VIP 1000

User Guide

VCS
Video Communication Systems AG

Release: July 2005 (Firmware Version 2.1)

Note

This user guide has been compiled with great care and the information it contains has been thoroughly verified. The text was complete and correct at the time of printing. Due to further product development, the contents of the user guide may change without prior notice. VCS accepts no liability for damages resulting directly or indirectly from errors, omissions or discrepancies between the user guide and the product described.

Trademarks

All hardware and software product names used in this document are likely to be registered trade marks and must be treated accordingly.

Contents

1 Preface

About this user guide

This user guide is intended for persons responsible for the installation and operation of the VIP 1000 network video server. International, national and any regional regulations regarding electrical systems must be adhered to at all times. Adequate knowledge of network technology is a precondition. The user manual describes the installation and operation of the unit.

Conventions

Symbols and notation

The following symbols and notation highlight important situations and information.

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 1000 network video server transmits video, audio and control signals over data networks (such as Ethernet LANs and the Internet). It is designed for use in CCTV systems. By incorporating external alarm devices, various functions can be triggered automatically. Other applications are not authorized.

For questions regarding the use of the unit that are not answered in this user guide, please contact your local dealer or:

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Forchheimer Strasse 4
90425 Nuremberg, Germany
Phone: +49 (0)911 9 34 56-0
Fax: +49 (0)911 9 34 56-66

info@vcs.com

EU guidelines

The VIP 1000 network video server complies with the specifications of EU Directives 89/336 (Electromagnetic Compatibility) and 73/23, amended by 93/68 (Low Voltage Directive).

Rating plate

For exact identification of the unit, the model and serial number are inscribed on the rating plate on the bottom of the housing. Please note this information before starting installation, so that you have it ready if you need to ask for assistance or order spare parts.

Safety Information 2

Electrical 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 casing!
- If a fault occurs, disconnect the power supply unit from the mains supply and from all other devices.
- Install the unit and power supply only in dry, weather-protected areas.
- If safe operation of the unit cannot be guaranteed, remove it from service and secure it to prevent unauthorized start-up. Safe operation can no longer be guaranteed, for example,
  - 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 higher than normal stress during transport.

  In such cases, have the unit checked by VCS.

Installation and operation

- Relevant electrical codes and guidelines must be complied with at all times during installation.
- Adequate knowledge of network technology is necessary for the installation.
- Before installing or operating the unit, make sure you have read and understood the documentation for the other equipment connected to the system, such as cameras. There you will find important safety instructions and information about authorised use.
- Perform only the installation tasks and operating steps described in this manual. Additional actions may lead to personal injuries, property damage or damage to the equipment.

Maintenance and repair

- Never open the casing of the VIP. The unit does not contain parts that you can repair or replace.
- Never open the housing of the power supply unit. The power supply unit does not contain parts that you can repair or replace.
- Ensure that all maintenance or repair work is performed exclusively by personnel qualified in electro-technics and network technology.

Product Description 3

Supplied components

- Network video server VIP 1000 including plug-in mains adapter
- Configuration cable
- The quick start guide “First Steps” in English and German
- Product CD with the following content:
  – The quick start guide “First Steps” in English and German
  – User guide in English and German
  – System Requirements
  – MPEG-ActiveX control
  – MPEG-Viewer
  – DirectX control
  – Microsoft Internet Explorer
  – Microsoft Virtual Machine
  – Adobe Acrobat Reader

System requirements for setup

- Computer with Microsoft Windows 98/2000/XP operating system
  and
  – network access and Microsoft Internet Explorer (version 6.0 or higher)
  or
  – a free serial port and terminal software

Configuration requirements

- Computer with Microsoft Windows 98/2000/XP operating system and network access and
  – Microsoft Internet Explorer (version 6.0 or later)
  or
  – decoder software, such as VIDOS from VCS

Note

Read the indications given in the document **System Requirements** on the CD provided.

Make sure the graphic card is set to 16 or 32 bit color depth and Microsoft's Virtual Machine is installed and active on your computer.

Operational requirements

- Computer with Microsoft Windows 98/2000/XP operating system and network access and
  – Microsoft Internet Explorer (version 6.0 or later)
  or
  – decoder software, such as VIDOS from VCS

or

- Hardware receiver from VCS (e.g. VIP 1000 E) and video monitor

Note

Read the indications given in the document **System Requirements** on the CD provided.

Make sure the graphic card for receiving on the computer monitor is set to 16 or 32 bit color depth and Microsoft's Virtual Machine is installed and active on the computer.

Overview of functions

Network video server

The VIP 1000 is an ultra-compact network video server. Its primary function is to encode and decode video, audio and control data for transmission over an IP network. The VIP 1000 is particularly well suited to adapting analog cameras for IP communication and for remote access to digital video recorders and multiplexers.

About the size and shape of a cigarette packet, it can be integrated into small enclosures without difficulty. The use of existing networks means that integration with CCTV systems or local networks is quick and easy.

Two units, a VIP as the sender and another VIP as the receiver, can form a stand-alone system for data transfer without a PC. Video images from one sender can be received simultaneously on a number of receivers.

Receiver

VIP or VideoJet units from VCS can be used as receivers. Computers with decoding software such as VIDOS from VCS or Microsoft Internet Explorer can also be used as receivers.

Video encoding

The VIP 1000 works with the MPEG-2 and MPEG-4 video compression standards.

Due to the efficiency of encoding using MPEG-2, the data rate remains low even with high image quality and can also be adapted to local conditions within wide limits. MPEG-4 enables data transfer at narrow bandwidth – via Internet for example.

Dual streaming

Dual streaming allows the incoming data stream to be encoded simultaneously according to two different, individually customizable profiles. This creates two data streams that can serve different purposes, for example one for local recording and one optimized for transmission via the LAN.

Multicast

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

Remote control

The VIP can remotely control external devices, such as pan and tilt heads or motorized zoom lenses, by transmitting control data via its bidirectional serial interface. This interface can also be used to transmit transparent data.

Configuration

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

Firmware updates and fast loading of device configurations are possible in the same way.

Recording and playback

You can save the video images provided by the unit as a file on the hard drive of your computer. The video sequences are stored in MPEG format and can be replayed with the VCS MPEG-Viewer included with the package.

Snapshots

Individual video frames (snapshots) can be called up as JPEG images by the VIP, stored on the hard drive or displayed in a separate browser window.

Backup

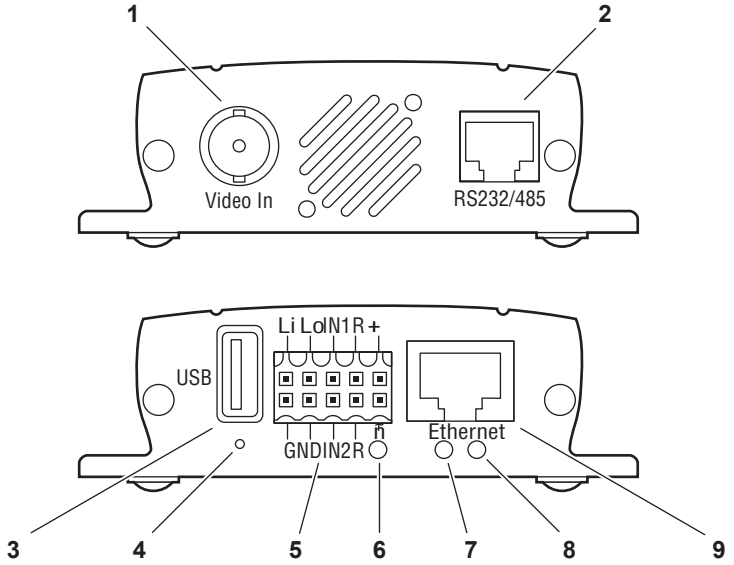
Backups of video sequences can be made to the hard drive with a simple mouse click on an icon on the Livepage .

Summary

The main functions of the VIP 1000 are:

- Video, audio and data transmission over IP data networks
- Simultaneous dual streaming with two independently defined profiles
- Multicast function for simultaneous picture transmission to multiple receivers
- Analog BNC composite video input FBAS (PAL/NTSC) (sender)
- Analog BNC composite video output FBAS (PAL/NTSC) (receiver)
- A bidirectional audio input/output (mono)
- Video and audio encoding using the MPEG-4/G.711 and MPEG-2 international standards
- Integrated Ethernet interface (10/100 Base-T)
- A transparent bidirectional data channel using a serial interface, type RS232/485
- Remote control of all built-in functions via TCP/IP
- Password protection to prevent unauthorized connection or configuration changes
- Alarm inputs for external sensors (such as a door contact)
- Relay output for switching external devices (such as lights or audible alarms)
- Event-driven, automatic connection (for example when switching on and when alarms are activated)
- Fast, convenient configuration using a Web browser
- Firmware update using flash memory
- Convenient upload of configuration data

VIP 1000 sender connections



1 BNC jack **Video In**
for connecting a video source

2 RJ45 jack for **RS232/485**
for transmitting control data and
configuration with terminal software

3 **USB** interface
for future expansion of the recording function

4 Reset button for restoring the default settings

5 Terminal block (audio, alarms, relay and power supply)

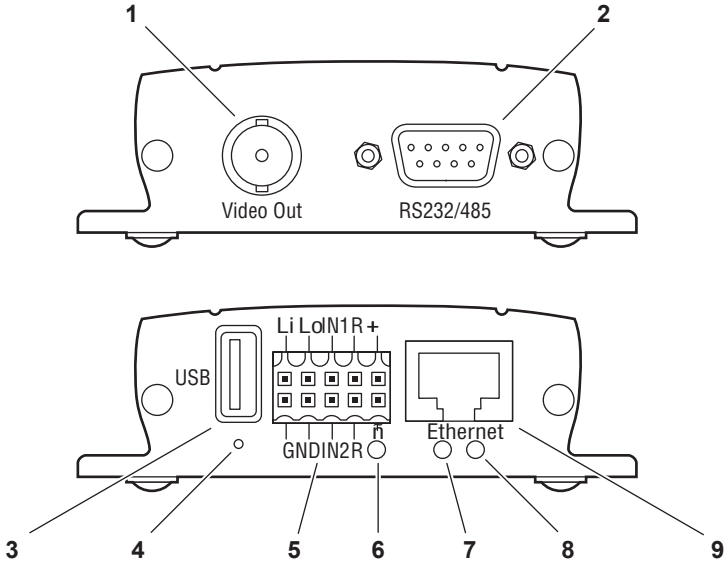
6 Operating status LED
yellow, lights up when the device is ready for operation

7 Network connection LED
green, lights up when the device is connected to the network

8 Data transfer LED
blinks orange when data is transmitted over the network

9 RJ45 jack for **Ethernet**
for connecting to the network

VIP 1000 receiver connections



1 BNC jack **Video Out**
for connecting an analog video monitor

2 **RS232/485** serial interface
9-pin Sub-D socket (male) for transmitting control data and configuration with terminal software

3 **USB** interface
for future expansion of the recording function

4 Reset button for restoring the default settings

5 Terminal block (audio, alarms, relay and power supply)

6 Operating status LED
yellow, lights up when the device is ready for operation

7 Network connection LED
green, lights up when the device is connected to the network

8 Data transfer LED
blinks orange when data is transmitted over the network

9 RJ45 jack for **Ethernet**
for connecting to the network

Installation 4

Installing the unit

With its ultra-compact dimensions, the VIP is particularly well suited for installation in cabinets.

Warning!

The unit is intended for use indoors or in a protective enclosure. Select a suitable location for installation where the equipment is not subject to extreme temperatures or humidity. The ambient temperature must lie between 0 and +50 °C. The relative humidity should 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.

Make sure the following conditions for installation are complied with:

- Do not mount 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, which are also shielded against electromagnetic interference.
- Position and run all cables so that they are protected from damage, and provide strain relief where needed.

Connections

Camera/monitor

Depending on the device used, you can connect a video source (sender) or a monitor (receiver). All cameras and video sources that generate a standard PAL or NTSC signal and all monitors compatible with PAL or NTSC standards can be used for this purpose.

– Connect the camera or another video source using a video cable (75 Ohms, BNC plug) to the **Video In** BNC jack of the sender.

or

– Connect the video monitor using a video cable (75 Ohms, BNC plug) to the **Video Out** BNC jack of the receiver.

Data interface

The bidirectional data interface is used to control equipment connected to the VIP unit, such as a dome camera with a motorized lens.

The **RS232/485** connection supports RS232, RS422 and RS485 communication standards.

The serial interface is either a RJ45 jack (sender) or a Sub-D socket (receiver). For information on the pin assignment see pages 114 and 115.

The selection of controllable devices is growing constantly. The manufacturers of this equipment can provide specific information on installation and control.

Warning!
Make use of the device documentation when installing and operating a device that you want to control using the system. It contains important safety instructions and information about authorized use.

Note
A video connection is necessary to transmit transparent data.

Network

You can connect the VIP 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 **Ethernet** jack.

Alarm inputs

The VIP has two alarm inputs on the orange terminal block. The alarm inputs are used to transfer signals from external alarm devices, such as door contacts or sensors. Given the appropriate configuration, an alarm device can, for example, trigger automatic connection between the VIP and a remote location. A voltage free normally open contact or switch can be used as an actuator (for pin assignment see page 116).

Note
It is preferable to use an actuator with a bounce-free contact system.

– Connect the leads to the appropriate terminals on the orange terminal block and check that the connection is secure.

Relay output

The VIP has a relay output for switching external devices, such as lights or audible alarms. This relay output can be activated manually if there is an active connection with the VIP. 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 116).

Warning!
The maximum rating of the relay contact is 30 V and 1 A.

– Connect the leads to the appropriate terminals on the orange terminal block and check that the connection is secure.

Microphone/loudspeaker

The connection for the microphone/loudspeaker is also on the orange terminal block (for pin assignment see page 116).

The bidirectional audio signals are transmitted simultaneously with the video signals. This can be used for example to operate a loudspeaker or door intercom at the target location.

– Connect a line level audio source to the appropriate terminals on the orange terminal block of the sender and check that the connection is secure.

– Connect a loudspeaker to the appropriate terminals on the orange terminal block of the receiver and check that the connection is secure.

Switching on/off

Power connection

A plug-in mains adapter is included with the VIP package. The VIP does not have a mains switch. The unit is ready for operation as soon as it is connected to the mains supply.

Warning!
Use only the plug-in mains adapter provided for operation of the VIP. Where necessary, take appropriate measures to ensure that the mains supply is protected against voltage surges, spikes or brownouts.

