

CONVISION TECHNOLOGY

Convision S1

Version 1.1.1
English



VIDEO SOLUTIONS

INTERNET



Convision S1 Manual

Version 1.1.1

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General

Congratulations on purchasing the Convision S1.

This manual is intended to provide you with the knowledge required to connect and operate the Convision S1. Also included in the appendix are the principles for installing the required software onto your computer, if not already installed. No additional software is required to operate the Convision S1, all components are normally included in the basic software package supplied with your computer.

Please read this manual before connecting your Convision S1.

If you have any difficulties operating your Convision S1, please first check in the manual to ensure that you have observed all configuration steps. If a problem cannot be solved after thoroughly checking, you can contact Convision Technology's support service or your retail dealer.

The latest release of the Convision S1 manual and the Convision S1 firmware can be downloaded free of charge from the Convision website (www.convision.de).

The Convision S1 and cameras must only operated using 12V DC

Step by step

1. Fulfil system requirements – Chapter 3
2. Connect the components – Chapter 5
3. Configure your system –Appendix A
4. Set up your browser – Appendix C
5. Configure your Convision S1 – Chapters 8 to 11

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1 General Information

Scope of Delivery

After unpacking, check whether all parts are present.

Convision S1

Power supply DC 12 V, 1.5 A

Adapter for BNC to cinch

Cable, mini-DIN-8 to D-Sub-9

Diskette with Convision IPSetup tool
(in the near future on CD)

Manual



A sticker with the unit model and serial number is located on the bottom of the Convision S1. This information is also given on the HTML pages in the menu "Info" (see Chapter 11.12). Here you can also see the present software version for your Convision S1.

Safety Notes

The Convision S1 is a high quality electronic product, please follow the safety notes below to avoid damage:



Never place Convision S1 in the vicinity of a furnace, heater or expose to direct radiation from the sun.
Do not cover the Convision S1.



Clean your Convision S1 only with a moist cloth without abrasive cleaning agents, position your Convision S1 where it is protected against splashing water.



Never open the Convision S1 yourself. In the event of malfunctions or defects, please contact the Convision Technology GmbH support service or your dealer.
Opening the unit invalidates the guarantee!

2 Product Description

The Convision S1 is an independent video web server for live image transmission in the Internet or in a local network at a rate of 10 or 100 MBit/s. Data transfer is accomplished via TCP/IP.

Here, it is possible to select between MPEG or JPEG streaming. The unique MPEG hardware compression from Convision Technology, which transmits up to 25 images per second through the worldwide network, guarantees that the image is always clear. The advantage of MPEG technology is that instead of transmitting each image separately, only the differences between the individual images are transmitted. The data quantity is thereby reduced considerably increasing the number of images which can be transferred.

JPEG streamlining is accomplished with up to eight images per second, if users have direct access to the Convision S1, the number of access possibilities is higher than for MPEG, moreover, there is no time delay for reproduction.

Two inputs are available on the Convision S1 for monitoring functions. Here, motion sensors can be connected, for example. Any desired video camera with PAL/NTSC composite signal can be connected to the camera connection depending on the application. A serial interface allows control of pivoting cameras and other connected equipment.

An integrated image memory, which stores up to 32 prealarm and post-alarm images in the event of an alarm makes the units ideal for monitoring purposes.

Only an Internet browser is required for viewing the images. All settings required for installation can also be configured easily with the browser. Thanks to the Internet compatibility of Convision Technology, the operating system itself is absolutely insignificant.

3 System Requirements

3.1 Hardware Requirements

A computer with Ethernet connection is required for installation of the Convision S1. The Convision S1 is laid out for a 10/100 Mbit/s auto-sensing TP connection (twisted pair).

Further information on the subject of cabling can be found in Chapter 5.2.

3.2 Software Requirements

In order to be able to configure the Convision S1, an Internet browser which supports JAVA is required, such as Microsoft Internet Explorer 4.x or Netscape Communicator 4.x. We recommend using Netscape in order to be able to display the "image sequences" or moving pictures more quickly.

No special software is required to operate the Convision S1, as all components are normally already included in the standard software package supplied with the computer.

On computers with MS operating system, initial installation can be called directly as an EXE file via Convision IPSetup, with other operating systems, installation of a "JVM - Java Virtual Machine" is necessary.

4 Control Elements, Connections and Indicator Lamps

The Convision S1 includes various control elements, connections and indicator lamps which are explained in more detail below.

4.1 Front View

On the front of the Convision S1 there are four indicator lamps which indicate the status. These include the following:

- ◆ Cam: This indicator lamp illuminates when a camera is connected to the Convision S1.
- ◆ Online: flashes slowly if the Convision S1 is not configured, i.e. it has no IP address.
- ◆ Link/Activity: Illuminates when a connection is present to the Ethernet, flashes when data is transferred.
- ◆ Power: Illuminates as soon as the Convision S1 is connected to the line power and switched on.

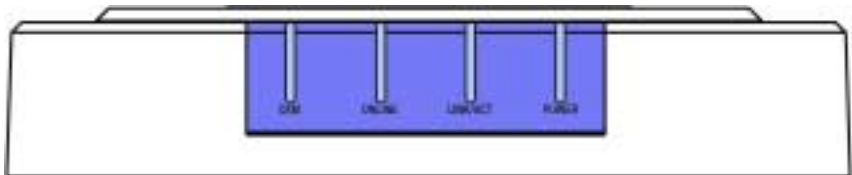


Fig. 1: Front view of the Convision S1

4.2 Rear View

The external connections required for setting up the unit are located on the rear of the Convision S1. The various connections are described in detail below:

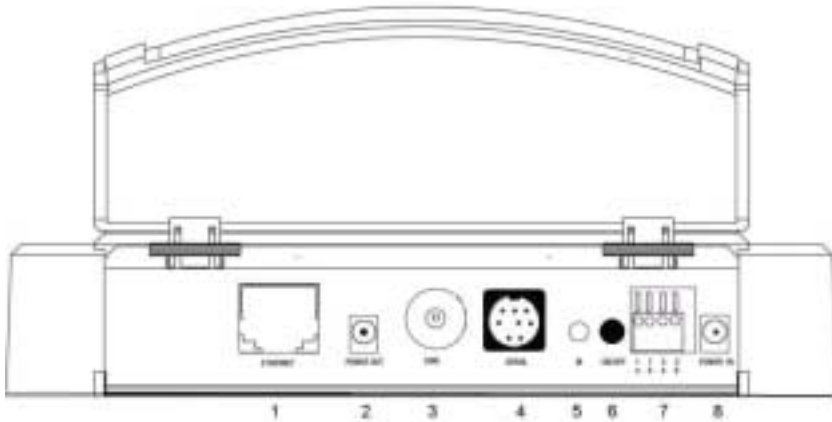


Fig. 2: Rear view of the Convision S1

1. ETHERNET: 10/100 Base T connection for using the Convision S1 in a LAN.
2. POWER OUT: 12V-DC: socket for the power supply for a connected camera
3. CAM: BNC Video Connector for the camera
4. SERIAL: (Mini Din 8) serial interface: used to control external devices, e.g. swivel camera, weather station etc. Convision provides a list of all available devices on its website www.convision.de (also see Chapter 10).
5. M-Switch: For deleting configuration
6. ON/OFF: pressing this button switches the device on and off.
7. Input connections: used to connect additional devices, e.g. smoke and motion detectors. (see Chapter 11.6)
8. POWER IN: socket for the power supply supplied with the unit

5 Connecting the Convision S1

5.1 Connection to the Power Supply

Connect the 12V plug of the connection cable from the power supply to the POWER IN socket on your Convision S1. Connect the power supply to line power with the power cable. Activate the ON/OFF switch on the rear of the unit.

5.2 Connection to a LAN

In a LAN network, the Convision S1 is connected to your computer via a TP cable (Twisted Pair). An additional device is required in the network, a hub, also known as a star distribution board. For this purpose, you require an 8-pin TP cable with RJ-45 connector.

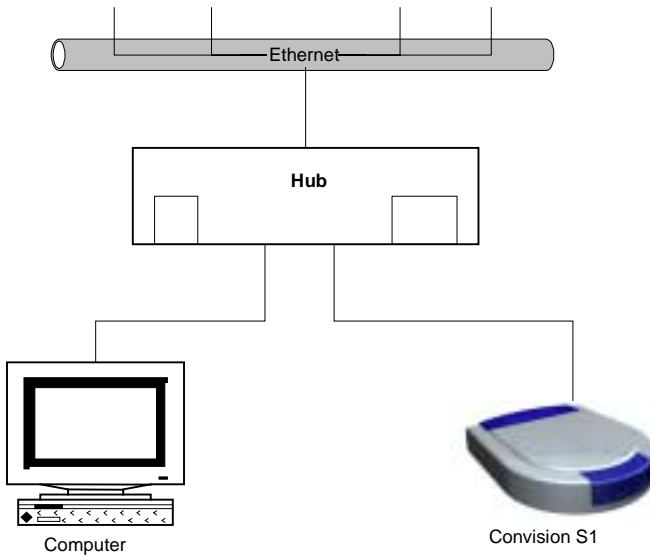


Fig. 3: LAN connection

1. Connect one end of the TP cable to the Ethernet connection on the rear of the Convision S1 (see Fig. 2: Rear view of the Convision S1).
2. Connect the other end of the TP cable to one of the inputs on the hub.
3. Please see Chapter 11.4 for information on setting the IP addresses.

☞ *Note: If you want to connect the Convision S1 directly to your PC, the two devices can be connected using what is known as a cross-connect cable. This is an eight-pin twisted pair cable with crossed pin connections. (see Chapter 7.2).*

5.3 Connecting the Camera

Depending on the application of your Convision S1, it is possible to connect different FBAS cameras such as an underwater camera or infrared camera. The following illustration shows connection of the Convision CC3 or CC2.

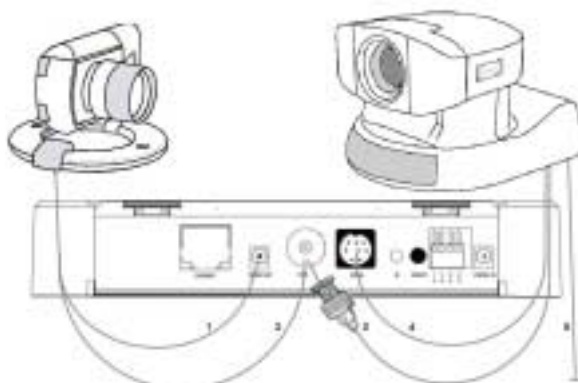


Fig. 4: Camera connection

Connection of the Convision CC3

1. To supply the camera with 12V DC, connect the power supply of the camera to the Power out socket next to the Video connection on the rear. The camera can also be supplied with power externally by a separate power supply.
2. Connect the video output of the camera (BNC connector) to the video input of the Convision S1.

Connection of the Convision CC2

3. Connect the camera plug to the video connection (CAM) on the rear of the Convision S1 using the adapter supplied (BNC to cinch).
4. Connect control cable (8 pin mini-DIN) to serial input (SERIAL) of Convision S1.
5. The power is supplied separately by the power pack included with the camera.

5.4 Input Connections

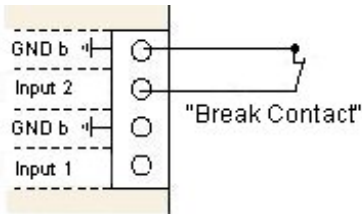


Only components which have been developed for 12 Volt technology should be connected in the alarm section on the Convision S1.

230V devices must not be connected to the inputs on the Convision S1!

