note

You should also take note of the information in the **System requirements** document on the product CD supplied.

Install MPEG ActiveX



Note

In order to be able to play back live video images, an appropriate MPEG ActiveX must be installed on the computer. If necessary, the required software and controls can be installed from the product CD provided (see **Components supplied**, page 9).

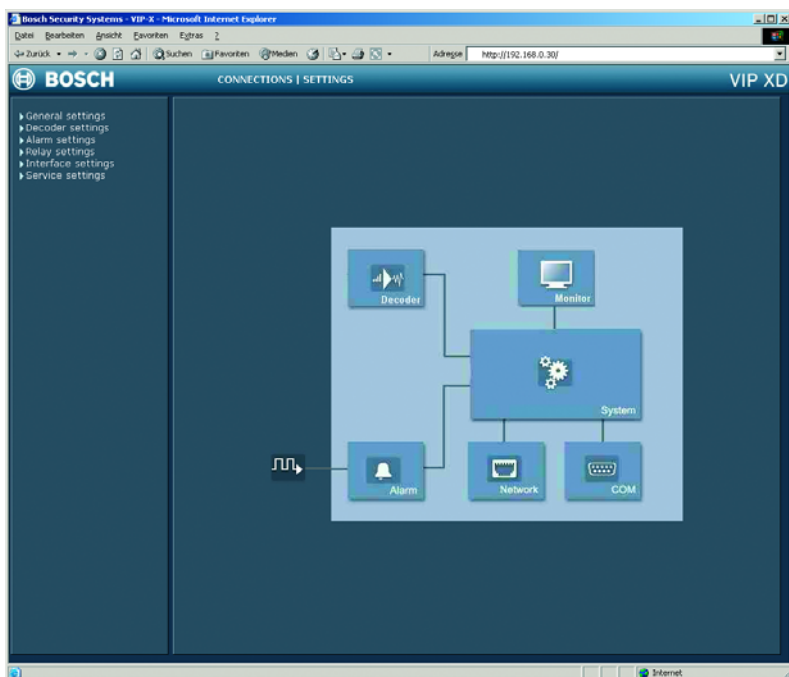
- Insert the CD into the CD-ROM drive of the computer. If the CD does not start automatically, open the root directory of the CD in Windows Explorer and double click **MPEGAx.exe**.
- Follow the on-screen instructions.

Establishing the connection

The VIP XD must be assigned a valid IP address to operate on your network.

The following default address has been pre-set at the factory: **192.168.0.1**

- Start the Web browser.
- Enter the IP address of the VIP XD as the URL. The connection will be established and, after a short time, you will see the **SETTINGS** page containing the unit overview and the configuration menu.



If the connection is not established, the maximum number of possible connections may already have been reached. The maximum number of connections depends on the device and network configuration.

Password protection in VIP XD

If the VIP XD is password-protected against unauthorized access, a corresponding message and a prompt to enter the password will appear when you attempt to access protected areas.

**Note**

A VIP XD offers you the option of limiting access across various authorization levels (see pages 38 and 49).

- Enter the user name and associated password in the corresponding text fields.
- Click **OK**. If the password is correct, the desired page is displayed.

Choosing the configuration mode

There are two options for configuring the VIP XD or checking the current setup:

- the unit overview or
- the configuration menu.

All settings are stored in the VIP XD memory, and they are preserved even if the power is interrupted.

Unit overview

The unit overview shows the most important parameters summarized into six groups.

This allows you to change the default settings with just a few clicks and entries (see **Unit overview**, page 28).

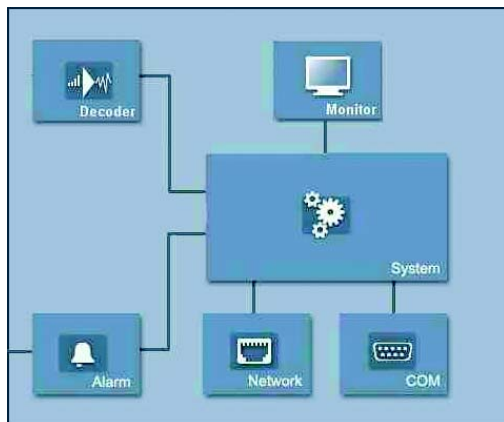
Configuration menu

The configuration menu is recommended for expert users or system administrators. All unit parameters can be accessed in this mode.

Changes that influence the fundamental functioning of the unit (for example firmware updates) can only be made using the configuration menu (see **Configuration menu**, page 47).

Unit overview

The unit overview gives you a graphical overview of the individual areas of the configuration. The individual configuration parameters are grouped and displayed in separate windows. You can access the individual areas directly.



- Click one of the group graphics. A new page is opened.
- Click in the text fields to enter values or use the other controls available, such as buttons, check boxes or list fields.
- Click on the **SETTINGS** link at the top of the window to close the window without saving the changes made.

Making changes

After making changes in a window, click the **Set** button to send the new settings to the unit and save them there.



Warning!

Save the changes made in each window by clicking **Set**. Clicking the **Set** button always saves only the settings in the current window.

A description is given below of the individual windows that can be accessed using the graphical symbols in the overview.

Decoder settings



On this page, you can set the various options for the display of video images on an analog monitor or a VGA monitor. Several presets are available for configuration of the VGA video output signal.

MPEG decoder

MPEG decoder	
Monitor name:	<input type="text" value="Monitor 1"/>
Video output standard:	<input type="text" value="VGA - Preset 5"/>
Window layout:	<input type="radio"/> Single view <input checked="" type="radio"/> Quad view
VGA monitor screen size:	<input type="text" value="undefined"/> x <input type="text" value="undefined"/> Width x Height (mm) <input type="button" value="Set"/>

Monitor name:

The monitor name is used for easy identification of the monitor location when using VIDOS, the software for management of video surveillance systems.

Enter a unique, unambiguous name here.

Video output standard:



Warning!

Be sure to choose the correct video standard to avoid damaging the monitor. Selecting a VGA setting with values outside the technical specification of the monitor can result in severe damage to the monitor. Refer to the technical documentation for the monitor you are using.

You can adapt the video output signal to the monitor you are using. As well as the PAL and NTSC options for analog video monitors, 8 pre-configured settings for VGA monitors are also available.

The pre-configured settings each give priority to different factors (resolution, margin settings, refresh rate). Details of the settings can be seen on the **MPEG decoder** configuration page in the **VGA Settings** field (accessed using the **Monitor** icon in the unit overview).

- Test different pre-configured settings from the list to obtain an optimum monitor image.
- After selecting a setting, click on the **Set** button so that the setting takes effect at the video output.

**Note**

If necessary, the presets for the VGA output signal can be viewed on the **MPEG decoder** page (**Monitor** icon in the unit overview) and adapted to individual requirements (see page 31).

Window layout:

You can specify the default image configuration for the monitor. This can be also be selected at any time during operation on the **CONNECTIONS** page.

VGA monitor screen size:

Enter the aspect ratio of the screen here (for example 4 × 3) or the physical size of the screen in millimeters. This information allows the unit to accurately scale the video image for distortion-free display.

Monitor settings



On this page, you can set the various options for the display of video images on an analog monitor or a VGA monitor. Several presets are available for configuration of the VGA video output signal. These presets can be adapted to individual requirements if necessary.

MPEG decoder

MPEG decoder	
Monitor name:	<input type="text" value="Monitor 1"/>
Video output standard:	<input type="text" value="VGA - Preset 5"/>
Window layout:	<input type="radio"/> Single view <input checked="" type="radio"/> Quad view
VGA monitor screen size:	<input type="text" value="undefined"/> x <input type="text" value="undefined"/> Width x Height (mm) <input type="button" value="Set"/>

Monitor name:

The monitor name is used for easy identification of the monitor location when using VIDOS, the software for management of video surveillance systems.

Enter a unique, unambiguous name here.

Video output standard:



Warning!

Be sure to choose the correct video standard to avoid damaging the monitor. Selecting a VGA setting with values outside the technical specification of the monitor can result in severe damage to the monitor. Refer to the technical documentation for the monitor you are using.

You can adapt the video output signal to the monitor you are using. As well as the PAL and NTSC options for analog video monitors, eight pre-configured settings for VGA monitors are also available.