Warning!
Do not connect the VIP to the power source until all the other connections have been made.

– Connect the cable of the mains adapter to the orange terminal block of the VIP.

– Plug the mains adapter into a fused power socket. The unit is ready for operation as soon as the "operating status" LED stops blinking red during start-up and becomes yellow.

If the network connection is in order, the green "network connection" LED is also lit. The blinking orange "data transmission" LED indicates data traffic on the network.

Setup using terminal software

Data terminal

You can connect a data terminal to the VIP for setup and local control. The data terminal consists of a computer with terminal software. Use the configuration cable included in the package supplied to make the connection.

For example, HyperTerminal, a communications utility 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 Microsoft Windows.

– Before working with the terminal program, disconnect the VIP from the data network.

– Connect the **RS232/485** Sub-D connector of the VIP to an available serial port on the computer.

Configuring the terminal

To establish communication between the terminal program and the VIP, the transmission parameters must be correctly defined. Set the following values 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. 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 screen 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 send the data to the VIP.

Assigning an IP address

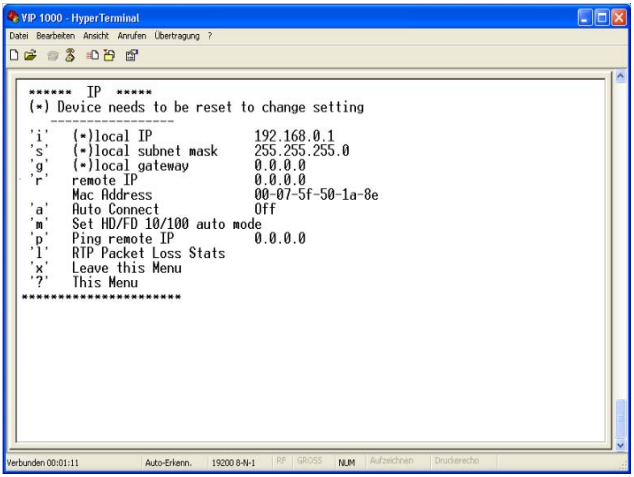
To operate the VIP on your network, you must assign it an IP address that is recognized by the network.

The following default address has been pre-set at the factory:
Sender: 192.168.0.1
Receiver: 192.168.0.2

– Start up a terminal program such as HyperTerminal.

– Enter `service` as user name. The main menu will be displayed.

– Enter `i` to open the **IP** menu.



– Enter `i` once more. 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 displayed.

– If necessary, enter `s` and a new subnet mask.

Note

The new IP address, subnet mask and gateway adress become effective only following a restart.

Restart

Disconnect the VIP from the power socket, wait a few seconds and reconnect the unit.

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 for this purpose.

Configuration using a Web Browser 5

Establishing the connection

The integrated HTTP server allows the unit to be configured over the network using a Web browser. This option offers considerably more possibilities and is more convenient than configuration using terminal software. It also allows live video images to be displayed.

Note

Make sure the graphic card is set to 16 or 32 bit color depth and the Microsoft Virtual Machine is installed and active on your computer. If necessary, the required software and controls can be installed from the CD provided (see page 11).

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

System requirements

- Microsoft Internet Explorer (version 5.5 or higher)
- Monitor resolution 1024 × 768 pixels
- Network access (intranet or Internet)

Note

Read the indications given in the document **System Requirements** on the CD provided.

MPEG-ActiveX installation

In order to display 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 CD provided (see page 11).

– 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 instructions on the screen.

Establishing the connection

The VIP must be assigned a valid IP address for your network, before it can be operated in your network environment.

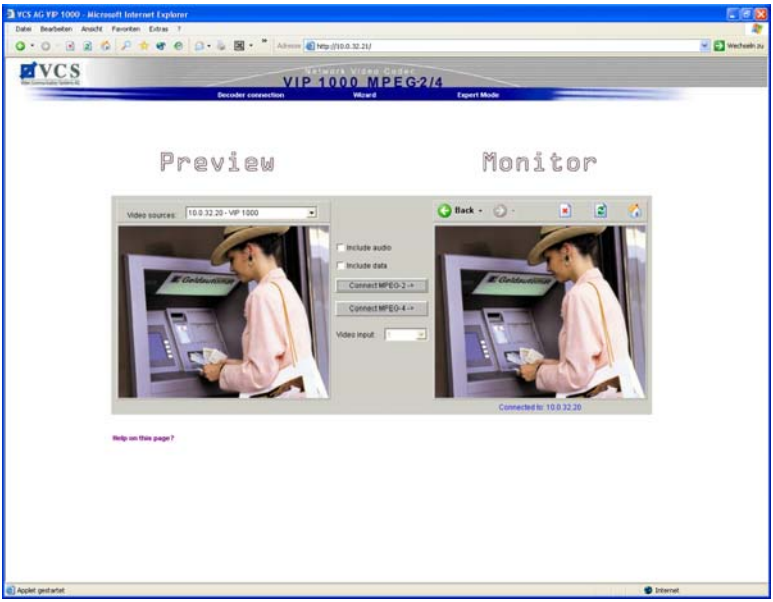
The following default address has been pre-set at the factory:
Sender: 192.168.0.1
Receiver: 192.168.0.2

– Start the Web browser.

– Enter the IP address of the VIP as the URL. The VIP home page will be shown in the browser.

If the unit is a sender, the home page will be the Livepage (which shows the live video image).

The **Decoder connection** page will be displayed as the home page for a receiver. It shows a snapshot from the video source for the sender currently connected, and the unit searches the network automatically for available senders.



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 unit and network configuration.

VIP password protection

If the VIP is password-protected against unauthorized access, a corresponding message and a prompt to enter the password will appear first.

Note

A VIP provides various authorisation levels to limit the scope of a user's access (see page 36 for the sender and page 74 for the receiver).

– Enter the user name and the associated password in the appropriate fields.

– Click **OK**. If the password is is correct the respective page is displayed.

Choosing the configuration mode

There are two options to configure the VIP or to check the current setup:

- the Wizard and
- Expert Mode.

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

Use of the Wizard is recommended for initial setup. It takes you step by step through the necessary settings. It prevents critical settings for correct operation being overlooked. Moreover, each step offers brief instructions that help with installation.

Expert Mode is recommended only for experienced users or system administrators. All unit parameters can be accessed in this mode. Operations that affect the basic functionality of the unit (such as firmware updates) can only be performed in Expert Mode.

Note
Depending on whether the unit is a sender or a receiver, different home pages will be displayed. (For the sender, see page 28. For the receiver, see page 29).

– Click the **Settings** link in the top part of the VIP sender Livepage. A new page will open, and the desired configuration mode can be selected using the links at the top of the window.

Configuration with the Wizard

The Wizard is used for step-by-step configuration of the VIP. It will lead you through a series of screens where you can input the necessary settings. The settings only become effective after the last screen of the Wizard has been completed. When working with the Wizard, you can switch to another window at any time.

The last screen of the Installation Wizard offers the option of launching the Application Wizard. The Application Wizard helps you to configure the Livepage. It is used in a manner similar to the Installation Wizard.

Starting the Wizard

The Wizard can be launched from the configuration pages.

– Just click the link **Wizard** in the top part of the window. A new page will appear.

– Click the button with the wizard icon in the Installation wizard field. The first screen for the Installation Wizard will appear.

– Click **Start** to launch the Wizard. The next screen for the Wizard will appear.

Note

Your screen display may differ slightly from the illustration, depending on whether you are working with a sender or a receiver. However, the configuration procedure with the Installation Wizard is the same for all units.

General procedure

The screens for the Installation Wizard will be shown in sequence, allowing you to work quickly and easily. The upper part of the window always contains information about the settings options. The current settings are shown in the lower part of the window. You can change settings by entering the desired value in a text field or choosing it from a list. The navigation buttons for the Installation Wizard are at the bottom of the window. You can switch between pages of the Wizard at any time.

– Always read the information in the upper part of the window first.

– Click in the text fields to enter values or use the other controls available, such as buttons, check boxes or list fields.

– Click **Next >>** to go to the next step.

– Click **<< Back** to look at the previous step again.

– Click **Cancel** to interrupt the process and close the Installation Wizard.

Finishing the configuration

After you have specified all the settings you want, they must be transmitted to the VIP unit and saved. Click **Finish** in the last screen of the Installation Wizard to complete this process.

Warning!
All settings changes will become effective only after you have ended the configuration by clicking **Finish** in the last screen.

– Go to the last screen of the Installation Wizard if necessary.

– Click **Finish** to finalize the configuration. All settings will be transmitted to the VIP and become effective forthwith.

Configuration in Expert Mode

Expert Mode allows all parameters of the VIP 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.

The basic use of the configuration pages is described below. Separate descriptions of the individual configuration pages and customizable parameters for senders and receivers can be found in Chapter 6 and Chapter 7 of this user guide.

Navigation

You can switch to Expert Mode from the configuration pages.

– Click the **Expert Mode** link. The initial page will be opened.

– Click one of the links on the left edge of the window. The corresponding page will be opened.

Note

Your screen display may differ from the illustration, depending on whether you are working with a sender or a receiver. However, navigation on the configuration pages is the same for all units.

Making changes

Each configuration page shows the current settings. You can change the settings by entering new values or by selecting from predefined lists.

– Click **Set** after each change to save it.

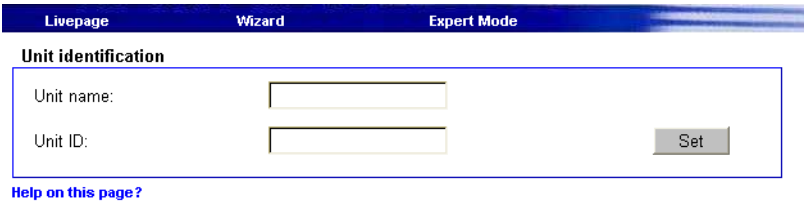
Warning!
Save each change with the associated **Set** button. When **Set** is clicked, only the changes in the relevant field are saved. Changes in any other fields are ignored.

Configuring the Sender 6

Basics

The VIP offers various configuration options. Configuration in Expert Mode with a Web browser is described below. Basic information about configuration with a Web browser and other configuration options are described in Chapter 5 of this user guide.

Unit identification



The unit can be assigned a name and an ID to facilitate identification. Both make the task of managing several units in larger video surveillance systems with VIDOS from VCS or other tools much simpler.

Unit name:

Enter a name for the unit here.

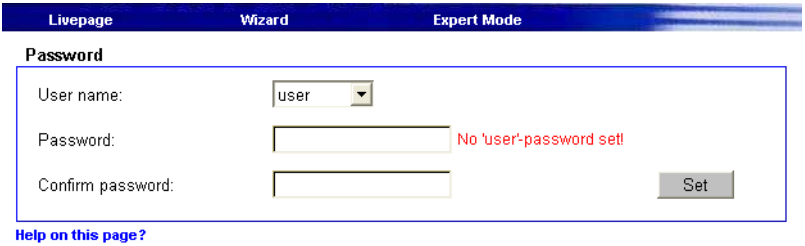
Note

The unit name is only used to identify a device remotely, for example in case of an alarm call or when using a DNS server for easier device calling. Enter a name that makes it as easy as possible to identify the location unambiguously.

Unit ID:

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

Password



A VIP unit is generally protected by password to prevent unauthorized access. You can limit the scale of access by choosing between different authorization levels (**User name:**).

Note

Correct password protection is only granted when all higher levels of authorization are also protected by password. If a **live** password is assigned, for example, also a **service** and a **user** password must be assigned. Therefore assign passwords always beginning with the highest authorization level.

User name:

The sender operates with three user names: **service**, **user** and **live** which refer to different authorization levels.

The user name **service** refers to the highest authorization level. Logged in under **service**, you can use all the functions offered by the VIP and change all settings.

The user name **user** refers to the medium authorization level. Logged in under **user**, you can operate the device and other devices, such as a camera, but no changes can be made to the configuration.

The user name **live** refers to the lowest authorization level. Logged in under **live**, you can only view the live video image and switch between the various live image feeds.

Password:

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

Enter a password for the chosen user name here.

Confirm password:

Re-enter the new password to prevent typing mistakes.

Note

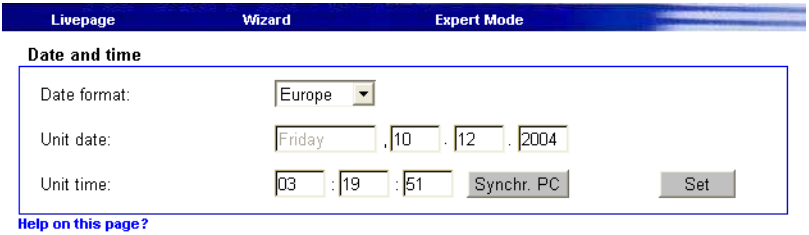
The new password becomes effective only after you have clicked **Set**. Therefore always click **Set** immediately after having entered and confirmed the password even if afterwards you want to assign a password to another user name, too.

Language

Website language:

Select the language for the website from the dropdown field.

Date and time



If a number of units are part of a system, it is important that the internal clocks of these separate units be synchronized. Only if all units operate with the same time it is possible, for example, to correctly identify and evaluate recordings that have been made simultaneously.

Date format:

Choose the desired date format here
(Europe: DD.MM.YYYY; USA: MM.DD.YYYY; Japan: YYYY/MM/DD).

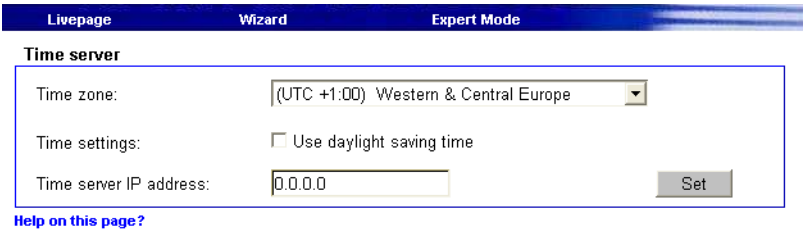
Unit date:

Enter the current date here. Since the unit time is controlled by the internal clock, it is not necessary to enter the day of week. This is added automatically.

Unit time:

Enter the current time here or click the **Synchr. PC** button to copy the system time of your computer to the VIP.

Time server



Using a Time Server Protocol the VIP can receive a time signal from a time server and use it to set its internal clock. The device calls up the time signal automatically every ten minutes.

Time zone:

Select the time zone that applies to your system.