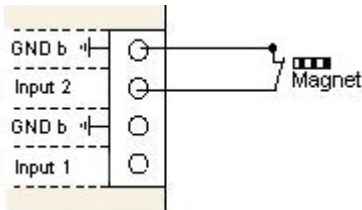
Various indicator components can be connected to the inputs. As they react to a low/high level change, the components must be closed in the idle state (NC type normally closed, "break contact").

Strip the cover of about 10-13 mm of cable for the alarm device. Press with a small screwdriver against the clamping device above the socket and put the twisted cable into the socket. After releasing the clamping device the cable secures itself, check it by pulling easily.



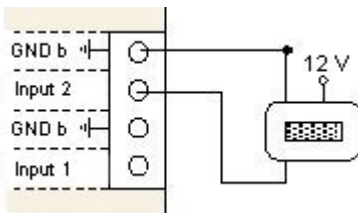
Connection of a switch
Type NC (Normally Closed)
break contact

Fig. 5: Example 1 Input Connection



Connection of a magnetic switch
Type NC (Normally Closed)
break contact

Fig. 6: Example 2 Input Connection



Connection of a motion detector
for alarm units
with own power supply
Type NC (Normally Closed)
break contact

Fig. 7: Example 3 Input Connection

6 Technical Integration

The Convision S1 can be connected in numerous different ways. A summary of the various connections and different possibilities of incorporating images and image sequences (videos) into your website is given below.

The individual connections allow various simultaneous access to the Convision S1. The band width of the various transmission paths, i.e. the quantity of data which can be transferred simultaneously varies highly. Each type of link is therefore best suited for certain image transmissions.

Please bear in mind, before deciding on a possibility, that the speed with which a visitor sees your site is not only dependent on your Internet connection but on their Internet connection as well.

Companies often have 1 or 2 MBit/s leased lines to the Internet, however, many individual users only have an ISDN or modem connection to date. For this reason, these users have only the possibility of viewing the videos at a maximum transmission rate of 64 or 128 KBits even when the Convision S1 is optimally connected.

The MPEG standard describes an image transfer rate of 25 images per second. In order to ensure this speed over slower transmission paths, the quality of the video is reduced. A video transferred via ISDN will therefore appear less fluent than one transferred via LAN.

The following table provides a summary of the types of links for the Convision S1, transmission paths and image data described in the following chapters:

	Transmission path	Image data	Chapter
Direct access to Convision S1 pages	direct	JPEG, M-JPEG MPEG	6.1
Incorporation of images in Web pages	direct	JPEG	6.2.1
		M-JPEG	6.2.3
		MPEG	6.2.4
	FTP-Upload	JPEG	6.2.2
	MCS Real-Server	MPEG	6.2.5

A schematic drawing is shown below for every type of link. In all drawings the numbers have the following meanings:

- ◆ 1 – request for images to Convision S1
- ◆ 2 – S1 reply to this request.

Pictures with a size of approx. 32 KBytes (best quality, picture size 352 x 288 pixels) are used as a basis for the data transmission rate.

6.1 Direct Connection to Convision S1

With a direct link, the user has direct access to the Convision S1 with a computer browser. The HTML pages then appear on the screen and the user can select between display of JPEG images, motion JPEG or MPEG streams. Moreover, the user has access to the configuration pages only with a password where applicable.

- ↑ ↑ ↑ Simultaneous access: up to 20, with cross-connect cable 1
- ➤ ➤ Data transmission rate: JPEG up to 8 images per second, MPEG 25 images per second

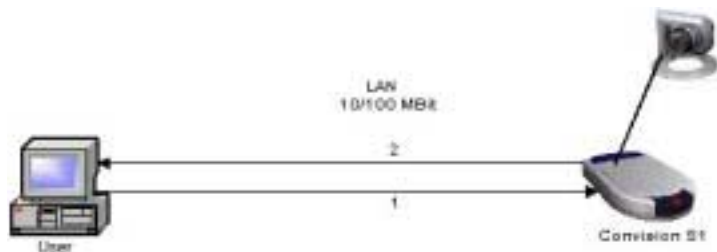


Fig. 8: Incorporation into a LAN

The simplest and fastest access possible to the Convision S1 is incorporation into a LAN using a permanently assigned IP address. The Convision S1 is integrated into the network using a hub or switch or is connected directly to a computer using a cross-connect cable. The request (1) goes over the network directly to the Convision S1, the reply (2) goes directly back to the computer.

☛ **Note:** Connection of the Convision S1 using a leased line with sufficient capacity is comparable to connection in a LAN. A leased line with capacity of 2 MBit supplies the same number of images per second. The connection to the Internet via a leased line normally goes over a router to an ISP (Internet Service Provider). For this reason, the systematic layout of the connection can be better compared with Chapter **Fehler! Verweisquelle konnte nicht gefunden werden.**, however, provides a higher data transfer rate depending on the capacity of the line.

6.2 Incorporating Images into HTML Pages

The Convision S1 offers numerous possibilities for incorporating images or image sequences into a website. In the following chapters, a distinction is initially made according to the type of data.

6.2.1 JPEG images - Direct Access to Convision S1

↑ ↑ ↑	Simultaneous access: up to 20
➤ ➤ ➤	Data transmission rate: Individual images

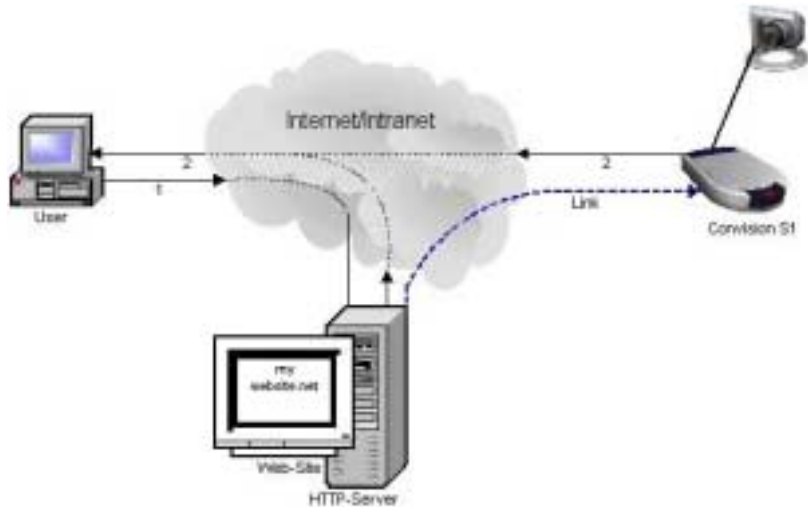


Fig. 9: Incorporation of JPEG images into a website directly by Convision S1

When setting up your website you incorporate a link which completes a connection to the Convision S1, picks up and displays an image. The image size (e.g. fullsize) can be predefined. The size of the table cell is adapted.

A connection to the Convision S1 is completed, exactly 1 image is picked up and then the connection is terminated again.

Example – Direct transmission of JPEG images:

```
.....  
<TABLE>  
<TR>  
  <TD> <IMG SRC="http://IP-Address_of_S1/fullsize.jpg?"  
        WIDTH="352" HEIGHT="288" BORDER="0"></TD>  
</TR>  
</TABLE>  
.....
```

The image ("fullsize") is loaded into a table cell in this example, whose size is adapted to the image.

Note: *If the image is refreshed at extremely short intervals, you can also use the "Server Push-Applet" or Server Push for the Netscape Navigator present in the Convision S1 (see also Motion-JPEG). Here, a connection is completed and remains open as long as new images are being transferred.*

6.2.2 JPEG Images, FTP Upload

- | | |
|-------|--|
| ↑ ↑ ↑ | Simultaneous access: Depending on provider |
| ➤ ➤ ➤ | Data transmission rate: 1 image per second |

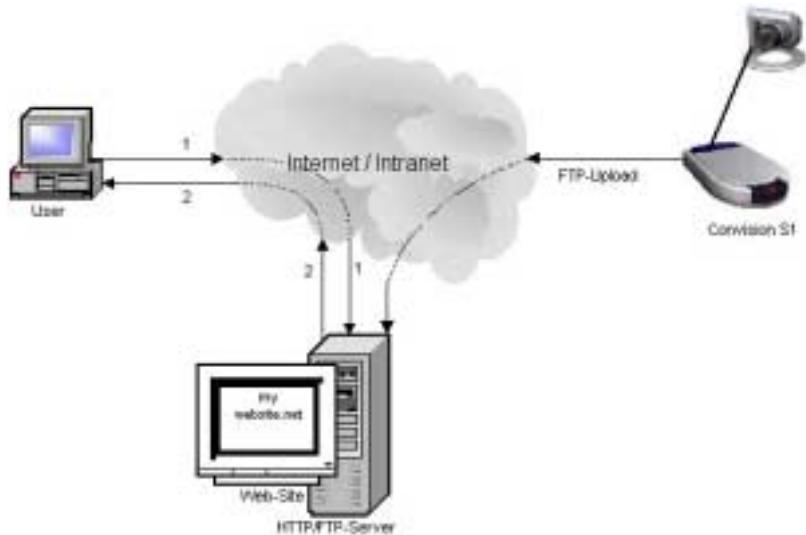


Fig. 10: Incorporation of JPEG images into a Website via FTP upload by Convision S1

You configure the FTP client function for the Convision S1 (see Chapter 11.7), causing it to transmit images regularly and independently to a server using the FTP protocol regardless of access to your website.

Under www.convision.de you receive a Refresh-Applet, which you file on your HTTP server in the same directory tree as the images. To display the images on your website, you incorporate the applet instead of the link to the image source. When starting up it picks up images from the server at regular intervals and shows them on the website. Here only the image, not the entire page is refreshed.

☛ **Note:** Applet and images must be present on the same server, because an applet may only make access to the location where it is present itself for safety reasons.

Example – Refresh-Applet:

```
.....  
<APPLET archive="Refresh.jar" code="Refresh.class" width=352  
                                                height=288>  
  <PARAM name="url" value="fullsize.jpg">  
  <PARAM name="period" value="500">  
  <PARAM name="showtime" value="1">  
  Sorry, but your browser doesn't seem to support Java.  
</APPLET>  
.....
```

When a user now accesses a website (1), he sees images which are refreshed regularly (2). If the browser does not support Java, he sees only text "Sorry, but your browser doesn't seem to support Java", instead of the image.

☛ **Note:** This technology has the advantage that every visitor to your website does not have direct access to the Convision S1. In this manner, the number of simultaneous access operation is increased and depends only on your provider.

6.2.3 Motion JPEG Stream

- | | |
|-------|---|
| ↑ ↑ ↑ | Simultaneous access: up to 20 |
| ➤ ➤ ➤ | Data transmission rate: 8 images per second |

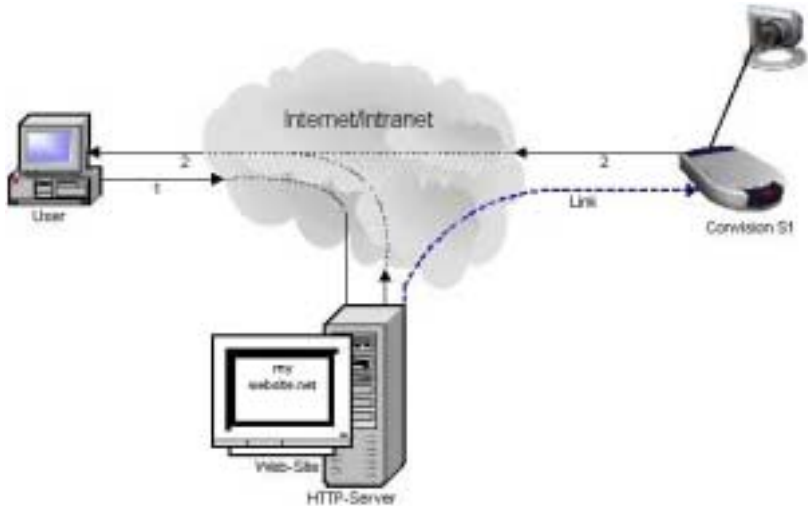


Fig. 11: Incorporation of M-JPEG streams in a website

Display of motion JPEG streams can be realized in the Netscape Navigator (starting with Version 4.x) with the Server Push supported there and in other browsers with the Push-Applet.