The pre-configured settings each give priority to different factors (resolution, border settings, image refresh rate).

Details of the settings can be seen in the **VGA Settings** field. There, you can also adapt the options to individual requirements if necessary.

- Test different pre-configured settings from the list to obtain an optimum monitor image.
- After selecting a setting, click on the **Set** button so that the setting takes effect at the video output.

Window layout:

You can specify the default image configuration for the monitor. This can be also be selected at any time during operation on the **CONNECTIONS** page.

VGA monitor screen size:

Enter the aspect ratio of the screen here (for example 4 × 3) or the physical size of the screen in millimeters. This information allows the unit to accurately scale the video image for distortion-free display.

VGA Settings

The pre-configured settings are saved as **Profile 1** to **Profile 8**. You can change the different parameter values within a profile. You can switch between profiles by clicking the associated tabs.

The pre-configured settings (profiles) cover all standard applications. Only change the preset values if none of the profiles leads to satisfactory results.



Warning!

Setting values that lie outside the technical specification of the monitor can result in severe damage to the monitor. Refer to the technical documentation for the monitor you are using.



Note

All parameters combine to make up a profile. The parameters are partially independent of one another.

After each change, click the **Test** button to see the effect of the change on the connected monitor.

Resolution:

You can enter the desired screen resolution in pixels here. On digital flat screens (LCD, TFT and others) the optimum resolution corresponds to the actual number of pixels.



Note

By default, resolutions up to 800 × 600 pixels are supported.

Refresh rate:

Enter the desired refresh rate, based on the technical specification of the monitor you are using. For fluid video playback, the setting 50Hz is used for PAL sources and the 60 Hz setting for NTSC sources.



Note

For tube monitors, higher refresh rates may be useful for ergonomic reasons. However, to prevent damage to monitors that do not support these refresh rates, the exact monitor data must first be set using the terminal program (see page 22).

Border top / bottom / left / right:

You can place a frame around the video image to make it easier to see. You can set the width of all four borders individually. The color of the frame (gray tone) can be specified in the **Details** window (see page 35).

horiz. spacing / vert. spacing:

For four-way division of the screen, in addition to the outer frame you can also define separating lines between the different images. You can set the width of the horizontal and vertical separating lines individually. The color is identical to the frame color.

Screen position

You can move the video image horizontally and vertically within the screen area. In addition, you can adjust the width and height of the video image.

- Click on one of the four arrows in the large monitor graphic to move the video image in the corresponding direction.
- Click on the plus or minus symbols next to the small monitor graphics to change the size of the video image.

**Note**

If the horizontal and vertical scaling of the monitor image is changed, the new values for **Hor. scan rate:** and **Dot clock:** are immediately displayed in the fields above the monitor graphics for information. You cannot enter or change these values directly in the fields.

Details

The **Details** window allows you to adapt the video output signal to specific requirements in more detail. In addition, you can set the frame color for the image border.

Horizontal sync. / Vertical sync.

Here, you can select the way in which the relevant synchronization pulse is to be output.

Bordercolor

Here, you can set the desired gray tone for the outer frame and any separating lines between the video images for four-way division of the screen.

- Click on the arrows or move the slider with the mouse button held down.

Sync. length / Retrace length / Sync. position

Here, you can adjust the settings for the synchronization signals to specific requirements if necessary.

Resetting changes

You can undo all changes to the profiles and reset each profile to its original settings.

- Click on the **Defaults** button to reset the settings for the profile currently displayed to their default values.
- If you want to discard changes to a profile that have not yet been explicitly saved, click on the **Discard** button. You will see the last saved settings for that profile.

Saving changes

When you have tested your settings on the connected monitor by clicking on the **Test** button, you can save the new settings. Saving only applies to the profile that is currently displayed.

- Click on the **Save** button to save the current profile with the values displayed.

System settings



Various basic data for the VIP XD can be set or selected here.

Unit identification

Unit identification	
Unit name:	<input type="text"/>
Unit ID:	<input type="text"/>
<input type="button" value="Set"/>	

Unit name:

The unit can be assigned a name to assist in identifying it. The name simplifies the management of multiple units in large video surveillance systems, for example using the VIDOS software.



Note

The unit name is used for remote identification of a unit, in the event of an alarm for example. Enter a name that makes it as easy as possible to identify the location unambiguously.

Unit ID:

Each VIP XD should be assigned a unique identifier that can be entered here as an additional means of identification.

Password

Password	
User name:	<input type="text" value="user"/>
Password:	<input type="password"/> No 'user' password set!
Confirm password:	<input type="password"/>
<input type="button" value="Set"/>	

A VIP XD is generally protected by a password to prevent unauthorized access to the unit. You can use various authorization levels (**User name:**) to limit access.

**Note**

Proper password protection with a **user** password is only guaranteed if the higher authorization level **service** is also protected by a password. The passwords for the **service** authorization level should therefore always be assigned first.

User name:

The VIP XD operates with two user names: **service** and **user**, which correspond to different authorization levels.

The user name **service** represents the highest authorization level. After entering the corresponding password, you can use it to access all the functions of the VIP XD and change all configuration settings.

The user name **user** represents the middle authorization level. You can use it to connect the unit to a transmitter in the network and to disconnect but not to change the configuration.

Password:

You can define and change a separate password for each user name if you are logged on as **service** or if the unit is not protected by a password.

Enter the password for the selected user name here.

Confirm password:

Re-enter the new password to rule out typing mistakes.

**Note**

The new password is then saved by clicking the **Set** button. You should therefore click the **Set** button immediately after entering and confirming the password, even if you also want to assign a password to another user name.

Language

Language

Website language:

Website language:

Select the language for the user interface here.

Date and Time

Date and Time	
Date format:	Europe ▾
Unit date:	Thursday, 21 . 04 . 2005
Unit time:	10 : 00 : 40 <input type="button" value="Synchr. PC"/> <input type="button" value="Set"/>

Date format:

Choose the desired date format here

(**Europe**: DD.MM.YYYY; **USA**: MM.DD.YYYY; **Japan**: YYYY/MM/DD).

Unit date and time:

If there are a number of devices operating in your system or network, it is important to synchronize their internal clocks. For example, it is only possible to carry out correct identification and evaluation of recordings occurring at the same time if all devices are operating on the same time.

- Enter the current date. Since the unit time is controlled by the internal clock, it is not necessary to enter the day of the week. This is added automatically.
- Enter the current time or click **Synchr. PC** to apply the system time from your computer to the VIP XD.

Version information

Version information	
Hardware version:	F1000340
Firmware version:	15500100

The hardware and firmware version numbers are for information only and cannot be altered. Keep a record of these numbers in case technical assistance is required.

Hardware version:

The hardware version number of the VIP XD is displayed.

Firmware version:

The firmware version number of the VIP XD is displayed.

Alarm settings



Here, you can make the settings for the alarm sources and alarm connections.

Alarm sources

Alarm sources		
Alarm input 1:	<input type="button" value="Off"/> <input type="button" value="Active high"/>	Name: <input type="text" value="Input 1"/>
Alarm input 2:	<input type="button" value="Off"/> <input type="button" value="Active high"/>	Name: <input type="text" value="Input 2"/>
Alarm input 3:	<input type="button" value="Off"/> <input type="button" value="Active high"/>	Name: <input type="text" value="Input 3"/>
Alarm input 4:	<input type="button" value="Off"/> <input type="button" value="Active high"/>	Name: <input type="text" value="Input 4"/>
1. SNMP host address:	<input type="text" value="0.0.0.0"/>	
2. SNMP host address:	<input type="text" value="0.0.0.0"/>	<input type="button" value="Set"/>

You can configure the alarm inputs on the VIP XD here.

Alarm input 1 ... Alarm input 4:

Select the option **On** in order to activate the alarm via the corresponding external alarm sensor. Otherwise, select **Off**.

Select **Active high** if the alarm is to be triggered by closing the contact. Select **Active low** if the alarm is to be triggered by opening the contact.

Name:

For easier identification, you can enter a name for each alarm input.