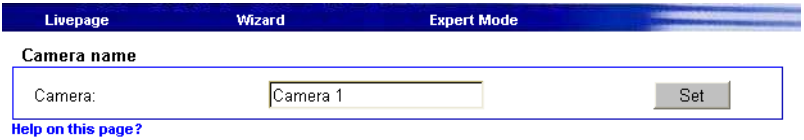
Time settings:

Select this during daylight savings time if the time change is to be taken into account. Deselect it when standard time has resumed.

Time server IP address:

Enter the IP address of the chosen time server here.

Camera name

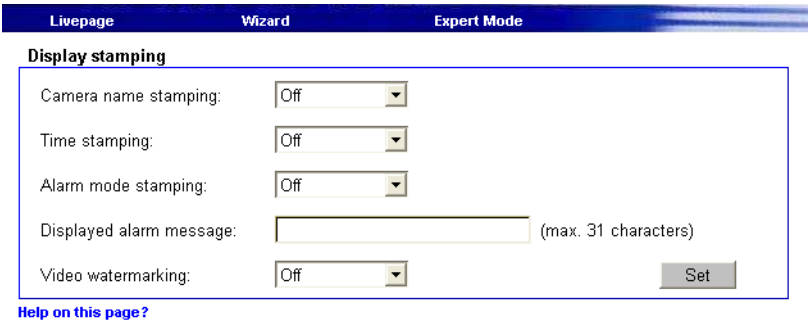


The camera name simplifies identification of the remote camera location, for example in the event of an alarm call. It will be shown in the video image if this facility has been configured (see page 39). Moreover, the camera name is used by VIDOS, VCS software for managing video surveillance systems, and makes it easier to identify the camera.

Camera:

Enter a unique, unambiguous name for the camera in this field.

Display stamping



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

Camera name stamping:

This field sets the position of the camera name overlay. It can be shown at the **Top** or the **Bottom** or you can define a position yourself via the Hyperterminal and activate it choosing the option **Custom**. Or it can be set to **Off** if no overlay for this information is to be shown.

Time stamping:

This field sets the position of the time and date overlay. It can be shown at the **Top** or the **Bottom** or you can define a position yourself via the Hyperterminal and activate it choosing the option **Custom**. Or it can be set to **Off** if no overlay for this information is to be shown.

Alarm mode stamping:

Choose **On** if a text message should be overlaid in the event of an alarm.

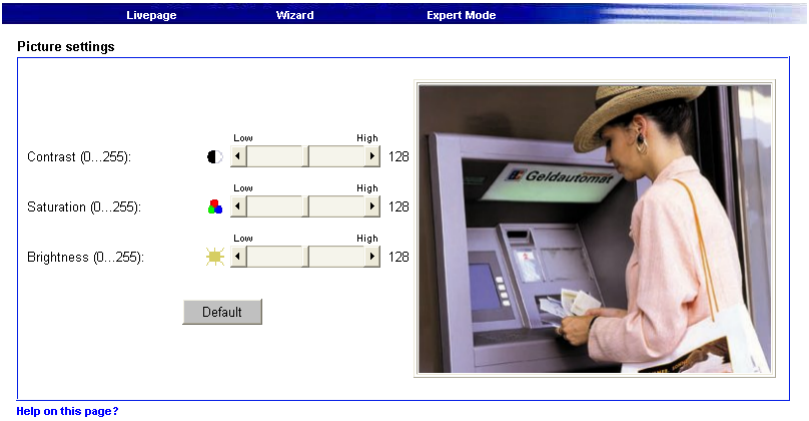
Displayed alarm message:

Enter the message to be displayed for an alarm. The field can contain up to 31 characters.

Video watermarking:

Choose **On** if the video images transmitted are to be "watermarked". After activation, all images will be marked with a green icon (**W** for MPEG-2-images, a rectangle for MPEG-4-images). A red icon indicates that the sequence (live or saved) has been manipulated.

Picture settings



You can set up the video picture to meet your own particular requirements. To enable you to control the current video picture it is shown in a small window beside the sliders. The changes are effective immediately.

– If necessary click the **Default** button to return the configuration back to the standard settings.

Contrast (0...255):

You can use this function to adjust the contrast of the video picture to suit the working environment.

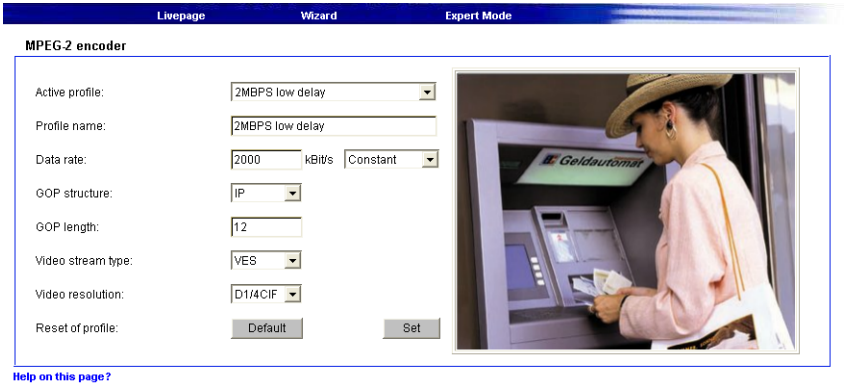
Saturation (0...255):

You can use this function to set the color saturation and achieve the most realistic color reproduction on the monitor.

Brightness (0...255):

You can use this function to adjust the brightness of the video picture to suit the working environment.

MPEG-2 encoder



The data transmission parameters can be configured to suit the local operating environment (network architecture, bandwidth, data structures, etc.). Eight preconfigured profiles are provided in MPEG-2 mode, each reflecting different priorities and environments.

Individual settings in a profile and its name can be changed.

Warning!
The profiles are rather complex. They include a number of parameters that interact with one another. Therefore it is generally best to use the profiles as provided. The profiles should only be changed once you have familiarized yourself with all the configuration options.

Active profile / Profile name:

Select a profile for the encoder from the dropdown field. The name of the profile will be shown automatically in the field **Profile name**. The following profiles can be selected:

- **2MBPS low delay**
  2 MBit/s transmission rate with low image refresh delay
- **3.5MBPS low delay**
  3.5 MBit/s transmission rate with low image refresh delay
- **5MBPS low delay**
  5 MBit/s transmission rate with low image refresh delay

- **2MBPS high quality**
  2 MBit/s transmission rate with high image quality
- **3.5MBPS high quality**
  3.5 MBit/s transmission rate with high image quality
- **5MBPS high quality**
  5 MBit/s transmission rate with high image quality
- **2MBPS video, 256KBPS audio**
  2 MBit/s transmission rate with additional audio transmission
- **4MBPS video, 256KBPS audio**
  3.5 MBit/s transmission rate with additional audio transmission

Data rate:

The data rate for the speed of transmission over the network is shown for each parameter value. You can change the data rate and decide whether you prefer a constant data rate or consistent image quality.

Selecting **Constant** means that the data will always be transmitted at the set rate, but the image quality may vary. Selecting **Variable** means that the image quality will be consistent, but the data rate can vary from the set value.

GOP structure:

In MPEG-2 encoding, image sequences are divided into groups (GOP – **G**roup **o**f **P**ictures). Each GOP can contain three different frame types. I-frames contain the complete information for an image and thus require the most coding data. P-frames code only the difference between the current image and the previous one. These require considerably less data. Lastly, B-frames encode only the difference between the current image and the previous and next images. They require the least data. However, B-frames have a large delay, because image information from subsequent images is required for encoding. Each GOP always begins with an I-frame.

Note
B-Frames have a large delay and are not suitable for some applications, such as manually controlling a dome camera. Keep this in mind when choosing a GOP structure and length.

Select the structure for the GOP. You can choose between:

- **I**
  I-frames only
- **IP**
  an I-frame followed by several P-frames
- **IPB**
  an I-frame followed by several substructure sequences, each consisting of a P-frame and a B-frame
- **IPBB**
  an I-Frame followed by several substructure sequences, each consisting of a P-frame and two B-frames

GOP length:

Enter the image interval between I-frames here. The value will depend on the GOP structure selected. It must always be a multiple of the P- frames and B-frames in the GOP structure.

In the context of the GOP structure **IPB**, a length of 4 means that an I-frame is followed by a total of four other frames, which are alternately P- and B-frames. The resultant image structure is: IPBPBIPBPBIPBPB …

The GOP structure **IP** can have any GOP length. The **IPB** structure must have a GOP length that is a multiple of two. The **IPBB** structure has length that is a multiple of three. The GOP structure **I** requires no GOP length.

Video stream type:

You can choose between the types **VES** (Video Elementary Stream) and **PRG** (Program Stream). Select **PRG** if audio is to be transmitted together with the video images in one data stream. Audio signals require an additional bandwidth of about 256 kBit/s.

Note
If you need talking to the sender site in addition to hearing it you have to enable audio on the **Audio stream** page (see page 49). Thus audio signals will be G.711-coded and sent as a separate data stream.

Video resolution:

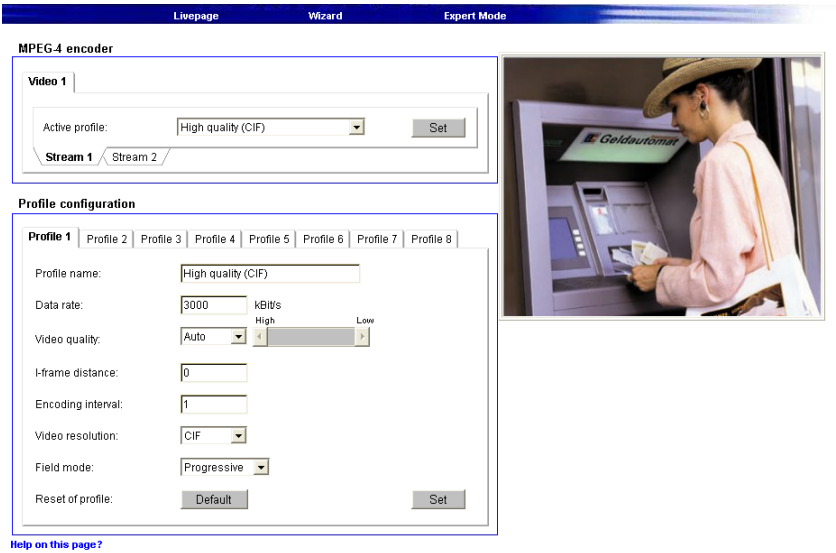
Select the desired resolution for the MPEG-2 video image. The following options are available:

- **CIF** 352 × 288/240 pixels
- **D1/4CIF** 704 × 576/480 pixels

Reset of profile:

Click the **Default** button to reset the profile to its factory presets.

MPEG-4 encoder



You can configure the data transmission parameters for the MPEG-4 encoder to suit the operating environment (for example the network structure, bandwidth, data structures etc.). For that the VIP simultaneously generates two data streams (Dual Streaming) which compressions parameters you can choose individually, e.g. for transmission via Internet on the one hand and connections within a LAN on the other.

Note

You must set the parameters for each stream individually.

Eight pre-programmed profiles are available optimized for different transmission modes:

- Profile 1: **High quality (CIF)**
  high quality for connections with high bandwidth,
  resolution 352 × 288/240 pixels
- Profile 2: **High resolution (2CIF)**
  for connections with high bandwidth,
  resolution 704 × 288/240 pixels
- Profile 3: **Low resolution (QCIF)**
  for connections with low bandwidth,
  resolution 176 × 144/120 pixels
- Profile 4: **DSL**
  for DSL connections with 500 kBit/s,
  resolution 352 × 288/240 pixels
- Profile 5: **ISDN (2B)**
  for ISDN connections via two B channels,
  resolution 352 × 288/240 pixels
- Profile 6: **ISDN (1B)**
  for ISDN connections via one B channel,
  resolution 352 × 288/240 pixels
- Profile 7: **Modem**
  for analog modem connections at 20 kBit/s,
  resolution 176 × 144/120 pixels
- Profile 8: **GSM**
  for 9600 baud GSM connections,
  resolution 176 × 144/120 pixels

Active profile:

Profiles can be selected here for each of the two streams.

– Click on a tab to switch to the associated stream.

– Choose one of the profiles out of the dropdown list.

Warning!
For alarm connections and automatic connections, always Stream 1 is transmitted. Take this into account when assigning the profile.

Profile configuration

Individual settings in a profile and its name can be changed. You can switch between the profiles by clicking the associated tabs.

Warning!
The profiles are rather complex. They include a number of parameters that interact with one another. Therefore it is generally best to use the profiles as provided. The profiles should only be changed after you have familiarized yourself with all the configuration options.

Note
The parameters as a group constitute a profile and are dependent on one another. If you enter a setting outside the allowed range for the parameter, the nearest valid value will be substituted when the settings are saved.

Profile name:

Enter a name for the current profile. The name will be displayed automatically in the dropdown list of the field **Active profile**.

Data rate:

To optimize the use of bandwidth in the network you can restrict the data rate of the VIP. The data rate should be chosen dependent on the picture quality required.

Video quality:

Here you can adjust video quality as a function of the level of movement within the frame. The **Auto** option automatically adjusts to the optimum relationship between movement and image definition (focus). **Manual** allows you to set a value between 1 and 31 on a slide bar. The value **1** gives the highest quality with a low frame refresh rate. The value **31** results in a high refresh rate and low image quality.

I-frame distance:

This parameter determines the number of inter-coded frames between two I-frames.

Encoding interval:

This setting determines the frame encoding interval. With the value **4** e.g. only every fourth image is encoded, the following three images are skipped, which is an advantage especially with low bandwidth.

Video resolution:

Select the desired resolution for the MPEG-4 video image. The following options are available:

- **QCIF** 176 × 144/120 pixels
- **CIF** 352 × 288/240 pixels
- **2CIF** 704 × 288/240 pixels

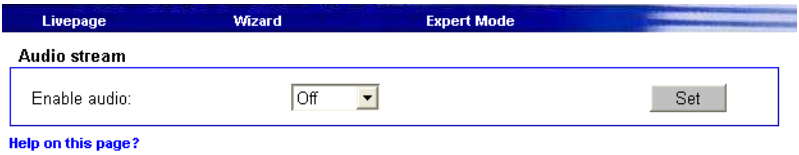
Field mode:

This parameter determines the video signals being **Interlaced** or **Progressive**.

Reset of profile:

Click the **Default** button to reset the profile to its factory presets.

