Telemotive AG
a company of Magna

blue PiraT2 / 5E / Mini / Remote Camera User Guide

Version 2.4.1 / 16.09.2016

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9. German Law is deemed to be as legal basis.

3 Overview

This user guide describes the installation and usage of a system for video recording. It consists of one network camera AXIS P12-series / F-series / 211 / 210 / 207 or a Video Encoder AXIS Q7404 / P7214 with analog cameras and a one of the data logger

- blue PiraT2
- blue PiraT2 5E
- blue PiraT Mini
- blue PiraT Remote

Telemotive AG. The Video Encoders are used to connect analog cameras (NTSC/PAL). The network cameras can be connected directly to the data logger.

The system allows the recording of up to four different video streams at the same time. For that the server (or a network camera) and the data logger must be connected to each other and configured separately by a HTML-based client.

The video streams are recorded in real-time and in a specified time interval in the logger. They can be downloaded into a control unit for offline use. They can also be converted to a video file and transferred from the logger into a computer. The video block length can be adjusted to 15 up to 60 seconds and the videos are stored in the mpeg4 format.

When converting into a video file, the system can combine a maximum of 400 blocks per file. The length of the blocks can change. If more video blocks are available and they cannot be converted to one file, the system creates several files. In this way no video data is lost.

Attention:
The Video Encoder and the cameras are not set by default to standby mode, which may be a reason for an empty battery.

After rebooting the system takes approximately 60 seconds to be synchronized. The recording starts immediately after the synchronization.
If the Ethernet cable was removed between the Video Encoder / camera and the data logger and plugged in again, the system takes around 11 seconds for the resynchronization.
If the supply voltage is removed from the Video Encoder / camera during the recording, it takes about 60 seconds to be synchronized (after a reconnection).

AXIS camera and Video Encoder should be operating within the AXIS specification. This is especially required for power and environmental parameters.

This user guide describes the configuration and usage of this feature. The general configuration is described in the user guides of the used data logger as well as the Telemotive System Client, which is valid together.

The client software was only tested with Microsoft® Windows® 7.

This document refers to **firmware version 02.04.01** and the **Telemotive System Client** from **version 2.4.1.** Some features depending on model and feature license or may not be available in older versions.

Software updates and user guides for other, optional, licensed enhancements are available in the Telemotive ServiceCenter. *(Please find the address under Contact at the last page.)*

To ensure the most reliable operation of your system as possible, please make sure to use always current firmware and software versions.

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4 System requirements

Control Unit
A Windows based Laptop or PC is needed to configure the devices of Telemotive AG by **Telemotive System Client**. It also allows to save the recorded data and to use them offline later.

Telemotive System Client
The software client is used for configuring the data logger as well as downloading the recorded data or convert these into your needed file format. An firmware update can be performed by the **Telemotive System Client** too to ensure that your devices are always up to date.

blue PiraT2 / blue PiraT2 5E / blue PiraT Mini
The communication between bus systems and control units is monitored and relevant data can be recorded very precisely with the data logger of Telemotive AG. The collected data are stored to the logger and can be downloaded via Ethernet to a PC.

The **blue PiraT2** is our top-class all-in-one data logger. Seven models cover a wide range of interfaces.

Additionally, the **blue PiraT2 5E** offers improved power management and power backup, five integrated Ethernet ports and super-fast start-up behavior. The blue PiraT2 can be flexibly expanded via Telemotive System Link.

The **blue PiraT Mini** is smallest data logger in the world with an outstanding functional scope. It offers a wide range of interfaces, stable temperature behavior, very low energy consumption, four GBit Ethernet ports, and much more. Different blue PiraT Mini can be flexibly expanded to one cluster and therefore handled very easily by using Telemotive System Link.

Remote Control Touch (optional)
Operate your blue PiraT Mini or blue PiraT2 data loggers safely and comfortably from the driver's or passenger seat. Via Telemotive System Link our new remote control becomes part of your logger network. One remote control can handle all connected loggers.

blue PiraT Remote
While Remote Control Touch is just a control unit for handling unique devices or a TSL network, the blue PiraT Remote additional has logger functionality by offering internal storage and some interfaces.

blue PiraT2 Ethernet kit
This optional enhancement Ethernet kit is connected via a FCI cable to the rear side of the **blue PiraT2**. With his four Ethernet interfaces it establishes the connection between data logger and the Video Encoder or one single camera and allows connecting to a Local Area Network (LAN). In this way the Ethernet port on the front side of the data logger is open. This allows using the front Ethernet port for communication with the Telemotive System Client and manages the logger.
The Ethernet kit is available for blue PiraT2 only, because **blue PiraT2 5E** has an integrated Ethernet switch and four ports at the rear side.

Network camera AXIS P12 / F44 / F41 / 211 / 210 / 207
Network cameras have an Ethernet port and therefore can be connected directly to the data logger. Up to four cameras are supported to record the video streams. These cameras can be connected to the four channels of the encoder. The following AXIS camera types are supported: P12, F44, F41, 211, 210 and 207.

AXIS Q7404 / P7214 Video Encoder
The AXIS Video Encoder is a high performance, four-channel standalone device that integrates up to four analog cameras (NTSC/PAL) at a time into an IP-based video surveillance system. Video Encoder and camera are connected via BNC connector.
Both Video Encoders support the compression formats H.264, MJPEG and MPEG-4. Therefore they are capable to reduce bandwidth and storage requirements without compromising image quality.

The AXIS Q7404 Video Encoder contains four separate video channels, one for each video input. Each channel has its own IP address.
The AXIS P7214 Video Encoder uses only one IP address for all four channels.

License
For the additional feature **Camera Link,** an installed license is required. Settings for licensed features can be performed with a valid license only.

If you need a license for your logger, please contact our sales department (please find the address under contact at the last page).

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4.1 Further manuals

Beside this user guide we offer the main manuals for our client as well as for the different data logger generations in our ServiceCenter at https://sc.telemotive.de/bluepirat.