Server Push

When setting up your website, incorporate a link to set up a connection to the Convision S1, from where images can be picked up and displayed, in this example in a table cell. The image size can be specified here.

Example – Server Push:

```
.....  
<TABLE> <TR>  
  <TD> <IMG SRC="http://IP-Address_of_S1/fullsize.push?sleep=100"  
    WIDTH="352" HEIGHT="288" BORDER="0"></TD>  
</TR> </TABLE>  
.....
```

The HTML code is nearly the same as that required for incorporating individual images, only the suffix "jpg" has been replaced by "push", moreover, the time (sleep=x, x in milliseconds) between 2 images is specified ("sleep=100" corresponding to 10 images per second).

Push-Applet

To display the image sequence on your website, incorporate the Push-Applet for the Convision S1, when starting it picks up images from the server at regular intervals and displays them on the website.

Example – Push-Applet:

```
.....  
<TABLE ALIGN="CENTER">  
<TR>  
<TD ALIGN="CENTER">  
  <APPLET NAME="fullsize" WIDTH=352 HEIGHT=288  
    code="push.class" codebase="http://IP-Address_of_S1">  
    <PARAM NAME="url"  
      value="http://IP-Address_of_S1/fullsize.push?sleep=100&">  
    <PARAM NAME="showtime" value="1">  
    JAVA (JDK 1.1) not supported by browser!  
  </APPLET></TD>  
</TR>  
</TABLE>  
.....
```

In this example, the display of the image sequence is shown in a table cell. The parameter "url" contains the address from which the images are picked up, as well as the size "fullsize", moreover, the time (sleep=x, x in milliseconds) between 2 images is specified ("sleep=100" corresponding to 10 images per second).

6.2.4 MPEG Stream - Direct Access to the Convision S1

- ↑ ↑ ↑ Simultaneous access: 4
- ➤ ➤ Data transmission rate: 25 images per second

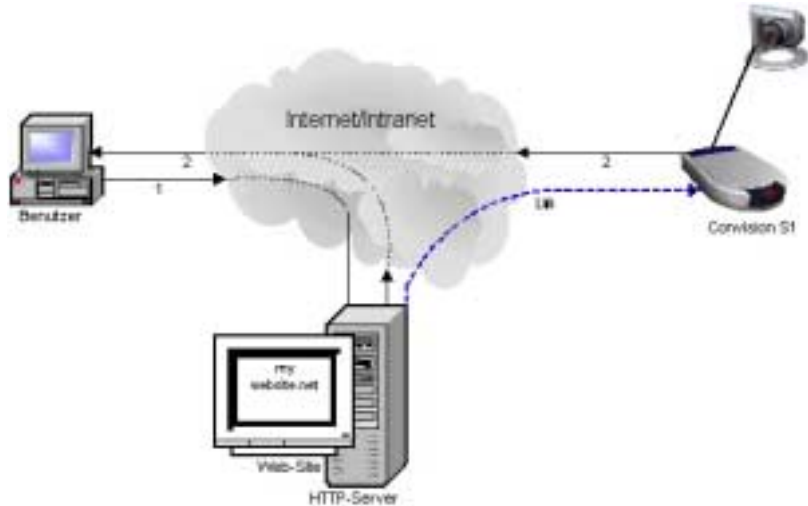


Fig. 12: Incorporation of MPEG streams in a website

An encoder and decoder are required for displaying an MPEG-stream. The encoder is a part of the Convision S1 and converts the images into MPEG streams which are then displayed as video in the browser by the decoder. An applet in the Convision S1 firmware is used as the decoder. In the Internet Explorer, the decoder can also be started as an ActiveX component or externally, i.e., as a separate window, e.g. Windows Media Player.

To display the images, it is therefore necessary for you to incorporate into your website the command to start the MPEG-Applets or the command to start the media player.

Example – MPEG-Applet:

```
.....  
<TABLE BORDER="5" ALIGN="CENTER">  
  <TR>  
    <TD ALIGN="CENTER">  
      <APPLET NAME="MPEG" code="MPEGPlayer/MPEGPlayer.class"  
        archive="/mpeg.jar" codebase="http://IP-Address_of_S1">  
        <PARAM NAME="source" VALUE="fullsize.mpg?bitrate=1024  
          &quality=6&repeatbframe=0&framepattern=19  
          &brightness=128&contrast=128&saturation=128&hue=128">  
        <PARAM NAME="repeat" VALUE="true">  
          JAVA (JDK 1.1) not supported by browser!  
      </APPLET></TD>  
    </TR>  
</TABLE>  
.....
```

In this example, display of the MPEG stream is shown in a table cell.

Example – MPEG-Active X:

```
<BODY onUnload="MP.stop()>  
.....  
<OBJECT CLASSID="clsid:22D6F312-B0F6-11D0-94AB-0080C74C7E95"  
  id=MP name=MP WIDTH=352 HEIGHT=288 >  
  <PARAM NAME="FileName" value="fullsize.mpg?  
    bitrate=1024&cLen=1234567890">  
  <PARAM NAME="ShowControls" value="FALSE">  
  <PARAM NAME="AutoStart" value="TRUE">  
  <PARAM NAME="ClickToPlay" value="TRUE">  
  <PARAM NAME="TransparentAtStart" value="TRUE">  
    ActiveX is only supported by Microsoft Internet Explorer!  
</OBJECT>  
.....  
</BODY>
```

The active components must be incorporated as an object with the specified class ID. The length of the video must be specified in milliseconds ("cLen") in the parameter "FileName", otherwise the player does not start. Since the end of a live video stream is unknown, you should enter the longest possible time here after which the player is to stop.

In order to prevent the video stream continuing to play in the background after leaving the website, it is necessary to incorporate the object function "MP.stop()" in the "Body" tag.

Example – MPEG Media player:

```
.....  
    <a href="http://IP-Address_of_S1/fullsize.mpg?bitrate=1024  
        &cflen=99999999"  
        style="TEXT-DECORATION: none">MediaPlayer</a>  
.....
```

Set the address with the various parameters as a link in the HTML code. Here, it is also necessary to specify a value for the length of the video in milliseconds ("cflen"), otherwise, the media player will not start. Since the end of a live video stream is unknown, you should enter the longest possible time here after which the player is to stop.

In this example, clicking the word "Media player" " activates the link.

6.2.5 MPEG via Real Server (Multicast Server MCS)

- ↑ ↑ ↑ Simultaneous access: Depending on server provider
- ➤ ➤ Data transmission rate: 25 images per second

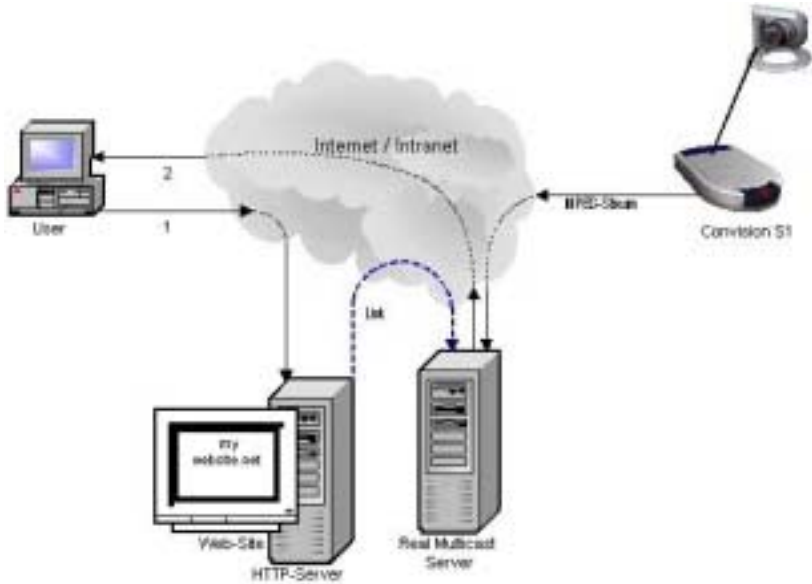


Fig. 13: MPEG stream playback over a Multicast Server (MCS)

Transmission of the MPEG stream from the Convission S1 on a multicast server offers a considerably higher number of simultaneous access operations. Such a multicast server can be leased from various providers for different number of users and time periods.

Configure your Convission S1 so that it transmits a live stream to a real multicast server (see Chapter 11.2.2).

In your website you can include a link to this server specifying the name of the live stream; first a player plug-in is activated for playback. Then, a connection is completed to the real player, the live stream transmitted and shown to the user in an external window (2). Presently, there is no possibility of displaying the live stream within the website.

Example – Calling the Real Server:

```
.....  
<a href="rtsp://IP-Address_of_Real-Servers/<Path>/Name_of_Stream">  
        Live-Stream Convision S1 </a>  
.....
```

Playback of a live stream is accomplished with RTSP (Real Time Streaming Protocol) and not with HTTP (Hyper Text Transfer Protocol).

7 Initial Operation of the Convision S1

For the local configuration of your computer, please refer to Appendix A and for the browser setup, please refer to Appendix C .

For creating the first connection using the Convision S1, please follow the configuration procedure in this chapter. If you have already made a successful connection to the Convision S1, this chapter can be skipped. To configure the Convision S1 in accordance with your own requirements, the configuration options are described in detail in Chapter 11. The menus and buttons and their functions will be explained.

The Convision S1 is supplied without any configuration, i.e. it has no IP address or MSN (Multiple Subscriber Number) allocated to it. This is indicated in that the Online LED will be flashing slowly following the boot procedure. The initial operation procedure is therefore essential. The software for the configuration is supplied with the Convision S1 on a diskette.

There are three options for completing the initial operation procedure.

1. IP configuration in a LAN network.
2. IP configuration via direct connection between the PC and Convision S1 using a cross-connect Ethernet cable.
3. IP configuration via direct connection via the serial interface using a zero-modem cable.

7.1 IP Configuration in a LAN Network

To complete the initial operation of the Convision S1 in a LAN, follow the installation procedure given below:

1. Install and configure your LAN network (see Appendix A).
2. Integrate the Convision S1 into your LAN network in accordance with Chapter 5.2.
3. Copy the configuration software from the floppy disk to a directory on your computer.
4. Open the Convision IPSetup program. In order to be able to do this, the computer should be on the same sub net as the Convision S1. In Windows, the program is launched using IPSETUP.EXE.

As this is a JAVA program, it can also be started by launching “java IPSetup”.

5. After a certain period of time (max. 1 min.) the program will display the Convision S1. If the program is not opened automatically, double-click on the option and then enter the IP address and subnet mask.



Fig. 14:
Initial operation
with Convision IPSetup

7.2 IP Configuration via direct Connection using a Cross-Connect Ethernet Cable

The following hardware and software is required for completing the initial operation procedure for the Convision:

- ◆ An Ethernet cross-connect cable
- ◆ a computer with Ethernet network connection
- ◆ the floppy disk with the configuration software for the Convision S1

Proceed as follows:

1. Connect the Convision S1 directly to the LAN card on your computer using an Ethernet cross-connect cable.
2. Copy the configuration software from the diskette into a directory on your computer.
3. Open the Convision IPSetup program. In Windows, the program is launched using IPSETUP.EXE. As this is a JAVA program, it can also be started by launching “java IPSetup”.
4. After a certain period of time (max. 1 min.) the program will display the Convision S1. Double-click on the option and enter the IP address and network mask.