Audio stream



In addition to video data, the unit can also send and receive audio signals. The transmission of audio takes place at the same time as that of the video data in a separate data stream. Thus it increases the data traffic. The audio data is coded according to G.711 compression standard and requires an additional bandwidth of about 80 kBit/s per direction.

Note
If you work with the MPEG-2 video format and only need to receive audio data from the sender site choose **PRG** as **Video stream type** (see page 44). Thus you receive both video and audio data in a single stream.

Warning!
G.711 audio data is only saved with central recording, using VIDOS-NVR for example.

Enable audio:

To transmit a separate G.711 audio stream choose **On**.

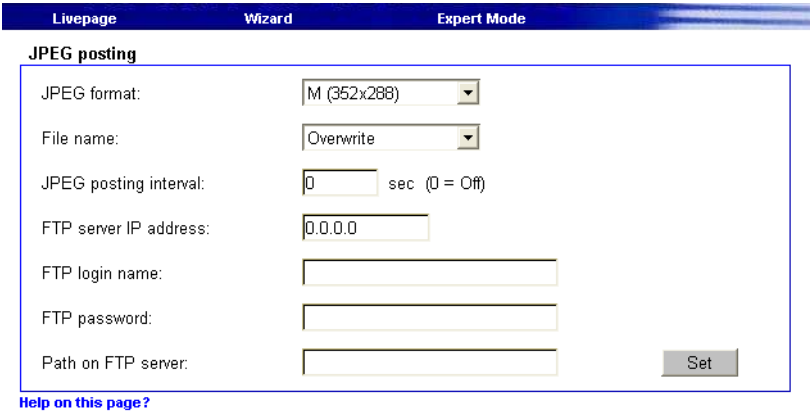
Video input

The 75 Ohm termination of the VIP can be set here. If the video signal is to be looped through, the termination must be set off. The default setting for the video input termination is **On**.

75 Ohm termination:

To loop the video signal through choose **Off**.

JPEG posting



You can store video images in JPEG format at certain intervals on an FTP server. These images can be called up again later, thus enabling for example alarm events to be reconstructed.

JPEG format:

Here you can choose the format of the JPEG pictures:

- **S** 176 × 144/120 pixel
- **M** 352 × 288/240 pixel
- **XL** 704 × 576/480 pixel

File name:

You can set what file names are to be generated for the transmitted snapshots.

- **Overwrite**: The same file name is always used. The existing file is continuously over-written with current data.
- **Increment**: A number from 000 to 255 is attached to the filename. This automatically increases by 1 every time a new file is created. When 255 is reached the numbers begin again at 000.
- **Date/time suffix**: A date and time code are automatically incorporated into the file name. When choosing this setting take care that the device's date and time are set correctly. Example: the file snap010705_114530.jpg was saved on July 1st, 2005, at 11.45 and 30 seconds.

JPEG posting interval:

Enter the time interval here at which the single images are to be sent to an FTP server. Enter zero, if no single images are to be sent.

FTP server IP address:

Enter here the IP address of the FTP server on which the JPEG-images are to be stored.

FTP login name:

Enter your login name for the FTP server here.

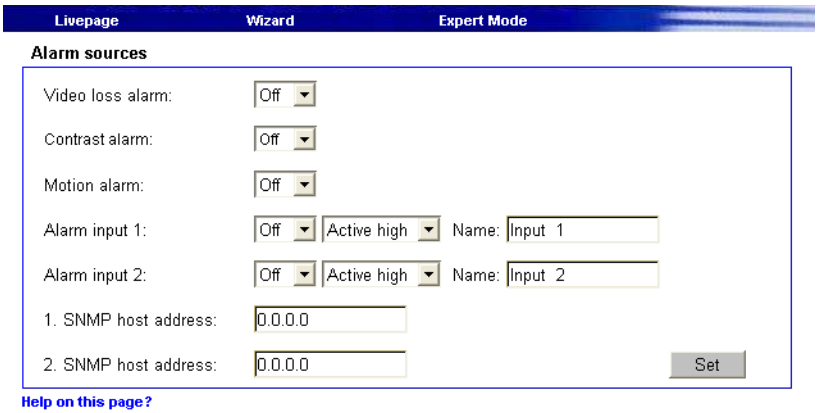
FTP password:

Enter the password for the access to the FTP server here.

Path on FTP server:

Enter the exact path here under which the images are to be stored on the FTP server.

Alarm sources



You can configure the possible alarm triggers for the VIP (e.g. the alarm inputs).

Video loss alarm:

Select **On** if the unit is to activate an alarm whenever the video signal is interrupted.

Contrast alarm:

The VIP can trigger an alarm if the camera image shows too little contrast, possibly indicating that the lens has been sprayed with paint or covered in some way. Select **On** to enable this function.

Motion alarm:

Select **On** if the unit is to respond to a motion alarm.

Motion detection is configured on a separate page (see page 54).

Alarm input 1 ... Alarm input 2:

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

Choose **Active high** to trigger the alarm closing the contact. Choose **Active low** to trigger the alarm opening the contact.

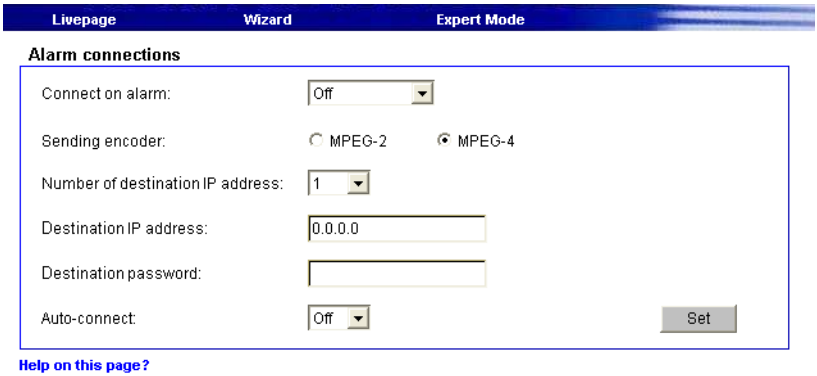
Name:

You can enter a name for each alarm input, which is then displayed next to the icon for the alarm input on the video live page when configured accordingly (see page 67).

1./2. SNMP host address:

Enter the IP addresses of up to two chosen receivers here if SNMP-traps are to be sent.

Alarm connections



You can select a number of options for the response of the VIP to an alarm. In case of an alarm, the VIP can establish a connection to a predefined IP address (VCS hardware receiver or PC with receiver software) automatically. You can enter up to ten IP addresses which will be selected in sequence by the unit until a connection is established.

Note
Sender and receiver must share the same subnet for connection set-up (see page 62).

Connect on alarm:

Select **On** for the VIP to establish a connection automatically to a specified IP address in the event of an alarm.

With the setting **Follows input 1**, the VIP holds the automatically set up connection to a remote location as long as an alarm signal is present at the alarm input 1.

Sending encoder:

Here you can select the encoder that is to send the data for the alarm connection to the specified IP address dependent on the environment used (network configuration). In doing so, consider the settings used for the MPEG-2 and MPEG-4 encoder (refer to page 42).

Note
If the MPEG-4 encoder is chosen Stream 1 will be transmitted.

Number of destination 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 of the desired remote unit.

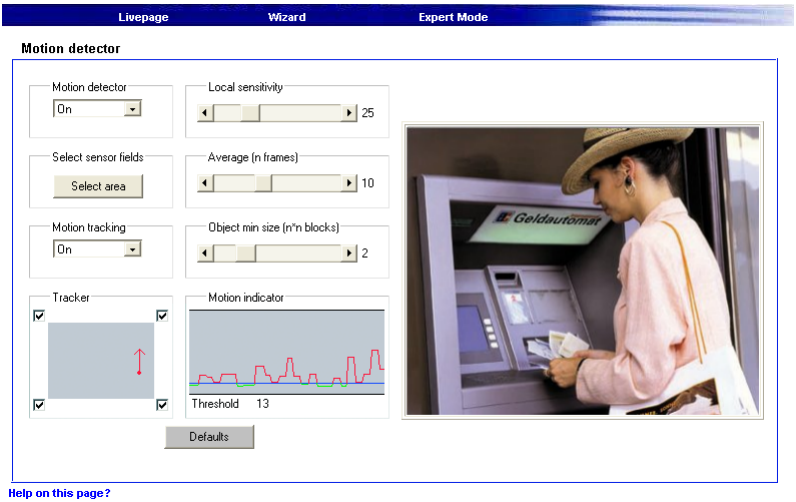
Destination password:

Enter the password, if the remote unit is protected by a password.

Auto-connect:

Select **On** if an active connection should be reestablished automatically to one of the previously specified IP addresses after each restart, e.g. after a connection breakdown or network dropout.

Motion detector



The VIP has an integrated video sensor which can detect changes in the signal. Such changes are due primarily to movements in the camera's field of view.

The sensitivity of the video sensor can be adjusted, so an alarm is generated only if specified values are exceeded.

Note
The video sensor monitors Stream 1. For exact motion detection it is recommended to choose CIF as video resolution for Stream 1 (see page 45).

In order for the sensor to function, the following conditions must be met:

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

Warning!
Reflections of light (off glass surfaces, etc.), switching lights on or off or changes in the light level caused by cloud movement on a sunny day can trigger unintended responses from the video sensor and generate false alarms. Run a series of tests under day and night conditions to ensure that the sensor works as intended.

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

Uniform surfaces without contrast can trigger false alarms even with constant lighting.

Note
Clicking the **Defaults** button will reset the video sensor to its factory configuration.

Motion detector

Select **On** to activate the video sensor.

Select sensor fields

The areas of the image to be monitored by the video sensor can be selected. The video image is subdivided into 396 square sensor fields. Each of these fields can

be activated or deactivated individually. If it is necessary to exclude particular regions of the camera's field of view from monitoring due to continuous movement (by a tree in the wind, etc.), the relevant fields can be deactivated.

– Click **Select area** to configure the sensor fields. A new window will open.
– If necessary, click **Clear all** first to clear the current selection (fields marked red).
– Left-click the fields to be activated. Activated fields are marked red.
– Click **Select all** to select the entire video frame for monitoring.
– Right-click any fields you wish to deactivate. "Inactive" fields are marked white.
– Click **Set** to save the configuration.
– Click the close button (**X**) in the window title bar to close the window without saving the changes.

Local sensitivity

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

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

– Adjust the sensitivity by dragging the scroll thumb to the desired setting.

Average (n frames)

You can define the number of frames for which a movement is monitored before generating an alarm. This helps prevent false alarms from events such as a bird flying across the surveillance area.

– Select the value by dragging the scroll thumb to the desired position.

Object min size (n*n blocks)

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

A minimum value of 2 (2 × 2 sensor fields) is recommended.

– Select the value by dragging the scroll thumb to the desired position.

Motion indicator

To prevent false alarms, a threshold can be applied to the motion signal. This allows effects such as the background noise from the camera itself to be filtered out.

The blue line in the illustration represents the alarm threshold. Any value above this level will trigger an alarm. The parts of the motion signal line which will cause an alarm are shown in red. The alarm threshold can be set higher or lower to suit your needs.

– Observe the amplitude of the displayed movement signal over a longer period of time under all the lighting conditions that may be encountered.

– Move the pointer over the blue line.

– Press the left mouse button in and drag the line to the desired level.

Motion tracking

In some situations you may want an alarm triggered only if movement takes place in a particular direction. In such cases, enable motion detection and select the direction of movement required to trigger an alarm.

– Select **On** to enable the motion tracking feature of the video sensor.

Tracker

The **Tracker** field shows an arrow indicating the current motion vector in the video image. The checkboxes at the corners of the field are used to select the directions to monitor. For example, if all movements toward the left and up are to trigger an alarm, mark the top left corner. If all movement to the left is to trigger an alarm, mark the upper left and the lower left checkboxes.

– Observe the movement in the video image indicated by the arrow over a longer period of time at all the relevant light levels.

– Mark the checkboxes to activate the corresponding directional components for monitoring.

Relay

You can configure the switching behavior of the relay output. Relay action can be specified either as open switch (normally closed contact) or closed switch (normally open contact).

It is also possible to specify whether the output signal should be bistable or monostable. With bistable operation, the relay remains in the activated state. With monostable operation, the delay 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 situation is no longer active.

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 light switched on by an alarm is to remain lit when the alarm has ended, select **Bistable**. If an audible 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 caused whenever a connection is established
- **Video alarm**
  Triggering caused by loss of the video signal
- **Motion alarm**
  Triggering caused by the motion alarm
- **Local input 1**
  Triggering caused by the alarm input 1
- **Remote input 1**
  Triggering caused by a relay contact at the target location (only when a connection is established)
- **Contrast alarm**
  Triggering caused by a lack of contrast in the picture

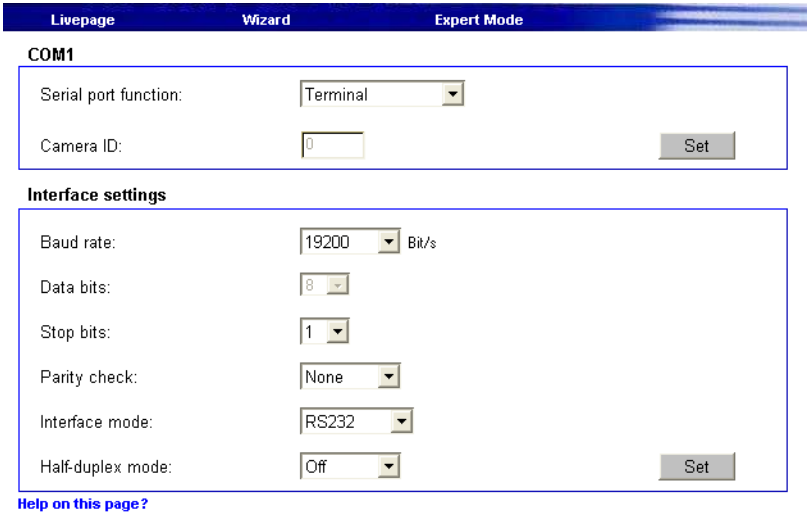
Relay name:

A name can be assigned to the relay in this field. The name will be shown on the button under **Trigger relay**. The Livepage can also be configured to display the name next to the relay icon.

Trigger relay:

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

COM1



The **RS232/485** serial interface port can be configured to meet your requirements.

Serial port function:

Select a controllable device from the list. If you want to use the serial interface to transmit transparent data, select **Transparent**. To operate the VIP with a terminal, choose **Terminal**.