User manual for the Telemotive System Client
https://sc.telemotive.de/4/uploads/media/TelemotiveSystemClient_UserManual.pdf

User manual for blue PiraT2 / blue PiraT2 5E
https://www.telemotive.de/4/uploads/media/blue_PiraT2_UserManual.pdf

User manual for blue PiraT Mini
https://www.telemotive.de/4/uploads/media/blue_PiraT_Mini_UserManual.pdf

User manual for Remote Control Touch
https://sc.telemotive.de/4/uploads/media/RCTouch_UserGuide.pdf

User manual for blue PiraT Remote
https://sc.telemotive.de/4/uploads/media/blue_PiraT_Remote_UserGuide.pdf

For having an easy access if necessary, the most important manuals are linked in the client under the menu item **[Help]** and are reachable easily from there.

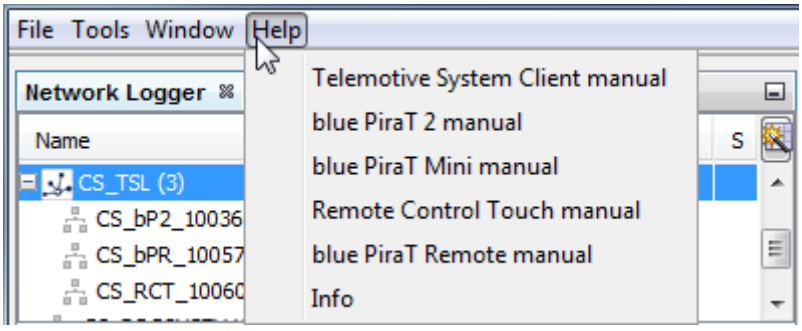


Figure 4.1: links to the manuals

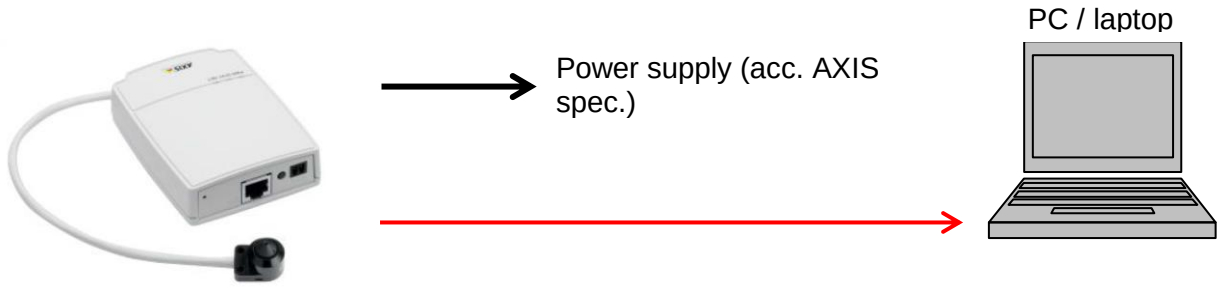
Our licensed enhancements have own manuals which are stored in the ServiceCenter too. You will find a list of these enhancements in the user manuals in the chapter **Additional features by optional licenses**.

5 Configuring the network camera AXIS P12xx

5.1 Connecting the network camera AXIS P1204 / P1214 / P1224

Connect the camera with the associated main unit. Connect the power supply to the main unit. Connect your PC or laptop via Ethernet cable to the main unit. Turn on the power supply. All LEDs should light green after about 60 seconds.

Network camera AXIS P1204 / P1214 / P1224



Change your PCs IP configuration. Use static IP address with the following settings:

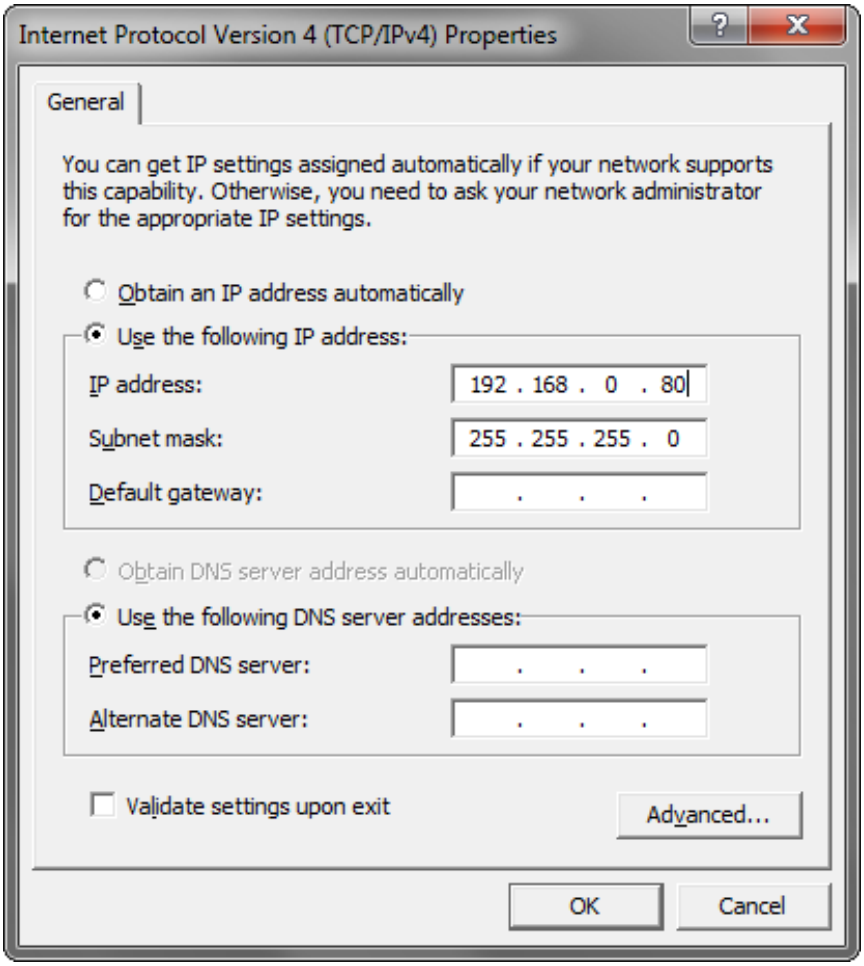


Figure 5.1: Setting a static IP address

5.2 Access to the network camera AXIS P12xx

Open your browser and type in the preset IP address of the network camera: **192.168.0.90**.
(http://192.168.0.90)

Choose your password and type it in. This password will be needed later.
If the system asks for a further authentication, please type in the same password like before.