1. SNMP host address / 2. SNMP host address:

The VIP XD supports the SNMP (Simple Network Management Protocol) for managing and monitoring network components, and can send SNMP messages to IP addresses. It supports SNMP MIB II and its traps in their full functionality in the unified code. If you wish to send SNMP traps, enter the IP addresses of one or two required target devices here.

Alarm connections

Alarm connections	
Connect on alarm:	<input type="text" value="Off"/>
Number of destination IP address:	<input type="text" value="1"/>
Destination IP address:	<input type="text" value="0.0.0.0"/>
Destination password:	<input type="text"/>
Auto-connect:	<input type="text" value="Off"/>
Include audio:	<input type="text" value="Off"/>
<input type="button" value="Set"/>	

You can select the response of the VIP XD in case of an alarm. In case of an alarm, the VIP XD can automatically establish a connection to a predefined IP address (compatible MPEG-4 compatible video server). You can enter up to ten IP addresses which will be selected in order by the unit in case of an alarm until a connection is established.

Connect on alarm:

Select **On** so that the VIP XD automatically establishes a connection to a predefined IP address in the event of an alarm.

With the setting **Follows alarm 1**, the VIP XD automatically establishes a connection to a remote station and maintains it for as long as an alarm signal is present at alarm input 1. This option can also be used to connect two units (transmitter and receiver) via a switch connected to the VIP XD. In this case, no computer is needed to establish the connection.

Number of destination IP address:

Here you assign the numbering for the IP addresses to be contacted in the event of an alarm. The unit contacts the remote locations one after the other in the numbered sequence until a connection has been established.

Destination IP address:

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

Destination password:

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

Auto-connect:

Select the option **On** if an active connection should be re-established automatically to one of the previously specified IP addresses after each restart, after a connection breakdown or network failure.

Include audio: (audio version only)

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

**Note**

Audio signals are only transmitted if the audio function is enabled (see page 56) in the **Audio settings** configuration screen.

Network settings



Here, you can specify network addresses and configure multiple connections.

Network

Network	
Unit IP address:	<input type="text" value="192.168.0.112"/> Reboot after 'Set' necessary!
Subnet mask:	<input type="text" value="255.255.255.0"/> Reboot after 'Set' necessary!
Gateway IP address:	<input type="text" value="0.0.0.0"/> Reboot after 'Set' necessary!
Video transmission:	<input type="text" value="UDP"/>
HTTP browser port:	<input type="text" value="80"/>
Ethernet link type:	<input type="text" value="Auto"/> <input type="button" value="Set"/>

The settings on this page are used to integrate the unit into an existing network.



Warning!

Changes to the IP address, subnet mask or gateway address are transferred to the unit by clicking **Set**. However, they only take effect after the unit is restarted.

- Click **Set** after entering a new IP address.
- To do this, enter the old IP address followed by `/reset` (for instance `192.168.0.112/reset`) in the address bar of your web browser. The VIP XD will be restarted, after which it can only be accessed at the new IP address.

Unit IP address:

Enter the desired IP address for the VIP XD in this field. The IP address must be valid for the network.

Subnet mask:

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

Gateway IP 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, this field can remain empty (0.0.0.0).

Video transmission:

If the unit is used behind a firewall, **TCP (HTTP Port)** should be selected as the transmission protocol. For use in a local network, choose **UDP**.

**Warning!**

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

**Note**

The MTU value in UDP mode is 1514 bytes.

HTTP browser port:

Select a different HTTP browser port from the list if required. The default HTTP port is 80.

Ethernet link type:

If the VIP XD is connected to the network via a switch, both devices must have the same preset network connection type. If necessary, ask your network administrator what value the associated switch is set to.

The **Auto** setting automatically detects the network connection. If necessary, you can specify the value 10 or 100 MBit/s for full or half-duplex mode (**FD** or **HD**).

**Warning!**

Malfunctions can occur (for example image faults) if the capacity of the network is not sufficient for transmission of the maximum data rate generated by the transmitter.

COM1 settings



You can configure the parameters of the serial interface to meet your requirements.

COM1	
Serial port function:	<input type="text" value="Terminal"/>
Baud rate:	<input type="text" value="19200"/> Bit/s
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="RS232"/>
Half-duplex mode:	<input type="text" value="Off"/>
<input type="button" value="Set"/>	

Serial port function:

Select the desired serial port function from the list.

If you want to use the serial port to transmit transparent data, for example when using a control panel, select **Transparent**. To operate the unit with a terminal, choose **Terminal**.

Baud rate:

Select the value for the transmission rate in Bit/s.

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.

Half-duplex mode:

Choose the setting appropriate for your application.

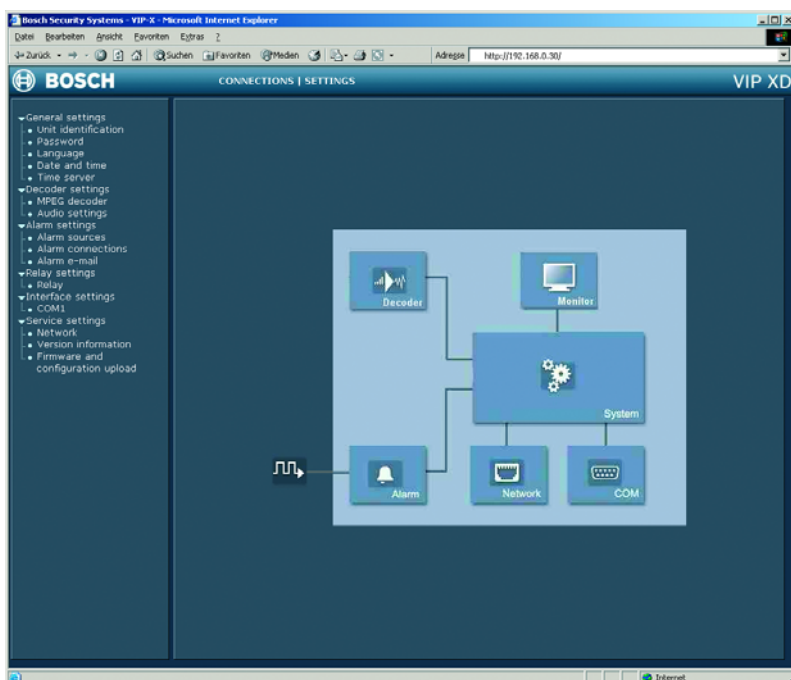
Configuration menu

The configuration menu allows all parameters of the VIP XD to be configured. You can view the current settings by opening one of the configuration pages. The settings can be changed by entering new values or by selecting a predefined value in a list field.

Navigation

You will see the configuration menu in addition to the unit overview after clicking on the **SETTINGS** link.

- Click on one of the menu options on the left of the window. The associated sub-menu is opened.



- Click one of the links in the sub-menu. The corresponding page will be opened.

Making changes

Each configuration page shows the current settings. The settings can be changed by entering new values or by selecting a predefined value in a list field.

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



Warning!

Save each change with the associated **Set** button. Clicking **Set** always saves only the settings in the particular field. Changes in any other fields are ignored.

Unit identification

Unit identification	
Unit name:	<input type="text"/>
Unit ID:	<input type="text"/>
<input type="button" value="Set"/>	

Unit name:

The unit can be assigned a name to assist in identifying it. The name simplifies the management of multiple units in large video surveillance systems, for example using the VIDOS software.



Note

The unit name is used for remote identification of a unit, in the event of an alarm for example. Enter a name that makes it as easy as possible to identify the location unambiguously.

Unit ID:

Each VIP XD should be assigned a unique identifier that can be entered here as an additional means of identification.

Password



A VIP XD is generally protected by a password to prevent unauthorized access to the unit. You can use various authorization levels (**User name:**) to limit access.



Note

Proper password protection with a **user** password is only guaranteed if the higher authorization level **service** is also protected by a password. The passwords for the **service** authorization level should therefore always be assigned first.

User name:

The VIP XD operates with two user names: **service** and **user**, which correspond to different authorization levels.

The user name **service** represents the highest authorization level. After entering the corresponding password, you can use it to access all the functions of the VIP XD and change all configuration settings.

The user name **user** represents the middle authorization level. You can use it to connect the unit to a transmitter in the network and to disconnect but not to change the configuration.