Note
After selecting an option, the remaining parameters in the window are set automatically and should not be altered.

Camera ID:

If necessary, adjust the ID for the peripheral device that is to be controlled (e.g. dome camera or PTZ).

Baud rate:

Select the value for the data communication 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.

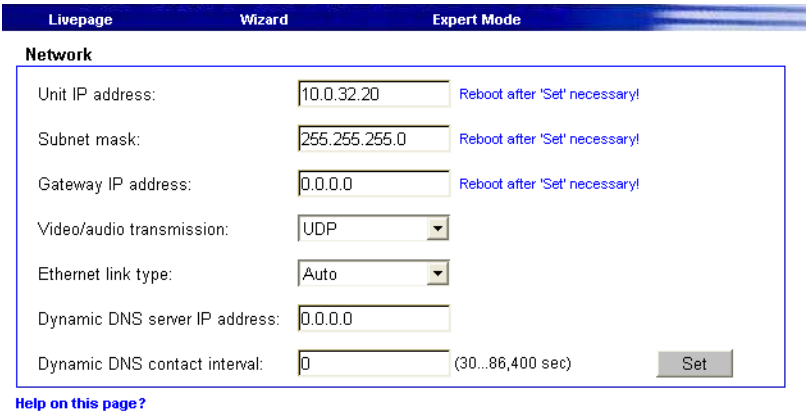
Interface mode:

Select the desired protocol for the serial interface.

Half-duplex mode:

Choose the setting appropriate for your application.

Network



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 sent to the unit when the **Set** button is clicked. However, they only take effect after the unit is restarted!

– Click **Set** after entering a new IP address.

– Enter the old IP address in the address field of the Web browser and append `/reset` to it (e.g. `192.168.0.1/reset`). The VIP 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 in this field. The IP address must be valid for the network.

Subnet mask:

Enter the subnet mask corresponding to the inserted IP address here.

Gateway IP address:

Enter the IP address of the gateway here if the unit is to establish a connection to a unit that is in another subnet. Otherwise, this field can remain empty (0.0.0.0).

Video/audio transmission:

If the device 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 possible only with the UDP protocol. The TCP protocol does not support multicast connections.

Note
In UDP mode the MTU is 1514 bytes.

Ethernet link type:

If the VIP is connected to the network via a switch, both devices must be set for the same type of network connection. If necessary, ask your network administrator about the switch setting.

Choose **Auto** for an autosensing network connection. If necessary you can set the value to 10 or 100 MBit/s and full or half-duplex mode (**FD** or **HD**).

Warning!
Errors such as picture interference can occur if the network capacity is not suitable for transmission of the maximum data rate generated by the VIP.

Dynamic DNS server IP address:

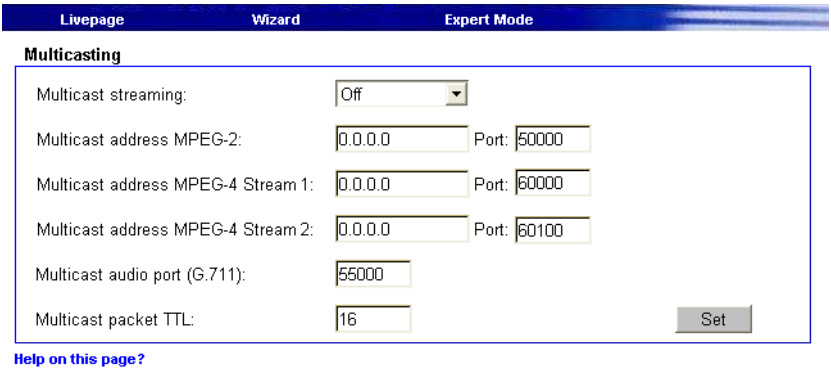
When operating a unit over the Internet, an address pool with dynamic addresses is used for greater efficiency. This means that the unit is assigned an IP address each time a connection is made and this address varies. In this case, access is easier if the unit is listed on a DNS server. It will contact the server at regular intervals and register its unit name and IP address. To connect to the VIP via the Internet, it is enough to enter the unit name and the URL of the DNS server. The server returns the current Internet IP address for the connection.

You can use the DNS server of VCS **videotec.info** as DNS server. The associated IP address is 195.145.107.78. The VIP contacts this server automatically if the desired refresh interval is entered for the next parameter. If the unit name is **MyVIP** for example, the URL **MyVIP.videotec.info** can be entered in the browser to make a connection.

Dynamic DNS contact interval:

Enter the desired update interval in seconds.

Multicasting



In addition to a 1:1 connection between an encoder and a single receiver (unicast), the VIP can enable multiple receivers to receive the video signal from an encoder simultaneously. This is achieved either by duplicating the data stream in the unit with subsequent distribution to multiple receivers (multi-unicast) or by distribution of a single data stream over the network to a number of receivers in a defined group (multicast). A dedicated multicast address and port can be specified for each of the three data streams.

Note
The prerequisite for multicast operation is a multicast-capable network using the UDP and IGMP protocols. Other group membership protocols are not supported. The TCP protocol does not support multicast connections.

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

The network must support group IP addresses and the Internet Group Management Protocol (IGMP V2). The address range is from 224.0.1.0 to 239.255.255.255.

The multicast address can be the same for multiple data streams. Then however it is necessary to use a different port in each case so that multiple data streams are not sent simultaneously over the same port and multicast address.

Note
You must set the parameters for each data stream individually.

Multicast streaming:

Select one of the options **MPEG-2**, **MPEG-4** or **MPEG-2/MPEG-4** to enable multicast streaming. **Off** disables multicast streaming.

Multicast address MPEG-2 ... Multicast address MPEG-4 Stream 2:

Enter a valid multicast address for each data stream, so that it will be accessible in multicast mode (duplication of the data streams in the network)

When the multicast address is set to **0.0.0.0**, the respective data stream is accessible in multi-unicast mode (duplication of the data streams on the unit). The VIP supports multi-unicast connections for MPEG-4 for up to 5 receivers simultaneously.

Note
Duplication of the data on the unit for multi-unicast connections requires considerable processor power and, under certain circumstances, leads to limitations in the picture quality.

Port:

In the case of simultaneous data streams with the same multicast address the data streams must be assigned to different ports.

Enter the port address for the particular multicast address here.

Multicast audio port (G.711):

If audio is to be transmitted in multicast mode, too, the audio data must be assigned to another port as it is a separate data stream. The only exception to this is the PRG stream in MPEG-2 which combines audio and video data to one stream.

Enter the port address for the audio stream here.

Note
A separate audio stream is only transmitted if the corresponding function on the **Audio stream** page is enabled (see page 49).

Multicast packet TTL:

This value determines the "life span" of multicast packets on the network. If multicast is operated via a router, the value must be greater than 1 to ensure that the packets are passed on.

Version information

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.

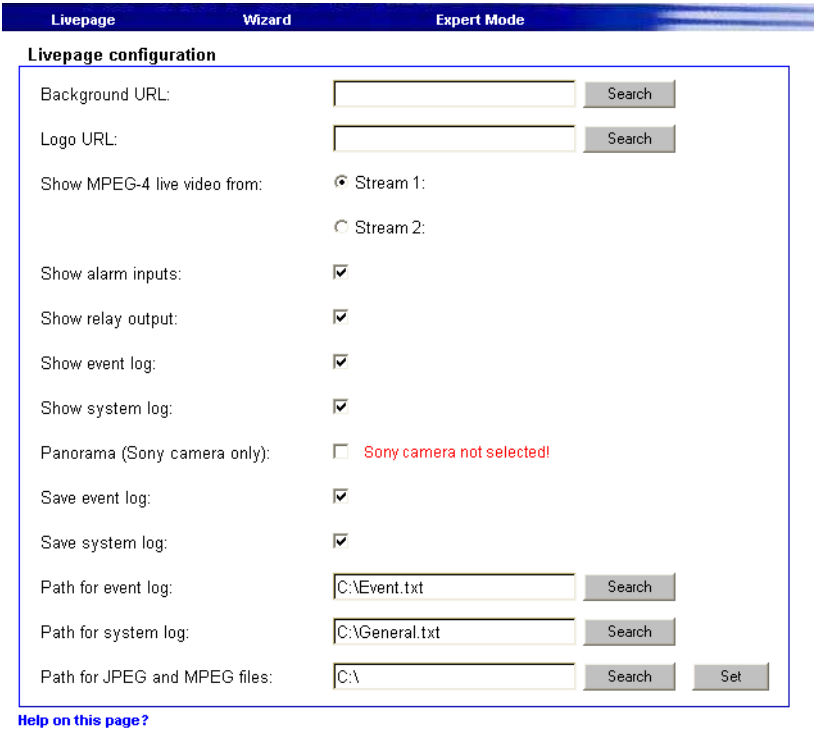
Hardware version:

The hardware version number of the VIP is displayed.

Firmware version:

The firmware version number of the VIP is displayed.

Livepage configuration



In this dialog, the appearance of the Livepage can be set up to suit your requirements. Options are provided here to display various information and operating elements in addition to the video image.

Moreover, individual background graphics can be used for the main window and for the upper area of the window (banner).

Note

Either GIF or JPEG images can be used. The file paths must correspond to the access mode (local paths such as `C:\Images\Logo.gif` for local files and URLs such as `http://www.vcs.com/images/logo.gif` for files on the Internet).

Please note for access via Internet/intranet that there must be a connection in order to display the image. The image files are not stored on the VIP.

– Mark the checkboxes for the information to be displayed on the Livepage. The selected elements are marked.

– Check the display of the desired information on the Livepage.

Background URL:

Enter the path to a suitable background graphic in this field. The image can be stored on a local computer, a local network or at an Internet address.

– Click **Search** if necessary to find a suitable image on the local network.

Logo URL:

Enter here the path for a suitable image for the upper part of the window (banner). The image can be stored on a local computer, a local network or at an Internet address.

– Click **Search** if necessary to find a suitable image on the local network.

Note
To restore the original graphics, just delete the entries in the fields **Background URL** and **Logo URL**.

Show MPEG-4 live video from:

Select a stream for the MPEG-4 video image on the Livepage.

Show alarm inputs:

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

Show relay output:

The relay output is displayed next to the video image as icon along with its assigned name. If the relay is active the corresponding icon changes color.

Show event log:

The event log will be displayed with date and time in a field under the video image.

Show system log:

The system log will be displayed with date and time in a field under the video image and provide information about connections, etc.

Panorama (Sony camera only):

Selecting this option enables the display of a panoramic image. The panoramic image is shown in the upper part of the browser window. It consists of five single images that can be updated any time (see page 96).

Note
The panoramic image facility is only available with Sony EVI-D100 or EVI-D30/31 cameras.

Save event log:

Select this option to save the event log in a text file on the local computer.

These logs can be viewed, edited and printed with any software that can work with text files.

Save system log:

Select this option to save the system log to a text file on the local computer.

These logs can be viewed, edited and printed with any software that can work with text files.

Path for event log:

Enter full path for the event log file.

– If necessary, click **Search** to find a suitable folder.

Path for system log:

Enter full path for the system log file.

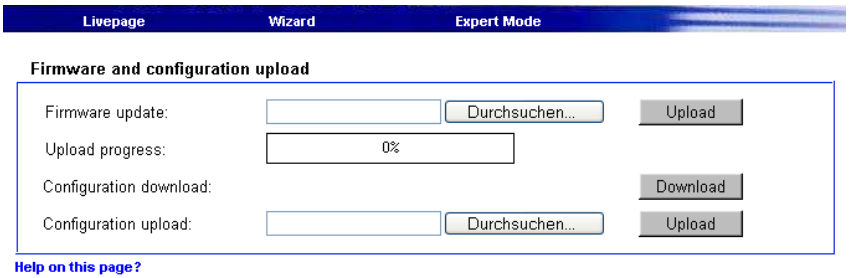
– If necessary, click **Search** to find a suitable folder.

Path for JPEG and MPEG files:

Enter the full path for saving snapshots and video sequences to be saved from the Livepage.

– If necessary, click **Search** to find a suitable folder.

Firmware and configuration upload



Firmware update:

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

Thus a VIP unit can be serviced and updated remotely without requiring a technician to make changes on-site.

The current firmware can be obtained from VCS Customer Service or downloaded from the Internet at our Web site (www.vcs.com).

Warning!
Before starting the firmware upload, be sure that you have selected the correct 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 damage the flash EPROMs. This can also 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 **Durchsuchen...** to locate and select the file.

– Click **Upload** to begin transmission to the unit. Transmission progress can be monitored from the progress bar.

The new firmware will be decompressed and used to reprogram the flash EPROM. The time necessary is indicated 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 flashes red and yellow alternately, the upload has failed and must be done again. This requires that you work from a special page:

– Enter the IP address of the unit in the browser and append `/main.htm` (for example `192.168.0.12/main.htm`).

– Repeat the upload.

Configuration download:

The VIP configuration data can be saved on a computer and the saved data loaded on a unit from the computer.

– 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 **Durchsuchen...** to select the desired file.

– Make sure that the file to be loaded originates from the same type of device as the unit you want to reconfigure.

– Click **Upload** to begin transmitting the file to the unit. Transmission progress can be monitored from the progress bar.

After the upload is completed, the new configuration will be activated. The time necessary is indicated by the message **going to reset Reconnecting in ... seconds**.

After the upload is completed successfully, the unit will restart automatically.

Function test

The VIP offers a number 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 will function as intended in an alarm situation.

Check for the following functions (among other things):

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

7 Configuring the Receiver

Basics

The VIP offers various configuration options. Configuration in Expert Mode with a Web browser is described below. Basic information about configuration with a Web browser and other configuration options are described in Chapter 5 of this user guide.

Unit identification

The unit can be assigned a name and an ID to facilitate identification. Both make the task of managing several units in larger video surveillance systems with VIDOS von VCS or other tools much simpler.

Unit name:

Enter a name for the unit here.

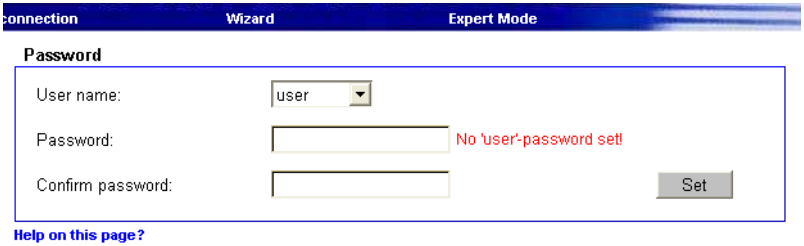
Note

The unit name is only used to identify a device remotely, for example in case of an alarm call or when using a DNS server for easier device calling. Enter a name that makes it as easy as possible to identify the location unambiguously.