Figure 5.2: Create a user password

After setting the password please login to the web interface:

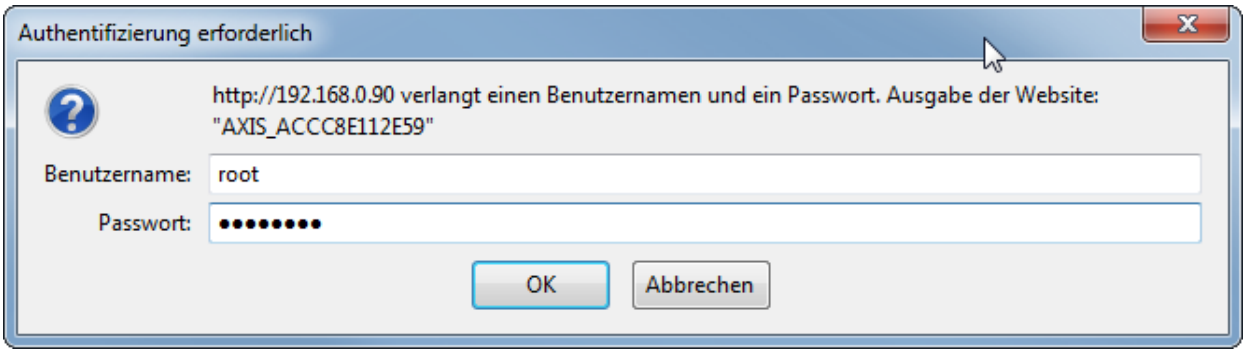


Figure 5.3: Login to the web interface

User name: root

Password: (your chosen password from before)

In some cases a browser add-on is necessary to display the video stream.

Thereafter you have to set the power line frequency of the power supply. In Europe 50 Hz is common.

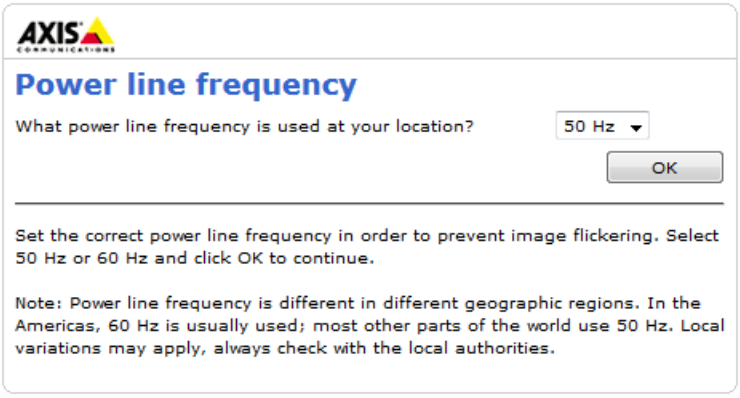


Figure 5.4: Configure the power line frequency

Now you should see the live stream of the connected network camera.

Figure 5.5: Picture of a connected network camera

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5.3 Creating the user “admin”

For communicating with the blue data logger a special user is needed with administrator rights.

Click **[Setup]** → **[Basic Setup]** → **[1 Users]** → **[Add…]**.

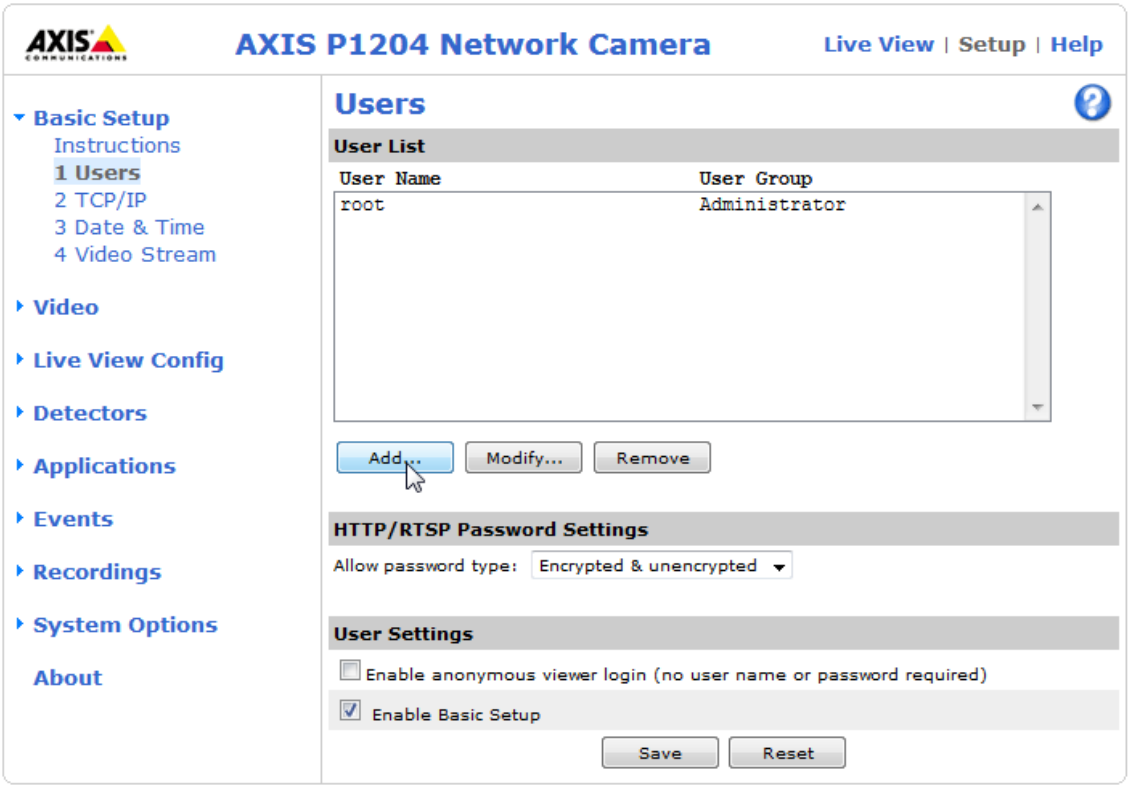
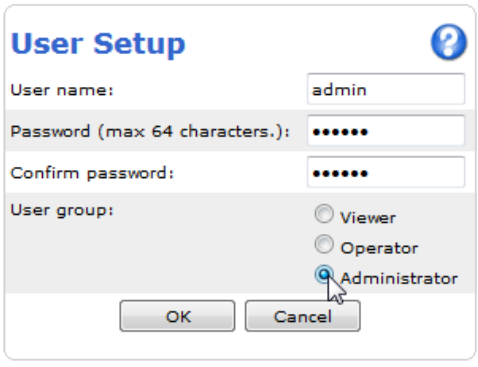


Figure 5.6: Add a new user

A new window is opened.