Password:

You can define and change a separate password for each user name if you are logged on as **service** or if the unit is not protected by a password.

Enter the password for the selected user name here.

Confirm password:

Re-enter the new password to rule out typing mistakes.



Note

The new password is then saved by clicking the **Set** button. You should therefore click the **Set** button immediately after entering and confirming

the password, even if you also want to assign a password to another user name.

Language



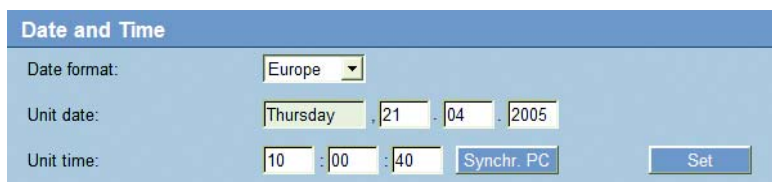
Language

Website language: English Set

Website language:

Select the language for the user interface here.

Date and Time



Date and Time

Date format: Europe

Unit date: Thursday 21 04 2005

Unit time: 10 :00 :40 Synchr. PC Set

Date format:

Choose the desired date format here

(**Europe**: DD.MM.YYYY; **USA**: MM.DD.YYYY; **Japan**: YYYY/MM/DD).

Unit date and time:

If there are a number of devices operating in your system or network, it is important to synchronize their internal clocks. For example, it is only possible to carry out correct identification and evaluation of recordings occurring at the same time if all devices are operating on the same time.

- Enter the current date. Since the unit time is controlled by the internal clock, it is not necessary to enter the day of the week. This is added automatically.
- Enter the current time or click **Synchr. PC** to apply the system time from your computer to the VIP XD.

Time server

Time server	
Time zone:	(UTC +1:00) Western & Central Europe
Time settings:	<input type="checkbox"/> Use daylight saving time
Time server IP address:	0.0.0.0 Set

The VIP XD can receive the time signal from a time server using the time server protocol (RFC 868) and then use it to set the internal clock. The unit calls up the time signal automatically every ten minutes.

Time zone:

Select the time zone in which the system is located.

Time settings:

Select this during daylight savings time if the time change is to be taken into account. Deactivate the check box to switch to winter time.

Time server IP address:

Enter the IP address of a time server that uses the RFC 868 protocol.

MPEG decoder

On this page, you can set the various options for the display of video images on an analog monitor or a VGA monitor. Several presets are available for configuration of the VGA video output signal. These presets can be adapted to individual requirements if necessary.

MPEG decoder	
Monitor name:	Monitor 1
Video output standard:	VGA - Preset 5
Window layout:	<input type="radio"/> Single view <input checked="" type="radio"/> Quad view
VGA monitor screen size:	undefined x undefined Width x Height (mm) Set

Monitor name:

The monitor name is used for easy identification of the monitor location when using VIDOS, the software for management of video surveillance systems.

Enter a unique, unambiguous name here.

Video output standard:



Warning!

Be sure to choose the correct video standard to avoid damaging the monitor. Selecting a VGA setting with values outside the technical specification of the monitor can result in severe damage to the monitor. Refer to the technical documentation for the monitor you are using.

You can adapt the video output signal to the monitor you are using. As well as the PAL and NTSC options for analog video monitors, eight pre-configured settings for VGA monitors are also available.

The pre-configured settings each give priority to different factors (resolution, margin settings, image refresh rate).

Details of the settings can be seen in the **Video output standard** field. There, you can also adapt the options to individual requirements if necessary.

- Test different pre-configured settings from the list to obtain an optimum monitor image.
- After selecting a setting, click on the **Set** button so that the setting takes effect at the video output.

Window layout:

You can specify the default image configuration for the monitor. This can be also be selected at any time during operation on the **CONNECTIONS** page.

VGA monitor screen size:

Enter the aspect ratio of the screen here (for example 4 × 3) or the physical size of the screen in millimeters. This information allows the unit to accurately scale the video image for distortion-free display.

VGA Settings

The pre-configured settings are saved as **Profile 1** to **Profile 8**. You can change the different parameter values within a profile. You can switch between profiles by clicking the associated tabs.

The pre-configured settings (profiles) cover all standard applications. Only change the preset values if none of the profiles leads to satisfactory results.



Warning!

Setting values that lie outside the technical specification of the monitor can result in severe damage to the monitor. Refer to the technical documentation for the monitor you are using.



Note

All parameters combine to make up a profile. The parameters are partially independent of one another.

After each change, click the **Test** button to see the effect of the change on the connected monitor.

Resolution:

You can enter the desired screen resolution in pixels here. On digital flat screens (LCD, TFT and others) the optimum resolution corresponds to the actual number of pixels.



Note

By default, resolutions up to 800 × 600 pixels are supported.

Refresh rate:

Enter the desired refresh rate, based on the technical specification of the monitor you are using. For fluid video playback, the setting 50Hz is used for PAL sources and the 60 Hz setting for NTSC sources.



Note

For tube monitors, higher refresh rates may be useful for ergonomic reasons. However, to prevent damage to monitors that do not support these refresh rates, the exact monitor data must first be set using the terminal program (see page 22).

Border top / bottom / left / right:

You can place a frame around the video image to make it easier to see. You can set the width of all four borders individually. The color of the frame (gray tone) can be specified in the **Details** window (see page 55).

horiz. spacing / vert. spacing:

For four-way division of the screen, in addition to the outer frame you can also define separating lines between the different images. You can set the width of the horizontal and vertical separating lines individually. The color is identical to the frame color.

Screen position

You can move the video image horizontally and vertically within the screen area. In addition, you can adjust the width and height of the video image.

- Click on one of the four arrows in the large monitor graphic to move the video image in the corresponding direction.
- Click on the plus or minus symbols next to the small monitor graphics to change the size of the video image.

**Note**

If the horizontal and vertical scaling of the monitor image is changed, the new values for **Hor. scan rate:** and **Dot clock:** are immediately displayed in the fields above the monitor graphics for information. You cannot enter or change these values directly in the fields.

Details

The **Details** window allows you to adapt the video output signal to specific requirements in more detail. In addition, you can set the frame color for the image border.

Horizontal sync. / Vertical sync.

Here, you can select the way in which the relevant synchronization pulse is to be output.

Bordercolor

Here, you can set the desired gray tone for the outer frame and any separating lines between the video images for four-way division of the screen.

- Click on the arrows or move the slider with the mouse button held down.

Sync. length / Retrace length / Sync. position

Here, you can adjust the settings for the synchronization signals to specific requirements if necessary.

Reset changes

You can undo all changes and reset each profile to its original settings.

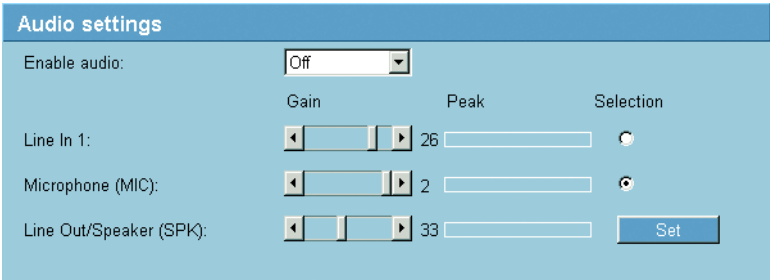
- Click on the **Defaults** button to reset the settings for the profile currently visible to their default values.
- If you want to discard changes to a profile that have not yet been explicitly saved, click on the **Discard** button. You will see the last saved settings for that profile.

Saving changes

When you have tested your settings on the connected monitor by clicking on the **Test** button, you can save the new settings. Saving only applies to the profile that is currently displayed.

- Click on the **Save** button to save the current profile with the values displayed.

Audio settings (audio version only)



	Gain	Peak	Selection
Line In 1:	<input type="range"/>	26	<input checked="" type="radio"/>
Microphone (MIC):	<input type="range"/>	2	<input type="radio"/>
Line Out/Speaker (SPK):	<input type="range"/>	33	<input type="button" value="Set"/>

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

You can also select the audio input that will be used.

Enable 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 G.711 and require an additional bandwidth of approx. 80 kBit/s per direction for each connection.

Select **On** if you wish to enable the audio function.