Unit ID:

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

Password



A VIP unit is generally protected by password to prevent unauthorized access. You can limit the scale of access by choosing between different authorization levels (**User name:**).

Note

Correct password protection is only granted when all higher levels of authorization are also protected by password. If a **user** password is assigned a **service** password must be assigned, too. Therefore assign passwords always beginning with the highest authorization level.

User name:

The receiver operates with two user names: **service** and **user** which refer to different authorization levels.

The user name **service** refers to the highest authorization level. Logged in under **service**, you can use all functions of the VIP and change all settings.

The user name **user** refers to the medium authorization level. Logged in under **user**, you can connect the unit to a sender on the network and close the connection, but no changes can be made to the configuration.

Password:

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

Enter a password for the chosen user name here.

Confirm password:

Re-enter the new password to prevent typing mistakes.

Note

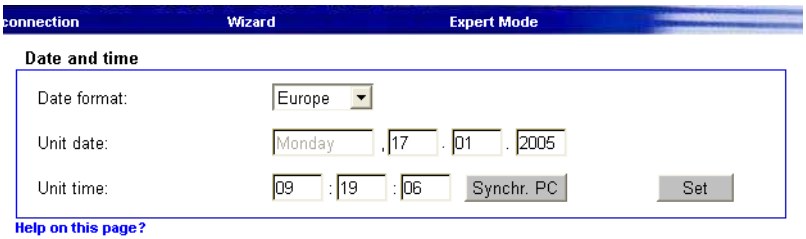
The new password becomes effective only after you have clicked **Set**. Therefore always click **Set** immediately after having entered and confirmed the password even if afterwards you want to assign a password to another user name, too.

Language

Website language:

Select the language for the website from the dropdown field.

Date and time



If a number of units are part of a system, it is important that the internal clocks of these separate units be synchronized. Only if all units operate with the same time it is possible, for example, to correctly identify and evaluate recordings that have been made simultaneously.

Date format:

Choose the desired date format here
(Europe: DD.MM.YYYY; USA: MM.DD.YYYY; Japan: YYYY/MM/DD).

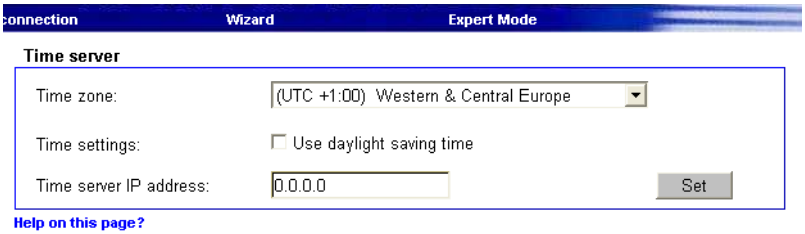
Unit date:

Enter the current date here. Since the unit time is controlled by the internal clock, it is not necessary to enter the day of week. This is added automatically.

Unit time:

Enter the current time here or click the **Synchr. PC** button to copy the system time of your computer to the VIP.

Time server



Using the Time Server Protocol the VIP can receive a time signal from a time server and use it to set its internal clock. The device calls up the time signal automatically every ten minutes.

Time zone:

Select the time zone that applies to your system.

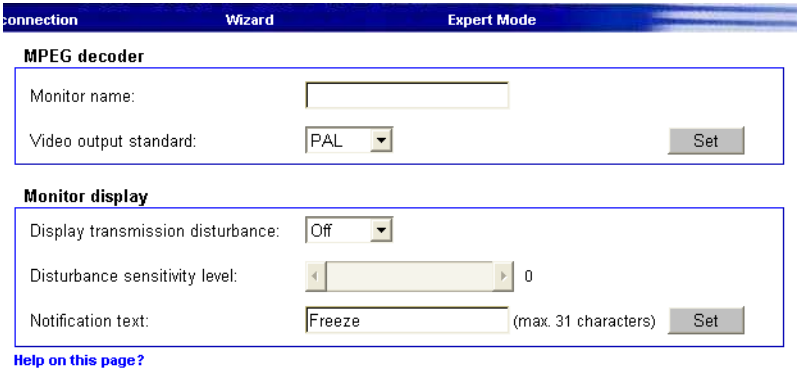
Time settings:

Select this during daylight savings time if the time change is to be taken into account. Deselect it when standard time has resumed.

Time server IP address:

Enter the IP address of the chosen time server here.

MPEG decoder



The monitor can be assigned a name to facilitate identification. The video output standard for the connected monitor can also be selected here.

The VIP can monitor the incoming data stream for integrity and can display a notification text on the monitor when it has detected disturbances in the transmission.

Monitor name:

Enter the desired monitor name here. The monitor name is used for easier identification of the monitor in large systems, e.g. it is displayed in VIDOS, the VCS software for managing video surveillance systems.

Enter a unique, unambiguous name.

Video output standard:

Select the video standard for the monitor output.

Warning!
Be sure to choose the correct video standard to avoid damaging the monitor.

Display transmission disturbance:

Choose **On** to display a text on the monitor in case of transmission disturbances.

Disturbance sensitivity level:

Here you can define at what level the text display is triggered. The lower the value the higher the sensitivity level of the VIP.

Notification text:

Enter the text that is to be displayed on the monitor. It can contain up to 31 characters.

Audio stream

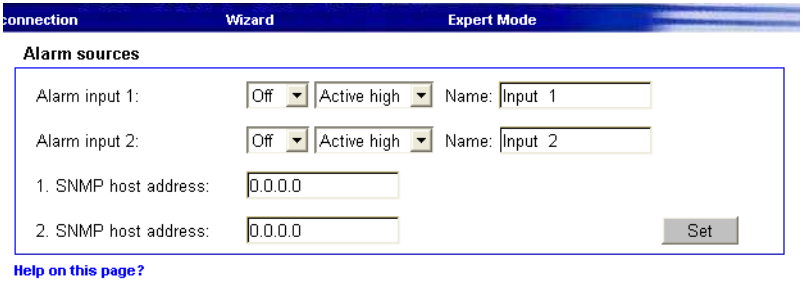
In addition to video data, the unit can also send and receive audio signals. The transmission of audio takes place at the same time as that of the video data in a separate data stream. Thus it increases the data traffic. The audio data is coded according to G.711 compression standard and requires an additional bandwidth of about 80 kBit/s per direction.

Note
Sending of audio signals via the receiver is only possible if the audio function of the sender is enabled (see page 49) and the checkbox **Include audio** on the **Decoder connection** page is activated (see page 102).

Enable audio:

To transmit a separate G.711 audio stream choose **On**.

Alarm sources



Both VIP decoder alarm inputs can be configured individually.

Alarm input 1 ... Alarm input 2:

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

Choose **Active high** to trigger the alarm closing the contact. Choose **Active low** to trigger the alarm opening the contact.

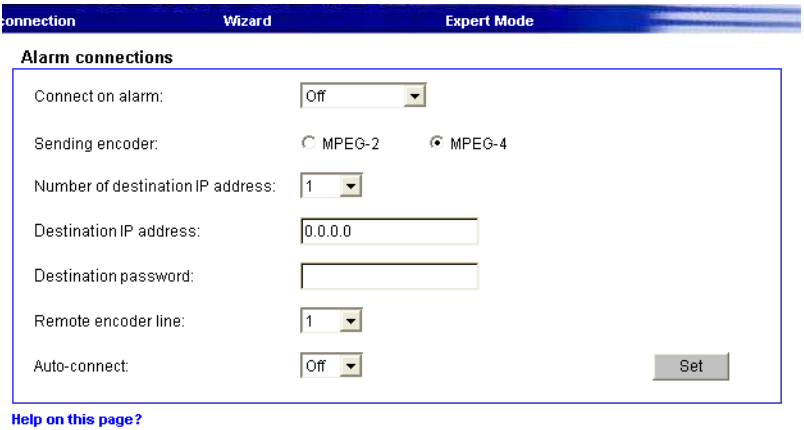
Name:

You can enter a name for each alarm input.

1./2. SNMP host address:

Enter the IP addresses of up to two chosen receivers here if SNMP-traps are to be sent.

Alarm connections



You can select a number of options for the response of the VIP to an alarm. In case of an alarm, the VIP can establish a connection to a predefined IP address, e.g. a VIP sender, automatically. You can enter up to ten IP addresses which will be selected in sequence by the unit until a connection is established.

Note
Sender and receiver must share the same subnet for connection set-up (see page 86).

Connect on alarm:

Select **On** for the VIP to establish a connection automatically to a specified IP address in the event of an alarm.

With the setting **Follows input**, the VIP holds the automatically set up connection to a remote location as long as an alarm signal is present at its alarm input 1. You can use this setting to establish a connection between two VIP units via a connected on-off switch. In this case you don't need a computer to set up the connection.

Sending encoder:

Here you can select the encoder that is to be connected in case of alarm dependent on the environment used (network configuration). In doing so, consider the settings of the remote sender (MPEG-2/MPEG-4-ability).

Note
If the VIP connects to a "dual streaming“ encoder Stream 1 will be transmitted.

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 of the desired remote unit.

Destination password:

Enter the password, if the remote unit is protected by a password.

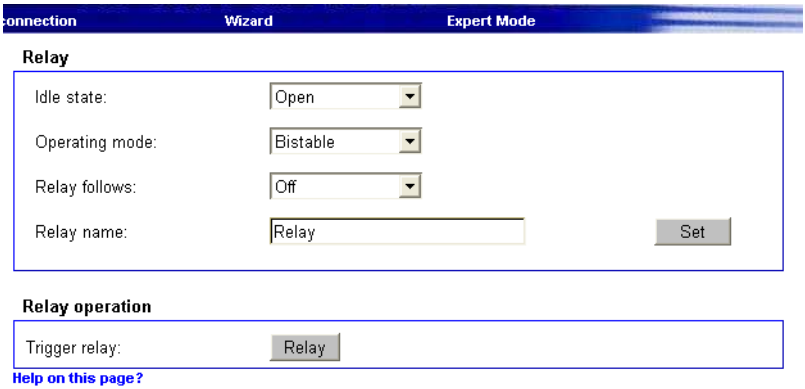
Remote encoder line:

If the remote unit is a multi-channel device enter here the number of the video input which is to be the data source.

Auto-connect:

Select **On** if an active connection should be reestablished automatically to one of the previously specified IP addresses after each restart, e.g. after a connection breakdown or network dropout.

Relay



You can configure the switching behavior of the relay output. Relay action can be specified either as open switch (normally closed contact) or closed switch (normally open contact).

It is also possible to specify whether the output signal should be bistable or monostable. With bistable operation, the relay remains in the activated state. With monostable operation, the delay 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 situation is no longer active.

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 light switched on by an alarm is to remain lit when the alarm has ended, select **Bistable**. If an audible 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 caused whenever a connection is established
- **Local input 1**
  Triggering caused by the alarm input 1
- **Remote input 1**
  Triggering caused by a relay contact at a remote location (only when a connection is established)

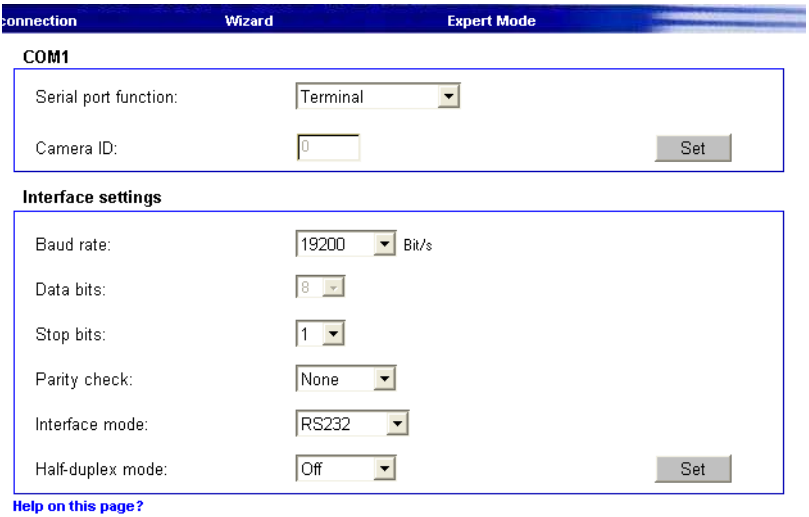
Relay name:

A name can be assigned to the relay in this field. The name will be shown on the button under **Trigger relay**.

Trigger relay:

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

COM1



The **RS232/485** serial interface port can be configured to meet your requirements.

Serial port function:

If you want to use the serial interface to transmit transparent data, select **Transparent**. To operate the VIP with a terminal, choose **Terminal**.

Note
After selecting an interface function, the remaining parameters in the window are set automatically and should not be altered.

Camera ID:

The camera ID cannot be changed.

Baud rate:

Select the value for the data communication 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.

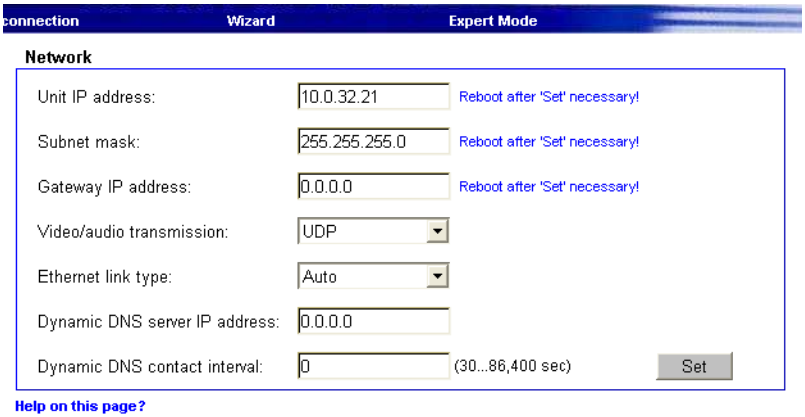
Interface mode:

Select the desired protocol for the serial interface.

Half-duplex mode:

Choose the setting appropriate for your application.

Network



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 sent to the unit when the **Set** button is clicked. However, they only take effect after the unit is restarted!

– Click **Set** after entering a new IP address.

– Enter the old IP address in the address field of the Web browser and append `/reset` to it (e.g. `192.168.0.2/reset`). The VIP 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 in this field. The IP address must be valid for the network.