Name the new user “admin” and define a password. This user and password will be needed later too.

Recommended:
User name: admin
Password: 2x8bg4

Choose the <User group> **(o) Administrator** and click **[OK]**.

Activate at <User Settings> the checkbox **Enable anonymous viewer login (no user name or password required)**. Confirm the settings with **[Save]**.

Figure 5.7: Enable anonymous viewer login

5.4 Setting date and time

Change to the entry **[Basic Setup]** → **[3 Date & Time]**. Choose the <Time mode> **(o) Set manually**. Set up date and time. Confirm the settings with **[Save]**.

Comment:
The time set here is initially only a temporary adjustment. In our system the data logger is the time master and overwrites the logger time after successfully synchronizing with the video server.

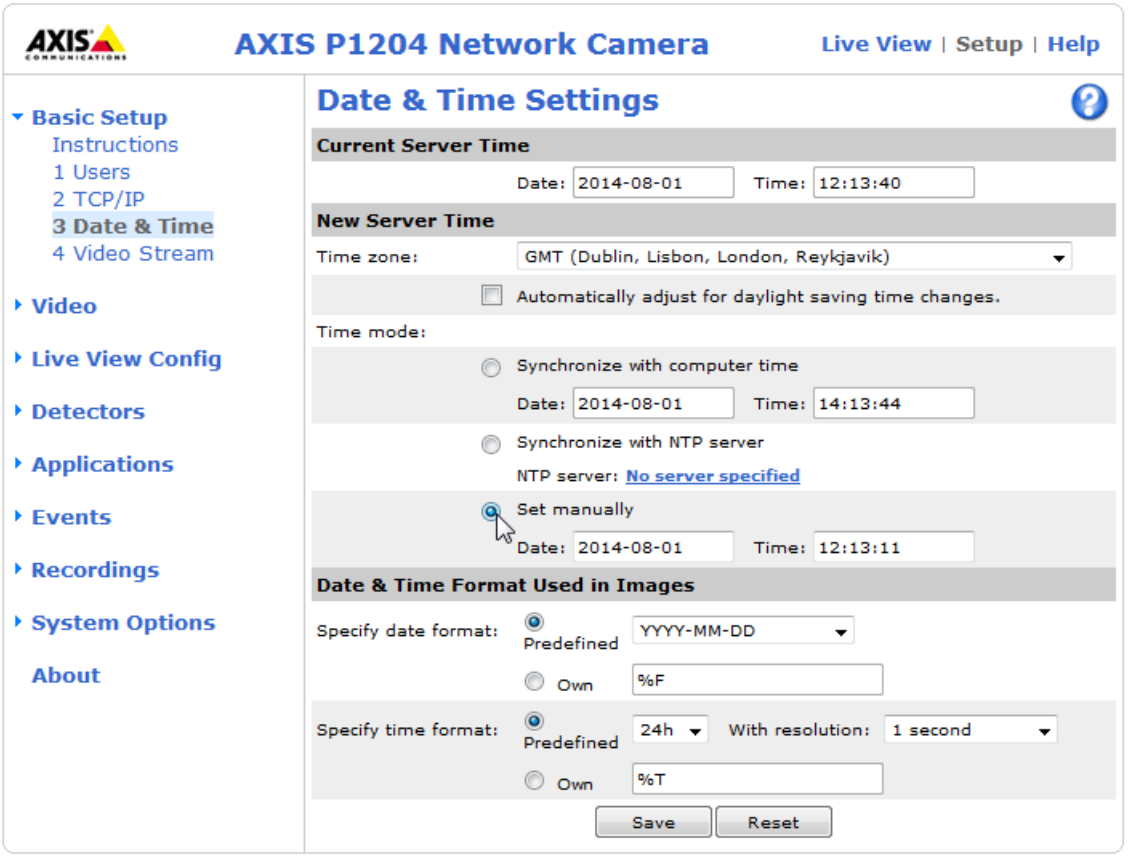


Figure 5.8: Set date and time manually

You can also display date and time on the video image.

Attention:
Before you start recording always set the date and time in the data logger first.
It is impossible to change the timestamp at recorded video data. This means, the setup of a new logger time before downloading does not change the time within the video pictures. In this case, the timestamps of the other channels and the video picture timestamp could not match.

Click **[Video]** → **[Video Stream]**. Activate both checkboxes **Include date** and **Include time** to activate the display on the video image. Confirm the settings with **[Save]**.

If desired, change format options like <Text color>, <Text background color> and text place. Confirm the settings with **[Save]**.