Line In 1:

You can set the gain of the audio signal. The current level is displayed next to the slide control to help you do this. Make sure that the display does not go beyond the green zone during modulation.

Microphone (MIC):

You can set the gain of the microphone input. The current level is displayed next to the slide control to help you do this. Make sure that the display does not go beyond the green zone during modulation.

Line Out/Speaker (SPK):

You can set the gain of the line and loudspeaker output. The current level is displayed next to the slide control to help you do this. Make sure that the display does not go beyond the green zone during modulation.

Selection

Click on one of the option boxes to enable the required audio input.

Alarm sources

Alarm sources

Alarm input 1:	<input type="button" value="Off"/>	<input type="button" value="Active high"/>	Name: <input type="text" value="Input 1"/>
Alarm input 2:	<input type="button" value="Off"/>	<input type="button" value="Active high"/>	Name: <input type="text" value="Input 2"/>
Alarm input 3:	<input type="button" value="Off"/>	<input type="button" value="Active high"/>	Name: <input type="text" value="Input 3"/>
Alarm input 4:	<input type="button" value="Off"/>	<input type="button" value="Active high"/>	Name: <input type="text" value="Input 4"/>
1. SNMP host address:	<input type="text" value="0.0.0.0"/>		
2. SNMP host address:	<input type="text" value="0.0.0.0"/>		

You can configure the alarm inputs on the VIP XD here.

Alarm input 1 ... Alarm input 4:

Select the option **On** in order to activate the alarm via the corresponding external alarm sensor. Otherwise, select **Off**.

Select **Active high** if the alarm is to be triggered by closing the contact. Select **Active low** if the alarm is to be triggered by opening the contact.

Name:

For easier identification, you can enter a name for each alarm input.

1. SNMP host address / 2. SNMP host address:

The VIP X supports the SNMP (Simple Network Management Protocol) for managing and monitoring network components, and can send SNMP messages to IP addresses. It supports SNMP MIB II and its traps in their full functionality in the unified code. If you wish to send SNMP traps, enter the IP addresses of one or two required target devices here.

Alarm connections

Alarm connections	
Connect on alarm:	<input type="text" value="Off"/>
Number of destination IP address:	<input type="text" value="1"/>
Destination IP address:	<input type="text" value="0.0.0.0"/>
Destination password:	<input type="text"/>
Auto-connect:	<input type="text" value="Off"/>
Include audio:	<input type="text" value="Off"/>
<input type="button" value="Set"/>	

You can select the response of the VIP XD in case of an alarm. In case of an alarm, the VIP XD can automatically establish a connection to a predefined IP address (compatible MPEG-4 compatible video server). You can enter up to ten IP addresses which will be selected in order by the unit in case of an alarm until a connection is established.

Connect on alarm:

Select **On** so that the VIP XD automatically establishes a connection to a predefined IP address in the event of an alarm.

With the setting **Follows alarm 1**, the VIP XD automatically establishes a connection to a remote station and maintains it for as long as an alarm signal is present at alarm input 1. This option can also be used to connect two units (transmitter and receiver) via a switch connected to the VIP XD. In this case, no computer is needed to establish the connection.

Number of destination IP address:

Here you assign the numbering for the IP addresses to be contacted in the event of an alarm. The unit contacts the remote locations one after the other in the numbered sequence until a connection has been established.

Destination IP address:

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

Destination password:

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

Auto-connect:

Select the option **On** if an active connection should be re-established automatically to one of the previously specified IP addresses after each restart, after a connection breakdown or network failure.

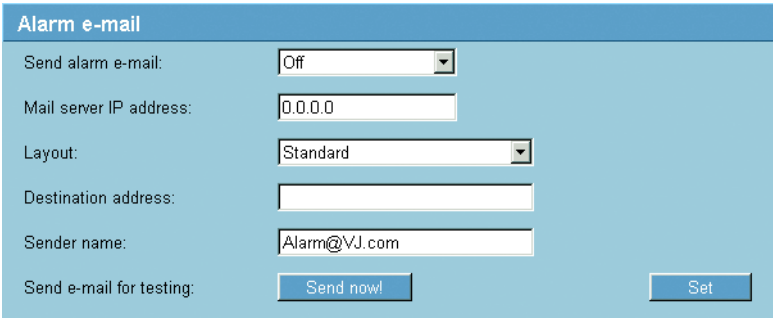
Include audio: (audio version only)

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

**Note**

Audio signals are only transmitted if the audio function is enabled (see page 56) in the **Audio settings** configuration screen.

Alarm e-mail

The screenshot shows a web interface for configuring alarm e-mails. It has a blue header with the title "Alarm e-mail". Below the header, there are several configuration fields: "Send alarm e-mail:" with a dropdown menu set to "Off"; "Mail server IP address:" with a text input field containing "0.0.0.0"; "Layout:" with a dropdown menu set to "Standard"; "Destination address:" with an empty text input field; "Sender name:" with a text input field containing "Alarm@VJ.com"; and "Send e-mail for testing:" with a "Send now!" button. A "Set" button is located at the bottom right of the form area.

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 VIP XD automatically sends an e-mail to a previously defined e-mail address.

Send alarm e-mail:

Select **On** if you want the VIP XD 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 will be sent to the mail server via the address you entered. Otherwise the box can be left blank (0.0.0.0).

Layout:

You can specify the data format in which the alarm message will be sent.

- **Standard:** e-mail.
- **SMS:** e-mail in SMS format to an e-mail-to-SMS gateway (for example to give an alarm by cellphone).



Warning!

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.

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 device. This will make it easier to identify the origin of the e-mail.

Send e-mail for testing:

Test the e-mail function by clicking **Send now!** An alarm e-mail will be immediately created and sent.

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"/> <input type="button" value="Set"/>

You can configure the switching behavior of the relay output. Open switch relay (normally closed contact) or a closed switch relay (normally open contact) can be specified.

It is also possible to specify whether the output should in a bistable or monostable manner. In bistable operation, the activated state of the relay is maintained. In monostable operation, the time can be selected after which the relay reverts to its idle state.

You can choose various events that activate the output automatically. Thus, for example, it is possible to switch on a spotlight in response to a motion alarm and switch it off again when the alarm is over.

Idle state:

Select **Open** if the relay is to operate as a normally open contact or **Closed** if it is to operate as a normally closed contact.

Operating mode:

Select an operating mode for the relay.

If, for example, a lamp switched on by an alarm is to remain lit when the alarm has ended, select **Bistable**. If an acoustic signal activated by an alarm is to sound for a period of ten seconds for example, select **10 sec**.

Relay follows:

Select a particular event to trigger the relay. The following events can activate the relay:

■ Off

No relay triggering by events

■ Connection

Triggering if any connection is established

■ Local input 1

Triggering by external alarm input 1

■ Remote input 1

Triggering by a relay contact at a remote location (only when a connection is established)

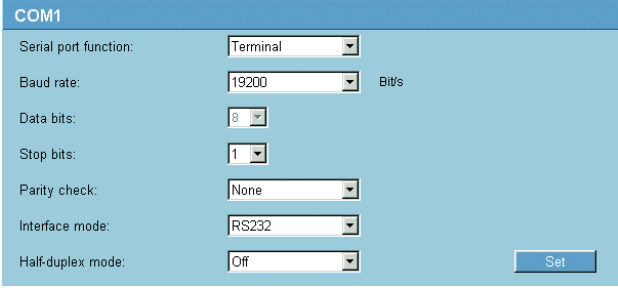
Relay name:

The relay can be assigned a name here. The name will be shown on the button next to **Trigger relay**.

Trigger relay:

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

COM1



The screenshot shows a configuration window titled "COM1" with a light blue background. It contains several settings, each with a label and a dropdown menu:

- Serial port function: Terminal
- Baud rate: 19200 Bit/s
- Data bits: 8
- Stop bits: 1
- Parity check: None
- Interface mode: RS232
- Half-duplex mode: Off

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

You can configure the parameters of the serial interface to meet your requirements.

Serial port function:

Select the desired serial port function from the list.

If you want to use the serial port to transmit transparent data, for example when using a control panel, select **Transparent**. To operate the unit with a terminal, choose **Terminal**.

Baud rate:

Select the value for the transmission rate in Bit/s.