Subnet mask:

Enter the subnet mask corresponding to the inserted IP address here.

Gateway IP address:

Enter the IP address of the gateway here if the unit is to establish a connection to a unit that is in another subnet. Otherwise, this field can remain empty (0.0.0.0).

Video/audio transmission:

If the device 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 possible only with the UDP protocol. The TCP protocol does not support multicast connections.

Note
In UDP mode the MTU is 1514 bytes.

Ethernet link type:

If the VIP is connected to the network via a switch, both devices must be set for the same type of network connection. If necessary, ask your network administrator about the switch setting.

Choose **Auto** for an autosensing network connection. If necessary you can set the value to 10 or 100 MBit/s and full or half-duplex mode (**FD** or **HD**).

Warning!
Errors such as picture interference can occur if the network capacity is not suitable for transmission of the maximum data rate generated by the VIP.

Dynamic DNS server IP address:

When operating a unit over the Internet, an address pool with dynamic addresses is used for greater efficiency. This means that the unit is assigned an IP address each time a connection is made and this address varies. In this case, access is easier if the unit is listed on a DNS server. It will contact the server at regular intervals and register its unit name and IP address. To connect to the VIP via the Internet, it is enough to enter the unit name and the URL of the DNS server. The server returns the current Internet IP address for the connection.

You can use the DNS server of VCS **videotec.info** as DNS server. The associated IP address is 195.145.107.78. The VIP contacts this server automatically if the desired refresh interval is entered for the next parameter. If the unit name is **MyVIP** for example, the URL **MyVIP.videotec.info** can be entered in the browser to make a connection.

Dynamic DNS contact interval:

Enter the desired update interval in seconds.

Version information

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.

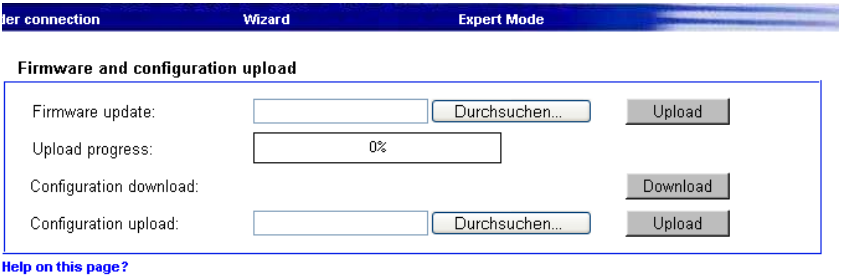
Hardware version:

The hardware version number of the VIP is displayed.

Firmware version:

The firmware version number of the VIP is displayed.

Firmware and configuration upload



Firmware update:

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

Thus a VIP unit can be serviced and updated remotely without requiring a technician to make changes on-site.

The current firmware can be obtained from VCS Customer Service or downloaded from the Internet at our Web site (www.vcs.com).

Warning!
Before starting the firmware upload, be sure that you have selected the correct 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 damage the flash EPROMs. This can also 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 **Durchsuchen...** to locate and select the file.

– Click **Upload** to begin transmission to the unit. Transmission progress can be monitored from the progress bar.

The new firmware will be decompressed and used to reprogram the flash EPROM. The time necessary is indicated 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 blinks red and yellow alternately, the upload has failed and must be done again. This requires that you work from a special page:

– Enter the IP address of the unit in the browser and append `/main.htm` (for example `192.168.0.12/main.htm`).

– Repeat the upload.

Configuration download:

The VIP configuration data can be saved on a computer and the saved data loaded on a unit from the computer.

– 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 **Durchsuchen...** to select the desired file.

– Make sure that the file to be loaded originates from the same type of device as the unit you want to reconfigure.

– Click **Upload** to begin transmitting the file to the unit. Transmission progress can be monitored from the progress bar.

After the upload is completed, the new configuration will be activated. The time necessary is indicated by the message **going to reset Reconnecting in ... seconds**.

After the upload is completed successfully, the unit will restart automatically.

Function test

The VIP offers a number 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 will function as intended in an alarm situation.

Check for the following functions (among other things):

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

Sender Operation 8

Operation with Microsoft Internet Explorer

A computer with Microsoft Internet Explorer (version 6.0 or later) can be used to receive live images from the VIP, control cameras or other peripherals and replay sequences stored on the local hard drive.

Note

Make sure the graphic card is set to 16 or 32 bit color depth and the Microsoft Virtual Machine is installed and active on your computer. If necessary, the required software and controls can be installed from the CD provided (see the list of components supplied, page 11).

Instructions for using the Web browser will 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

Read the indications given in the document **System Requirements** on the CD provided.

MPEG-ActiveX installation

Note

In order to display the 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 CD provided (see the list of components supplied, page 11).

– 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 instructions on the screen.

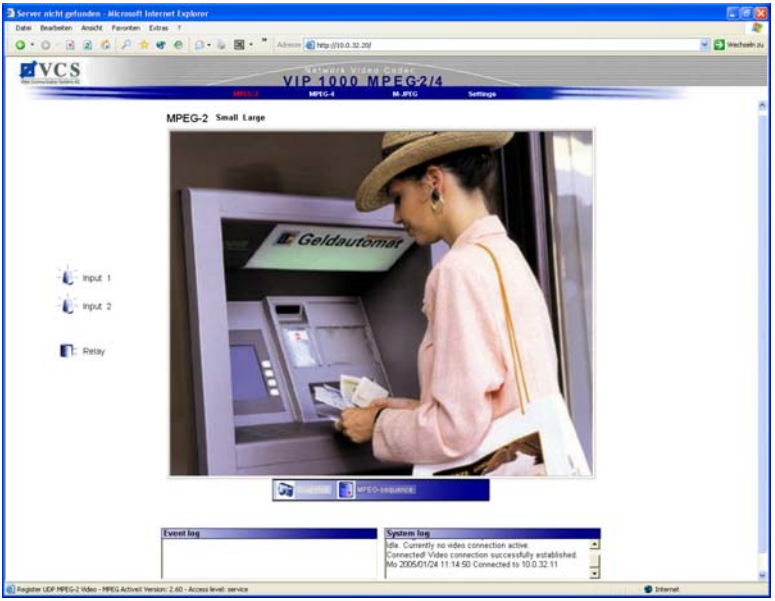
Establishing the connection

The VIP must be provided with 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 as the URL. The connection will be established, and after a short time the Livepage with the video image will appear.



The Livepage

After the connection is established, the Livepage will be displayed first. It shows the live video image in the middle of the browser window. Depending upon configuration, various text overlays may be visible on the image (see page 39).

Other information may also be shown next to the video image on the Livepage. The display depends on the settings on the configuration page **Livepage configuration** (see page 67).

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 unit and network configuration.

VIP password protection

If the VIP is password-protected against unauthorized access, a corresponding message and a prompt to enter the password will appear first.

Note
A VIP provides various authorisation levels to limit the scope of a user's access (see page 36).

– Enter the user name and the associated password in the appropriate fields.

– Click **OK**. If the password is is correct the respective page is displayed.

Image quality

The VIP 1000 displays either a live video sequence in MPEG-2 or MPEG-4 format or individual live video frames in JPEG format.

– Click on the **MPEG-4** or **MPEG-2** link in the navigation bar at the top of the browser display to display or decode the video sequences in the corresponding image format.

or

– Click on the **M-JPEG** link in the navigation bar at the top of the browser display to display or decode the individual frames in the corresponding image format.

– Click one of the links (**Small** or **Large**) above the live video image to view the image in the respective resolution.

Alarm inputs

In the event of an alarm, a red alarm symbol for the triggering alarm input is displayed next to the video image. The display of alarms and other details depends on the configuration of the unit (see page 51).

Relay output

Depending upon configuration, a device such as a floodlight or a door opener can be activated by the relay of the VIP unit. The display of the relay and other details depends on the configuration of the unit (see page 58).

– Click the relay symbol next to the video image to activate the relay output. The symbol will turn red when the relay is activated.

Event log

The **Event log** field is where events such as switching a relay or alarm status messages are listed. These messages can be saved automatically in a log file (see page 69).

System log

The **System log** field contains information about the operating status of the VIP and the connection. These messages can be saved automatically in a log file (see page 69).

Control functions

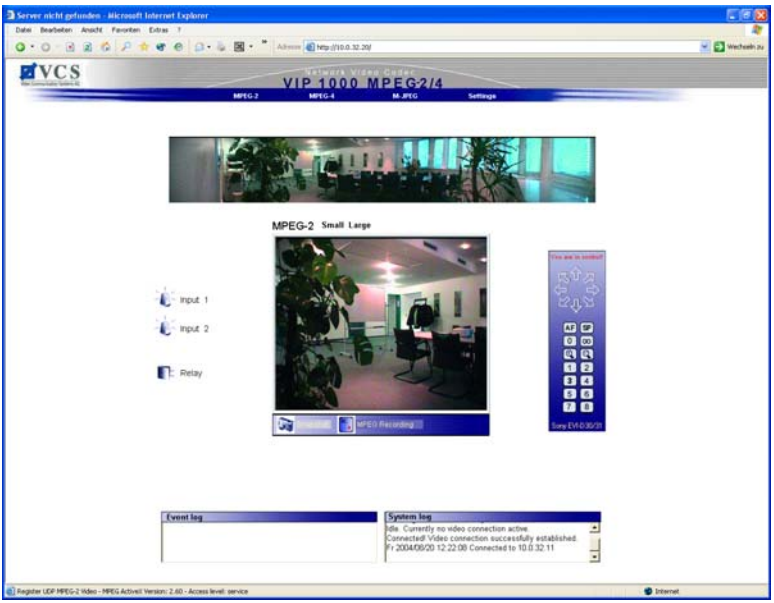
Control options for peripheral devices (such as a pan and tilt head or a dome camera) depend on the type of device installed and the configuration of the VIP.

If a controllable device is connected to the VIP and configured, the controls for the peripheral are displayed next to the video image, here e.g. for a Sony EVI-D30/31.

– To control a peripheral device click the associated operating elements.
– Move the pointer over the video image. Further options for peripheral device control will be displayed using the pointer.

Panorama view

If you are working with a Sony EVI-D100 or EVI-D30/31 camera, you can also display a panoramic image. The panoramic image is shown in the upper part of the Livepage. It consists of five single images that can be updated any time.



– Right-click on the panoramic image to open the context menu.

– Select **Start scan** to update the individual images. **Stop scan** cancels the update.

Note
The panorama image is displayed only if **Show panorama view** is selected on the configuration page **Livepage configuration** (see page 67).

Saving snapshots

Individual images from the current video sequence on the Livepage can be saved on the computer hard drive in JPEG format.

– Click the **Snapshot** icon. The image will be saved. The storage location depends on the configuration of the VIP (see page 70).

Image resolution

Snapshots can be called up and displayed at different resolutions by entering URL parameters in the address field of the Web browser:

– Type the IP address of the VIP, followed by `/snap.jpg` into the Internet address field as URL (e.g. `http://192.168.0.12/snap.jpg`).

– Press the [ENTER] key. A single frame image will be displayed in a new window.

– Right-click the image and select **Save Picture As...** from the context menu.

– Save the snapshot in the desired format, giving it a new name.

Without the extra parameter, the default image size is 352 × 288/240 (CIF) pixels. Enter a specific parameter to get another resolution:

- `snap.jpg?JpegSize=S` for 176 × 144/120 pixels (QCIF)
- `snap.jpg?JpegSize=M` for 352 × 288/240 pixels (CIF)
- `snap.jpg?JpegSize=XL` for 704 × 576/480 pixels (4CIF)

Recording video sequences

Segments from the current video sequence on the Livepage can be saved on the computer hard drive.

Click the **MPEG-sequence** icon. Saving begins immediately. The storage location depends on the configuration of the VIP (see page 70). A recording in progress is indicated by the blinking of the red dot on the icon.

– Click the **MPEG-sequence** icon again. Saving will be terminated.

Image resolution

The sequences will be recorded at the resolution specified in the encoder settings (see page 42 and 45). Select the stream for Livepage video display on the configuration page **Livepage configuration** (see page 68).

MPEG-Viewer installation

You can display recorded video sequences with the VCS MPEG-Viewer which you find on the accompanying software CD (see page 11).

Note
In order to be able to play back recorded video images with the MPEG-Viewer, an appropriate MPEG-ActiveX must be installed on the computer. For further information see page 91.

– 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.

– Open the directory entitled **MPEG-Viewer** and copy the **MPEGViewer.exe** file to your hard drive.

– You can start the MPEG-Viewer by double-clicking the file **MPEGViewer.exe**.

Receiver Operation 9

Operation with Microsoft Internet Explorer

A computer with Microsoft Internet Explorer (version 6.0 or later) can be used to set up a connection to a VCS sender and to display the live images received on a monitor.

☞ **Note**
Make sure the graphic card is set to 16 or 32 bit color depth and the Microsoft Virtual Machine is installed and active on your computer. If necessary, the required software and controls can be installed from the CD provided (see the list of components supplied, page 11).

Instructions for using the Web browser will 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**
Read the indications given in the document **System Requirements** on the CD provided.

MPEG-ActiveX installation

☞ **Note**
In order to display the 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 CD provided (see the list of components supplied, page 11).

– 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 instructions on the screen.

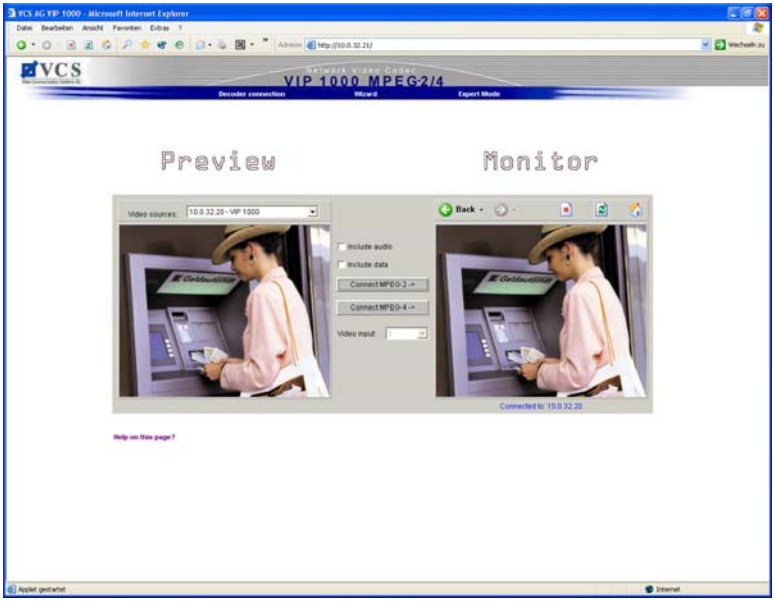
Establishing the connection

The VIP must be provided with a valid IP address to operate on your network.