7.3 Initial Operation via the Serial Interface

If the methods for initial configuration described above are not possible, you can also configure the Convision S1 via the serial interface (SERIAL). To do this, a zero-modem cable and a terminal program are required. To ensure the successful completion of the initial operation, please follow the installation steps given below very carefully:

1. Connect the Convision S1 to a serial port on your computer using the zero-modem cable.
2. Start a terminal program on your computer and connect to the Convision S1. For the configuration of the program "Hyperterminal" in a Windows operating system, see Appendix B
3. Start the terminal program in Windows by double-clicking on the Convision S1 icon, or create a connection to your Convision S1 using following parameters:

9600 Baud
8 data bits
no parity
1 stop bit
no handshake.

4. Pressing the question mark on your keyboard will open the operating mask for the Convision S1.

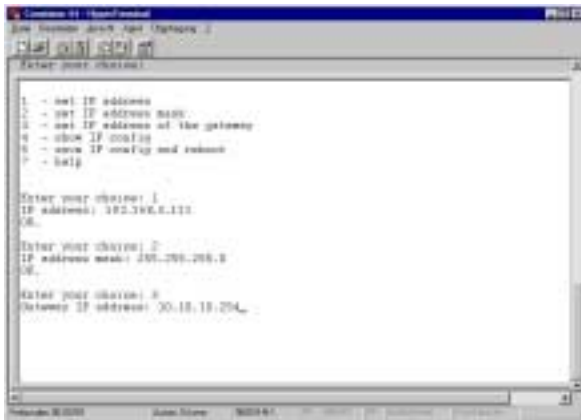


Fig. 15:
Main menu for the
initial operation
via Hyperterminal

5. Press "1", enter the IP-address and confirm with "Enter".

6. Press "2", enter the IP network mask (IP address mask) and confirm with "Enter".
7. After entering "3", enter the IP gateway address and confirm.
8. After entering "4" the configuration settings can now be viewed and checked, confirm afterwards.
9. Press "5" and confirm to send the configuration data to your Convision S1 .
10. The Convision S1 will then automatically reboot and will be ready for operation.

7.4 Delete Configuration

If a mistake has been made accidentally in programming the IP address, network mask or gateway or you have forgotten your password and cannot therefore connect to your Convision S1, you can delete the configuration by resetting. Once the Convision S1 has been reset, it will be in the initial state, i.e. it will not have either a saved IP address or an MSN.

To delete a configuration by resetting the Convision S1, proceed as follows:

Switch off the Convision S1.

Switch it back on and hold down the M button on the rear. The LED's on the front then indicate the following statuses one after another:

Cam-LED off, Online-LED flashes

Cam-LED on, Online-LED is off

Cam-LED on, Online-LED on -> you can now release the M button. The configuration is deleted.

8 The Main Menu Homepage

Open a browser and enter the IP address of your Convision S1 in the address line. You then go to the start page for the Convision S1.

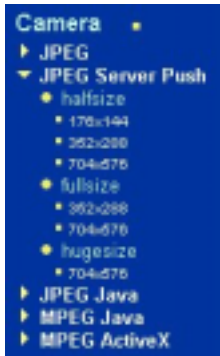
The language selection in the delivery state is the language set as standard in the browser. If you want another language in the menu guidance, first click the button with the appropriate flag at the top margin. After you have chosen a language, you can continue configuring the Convision S1.

A list of all image transmission rates and configuration points is located in the left margin. When the items are clicked, lists with sub-points open up. These are discussed in detail in the chapters below.



Fig. 16: Start page

9 Camera



The Convison S1 can transfer images taken in JPEG or MPEG format.

The images and image sequences can be displayed in various sizes and qualities.

Different transmission rates are suitable in each case for different ranges of application, and different types of connection to the Convison S1. The various modes and possible applications are explained in Chapter 6 .

9.1 View of a pan tilt Camera

If a pan tilt camera is connected to your Convison S1 you will see a panoramic view of the entire swivel-range possible, displayed above the image being directly supplied from the camera. Clicking the mouse inside this panoramic image will move the camera to the selected area.

Clicking on the button to the right of the panoramic image will refresh the picture with new images.

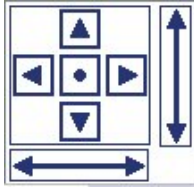


Figure 17: Pan tilt camera menu

Note: If the configuration protection function is activated, administrator rights are required for the save process.



Clicking on the button to the right of the panoramic image will refresh it.



By clicking on the triangles the camera swivels in the direction of the arrow. The angle depends on the zoom factor. Click the dot takes the camera back to the rest position. The arrows correspond to the entire swivel range, by clicking a position on an arrow will swivel the camera to the corresponding place.



By clicking on the triangles the camera swivels in the direction of the arrow. The angle depends on the zoom factor.



Smallest possible zoom, maximum zoom
The beam corresponds to the entire zoom area, by clicking a position it zooms the camera accordingly.



Adjustment of zoom
Smallest possible zoom, reduce zoom factor, increase zoom factor, maximum zoom



Adjustment of zoom
reduce zoom factor, increase zoom factor



Options for saving selected sections of images.
Position the camera on a part of an image and click on Save. Select one of the 6 points, assign this camera position to the dot, name and save it.



The camera will then set itself to the image set when you click on one of the dots.



Adjustment of the sharpness area of cameras without autofocus. close-distance focus ↔ remote-distance focus



Adjustment of the light beam in the lens.
wide-closed Iris ↔ opened Iris

Note: The display for controlling the camera is only available in the image sizes halfsize and fullsize.

Note: In some controllable cameras you must have an internal address for control. For this please use the addresses beginning with " 1 ".

9.2 JPEG

The JPEG format is a procedure which allows individual images to be highly compressed in relation to the original size, reducing the quantity of data and thereby allowing relatively rapid transfer in the network. The exact number of pixels for the image sizes depends on the camera system used, with the Convision S1 and the Convision cameras they are:

- ◆ "halfsize" 176 X 144 pixels
- ◆ "fullsize" 352 X 288 pixels
- ◆ "hugesize" 704 X 576 pixels

The corresponding number of pixels are stored for the image, then the image is compressed and transferred.


The image is returned to the stored size for display.

Halfsize and fullsize images can, however, also be displayed larger, i.e. they can be "zoomed". Since the quantity of data only corresponds to the small display, the quality is lower, the image is transferred more quickly, however, but has a lower resolution.

The following table shows the maximum possible image transfer rates for three different image qualities with different links between the Convision S1 and user.

		Connection of LAN with S1						
User connection		Intranet Ethernet	Leased line	Leased line	Leased line	ADSL dial up	ISDN 2 channel dial up	ISDN 1 channel dial up
Image quality 32 KByte = a 16 KByte = b 8 KByte = c		10MBit = 1.25MByte	2MBit = 256KByte	512KBit = 64KByte	256KBit = 32KByte	128KBit = 16KByte	128KBit = 16KByte	64KBit = 8KByte
		JPEG Images per second						
Ethernet	a	8	8	2	1	2s/Image	2s/Image	4s/Image
	b	8	8	4	2	1	1	2s/Image
	c	8	8	8	4	2	2	1
Leased line 2MBit	a	8	8	2	1	2s/Image	2s/Image	4s/Image
	b	8	8	4	2	1	+1	2s/Image
	c	8	8	8	4	2	2	1
ADSL 768KBit	a	3	3	2	1	2s/Image	2s/Image	4s/Image
	b	6	6	4	2	1	1	2s/Image
	c	8	8	8	4	2	2	1
ADSL 512KBit	a	2	2	2	1	2s/Image	2s/Image	4s/Image
	b	4	4	4	2	1	1	2s/Image
	c	8	8	8	4	2	2	1
ADSL 256KBit	a	1	1	1	1	2s/Image	2s/Image	4s/Image
	b	2	2	2	2	1	1	2s/Image
	c	4	4	4	4	2	2	1
2 channel ISDN	a	2s/Image	2s/Image	2s/Image	2s/Image	2s/Image	2s/Image	4s/Image
	b	1	1	1	1	1	1	2s/Image
	c	2	2	2	2	2	2	1
1 channel ISDN	a	4s/Image	4s/Image	4s/Image	4s/Image	4s/Image	4s/Image	4s/Image
	b	2s/Image	2s/Image	2s/Image	2s/Image	2s/Image	2s/Image	2s/Image
	c	1	1	1	1	1	1	1


The actual quantity of data for a JPEG image depends highly on the motive: If many details are present in the image, it can only be compressed slightly and the file is relatively large. For this reason, the three image qualities in the table are only examples and do not correspond to the image sizes listed above.

 **Note:** *The smaller the image and the lower the quality, the higher the transmission rate.*

JPEG Image

The Convision S1 start page always shows a current JPEG image at the time of the call.

By clicking the words "JPEG image " below "Camera", a pull-down menu appears with all possible image qualities and sizes (see above). You receive a new current image by clicking the desired image quality.

 **Note:** *If an MPEG stream is presently being called from the Convision S1 from another point, it is not possible to simultaneously display a JPEG image. Instead of the image, you see the words "MPEG".*

JPEG Image Sequence

JPEG image sequences are individual images transferred immediately one after another, also called motion JPEG. The following are available for display:


- ◆ JPEG Server Push Server push program in Netscape Navigator
- ◆ JPEG Java JAVA-Applet from Convision Technology GmbH

Click the image size below the desired image quality to see the corresponding image sequence at the right.

JPEG Java offers the following options by clicking the right mouse button on the image:

- ◆ Stop / Start Stops or starts the image sequence
- ◆ Show / hide time Switches on or off the time display at the bottom of the image
- ◆ Mirror horizontally Shows images with size reversed
- ◆ Mirror vertically Shows images upside down

The possibility of mirroring images is advantageous when the camera is not installed in a normal position.

 **Note:** *Server Push is possible only with Netscape Navigator.*

9.3 MPEG

The MPEG compression reduces the quantity of data for the image sequences in comparison to JPEG images considerably. This is made possible by the fact that only the differences to the last image are transferred, not the entire image. This means that it is, for example, sufficient to only store each fifteenth image as JPEG and those in between as differences.

The MPEG standard defines a quantity of 25 images per second. For compensation, the ratio of JPEG images to difference data is changed at low data transmission rates. The lower the transmission rate, the lower the number of JPEG images used, moreover, it is also possible to display one image double instead of two images one after another in sequence. However, this makes the video stream less fluent.

There are various decoders for playing back MPEG streams which allow streaming, i.e. play back while the data is being downloaded. Nevertheless, there is a certain chronological delay between recording of the images and playback in the browser.

Possible decoders include a JAVA-Applet and the Microsoft Windows Media Player which is based on ActiveX technology.

Java-Applet

This applet is loaded into your browser from the Convision S1 and allows an MPEG stream to be played back.


Click the image quality and the desired image size to see the corresponding stream at the right.

ActiveX

ActiveX is a technology developed by Microsoft which allows integration of specialized control elements into the Microsoft Internet Explorer Browser.

The embedded "ConvisionVideo ActiveX control element" shows the MPEG stream from the camera directly in the browser in a size selected by you. If this control element is not yet present on your computer, installation is first accomplished automatically.

This form of MPEG reproduction offers the best performance for Windows computers.