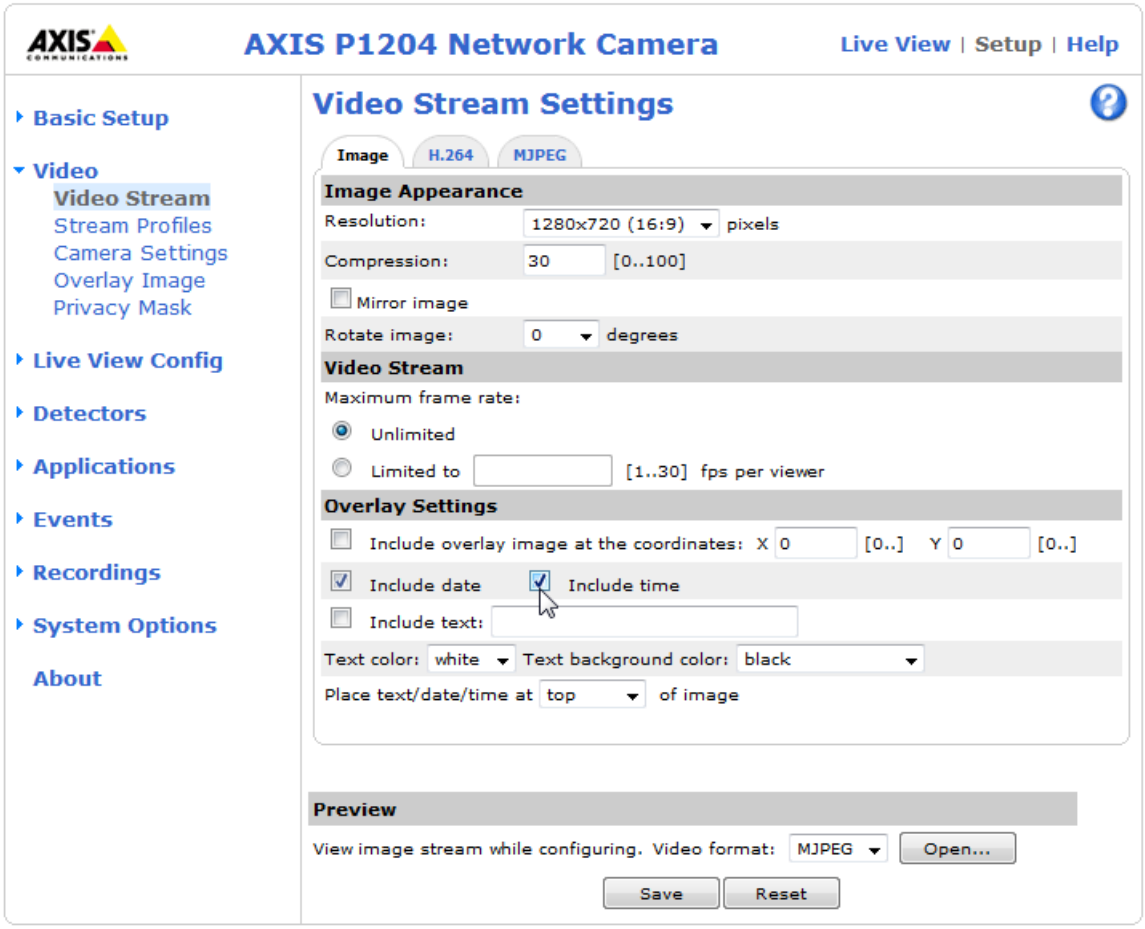


Figure 5.9: Include date and time in the video stream

The setup for in the video image embedded timestamps is finished.

Note:
In case that the video is stuttering or has breaks, please reduce the preset <Maximum frame rate>. Reducing to 15 or 20 fps eliminates the problem which is caused by to high frame rates especially with HD cameras.

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5.5 IP configuration

Change to the entry **[Basic Setup]** → **[2 TCP/IP]**. Choose the <IPv4 Address Configuration> **(o) Use the following IP address**. Type in these data:

IP address:	192.168.1.90
Subnet mask:	255.255.255.0

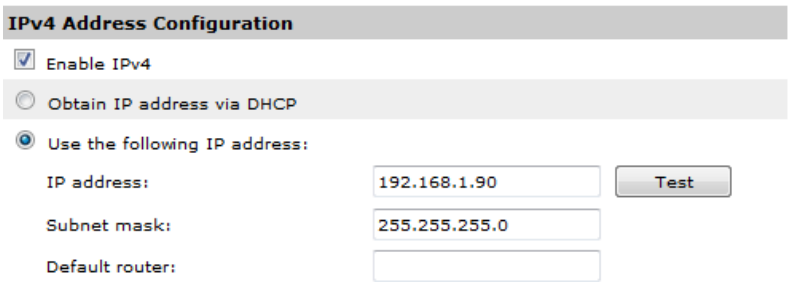

Figure 5.10: Setting an IP address

Confirm the settings with **[Save]**.

Note:
By changing the IP address you lose the connection to the network camera.

This also will be told to you in an information window:

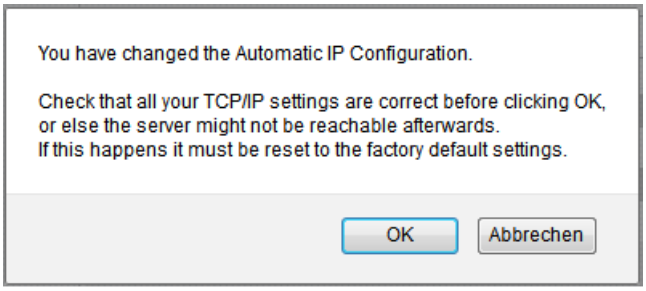

Figure 5.11: popup window 1

Figure 5.12: popup window 2

For reconnecting you have to change your computers IP address to **192.168.1.80**. Then type in your browser the new IP address of the network camera, to access the configuration again.

(http://192.168.1.90)

Note:
Finally, change your PCs or laptops IP configuration back to dynamic configuration.

5.6 Resetting configuration

The AXIS P-series can be set to default settings by the following steps:

1. Disconnect the connection to the power supply.
2. Press and hold the control button next to the PWR connector and
3. reconnect to the power supply.
4. Hold the control button for 15 to 30 seconds till the Stat-LED flashes yellow.

When the Stat-LED turns green the process is finished.

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6 Configuring the network camera AXIS F41/F44

6.1 Connecting the network camera AXIS F41/F44

Connect the camera with the associated main unit. Connect the power supply to the main unit. Connect your PC or laptop via Ethernet cable to the main unit. Turn on the power supply. All LEDs should light green after about 60 seconds.