The following default address has been pre-set at the factory: **192.168.0.2**

– Start the Web browser.

– Enter the IP address of the VIP as the URL. The connection will be established, and after a short time the **Decoder connection** page will appear.



The Decoder connection page

After the connection has been established, the **Decoder connection** page will be displayed and the unit automatically scans the network for available senders.

VIP password protection

If the VIP is password-protected against unauthorized access, a corresponding message and a prompt to enter the password will appear first.

Note
A VIP provides various authorisation levels to limit the scope of a user's access (see page 74).

– Enter the user name and the associated password in the appropriate fields.

– Click **OK**. If the password is is correct the respective page is displayed.

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 other means of identifying the sender.

Monitor

As soon as a connection with a sender is established, you will see a snapshot of the video image from the connected sender here.

Connection between the receiver and sender

During startup the VIP automatically scans the network for available senders. As soon as a sender is found on the network, the VIP automatically displays a snapshot of this sender. All the senders found are listed in a dropdown list labeled **Video sources**.

Establishing a connection

– Choose a sender from the list of **Video sources**. A JPEG snapshot from the video source selected will appear on the start page under **Preview**.

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 unit and network configuration.

– Mark the checkbox **Include audio** if you want to transmit audio, too. Make sure for correct audio transmission configuration for both, sender and receiver.

– Mark the checkbox **Include data** if you want to transmit transparent data, too. Make sure for correct data transmission configuration for both, sender and receiver.

☞ **Note**
The checkboxes must be marked prior to connection set-up in order to include audio and data transmission.

– Click the corresponding checkbox again to deactivate audio or data transmission respectively.

– Click a button to connect the video images to the connected monitor. Depending on the configuration of the sender you can choose between **Connect MPEG-2** and **Connect MPEG-4**. Under **Monitor** a snapshot from the connected source is displayed.

– If the sender is a multi-channel unit, e.g. a VideoJet 8000 from VCS, you can choose the **Video input** to be displayed.

Terminating a connection

– Click the close button (**X**) in the 'Monitor'-window title bar to stop the video display on the monitor.

Hardware Connections 10

Hardware connections between VCS units

A VIP sender, connected to a camera, and a VIP receiver, connected to a monitor, can be linked together or to other VCS units easily via an Ethernet network. This makes it possible to establish connections over large distances with little effort for installation or cabling.

Installation

The VCS units are designed to connect with one another automatically when correspondingly configured. The only requirement is that they are both part of a closed network. Proceed as follows to install the units:

– Connect the units to the closed network using Ethernet cables.

– Connect them to the mains supply.

Note
Make sure the units are correctly configured for the network environment and that the correct IP address of the remote unit that is to be connected in case of alarm is set on the configuration page **Alarm connections** (see page 54 for the sender and page 81 for the receiver).

Establishing the connection

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

- when an alarm signal is given,
- using a terminal program or
- using a Web browser

Connection when an alarm signal is given

Sender and receiver can be configured to connect automatically with each other when an alarm is triggered (see page 53 for sender and page 81for receiver). After a short time, the live video image from the sender will be shown on the connected monitor.

This option can also be used to connect two VCS units via an on-off switch at the receiver. In this case, a computer is not needed to establish the connection (see page 80).

Connection using a terminal program

This operating mode has various prerequisites. Refer to the section **Setup using terminal software** (see page 23).

– Start the terminal program. Enter the command `i` to call up the **IP** menu.

– Enter the command `r` in the **IP** menu to change the remote IP address, then enter the IP address of the device to connect to.

– Enter the command `a` in the **IP** menu to activate **a**utomatic connection set up.

Connection using a Web browser

This operating mode has various prerequisites. Refer to the section **Establishing the connection** (see page 27).

– Use the Web browser to connect to the VIP receiver. Its home page will be displayed.

– Establish the desired connection to the monitor (see page 101).

Closing the connection

The connection may be closed using a terminal program or Web browser.

Closing the connection using a terminal program

– Start the terminal program (see page 23); enter the command `i` to call up the **IP** menu.

– Enter the command `a` in the **IP** menu to deactivate automatic connection.

Closing the connection using a Web browser

– Use the Web browser to connect to the VIP receiver. Its home page will be displayed.

– Click the close button (**X**) in the ’Monitor’-window title bar to stop the video display on the monitor.

Operation with Decoder Software 11

Operation with VIDOS

VIP video servers and VIDOS software can be combined to form a high-performance system solution.

VIDOS is software for the operation, control and administration of CCTV installations (e.g. surveillance systems) at remote locations. It runs under Microsoft Windows operating systems. Its main function is decoding video, audio and control data from a remote sender.

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

Maintenance and Upgrades 12

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 unit is active in the network.

– Open the DOS command prompt.

– Type `ping` followed by the IP address of the unit.

If the unit is found, the response appears as `Reply from ...`, followed by the number of bytes sent and the transmission time in milliseconds. Any other response indicates that the unit cannot be accessed via the network. Possible causes:

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

Device reset

The reset button can be used to reset the unit to its original factory 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 settings using the **Download** button on the configuration page entitled **Firmware and configuration upload** (see page 70 for sender and page 88 for receiver).

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 entitled **Installation** (see page 24).

– If necessary, back up the current settings using the **Download** button on the configuration page entitled **Firmware and configuration upload** (see page 70 for sender and page 88 for receiver).
– Use a pointed object to press the reset button which is found below the USB interface (see page 16) until the „operating status“ LED blinks red. All settings will revert to their defaults.
– Change the IP address of the unit as necessary.
– Configure the unit to meet your requirements.

Repairs

Warning!
Never open the casing of the VIP device. The unit does not contain parts that you can repair or replace.

Ensure that maintenance or repair work is performed only by personnel qualified in electro-technics and network technology, or contact your VCS dealer service center.

Transfer and disposal

The VIP should only be passed on together with this manual.

The unit and its power supply contain environmentally hazardous materials that must be disposed of according to law.

Defective or superfluous units and parts should be disposed of professionally or taken to your local collection point for hazardous materials.

Appendix 13

Troubleshooting

If you cannot correct a malfunction, please contact your supplier, system integrator or VCS customer service (Support.STVC@de.bosch.com).

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 field of the browser, append `/version.htm` to the IP address of the unit (e.g. `192.168.0.12/version.htm`) and press Enter.

– 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.

Problem	Possible Causes	Solution
No connection between the unit and terminal program.	Faulty cable connections.	Check all cables, plugs, contacts and connections.
	The computer's serial interface is not connected.	Check the other serial interfaces.
	Interface parameters do not match.	Select a different COM port if necessary and make sure that the computer's interface parameters match those of the unit. You can also try the following standard parameters: 19,200 baud, 8 data bits, no parity, 1 stop bit. After that, switch off the power to the unit and switch it on again after a couple of seconds.
No image transmission from the target location.	Defective camera.	Connect a local monitor and check the camera function.
	Faulty cable connections.	Check all cables, plugs, contacts and connections.

Problem	Possible Causes	Solution
No connection established, no image transmission.	The unit's configuration.	Check all settings.
	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 data transmission with the `ping` command.
	The maximum number of connections possible to other devices has already been reached.	Wait until there is a free connection and contact the sender again.
No image transmission to analog monitor	Transmission data rate to high for receiver	Reduce transmission data rate at the sender.
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.	No alarm source is chosen.	Select alarm input on the **Alarm sources** configuration page.
	No alarm action selected.	Define the desired alarm actions 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 no longer operational after a firmware upload.	Incorrect update file.	Connect the unit via Web browser typing its IP address followed by `/main.htm` and repeat the upload.

LEDs

The VIP video server is equipped with several LEDs that show the operating status and can give indications of possible malfunctions:

Operating status LED

Not lit:	Device is switched off.
Lit yellow:	Device is switched on.
Lit red (briefly):	Device is starting up.
Lit red (continuously):	Device is out of order.
Blinking yellow/red:	Upload failed.

Network connection LED

Lit green:	Connected to the network.
Not lit:	Not connected to the network.

Data transfer LED

Blinking orange:	Data transfer via the network.
Not lit:	No data transfer.

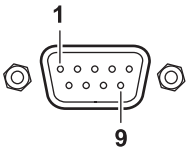
RS232/485 interface

Options for using the serial interface include transparent data transfer, control of connected devices or operation of the unit with a terminal program. Depending on the setting, the interface works with the RS232 or RS422/485 standard. The standard used depends on the current configuration (see page 60).

Depending on the device the serial interface is either a Sub-D connector (receiver) or an RJ45 connector (sender).

Sub-D connector pin assignments (receiver)

The pin assignments depend on the standard used.



Pin	RS232 Standard	RS422/485 Standard
1	–	–
2	RxD (receive data)	RxD+ (receive data plus)
3	TxD (transmit data)	TxD- (transmit data minus)
4	–	–
5	GND (ground)	GND (ground)
6	–	–
7	RTS (ready to send)	TxD+ (transmit data plus)
8	CTS (clear to send)	RxD- (receive data minus)
9	–	–

Note

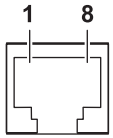
For RS422/RS485 pin assignment is also possible for 2-wire connection.

– Connect the TxD+ with the RxD+. TxD+ then is equivalent to DATA+.

– Connect the TxD- with the RxD-. TxD- then is equivalent to DATA-.

RJ45 connector pin assignments (sender)

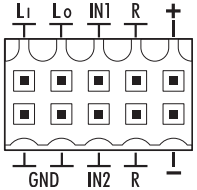
The pin assignments depend on the standard used.



Pin	RS232 Standard	RS422/485 Standard
1	RxD (receive data)	RxD+ (receive data plus)
2	CTS (clear to send)	RxD- (receive data minus)
3	–	–
4	–	–
5	GND (ground)	GND (ground)
6	–	–
7	TxD (transmit data)	TxD- (transmit data minus)
8	RTS (ready to send)	TxD+ (transmit data plus)

Connection jacks

The connection jacks are used to connect to the mains supply. As standard, the connection to the power supply unit is made here. They also allow the connection of alarm switches, relays, an audio source and a loudspeaker.



Terminal allocation

Terminal	Function
Li	audio input (line level)
Lo	audio output (line level)
IN1	Alarm 1 input
R	alarm output
+	power supply, 9 to 24 V
GND	electrical ground
GND	electrical ground
IN2	Alarm 2 input
R	alarm output
–	power supply

Each alarm input (IN1 resp. IN2) is to be connected with the electrical ground (GND) using a trigger contact.

Glossary

A few brief explanations of the most important terms and abbreviations used in the field of communications technology can be found 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	Measure for the speed of the data transfer rate
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)
G.711	Standard ITU-T audio coding algorithms
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. Together with the Transfer Control Protocol (TCP), it constitutes "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 periods 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.
M-JPEG	Motion-JPEG; the video sequence is generated stringing together JPEG-images

MAC	Media Access Control
MPEG-2	Enhanced video compression standard, with high-level compression that makes images of studio quality possible. It has now become established as a broadcasting standard.
MPEG-4	Further development of MPEG-2, designed for transmission of audiovisual data at very low transfer rates (for example via the Internet).
MTU	Maximum Transmission Unit resp. Maximum Transfer Unit
Netmask	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, for example "255.255.255.192".
Parameter	Values used for configuration
QCIF	Quarter CIF, a video format with 176 × 144/120 pixels
RS232/RS422/RS485	Data transfer standards
RTP	Realtime Transport Protocol; transport protocol for video and audio in real time
SNMP	Simple Network Management Protocol
Subnet mask	*See* netmask
TCP	Transfer Control Protocol
Telnet	Connection protocol for a user to connect to a remote computer (host) in the Internet
Time Server Protocol	A protocol to synchronize computers in the Internet
TTL	Time To Live
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

VIP 1000 Specifications

Operating voltage	12 ... 24 V DC, power supply included
Power consumption	approx. 10 W
Network interface	Ethernet 10/100 Base-T, auto-sensing, half/full-duplex, RJ45
Video data rate	1 MBit/s ... 8 MBit/s (MPEG-2) 9.6 kBit/s ... 4 MBit/s (MPEG-4)
Audio data rate	256 kBit/s (MPEG-2) 80 kBit/s (MPEG-4) per direction
Audio sampling rate	48 kHz (MPEG-2) 8 kHz (MPEG-4)
Overall delay	198/180 ms PAL/NTSC (MPEG-2) 100 ms (MPEG-4)
Video standards	PAL, NTSC
Image resolution (PAL/NTSC)	MPEG-2 720 × 576/480 pixels (D1/4CIF) 352 × 288/240 pixels (CIF) MPEG-4 704 × 288/240 pixels (2CIF) 352 × 288/240 pixels (CIF) 176 × 144/120 pixels (QCIF)
Video coding protocols	MPEG-2 (MP@ML); MPEG-4; M-JPEG
Audio coding protocol	MPEG-1: ISO/IEC 11172-3, Layer I/II; 300 Hz to 10 kHz MPEG-4: G.711; 300 Hz to 3.4 kHz
Network protocols	RTP, Telnet, UDP, TCP, IP, HTTP, IGMP V2, ICMP, ARP, SNMP
Video input	1 × BNC jack 0.7 ... 1.2 V_{pp}, 75 Ohm switchable, PAL/NTSC
Video output	1 × BNC jack 1.0 V_{pp}, 75 Ohm, PAL/NTSC
Audio input	1 × push-in terminal 1.0 V_{pp}, 50 kOhm, mono
Audio output	1 × push-in terminal 1.0 V_{pp}, 60 mW, min. 8 Ohm, mono
Data interfaces	1 × RS232/RS422/RS485, bidirectional, 9-pin Sub-D

	1 × USB 1.1
Alarm input	2 × push-in terminal, max. activation resistance 10 Ohm
Relay output	1 × push-in terminal, 30 V_{pp}, 1 A
Indicators	3 LEDs (operating status, network connection, data transfer)
Operating conditions	Temperature 0 ... +50°C, relative humidity 20 ... 80%, non-precipitating
Approvals & certifications	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, Part 15
Dimensions (w × h × d)	85 × 26 × 110 mm (sender) 85 × 26 × 107 mm (receiver)
Weight (without power supply)	approx. 300 g (sender) approx. 200 g (receiver)

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