 **Note:** *If you have any difficulties installing or executing the ActiveX control element, check the security settings in the Internet options of your Internet Explorer.*

The performance of the ActiveX MPEG reproduction depends on the video card and drivers used and the MPEG decoder registered as standard in addition to the speed of the CPU.

 **Note:** *An attempt to start the Media Player from another browser results in an error message instead of the image.*

10 Applications - Display

Application

- Real Server
- Frame Buffer
- Socket
- Weather Station

Here, you can start the link to the real server. You have access to the images in the frame buffer and accessories such as weather station or remote controlled sockets which can be controlled via the serial interface (not included in standard sets).

10.1 Real Server

The Convision S1 can complete a connection to a multi-cast server and transfer an MPEG stream to it. This server takes over distribution of the MPEG stream to many users. You can therefore provide access to this stream to nearly any number of users simultaneously while only 4 users can access the Convision S1 directly at the same time. There are providers who lease such servers for simultaneous access by a various numbers of users and for various times.



Fig. 18: Real Server

At this point, you can start or stop the stream to the real server by clicking "Start" or "Stop".

You also can see the set connection data as a check. Please see Chapter 11.2.2 for configuration.

Set the link between the Convision S1 and network in the selection list under "Type of connection".

Note: During transfer of an MPEG stream to the real server all other access to the Convision S1 should be prevented.

10.2 Frame Buffer - Display

If an alarm is triggered by one of the alarm inputs, up to 32 images can be stored in the Convision S1 main memory.

Please read Chapter 11.7 on configuration of the frame buffer.



Figure 19: Display of the images in the frame buffer

If you have activated the frame buffer and an alarm has occurred, up to 32 images which occurred before the event and following the event can be displayed on this page depending on the configuration of the frame buffer. All images displayed are shown in the upper section of the window. Clicking one of the images causes it to be displayed larger below.

Note: Access to the frame buffer can be limited with a password (user name "record").

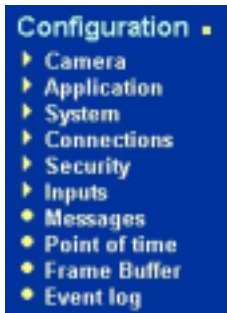
10.3 Sockets

Each of the connected sockets supported by Convision Technology can be controlled here. Actuation is accomplished via the serial interface, for configuration please read Chapter 11.2.1.

10.4 Weather Station

If a weather station supported by Convision Technology is connected to your Convision S1, e.g. the Huger WM918, a list will be given here containing all the data which can be transferred, such as temperature, wind speed and wind direction. Activation is accomplished via the serial interface, for configuration please read Chapter 11.2.1.

11 Configuration



All settings required for operation of your Convision S1 can be made in the configuration list.

When the configuration protection feature is activated, only the administrator can change the settings for the system and cameras (see Chapter 11.5).

11.1 Camera

You can set the online camera display with this menu point. Click "Camera" to apply the display settings in the main menu. The following menu appears.

11.1.1 General – Settings for the Image Display

- ◆ Activate the option for “caching” images supplied by the cameras, i.e. “temporary storage” of the images on the hard disk. This option is necessary for saving the precise single image displayed in the browser window, which will then also be located in the cache. If this option is not activated, a current image will always be obtained from the camera and saved, instead of the image displayed in the browser.
- ◆ Activate the display of date/time in the JAVA applet.
- ◆ Enter a maximum time which can be assigned to a user to control a pan tilt camera. During this period any other access attempts will be blocked. If a “0” is given here, all access attempts will be taken into consideration.

☞ **Note:** *The JAVA applet also has a context menu (click the right mouse button on the image) which can be used to show/hide the date.*

11.1.2 Parameters

Here you can select the type of connection for your Convision S1. The parameters are then set for display of the camera images (JPEG/MPEG), depending on the setting.

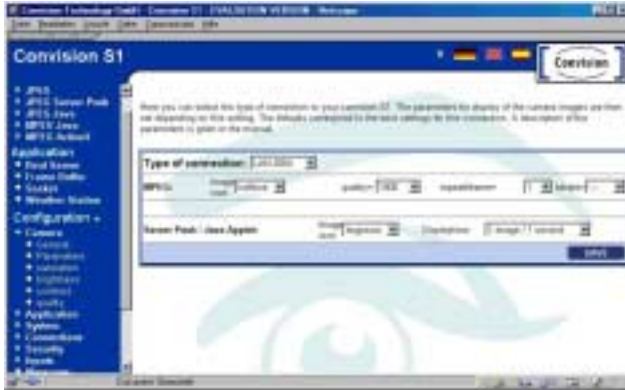


Fig. 20: Connection and parameters

- ◆ half/fullsize Size of image (see Chapter 9.2)
- ◆ quality Fixed minimum quality for an image -> Transmission-rate varies
- ◆ repeatframe Instead of transferring a new image, the last image transferred is displayed again
- ◆ bitrate Fixed data transmission rate -> Quality of individual images varies

By repeatedly displaying images already transferred, the quantity of data to be transferred is reduced so that a higher quality is possible for the individual images.

You can only select one of the parameters either "Quality" or "Bitrate". When the band width is small, you should specify a minimum quality with "Quality".

11.1.3 Adjusting the Camera Properties

Select one of the following characteristics from the points in the list and adapt the settings to your requirements.



Color



Contrast



Brightness



Quality

Hue - This additional parameter only affects NTSC cameras. It determines the hue of the image and has a default value of 128. If the image does not correspond to the natural hue with this setting, you can adapt it by changing the value slightly.



Figure 21: Adjusting the camera properties- 1

6 numbers above the image indicate the possible various increments for each of these properties. Select the increment by clicking a number. Click "Save" to store the setting".



Figure 22: Adjusting the camera properties- 2

Clicking the divided rectangle next to the numbers shows a window with images in all increments simultaneously. You can select an increment by clicking the image: It is not necessary to save this setting separately.

11.2 Applications

11.2.1 Equipment – Assignments for the Serial Inputs

Here you can select which piece of equipment is to be controlled via the serial interface of your Convision S1.

All of the cameras, weather stations and controllable sockets supported by the Convision S1 firmware at present are listed here. If you want to control a device which is not supported directly such as other controllable cameras, select "Serial URL Port".



Figure 23: Assignments for the serial inputs

Serial URL Port

Here you can input all of the parameters required for setting the serial connection and transfer the actual data to a device which is not supported directly (see also Chapter 12.4) .

The data to be entered for controlling the device can be obtained from the manufacturer in question.

When programming a website, links or buttons can be included which contain CGI parameters as a URL as well as the IP address for the Convision S1. These parameters are forwarded to the device to be controlled via the serial URL port.

It is also possible, of course, to input the URL with the parameters directly into the address line in the browser.

The URL with connection parameters for writing data will look like this:

```
http:// IP-address/urlcom?baudrate=A&databits=B&stopbits=C&parity=D
&dataout=E
```

The parameters and possible values are as follows:

- ◆ A: Baud rate 1200, 2400, 4800, 9600
- ◆ B: Data bits 7, 8
- ◆ C: Stop bits 1, 2
- ◆ D: Parity bit 0, 1, 2 (none, odd, even)
- ◆ E: Data Data in hexadecimal format with no spaces, e.g. the data 0, 1, 2 are entered as "303132".

The default values for A – D are: 1200, 8, 1 and none, the maximum data length is 128 bytes.

In addition, there are other parameters with which it is possible to read data via the URL port:

- ◆ read 1 – 128, reads the specified number of bytes, the values will be returned in hexadecimal format between „#“.
- ◆ wait 1 – 9, waits the specified number of seconds before reading from the URL port. (to be used together with the read parameter).
- ◆ flush yes / no, empties the read/write buffer, will be performed first when combined with other parameters.

Example:

```
http://IP-Address/urlcom?flush=yes&dataout=303132&wait=6&read=10
```

Empties the buffer, writes the data string 1, 2, 3 (hex 30, 31 and 32), then waits 6 seconds for the reply and reads 10 Bytes.

11.2.2 Real Server

Here you can enter all connection parameters for transfer of an MPEG stream to a real server. The address and port are assigned by your server provider.

1. Enter the IP address of the real server.
2. Enter the real server port.
3. Enter the name of your MPEG stream. The stream can later be called by the users using this name.
4. Specify the data rate at which the MPEG stream is to be transferred to and from the server. With the "ISDN" setting, all users with a line with ISDN capacity or higher can view the stream.

Start transfer with the menu point "Real server" under "Applications".



Fig. 24: Real Server connection parameters

11.3 System Settings

This menu includes options for making general system settings. This includes setting the date and the time as well as the inputs. In addition, in future it will also be possible to update the Convision S1 with the latest version of the software.

11.3.1 Language

The menus for the Convision S1 configuration can be displayed in different languages. Here it is possible to create a default setting or to transfer the default settings from your browser.

11.3.2 Setting the Time and Date

This menu option is used to enter the current date and current time. These set times are buffered for a certain period in the event of a power failure.

11.3.3 Activating the FTP Server

This menu is used to activate the Convision S1 as an FTP server. Once it is activated, the images from the cameras can be downloaded using both HTTP protocol and FTP (File Transfer Protocol).

The downloading of images via FTP is normally carried out using FTP clients or other software programs, e.g. for including images on a website.

An up-to-date image can be obtained using the following path:

```
ftp://IP-address_S1/fullsize.jpg
```

For other image sizes, "halfsize" or "hugesize" can be entered instead of "fullsize".

Permitting anonymous FTP Access

If the Convision S1 is protected in that the various security levels have been activated (see Chapter 11.5), it will not be possible to access it via FTP without entering a login name and password.

The URL for accessing the Convision S1 will then be:

```
ftp://loginname:passwort@IP-Address_S1/fullsize.jpg
```

The login name is either “admin” or “user”, and the password is the one which has been assigned.

Once the page has been opened, the password will no longer be displayed in the address.

If “Permit anonymous FTP access” has been activated, users are able to access the images on the Convision S1 using an FTP program with the login name “anonymous” or “ftp” and any password.

Note: *If the FTP protocol is called up using a browser, it is not necessary to input this login. The default setting for this access is the login name “anonymous”.*

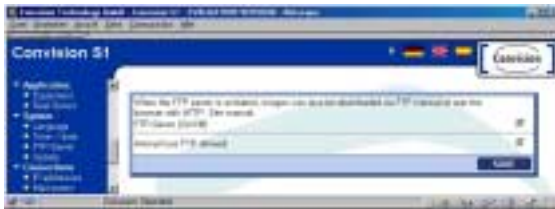


Figure 25: Menu FTP-Server

11.3.4 Update - Transferring new Software

This function allows you to load new software versions of the firmware into the Convision S1.

The software is updated continuously and its performance improved. The latest version of the software is available as a ZIP file for download from our Internet site www.convision.de.



Do not switch off the Convision S1 during the update process.

Do not attempt to access the Convision S1 during the update process

To update the software, enter the full path for the directory where you unzipped the update file on your computer after downloading. Alternatively you can click on the “Browse” button to search for the file, and transfer it into the input line by double-clicking on it. Once this has been done, press the “Upload” button.



Figure 26: The update function

11.4 Configuring the Connections

This menu option is used to configure the IP address and the mail server connection.

11.4.1 IP-Addresses

The IP address, network mask, router and DNS server are declared here. If you do not know the individual IP addresses, consult your system administrator.



Abb. 27: Configuring IP addresses

The IP address must be unique, i.e. it must not already be assigned to another computer in the network. You can use the Ping command to check whether or not an IP address is still available to the Convision S1 (see Appendix A).

The router entry:

If you are using a default router in your network to connect to the outside network (Internet), its IP address can be entered in the "Router" box. All IP addresses outside the LAN will then be accessed via this router.