Network camera AXIS F41

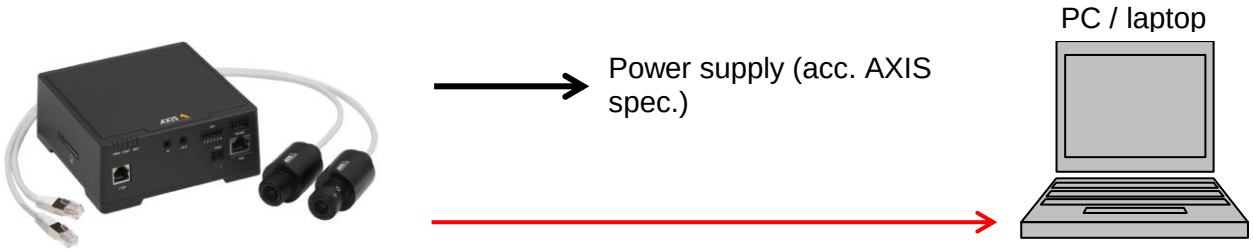

Figure 6.1: Connecting the network camera with a PC/ laptop

Change your PCs IP configuration. Use static IP address with the following settings:

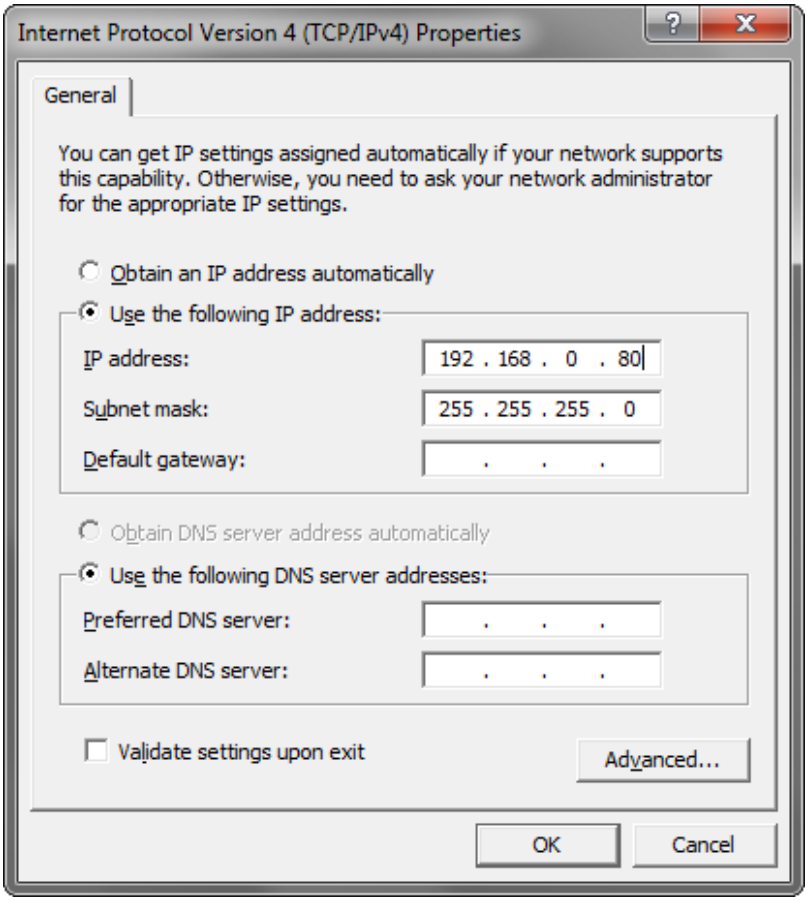

Figure 6.2: Setting a static IP address

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6.2 Access to the network camera AXIS F41/F44

Open your browser and type in the preset IP address of the network camera: **192.168.0.90**.

Choose your password and type it in. This password will be needed later.
If the system asks for a further authentication, please type in the same password like before.

Figure 6.3: Creating an user password

After setting the password please login to the AXIS F41/F44 web interface:

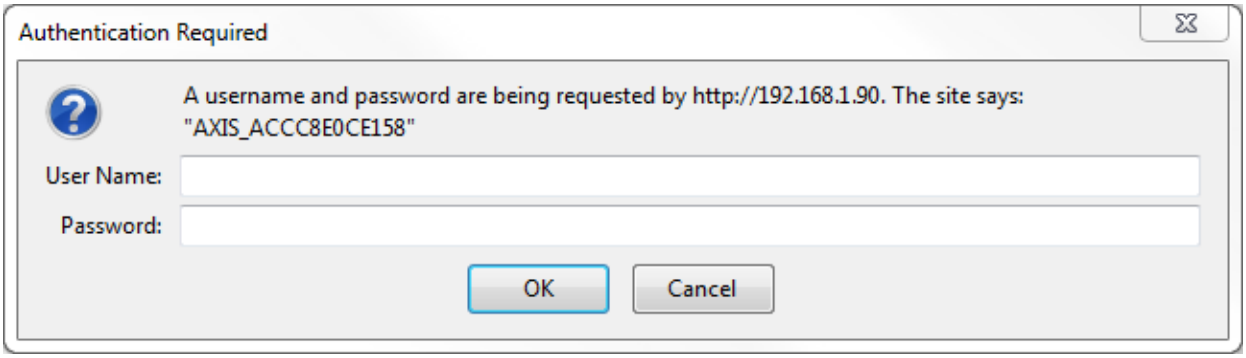

Figure 6.4: Login to the web interface

User name: root

Password: (your chosen password from before)

In some cases a browser add-on is necessary to display the video stream.

Thereafter you have to set the capture mode and the power line frequency of the power supply. In Europe 50 Hz is common.