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.

Half-duplex mode:

Choose the setting appropriate for your application.

Network

Network		
Unit IP address:	<input type="text" value="192.168.0.112"/>	Reboot after 'Set' necessary!
Subnet mask:	<input type="text" value="255.255.255.0"/>	Reboot after 'Set' necessary!
Gateway IP address:	<input type="text" value="0.0.0.0"/>	Reboot after 'Set' necessary!
Video transmission:	<input type="text" value="UDP"/>	
HTTP browser port:	<input type="text" value="80"/>	
Ethernet link type:	<input type="text" value="Auto"/>	
		<input type="button" value="Set"/>

The settings on this page are used to integrate the unit into an existing network.



Warning!

Changes to the IP address, subnet mask or gateway address are transferred to the unit by clicking **Set**. However, they only take effect after the unit is restarted.

- Click **Set** after entering a new IP address.
- To do this, enter the old IP address followed by `/reset` (for instance `192.168.0.112/reset`) in the address bar of your web browser. The VIP XD will be restarted, after which it can only be accessed at the new IP address.

Unit IP address:

Enter the desired IP address for the VIP XD in this field. The IP address must be valid for the network.

Subnet mask:

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

Gateway IP 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, this field can remain empty (0.0.0.0).

Video transmission:

If the unit is used behind a firewall, **TCP (HTTP Port)** should be selected as the transmission protocol. For use in a local network, choose **UDP**.



Warning!

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



Note

The MTU value in UDP mode is 1514 bytes.

HTTP browser port:

Select a different HTTP browser port from the list if required. The default HTTP port is 80.

Ethernet link type:

If the VIP XD is connected to the network via a switch, both devices must have the same preset network connection type. If necessary, ask your network administrator what value the associated switch is set to.

The **Auto** setting automatically detects the network connection. If necessary, you can specify the value 10 or 100 MBit/s for full or half-duplex mode (**FD** or **HD**).



Warning!

Malfunctions can occur (for example image faults) if the capacity of the network is not sufficient for transmission of the maximum data rate generated by the transmitter.

Version information

Version information	
Hardware version:	F1000340
Firmware version:	15500100

The hardware and firmware version numbers are for information only and cannot be altered. Keep a record of these numbers in case technical assistance is required.

Hardware version:

The hardware version number of the VIP XD is displayed.

Firmware version:

The firmware version number of the VIP XD is displayed.

Firmware and configuration upload

Firmware and configuration upload		
Firmware update:	<input type="text"/>	<input type="button" value="Durchsuchen..."/> <input type="button" value="Upload"/>
Upload progress:	<div><div>0%</div></div>	
Configuration download:		<input type="button" value="Download"/>
Configuration upload:	<input type="text"/>	<input type="button" value="Durchsuchen..."/> <input type="button" value="Upload"/>

Firmware update:

The VIP XD is designed in such a way that its functions and parameters can be updated with firmware. To accomplish this, the current firmware package is transferred to the unit via the selected network. It is automatically installed there.

Thus a VIP XD can be serviced and updated remotely without requiring a technician to make changes to the installation on site.

The current firmware can be obtained from your customer service center or from the Bosch Security Systems download area.



Warning!

Before starting the firmware update, make sure that you have selected the correct upload file! Uploading the wrong files can result in the unit no longer being addressable, requiring it to be replaced.

Do not interrupt the firmware installation for any reason! Interruption will result in incorrect programming of the Flash EPROM. This can result in the unit no longer being addressable, requiring it to be replaced.

- First, save the update file to the hard disk.
- Enter the full path for the update file in the field or click **Browse...** to locate and select the file.
- Click **Upload** to begin transmission 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 by the message **going to reset Reconnecting in ... seconds**. After the upload is completed successfully, the unit will restart automatically.

If the operating status LED lights up red, the upload has failed and must be repeated. To perform the upload, you must switch to a special page:

- In the address bar of your browser, after the unit IP address enter `/main.htm` (for example `192.168.0.112/main.htm`).
- Repeat the upload.

Configuration download:

You can save configuration data for the VIP XD to a computer and load saved configuration data from a computer to the unit.

- Click **Download**. A dialog will appear.
- Follow the instructions to save the current settings.

Configuration upload:

- Enter the full path of the file to upload or click **Browse...** to select the desired file.
- Make certain that the file to be loaded comes from the same device type as the unit you want to reconfigure.
- Click **Upload** to begin transmission 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 by the message **going to reset Reconnecting in ... seconds**. After the upload is completed successfully, the unit will restart automatically.

Function test

The VIP XD offers a variety of configuration options. Therefore you should check that it works properly after installation and configuration.

This is the only way to ensure that the VIP XD will function as intended in the event of an alarm.

Your check should include the following functions:

- Can the VIP XD be called remotely?
- Does the VIP XD transmit all the data required?
- Does the VIP XD respond to alarm events as required?
- Is it possible to control peripheral devices if necessary?

6

Operation using a Web Browser

Establishing the connection

It is possible to establish a connection to a compatible MPEG-4 video server and play back the live images received on the monitor connected to the VIP XD using a computer with Microsoft Internet Explorer (version 6.0 or later) installed.



Note

Make sure the graphics card is set to 16 or 32 bit colour depth and that Microsoft Virtual Machine is installed on your PC. If necessary, the required software and controls can be installed from the product CD provided (see **Components supplied**, page 9).

Instructions for using the Web browser can be found in its online help.

System requirements

- Microsoft Internet Explorer (version 6.0 or higher)
- Monitor resolution 1024 × 768 pixels
- Network access (Intranet or Internet)



Note

You should also take note of the information in the **System requirements** document on the product CD supplied.

Install MPEG ActiveX



Note

In order to be able to play back live video images, an appropriate MPEG ActiveX must be installed on the computer. If necessary, the required software and controls can be installed from the product CD provided (see **Components supplied**, page 9).

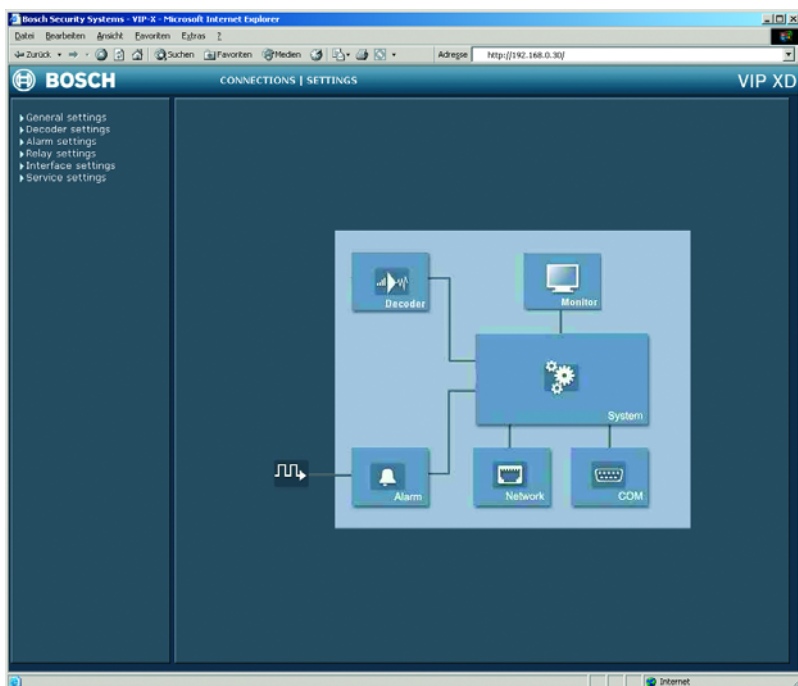
- Insert the CD into the CD-ROM drive of the computer. If the CD does not start automatically, open the root directory of the CD in Windows Explorer and double click **MPEGAx.exe**.
- Follow the on-screen instructions.

Establishing the connection

The VIP XD must be assigned a valid IP address to operate on your network.

The following default address has been pre-set at the factory: **192.168.0.1**

- Start the Web browser.
- Enter the IP address of the VIP XD as the URL. The connection will be established and, after a short time, you will see the **SETTINGS** page containing the unit overview and the configuration menu.