The DNS server entry:

The IP address of a DNS server must be entered here. The DNS server of the provider set in your Convision S1 should be selected here. Information on this can be obtained from your provider.

The syslog server entry:

If you are running a syslog-server in your network, the Convision S1 can send messages/error messages to the IP address of this syslog-server. If there is no syslog server integrated into your network, the input line should be empty.

Note: This option should only be used if the syslog-server can be accessed via the Ethernet.

11.4.2 Mail Server

In order to be able to send an email from the Convision S1 in the case of an alarm, the IP address of the SMTP server (Simple Mail Transfer Protocol) being used should be saved in the Convision S1. The SMTP server is used to forward the outgoing email messages to the recipients. The address for the SMTP server can be obtained from the network administrator.

Please enter the email sender address of the Convision S1 into in the second input line.



Abb. 28: Configuring the Mail Server

SMTP-after-POP

Some mail providers use the SMTP-after-POP technique, in order to prevent someone using a falsified email address in the SMTP server. Since there is no authentication, the server requires a previous registering over a POP3 access. If your Provider requires this authentication, enter it into the field next to the login name and the password, as this is needed to collect the E-Mail.

11.5 Security Settings

You have the possibility of protecting your Convision S1 against unauthorized access with three security stages:

- ◆ Admin Access to configuration possible only with password
- ◆ Record Access to frame buffer display possible only with password (configuration in administration area!)
- ◆ User All access to Convision S1 possible only with password

Configuration of Passwords

Click "Admin", "Record" or "User" in the selection list and enter the desired password. In order to avoid typing errors, it is necessary to repeat the password in the second entry line. Click "Save" to store the password.



Fig. 29: Password entry

☞ **Note:** The names for the three users are defined as "User" "Record" and "Admin", it is only possible to select the password.

Activation

After assigning the passwords, click "Activating" in the fold-out list and select the area you want to protect.



Fig. 30: Activation of security options

☞ **Note:** Activation before a password has been assigned to a user results in initial storage of an empty password.

11.6 Inputs

This configuration menu is used to specify the actions which are initiated if an alarm is issued on an alarm input. For configuration of the messages see Chapter 11.7.

1. Select one of the two alarm inputs.
2. Click on the boxes to assign to this input however many of the 8 messages you require via email, SMS or FTP.
3. If the frame buffer is to store images when an alarm is actuated, activate "Report event to frame buffer". For this purpose, the frame buffer must already have been started!
4. Save the configuration.
5. Repeat steps 1 to 4 for the second alarm input.



Fig. 31: Configuration of the alarm inputs

You can assign names to the alarm inputs in the list item "Name".

11.7 Configuration of Frame Buffer

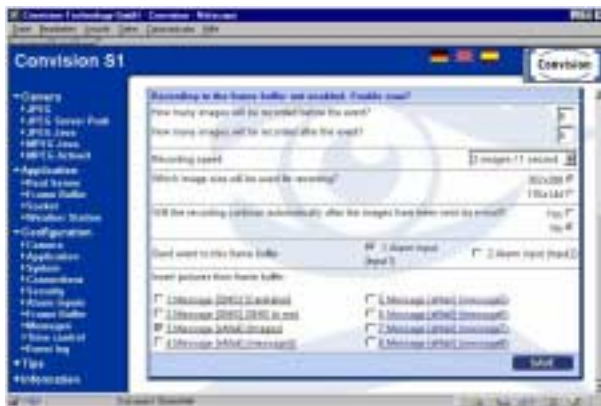


Fig. 32: Configuration of frame buffer

1. Specify the number of images to be stored before and after an event. The total number cannot exceed a maximum of 32.
2. Define the recording rate from maximum speed up to 1 image every 2 seconds.
3. Select the image size. The maximum recording quantity for large images is 16, for small images 32.
4. Select whether the images in the buffer can be written over by the next alarm event after they have been forwarded via E-mail.
5. Select which alarm input (input) event should report to this frame buffer.
6. Select the messages to which the images from this frame buffer shall be attached.
7. Activate the recording process.
8. Save the configuration.

Please read Chapter 10.2 on display of the frame buffer.

11.8 Creating Messages

The Convision S1 can send email/SMS messages or perform an FTP upload.

If an alarm is triggered, the Convision S1 can inform you of this via email and/or SMS. Time-controlled messages can also be sent.

It is possible to save up to eight different messages.

Notification via E-Mail



Figure 33: Configuring the email notification function

1. Select one of the 8 messages in the left margin.
2. Press the “eMail” button.
3. Enter a name for the message.
4. Enter the email address into the “Addressee” box. If the message is to be sent to more than one recipient (a maximum of 10), separate the addresses using a semicolon.
5. Please enter the subject in the “Subject” box (e.g. Alarm).
6. Enter the message in the “Text” box (e.g. burglary at xxx. Address: xxx etc).
7. You can attach an image to any E-mail as an attachment. In order to accomplish this, activate the control box.
8. To attach images from the frame buffer (see Chapter 10.1) activate the next box.
9. To attach data from a connected weather station, activate the next box.

Notification via SMS (Short Message Service)

The Convision S1 can also inform you of an alarm via SMS on your mobile phone. Press the “SMS” button to setup the SMS messages.



Figure 34: Configuring the SMS notification function

The messages can be setup and the relevant message text entered in the same way as for setting the “Notification via email”.

As the messages can be sent via email to a mobile, the relevant email address for the mobile phone needs to be requested from your mobile phone company

(e.g. <phone number> @d2-message.de, <phone number>@t-d1-sms.de, <phone number>@smsmail.eplus.de).

☛ **Note:** SMS messages use the email function from the provider of the mobile phone, which means that the function for receiving email/SMS must be activated on the phone.

With the Notification via SMS, it is not possible to attach camera images, as an SMS message can consist of only max. 160 characters.

Image Transmission via FTP Upload

The Convison S1 can automatically perform an image upload via FTP into the relevant directory on the web server.

In this case, the Convison S1 acts as a FTP client (see Chapter 11.3.3 for setting up the Convison S1 as an FTP server).

The Convison S1 is already configured for 'talknet by call' from Talkline, but this can be changed as necessary, of course.

☛ **Note:** The login information can be obtained from your administrator (LAN) or from your provider.

1. Assign a name to the message which makes it much easier to identify on your system in future.
2. Specify the name or the IP address for the server where the images are to be saved is now required.
3. Specify username and password with access rights to this server.



Fig. 35: FTP upload

☛ **Note:** If anonymous access is permissible on the server, the user name is frequently "anonymous" and the password the E-mail address of the user.

4. If the images are not to be saved in the default directory for the user, specify the path for the directory on the server where the images are to be saved.
5. Specify a name for the images under which they will be saved. Only images with an assigned name will be sent.
6. Save the configuration.

☛ **Note:** The filenames can contain wildcards so that the images can be saved on a server using consecutive numbers. Using the name "image*.jpg" will copy the images "image0.jpg" to "image9.jpg" onto the server. An additional "*" needs to be entered for each figure required, so the name "image**.jpg" will copy the images "image00.jpg" to "image99.jpg" onto the server. The counter for the images will be reset to zero when you save an FTP message.

11.9 Time – time-controlled Sending of Messages

This menu is used to configure up to eight periods of time when the Convision S1 will send messages.

To configure the time-controlled sending of messages, proceed as follows in the example below:

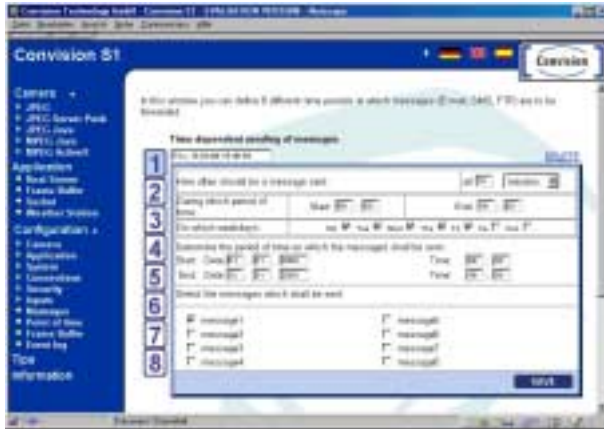


Fig. 36: Configuration of time controlled message forwarding

For example, to receive an image via email every 10 minutes on every workday between 9:00 a.m. and 04:00 p.m., proceed as follows:

1. Select a time from the list in the left margin.
2. Enter how often the message is to be sent. In this case, every 10 minutes.
3. Enter the period of time (here, 09:00 to 16:00) and the weekdays on when the messages are to be sent.
4. Specify the period of time during which the messages are to be sent.
5. Select the messages to be sent by selecting the relevant boxes in front of the messages required.
6. Save the data.
7. Repeat steps 1 to 6 to configure other times.





11.10 Event Log

The Convision S1 logs all system events (information, errors and warnings). These events are listed under this menu point. You can delete the list by clicking "Delete events".



Fig. 37: Event log

You can filter the display with the aid of the 4 buttons above the list:

-  All entries visible
-  Only events visible
-  Only warnings visible
-  Only errors visible

11.11 Tips

Here, additional tips are displayed concerning questions which can occur when using your Convision S1.

11.12 Information

The "Information" menu contains information on the firmware version currently contained in your Convision S1, and the creation date. If there is a new software version available for download on the Convision website www.convision.de, you can update your Convision S1 (see Chapter 11.3.4).

Here you find the serial number for your Convision S1, it is also given on the underside of the unit. Each Convision S1 has its own serial number.

12 General Notes

12.1 The Convision S1 as a Video Server

If the Convision S1 is integrated in your LAN using a fixed IP address, it can be used directly via the Internet as a web server. However, do bear in mind that the capacity of the video server is limited – with large numbers of users, a proxy server solution is strongly recommended (CGI script and daemon on a more powerful web server). A big advantage of this connection option is the high image refresh rate.

12.2 Server Push and JAVA Applet

There are two options for streaming images from the Convision S1 to your browser:

Server Push is a program developed by Netscape which supports the continuous playback of images without interrupting the connection between the server and browser.

As the server push option is only supported by Netscape Navigator, Convision Technology GmbH has developed a JAVA applet which can be used with other browsers.

12.3 FTP

For transmitting images via FTP (File Transfer Protocol) the Convision S1 can be used both as an FTP server and as an FTP client. The transmission is always initiated by the FTP client.

As a server it responds to a request from the client, e.g. the browser, and sends the requested images (FTP download).

As a client the Convision S1 calls a server and transmits one or more pre-configured images. A FTP upload is performed.

12.4 Control using CGI Parameters

The CGI (Common Gateway Interface) is a way of providing programs which can be opened from HTML files. The program and the parameters to be used to

open the program are added to the URL, after the IP address. This follows the pattern given:

<http://IP-address/path/CGI-program?parameter1=value1¶m2=value2&...>

This program can be opened with its parameters using a button, a link, a form or using the address line for a web page.

The Convision Call service, for example, or control of non-supported devices via the serial URL port use CGI programs.

12.5 The TCP/IP – Protocol Group

TCP/IP is a group of protocols whereby the most important part is TCP (Transmission Control Protocol) and IP (Internet Protocol). These protocols are by far the most commonly used solution in the networking field and have established themselves as the de facto standard in the marketplace. A few other network services using TCP/IP are described in a later chapter.

In order to integrate your Ethernet solution into your local area network properly, a few settings or Internet addresses may be required. This section will describe the structure of Internet addresses and network masks so that these settings can be made correctly. Also included is information on the services and protocols of TCP/IP.