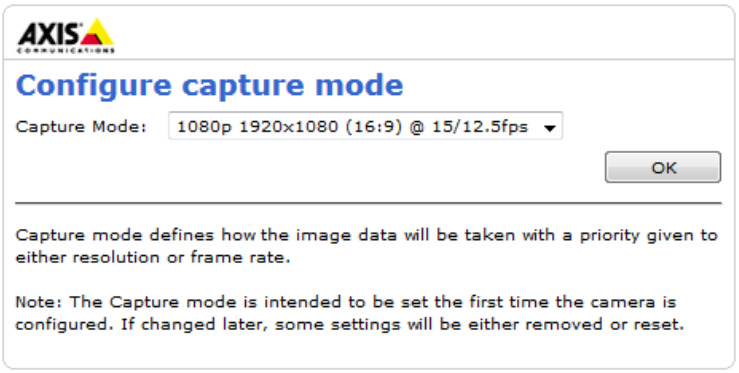

Figure 6.5: Configure the capture mode F41

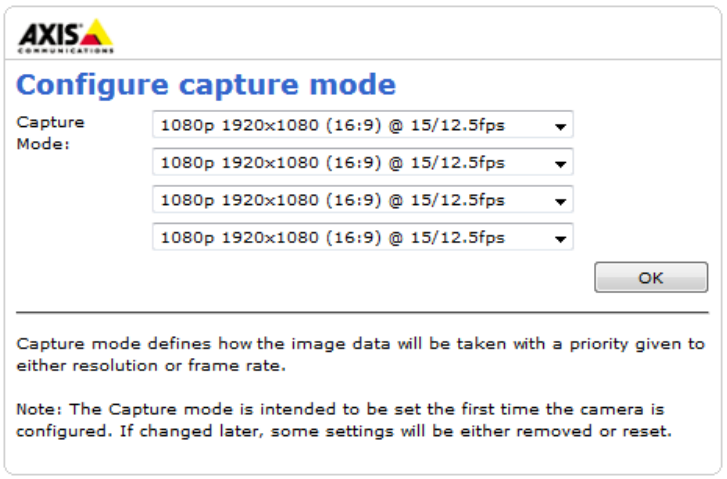

Figure 6.1: Configure the capture mode F44

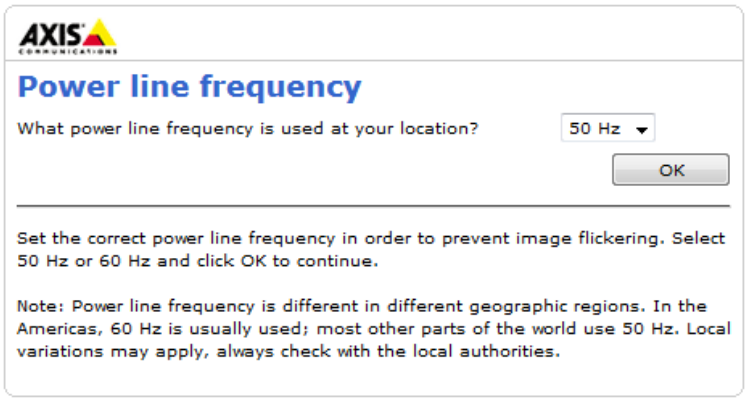

Figure 6.6: Configure the power line frequency

Now you should see the live stream of the connected network camera.

Figure 6.7: Picture of a connected network camera

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6.3 Creating the user “admin”

For communicating with the data logger a special user is needed with administrator rights.

Click **[Setup]** → **[Basic Setup]** → **[1 Users]** → **[Add…]**.

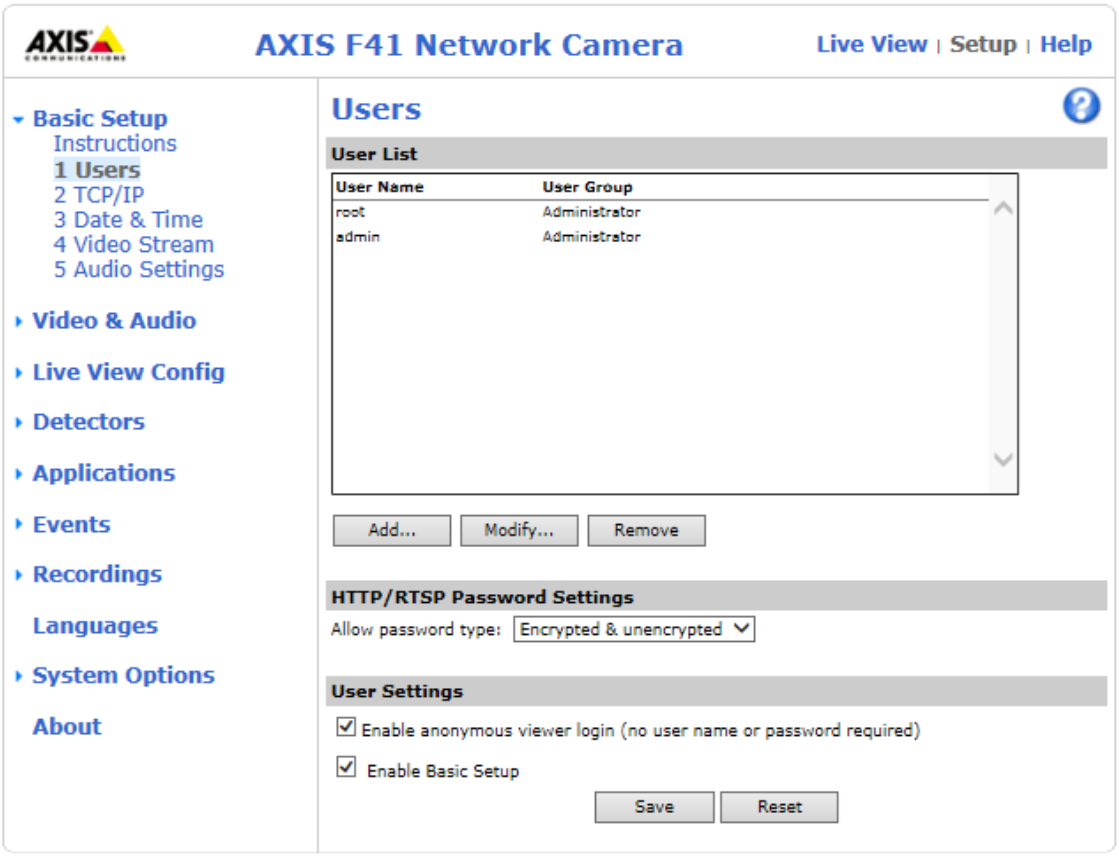
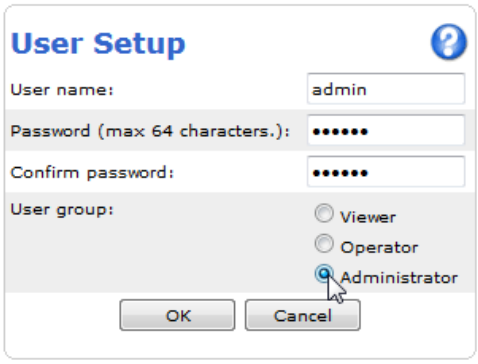


Figure 6.8: Adding a new user

A new window is opened.



Name the new user “admin” and define a password. This user and password will be needed later too.