Password protection in VIP XD

If the VIP XD is password-protected against unauthorized access, a corresponding message and a prompt to enter the password will appear when you attempt to access protected areas.



Note

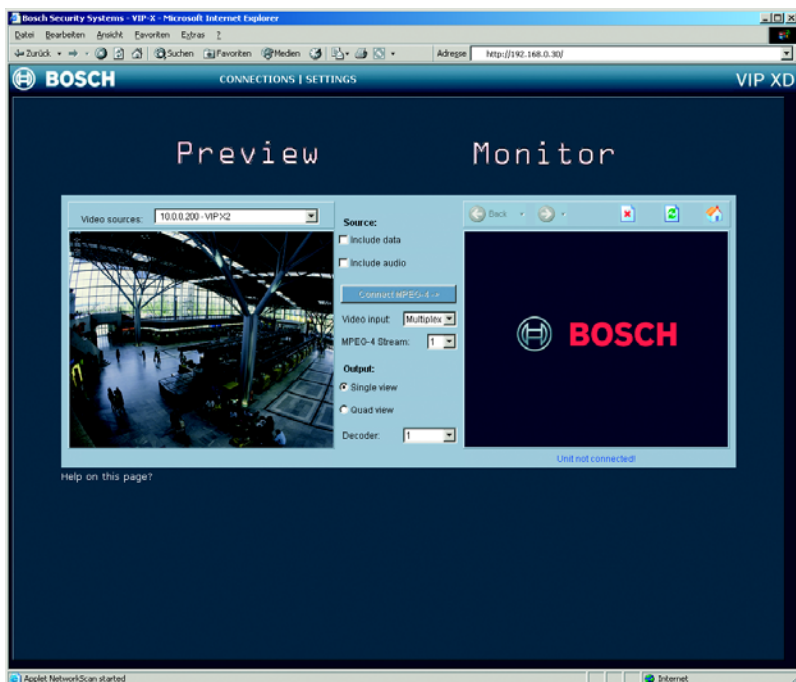
A VIP XD offers you the option of limiting access across various authorization levels (see pages 38 and 49).

- Enter the user name and the associated password in the appropriate fields.
- Click **OK**. If the password is correct, the desired page is displayed.

The CONNECTIONS page

After the connection is established, the **SETTINGS** page is displayed first.

- Click on the **CONNECTIONS** link at the top of the window. The page is opened and the VIP XD automatically browses the network for available transmitters.



Preview

In this area, you can select one of the video sources found in the network. A snapshot of the video image from the selected video source is displayed. In addition to the unit name, the snapshot provides a further means of identifying the transmitter.

Monitor

As soon as a connection is established, you will see the video image from the connected transmitter. The image is refreshed around once per second.

Connections between the transmitter and receiver

When the **CONNECTIONS** page is called up, the VIP XD automatically scans the network for available transmitters. As soon as a transmitter is found in the network, the VIP XD displays a JPEG snapshot from that transmitter. All transmitters found are listed in the **Video sources** list field.

Note

The transmitter and receiver must be located in the same subnet to establish a hardware connection (see pages 43 and 65).

Establishing the connection

Note

If the connection is not established, the maximum number of possible connections may already have been reached. The maximum number of connections depends on the device and network configuration.

- Choose the desired transmitter from the **Video sources** list field. A JPEG snapshot from the selected video source will appear in the **Preview** area.
- Enable the **Include data** checkbox if you also want to transmit transparent data. Ensure that the transmitter and receiver are correctly configured for data transmission.
- Enable the **Include audio** checkbox if you also want to transmit audio data. Ensure that the transmitter and receiver are correctly configured for audio transmission.

Note

The checkbox must be enabled before the connection is made for data and audio transmission to be activated. A green loudspeaker icon appears in the bottom right corner of the video image the first time an audio connection is made; this tells you which sender is holding the active audio link.

- Click in the appropriate checkbox again to deactivate the data or audio connection.
- Click the **Connect MPEG-4** button to begin displaying the video images on the connected monitor. In the **Monitor** area you will see the video image from the connected transmitter. The image is refreshed around once per second.
- If the transmitter is a multi-channel unit, for example a VideoJet 8008, you can set the **Video input** for playback.

- If the transmitter works with Dual Streaming, e.g. a VIP X1, you can select the **MPEG-4 Stream** for the playback.
- Change from **Single view** to **Quad view** by activating the respective radio button.
- If you want to set up more than one connection simultaneously choose a different decoder stream for each connection in **Decoder**.

Terminating the connection

- Click on the **X** icon above the **Monitor** window to end the display of the video images on the connected monitor.

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Operation with a terminal program

As well as using Microsoft Internet Explorer, you can also control the establishment of a connection from the VIP XD using a terminal program, for example the HyperTerminal program that is part of Windows.

Connecting with a terminal program

Various requirements must be met in order to operate using a terminal program (see page 22).

- Start the terminal program and enter the command **1** in the main menu to switch to the **IP** menu.
- Enter the command **4** in the **IP** menu to change the remote IP address, then enter the IP address of the device to connect to.
- Use the command **0** to return to the main menu.
- Enter the command **4** to switch to the **Rcp+** menu.
- Enter the command **5** in the **Rcp+** menu to activate the automatic connection.

Closing the connection with a terminal program

- Start the terminal program (see page 22); enter the command **4** in the main menu to switch to the **Rcp+** menu.
- Enter the command **5** in the **Rcp+** menu to deactivate the automatic connection.

Additional parameters

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

8

Operation with management software

Managing and operating transmitters and receivers

For operation of larger systems with multiple transmitters and receivers, the use of management software such as VIDOS is recommended.

VIDOS is a software package for operating, controlling and administering CCTV installations (such as surveillance systems) at remote locations. It runs under Microsoft Windows operating systems. Its main jobs are decoding video, audio and control data received from a remote transmitter for convenient control of hardware connections.

There are many options available for operation and configuration when using a VIP XD with VIDOS. Refer to the software documentation for more details.

9

Maintenance and upgrades

Testing the network connection

The `ping` command can be used to check the connection between two IP addresses. This allows you to test whether a device is active in the network.

- Open the DOS command prompt.
- Type `ping` followed by the IP address of the device.

If the device is found, the response appears as "Reply from ...", followed by the number of bytes sent and the transmission time in milliseconds. Otherwise, the device cannot be accessed via the network. This might be because

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

Device reset

The Factory reset button can be used to reset all settings on the VIP XD to their original settings. Any changes in the settings will be overwritten by the factory defaults. This may be necessary, for example, if the unit has invalid settings that prevent it from functioning as desired.



Warning!

All configured settings will be discarded during a reset. If necessary, back up the current configuration using the **Download** button on the **Firmware and configuration upload** configuration page (see page 68).



Note

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 chapter "Installation" (see page 23).

- If necessary, back up the current configuration using the **Download** button on the **Firmware and configuration upload** configuration page (see page 68).
- Using a pointed object, press the Factory reset button located below the USB interface until the operating status LED flashes red (see page 15). All settings will revert to their defaults.
- Change the IP address of the unit if necessary.
- Configure the unit to meet your requirements.

Repairs



Warning!

Never open the casing of the VIP XD. The unit does not contain any user serviceable parts.

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

Transfer and disposal

The VIP XD should only be passed on together with this installation and user guide.

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 centre.

10

Appendix

Troubleshooting

If you cannot resolve a fault, please contact your supplier or system integrator or go direct to Bosch Security Systems Customer Service.

The version numbers of the internal processors can be viewed on a special page. Please note this information before contacting Customer Service.

- In the address bar of your browser, after the unit IP address enter `/version.htm` (for example `192.168.0.112/version.htm`).
- Write down the information or print out the page.

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

Malfunction	Possible causes	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 interfaces.
	Interface parameters do not match.	Select a different interface if necessary and make sure that the computer's interface parameters match those of the unit. If necessary try the following standard parameters: 19,200 baud, 8 data bits, no parity, 1 stop bit. Then disconnect the unit from the mains and reconnect it again after a few seconds.
No image on the monitor.	Monitor error.	Connect local camera or other video source to the monitor and check the monitor function.
No image transmission.	Defective camera.	Connect a local monitor to the camera and check the camera function.
	Faulty cable connections.	Check all cables, plugs, contacts and connections.