12.5.1 The Internet Address

Internet addresses are used to identify computers in TCP/IP networks. They are part of the Internet protocol and are therefore also known as IP addresses.

12.5.2 Structure of an IP Address

The IP address is a binary code with a length of 4 bytes. To make this easier to understand, the individual bytes are separated by full stops and written as decimal figures. Take a look at the following example:

A computer might have the following IP address:

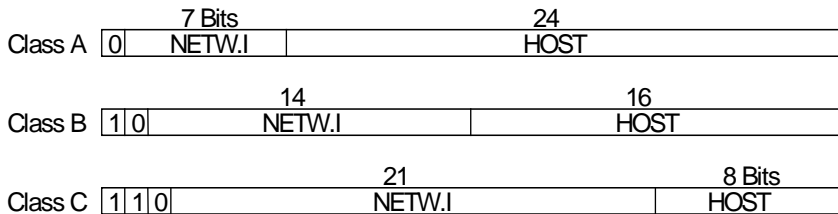
11000000 10101000 01100100 00000010

In decimal notation this address is: 192.168.100.2

Every IP address is comprised of a network identification (network ID) and a host identification (host ID). This structure is similar to a telephone number which is also divided into an area code and a phone number. The difference between phone numbers and IP addresses is that IP addresses will always be the same length.

The IP addresses are divided into network classes depending on the length of the host ID and network ID. The main network classes used - A, B and C - are given in the following figure. Network classes D and E are reserved for special purposes.

The figure illustrates that the smaller network ID, the bigger the host ID. This means that the number of possible network IDs varies per network class, and the number of possible host IDs vary per network.



For example, network class B contains 16.384 subnets each with 65.534 hosts, whilst network class C contains 2.097.154 subnets with 254 hosts each.

12.5.3 The Domain Name Server (DNS)

Although the decimal notation of the IP address is a simplification, it remains a rather difficult-to-use method of connecting to a computer.

This is why a domain name service was developed. This means that a name can be assigned to each computer in a TCP/IP address network. This has nothing to do with the IP address of the computer itself, but is created using certain mechanisms for that address. That means that the name can be used to determine the IP address. In addition, a hierarchical structure of the TCP/IP network and a grouping of computers according to geographical or thematic classifications is possible. These groupings are known as domains.


Example:

A computer might have the IP address: 192.168.101.16

The name "Computer.company.de" is to be assigned to that computer. This is the name for any computer in any company in Germany.

The DNS is based on a hierarchically organized database which is managed by an appropriate server, known as the name server. This name server can be either public or part of a private network.

If there is no name server available in your LAN, a simpler form of name assignment can be used - a text file which contains the names of the individual IP addresses and the associated IP addresses.

 **Note:** *This file can be found with the name "hosts.txt" in the windows directory in Windows 9x or in the WINNT directory in Windows NT, and in Unix as /etc/hosts.*

12.5.4 Assignment of IP Addresses

Private IP space

The IP address is part of the Internet protocol which forms the basis for communication in the Internet and which is also often used in a LAN. The network mask is used to divide larger networks. In this process, it must be ensured that the IP address is unique across the entire network.

If no distinct, permanent Internet access is planned, or if a suitable filter system is being used, the IP address of the computer need not to be made public on the Internet. In this case, an IP address from what is known as "private IP space" should be selected.

These IP addresses are assigned to local networks which are forwarded on the Internet. Computers which have addresses of this type are not visible outside the local network. For class C networks there are 256 address areas, from 192.168.0.x to 192.168.255.x.

The only point to be considered when selecting addresses from this range, is the allocation of IP numbers from the same address range for a class C network. All computers should have addresses within the range 192.168.12.1 to 192.168.12.254, for example. The numbers 0 and 255 are reserved for special purposes and must not be assigned.

Dynamic IP Addresses

Specifying IP addresses with a length of 32 bits limits the number of IP addresses available worldwide. However at the same time, the demand for IP addresses is increasing due to the growth of interest in the World Wide Web.

One solution to this problem is dynamic IP addresses. Using this method, IP addresses are assigned from a pool for time-limited use, including all the information on the gateway, net mask and DNS server, etc. After a certain time, the IP address is returned to the pool and is available once more.

This system is used when connecting to Internet providers, for example. The IP addresses issued within your LAN are not made public in this process.

Static IP addresses

If your IP address is to be visible on the Internet, e.g. if you want to maintain your own web server, this address must be unique world-wide. To obtain an IP address of this type, please contact your Internet service provider or the German Network Information Center (DE-NIC).

Network mask

The network mask is used to specify which part of the IP address is used to describe the network and which part is used to identify the computer in the network.

Example:

The IP address of a computer would be: 192.168.100.3

The net mask would be: 255.255.255.0.

This means that the network identification is 192.168.100.

The fourth number identifies the computer.

Note: *Incorrectly specified IP addresses and network masks are very often the cause of errors in TCP/IP networks. If you have any queries or problems, please contact an experienced network administrator*

13 Technical Data

13.1 Convision S1

Video input:	1 x BNC
Inputs:	2 inputs for motion sensors, light barriers, etc.
Serial interface:	RS232 with max. 115 Kbit/s, mini DIN-8 plug
Network:	10/100 MBit/s auto-sensing, Ethernet, Internet, Intranet
Video images:	max. 25 images, JPEG, typical image sizes 4 -128 KBytes
Resolution:	hugesize 704x576 pixels, fullsize 352x288 pixels, halfsize 176x144 pixels
Image sequences:	MPEG stream, Server-Push für JPEG, Java-Applet for JPEG, hugesize 2 images/s, fullsize and halfsize up to 25 images/s
Internet protocols	TCP/IP, HTTP Server, FTP Server, FTP Client, SMTP Client, time-controlled or event-controlled FTP-Upload, time or event-controlled e-mail forwarding including video images
Programming:	configurable with CGI parameters: Image resolution up to 704x576 image file size 4- 28 KByte, image sequence
Operating systems:	Windows, MAC, Unix, Linux with Internet-browser
Internet browser:	e.g. Netscape Navigator as of 4.x, Microsoft Explorer as of 4.x
Internet browser properties:	HTML 3.2, HTTP 1.0, Javascript 1.2, Java 1.1.8
Security	Password protection
IP address:	Adjustable IP address, IP set-up program included
Software updates:	Flash Memory, Firmware free under www.convision.de
Power supply:	External plug-in power pack, 12V, 1,5A, 100 – 240V (GS, CE, UL, CSA)
Temperature:	0 - 50°C
Athorizations:	EN 50081, EN 50082

Housing:	Interior installation, table or wall mounting
Dimensions:	140 x 28 x 190 mm (W x H x D)
Weight:	700 g

13.2 Convision CC1 Camera

CCD sensor	1/3" Sony CCD 752 x 582 (440,000 pixels)
Objective	6mm standard approx. 40° beam angle
Camera modules	Digital signal processor with AGC automatic gain control, AWB automatic white balance, BLC back light compensation
Resolution	460 TV lines
Sensitivity	1 Lux
Power input	1.7 W
Temperature range	-20°C – 50°C
Dimensions, weight	86 x 150x 170 mm, 298g
Housing	Nylon, splash-proof, safety class IP65

13.3 Convision CC2 Camera, controllable

CCD sensor	1/3" Sony CCD 752 x 582 (440,000 pixels)
Objective	5.4-64.8 mm, 12 x power zoom, 4.4° – 48.8° acceptance angle
Camera modules	AWB automatic white balance, automatic or manual control of amplifying auto tracking
Resolution	450 TV lines
Sensitivity	7 – 100,000 Lux
Power input	11 W
Temperature range	0°C to 40°C
Pan/tilt action	horizontal: 200° vertical: 50°
Dimension, weight	142 x 109 x 164 mm, 1200g
Housing	Nylon, indoor installation protective case available

13.4 Convision CC3 Camera

CCD sensor	1/3" Sony CCD 752 x 582 (440,000 pixels)
Objective	CS-Mount, Rolleinar, f=8 mm, 1 : 1,2
Camera modules	Digital signal processor with AGC automatic gain control, AWB automatic white balance, BLC back light compensation
Resolution	460 TV lines
Sensitivity	1 Lux
Power input	1.7 W
Power supply	External 12 V, 500 mA power supply 230 V (GS, CE)
Temperature range	0°C – 50°C
Dimension, weight	120 x 85 x 170 mm, 340 g
Housing	Designer housing, ABS-plastic with integrated ceiling bracket

Appendix A Configuring the LAN Network

LAN Network

a - Checking IP Addresses in Windows

To ascertain whether or not an IP address has already been assigned in your network, enter the following command in the DOS window:

ping <IP address> (then press Enter)

If there is no response (timed out), the IP address has probably not yet been assigned. However, if a value is returned as a response, the IP address has already been assigned. In this case, you need to choose another IP address.

The network mask can be checked as follows:

For Windows 9x:

1. Click on "Start" and select "Run".
2. Enter "WINIPCFG" into the command line and click on "OK".

All the information will be displayed in a window

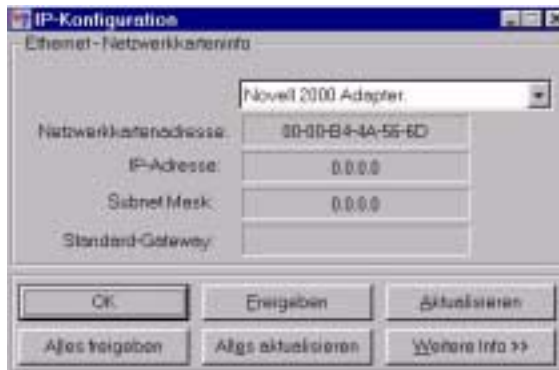


Fig. 38: Checking the network mask

For Windows NT, proceed as follows:

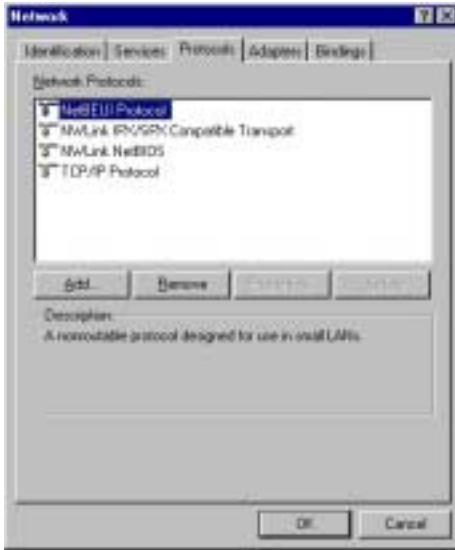
1. Click on "Start" and select "Run".
2. Enter "CMD /K IPCONFIG" into the command line and click on "OK".

All the information will be displayed in a window.

b - Setting up the Network (LAN) in Windows NT

Before starting to configure the Convision S1, your network card and the Windows NT operating system first need to be configured for using the TCP/IP protocol group (see Chapter 12.5 for more information).

To do this, follow the procedure given below:



1. Open the Control Panel using the Settings menu.
2. Select the Networking icon.
3. Open the "Protocols" menu
4. If the TCP/IP protocol is not yet installed, click on "Add...".
5. In the following menu, select the TCP/IP protocol.
6. Click on "OK".
7. If the TCP/IP protocol is installed, select it and click on "Properties...".

Fig. 39: TCP/IP protocol



Fig. 40: Assigning an IP address

As your configuration PC must have an IP address for communicating with the Convision S1, an address should be assigned at this point

1. Select “IP-address” and “Network mask” for your PC / laptop.
2. Click on “Enter IP-address”.
3. Enter your IP address and subnet mask.