Malfunction	Possible causes	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 call the transmitter again.
No audio transmission from the target location.	Hardware failure.	Check that all audio devices connected function correctly.
	Faulty cable connections.	Check all cables, plugs, contacts and connections.
	Faulty configuration.	Check the audio settings (volume and coding mode).
	Audio/voice communication is busy with another receiver.	Wait until a connection is available and contact the sender again.
The unit does not report an alarm.	Alarm source is not selected.	Select possible alarm sources on the Alarm sources configuration page.
	No alarm response specified.	Specify the desired alarm response on the Alarm connections configuration page, if necessary change the IP address.
Control of cameras or other devices is not possible.	The cable connection between the serial interface and the connected device is incorrect.	Check all cable connections and ensure all plugs are properly plugged in.
	The interface parameters conflict with those of the other device connected.	Make sure the settings of all devices involved are compatible.
The unit is not operational after firmware upload.	Power failure during programming by the update file.	Have the unit checked by Customer Service and replace if necessary.
	Incorrect update file.	Enter the IP address followed by /main.htm in your web browser and repeat the upload.

LEDs

The VIP XD network video server has several LEDs on the rear panel that show the operating status and can give indications of possible malfunctions:

Operating status LED

Not lit:	Unit is switched off.
Lit green:	Unit switched on.
Flashing green:	The unit is being accessed.
Lit red (briefly):	Device is starting up.
Lit red (continuously):	Defect on unit; Upload failed.

LED L

Lit green:	Connected to the network.
------------	---------------------------

LED T

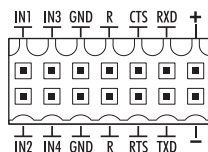
Flashing orange:	Data transfer via the network.
------------------	--------------------------------

Terminal block

The terminal block is used to connect external signal sources or alarm switches, as a relay output, a serial interface or as a power supply.

Options for using the serial interface include transparent data transmission and operation of the unit with a terminal program. Depending on the setting, the serial interface uses the RS232 or RS244/285 standards. The standard used depends on the current configuration (see pages 45 and 64).

Pin assignment



The pin assignment for the serial interface depends on the standard used.

Pin	RS232 standard	RS422/485 standard
IN1	Alarm input 1	Alarm input 1
IN2	Alarm input 2	Alarm input 2
IN3	Alarm input 3	Alarm input 3
IN4	Alarm input 4	Alarm input 4
GND	GND (ground)	GND (ground)
GND	GND (ground)	GND (ground)
R (top)	Relay	Relay
R (bottom)	Relay	Relay
CTS	CTS (clear to send)	RxD- (receive data minus)
RTS	RTS (ready to send)	TxD- (transmit data minus)
RXD	RxD (receive data)	RxD+ (receive data plus)
TXD	TxD (transmit data)	TxD+ (transmit data plus)
+	12 V (power supply)	12 V (power supply)
-	GND (ground)	GND (ground)

To operate the alarm inputs connect each alarm input to a ground contact (GND) via a trigger contact.

Glossary

Brief explanations of some of the terms and abbreviations found in this user guide are given below.

10/100 Base-T	IEEE 802.3 specification for 10 or 100 Mbit/s Ethernet
ARP	Address Resolution Protocol: a protocol for mapping MAC and IP addresses
Baud	Unit of measure for the speed of data transmission
Bit/s	Bits per second, the actual data rate
CIF	Common Intermediate Format, video format with 352 × 288/240 pixels
DNS	Domain Name Service
FTP	File Transfer Protocol
Full duplex	Simultaneous data transmission in both directions (sending and receiving)
GoP	Group of pictures
HTTP	Hypertext Transfer Protocol
ICMP	Internet Control Message Protocol
ID	Identification: a machine-readable character sequence
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 device on the Internet. It is usually written in dotted decimal notation with full stops separating the bytes, for example "209.130.2.193".
ISDN	Integrated Services Digital Network
JPEG	An encoding process for still images (Joint Photographic Experts Group)
kBit/s	Kilobits per second, the actual data rate
LAN	See Local area network
Local area network	A communications network serving users within a limited geographical area, such as a building or a university campus. It is controlled by a network operating system and uses a transfer protocol.
MAC	Media Access Control

MIB	Management Information Base; compilation of information on remote maintenance via SNMP protocol
MPEG-4	Further development of MPEG-2, designed for transmission of audiovisual data at very low transfer rates (for example via the Internet).
Multicasting	Multiple use of a transmitter data stream by multiplication of the data stream in the network nodes (switches), and only where the data is required to save bandwidth in the network. These connections are managed using IGMP.
Net mask	A mask that explains which part of an IP address is the network address and which part comprises the host address. It is usually written in dotted decimal notation with full stops separating the bytes, for example "255.255.255.192".
Parameters	Values used for configuration
QCIF	Quarter CIF, a video format with 176 × 144/120 pixels
RFC 868	A protocol for synchronizing computer clocks over the Internet
RS232/RS422/RS485	Standards for serial data transmission
RTP	Realtime Transport Protocol; A transmission protocol for real-time video and audio
SNMP	Simple Network Management Protocol; protocol for network management, administration and monitoring of network components
Subnet mask	See Net mask
TCP	Transfer Control Protocol
Telnet	Login protocol with which users can log on to a remote computer (host) on the Internet
TTL	Time-To-Live; life cycle of a data packet in station transfers
UDP	User Datagram Protocol
URL	Uniform Resource Locator
UTP	Unshielded Twisted Pair
WAN	See wide area network
Wide area network	A long distance link used to extend or connect remotely located local area networks

Specifications

Unit

Operating voltage	12 ... 24 V DC, power supply unit with various primary adapters included
Power consumption	approx. 7 VA
LAN interface	1 × Ethernet 10/100 Base-T, automatic adaptation, half/full duplex, RJ45
Data interfaces	1 × RS232/RS422/RS485, bi-directional, ST500 1 × USB 2.0 (for future expansions)
Alarm inputs	4 × push-in terminals (non-isolated closing contact), max. trip resistance 10 Ohm
Relay output	1 × push-in terminal, 30 V _{p-p} , 2 A
Video output	1 × BNC, 1.0 V _{p-p} ±5%, 75 Ohm, PAL/NTSC 1 × Sub-D 15-pin, VGA/SVGA, 0.7 V _{p-p} ±5%, RGB analog
Audio input (Line In)	1 × 3.5 mm stereo jack socket, 5.5 V _{p-p} max., impedance 9 kOhm typ.
Audio output (Line Out)	1 × 3.5 mm stereo jack socket, 3 V _{p-p} max., impedance 16 Ohm min.
Microphone input	1 × push-in terminal 2.8 V _{p-p} max. at -20 dB, impedance 2 kOhm typ., supply voltage 2.3 V typ.
Speaker output	1 × push-in terminal, 6 V _{p-p} max., RMS 1 W, impedance 4 Ohm min.
Displays	3 × LED (operating voltage, network connection, data transmission) on rear panel
Operating conditions	Temperature: 0 ... +50 °C Relative humidity: 20 ... 80 %, non-precipitating
Regulatory approvals	CE: IEC 60950; UL 1950; AS/NZS 3548; EN 55103-1, -2; EN 55130-4; EN 55022; EN 55024; EN 61000-3-2; EN 61000-3-3; FCC 47 CFR Ch. 1 Section 15
Dimensions (w × h × l)	98 × 85 × 26 mm (including feet and connections)

Weight

basic version: approx. 170 g

audio version: approx. 195 g

Protocols/standards

Video standards	PAL, NTSC
Video encoding protocols	MPEG-4 with expansions
Audio encoding protocols	G.711
Video data rate	Max. 20 MBit/s (4 channels)
Image resolutions (PAL/NTSC)	720 × 576/480 pixels (full D1)
	704 × 576/480 pixels (4CIF)
	352 × 576/480 pixels (1/2 D1)
	704 × 288/240 pixels (2CIF)
	352 × 288/240 pixels (CIF)
	176 × 144/120 pixels (QCIF)
Total delay (IP)	120 ms
Network protocols	RTP, Telnet, TCP, UDP, IP, HTTP, IGMP V3, ICMP, ARP

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