Once these settings have been made on your PC / laptop, you are now able to communicate with your Convision S1.

c - Setting up the Network (LAN) in Windows 9x

Before you can start configuring the Convision S1, your network card and the Windows 9x operating system first need to be configured for using the TCP/IP protocol group (see Chapter 12.5 for more information).

To do this, follow the procedure given below:



Fig. 41: Network configuration

1. Open the Control Panel using the Settings menu.
2. Select the Networking icon.
3. Use the mouse to select the TCP/IP protocol stack for your Ethernet card.
4. Select "Properties"



Fig. 42: Assigning the IP address

- As your configuration PC must have an IP address for communicating with the Convision S1, an address should be assigned at this point.
5. Select "IP-address"
 6. Then enter the IP address and the subnet mask.

Once these settings have been made on your PC / laptop, you will be able to communicate with your Convision S1.

Appendix B Setting up a Terminal Program in Windows



Fig. 43: Creating a new connection

1. Start the “Hyperterminal” program on your PC via Start ⇒ Programs ⇒ Accessories ⇒ Communications ⇒ Hyperterminal.
2. First of all, a new connection needs to be created. To do this, double-click on the Hyperterminal icon.
3. Enter the new name for the connection, e.g. Convision S1, select an icon and the click on “OK”.



Fig. 44: Connecting using a serial port

4. Then enter the serial port to which the cable has been connected to your computer.



Fig. 45: Parameters for the port

5. Now enter the connection parameters for the serial port:

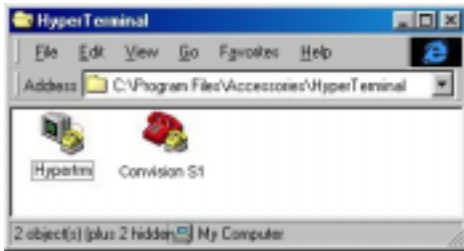


Fig. 46: New connection created

6. Once these parameters have been confirmed using OK, a new icon will be displayed called Convision S1, assuming this is the name you entered under point 2.

You now have set up your terminal program to run the initial installation process via the serial port.

Appendix C Setting up the Browser

In order to be able to communicate with the Convision S1, a JAVA-compatible Internet browser such as Netscape Communicator 4.x or Microsoft Internet Explorer 4 or later is required.

a - Setting up Netscape Navigator

After the installation of the Netscape Navigator different adjustments are necessary depending upon the connection to the Convision S1.

Setting up with a LAN connection

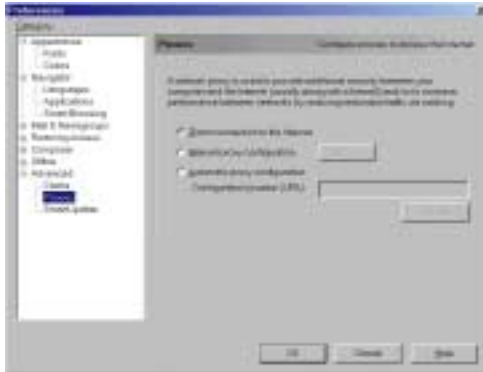
If you do not achieve a connection with the following adjustments, contact your network administrator.

Setting up Netscape with a Cross-Connect connection



1. Start Netscape
2. In the "Edit" menu, click on "Preferences".
3. Click the mouse onto the "+" sign next under the "Advanced" option and then click on "Proxies".

Fig. 47: Setting up Netscape



4. Select the “Direct connection to the Internet” option and confirm your input by pressing the “OK” button.

Your Netscape browser is now configured for communication with the Convision S1.

Fig. 48: Setting up Netscape

b - Setting up Microsoft Internet Explorer

MS Internet Explorer is either part of the Windows 95 operating system or available from Microsoft as an option.

1. To install, select the “Software” menu in the Control Panel opened via “Settings”.
2. Click on “Add”.
3. Select Internet Explorer.
4. Follow the instructions in the setup program.

Setting up Internet Explorer

In order to configure Internet Explorer for access to the Convision S1, there are a few settings which need to be made:

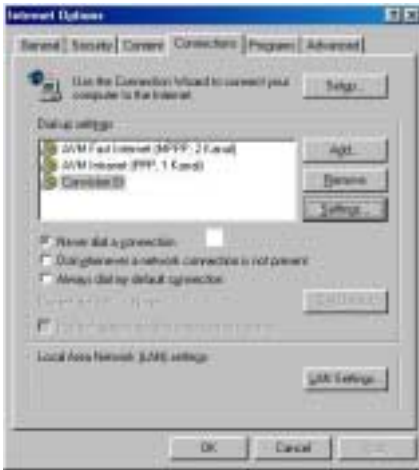


Fig. 49: Setting up Microsoft Internet Explorer

1. Start Internet Explorer.
2. Under “Extra”, select the “Internet Options” menu.
3. Open the “Connections” menu.
4. From there, select “No connection selected”.
5. You can see your created connections under Dial-up Settings.
6. Select Dial-up Connection and click on " Adjustments".



Figure 50: Setting up Microsoft Internet Explorer

7. Click on “OK”.
8. In the “Programs” menu, select the software you want to use to receive e-mails, for example.

Appendix D FAQ – Frequently Asked Questions

Connection

How do I connect the Convision S1 directly to a computer?	Computer with network card: Connect Convision S1 and computer with a twisted pair cable. Windows PC via PC direct connection using zero-modem cable.
Why don't I get a connection to the Convision S1?	Is the Convision S1 turned on? Is the IP address of the Convision S1 correct? If not, assign a new one using the Convision IPSetup tool. Is TCP/IP installed and configured on your computer? Check the settings for the proxy server in your Internet browser. It should be set either to direct access to the Internet, or with manual configuration, the IP address of the Convision S1 should be entered as an exception.
Does the Convision S1 affect the performance of the LAN?	With high usage of the Convision S1, it is possible that the transfer rates in the network are affected.
How much does the Convision S1 affect the LAN performance?	Up to 450 Kbytes per second, during streaming. If the load is too great, reduce the streaming rate.

Messages

Which Internet providers can I use?	You can use any Internet provider with email access and which supports PPP dial-up and PAP or CHAP authentication.
-------------------------------------	--

Can I use an Internet provider other than the preset provider Talkline for sending emails and SMS?	Yes, you can choose any Internet provider which offers email access. The advantage of the preset configuration is that you can send email and SMS immediately without having separate Internet access.
How long can an email message be?	A message may contain 256 characters and images.
No emails are being sent	<p>Incorrect data for the Internet provider or no default router entered.</p> <p>No address or incorrect email sender address entered.</p> <p>No server or incorrect SMTP server entered.</p> <p>No server or incorrect DNS server entered.</p> <p>The telephone switchboard does not permit calls to numbers which begin with 010... Choose another Internet-by-call provider or Internet access provider (e.g. T-online 0190111...).</p> <p>Tip: Try entering the IP address for the SMTP server instead of the name.</p>
To how many recipients can I send an email?	Up to 10 recipients, separated by a semicolon.
How many characters can be sent via SMS?	A message may contain 160 characters. You cannot attach images.
Is a dialing pause possible for telephone switchboards?	No.

Camera

A camera is connected, but I cannot see a picture, why is that?	<p>The camera has no power supply.</p> <p>The camera is not turned on.</p> <p>The video cable is not connected or is defective.</p>
The controls of a controllable camera are not seen on the screen (in the browser window).	<p>The control cable is not attached or defective.</p> <p>After connection of a camera the Convision S1 must be rebooted.</p>

What types of cameras can be connected to the Convision S1?	Any cameras which have a FBAS-PAL-output, the connector to the Convision S1 is a BNC plug.
What kind of video cable do I need to connect the cameras?	You should use a high quality coaxial cable with low damping (75 Ohm).
How long can the video cable be?	If the power supply of the camera runs via the video cable, it should not be longer than 50m. If the cable is longer, the power supply should be provided separately, directly to the camera. If the cable is longer than 100m, the quality of the video signal may be reduced. The maximum length supplied by us is 300m.
What is the focal length of the camera Convision CC1?	6mm standard approx. 40° opening angle
In what temperature range does the camera function (Convision CC1)?	Between -20°C and + 50°C
Although a camera is attached there is no picture.	The camera has no power supply. The video cable is not attached or is defective.
How to connect a Convision CC2 camera?	The control unit can be created via 8-pin mini DIN coupling. The image goes through a cinch cable / BNC-adapter. The power supply is autonomous.

Security

What happens in the event of a power failure?	Without an emergency power supply, the Convision S1 will be switched off. The configuration will not be lost as it is saved in a flash ROM. When the power supply is available again, the Convision S1 will re-boot and will start with the preset configuration.
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How do I protect the Convision S1 against unauthorized access?	<p>The Convision S1 has got several safety mechanisms:</p> <ol style="list-style-type: none"> 1. The entire Convision S1 can be secured. 2. The configuration can be secured. <p>The user is personally responsible for the assignment of passwords, as with any other network technology.</p>
When I update the Convision S1, will the configuration be still available?	Yes.
The Convision S1 does not allow any access after I have activated the protection mode.	<p>Try to access using the username "admin" and leave the password blank.</p> <p>Try to access using the username "admin" and use your password.</p> <p>The final option is to delete the entire configuration.</p>
What is the username for the administrator?	The username is "admin".
What is the username for the user?	The username is "user".

LED Display

Why is the online LED flashing?	The Convision S1 has not been configured yet.
Why does the camera LED not light up when a camera is connected?	The LED display will only be updated when you reboot the Convision S1 or when a camera image is displayed.

Browser

The Netscape browser "hangs" after a period of streaming via Server Push.	<p>Due to an error in Netscape Navigator, the Server Push connection is interrupted after a while.</p> <p>To avoid this, use the JAVA applet which will reconnect automatically after an interruption.</p>
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General

No complete functionality in the display via the HTML interface?	Enable Javascript, JAVA and Cookies in your browser.
What does Server Push and JAVA applet mean?	Server Push is a function in Netscape Navigator for displaying JPEG images. For other browsers, the JAVA applet should be used.
In what temperature range does the Convision S1 work?	The Convision S1 works in a temperature range from 0°C to 55°C.
Can I reset the Convision S1 remotely?	Yes, e.g. via the configuration select - > connection and save without changing any settings. Then reboot.
How many users can access the Convision S1 simultaneously via the LAN?	Depending on the task, up to 20 users.
Does the Convision S1 also work with other operating systems?	The Convision S1 is not dependent on any operating system. It can be used in all types of system on which a Internet browser (Netscape Navigator or Internet Explorer) is installed, e.g. IRIX 6.2, Linux 2.2 or MacOS.

Appendix E Declaration of Conformity



KONFORMITÄTSERKLÄRUNG DECLARATION OF CONFORMITY

Geräteart: Micro Web Server
Type of equipment:

Produkt / Product : **Convision S1**

Das bezeichnete Produkt stimmt mit den Vorschriften folgender EU- Richtlinie(n) überein:
The aforementioned product complies with the following European Council directive(s):

93/97/EWG EG EMV- Richtlinie / EC EMC directive

1999/5/EG EG Telekommunikationsendeinrichtungen – Richtlinie
EC Telecommunications terminal equipment directive

Zur vollständigen Einhaltung der EMV- Richtlinie wurden folgende Normen herangezogen:

To fully comply with the EMC directive, the following standards have been used:

EN 55022 Class B	: 1987
EN 50081-1	: 1995
EN 50082-2	: 1995

Dieser Erklärung liegt zugrunde:
This certification is based on:

Prüfungen im EMV- Prüflabor
Tests in EMI test laboratory

Aussteller / Holder of certificate :

Convision Technology GmbH
Zuckerbergweg 22
38124 Braunschweig
Germany

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