Recommended:
User name: admin
Password: 2x8bg4

Choose the <User group> **(o) Administrator** and click **[OK]**.

Activate at <User Settings> the checkbox **Enable anonymous viewer login (no user name or password required)**. Confirm the settings with **[Save]**.

Figure 6.9: Enable anonymous viewer login

6.4 Setting date and time

Change to the entry **[Basic Setup]** → **[3 Date & Time]**. Choose the <Time mode> **(o) Set manually**. Set up date and time. Confirm the settings with **[Save]**.

Comment:
The time set here is initially only a temporary adjustment. In our system the data logger is the time master and overwrites the logger time after successfully synchronizing with the video server.

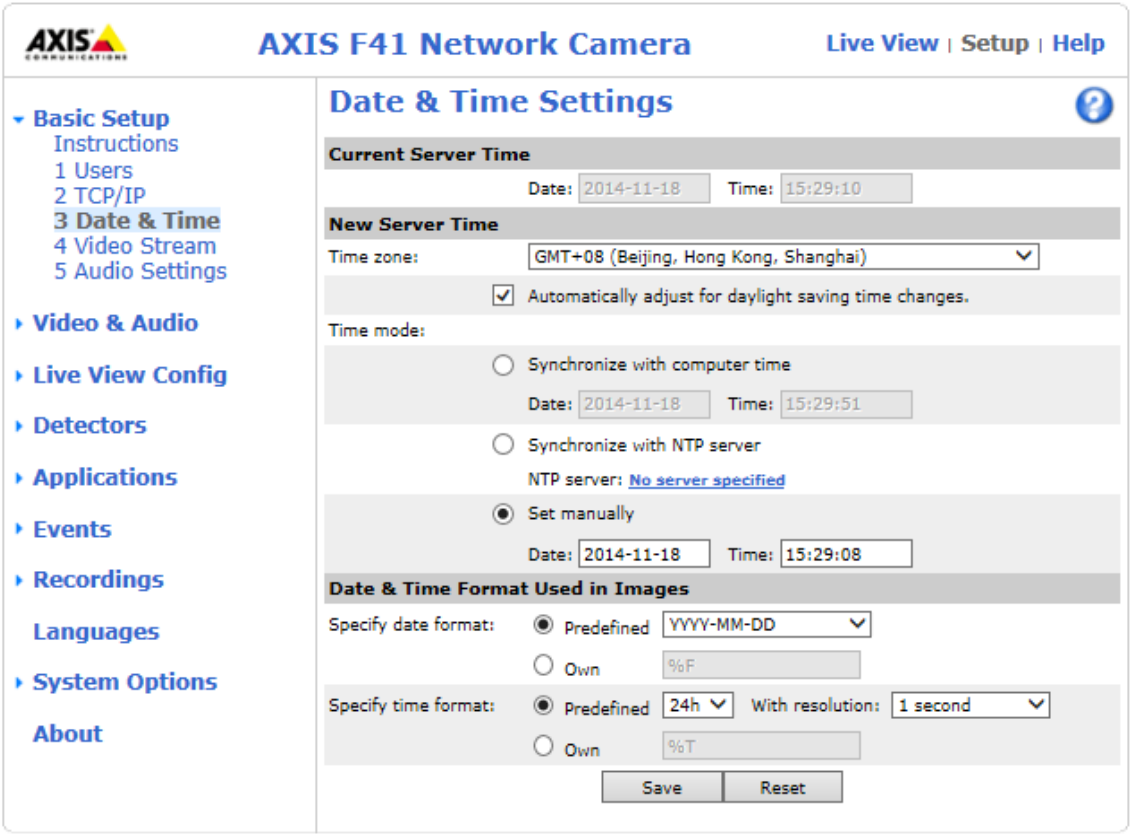


Figure 6.10: Set date and time manually

You can also display date and time on the video image.

Attention:
Before you start recording always set the date and time in the data logger first.
It is impossible to change the timestamp at recorded video data. This means, the setup of a new logger time before downloading does not change the time within the video pictures. In this case, the timestamps of the other channels and the video picture timestamp could not match.

Click **[Basic Setup]** → **[4 Video Stream]**. Activate both checkboxes **Include date** and **Include time** to activate the display on the video image. Confirm the settings with **[Save]**.

If desired, change format options like <Text color>, <Text background color> and text place. Confirm the settings with **[Save]**.

Note:
Using the AXIS F44 these settings must be made for Camera 1 to 4.
[Basic Setup] → [4 Video Stream] → [Camera …]

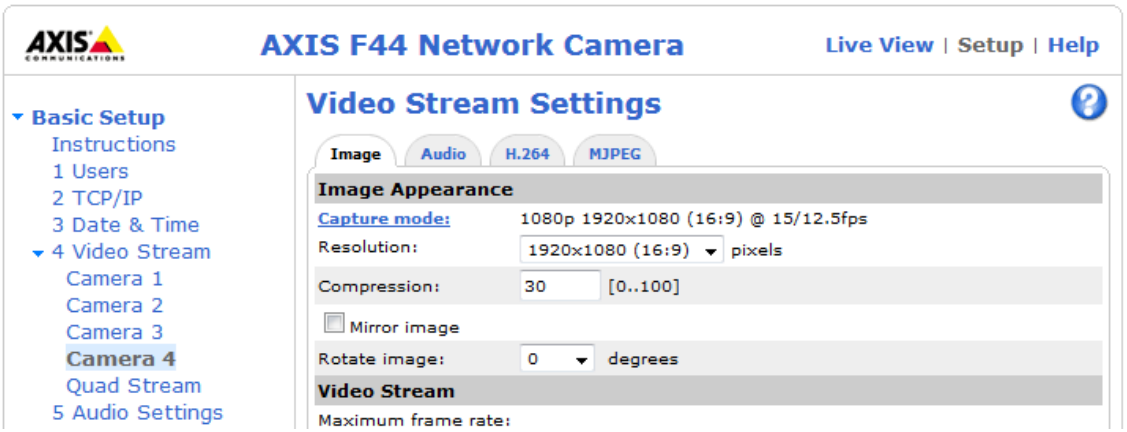


Figure 6.11: Settings for cameras 1 - 4

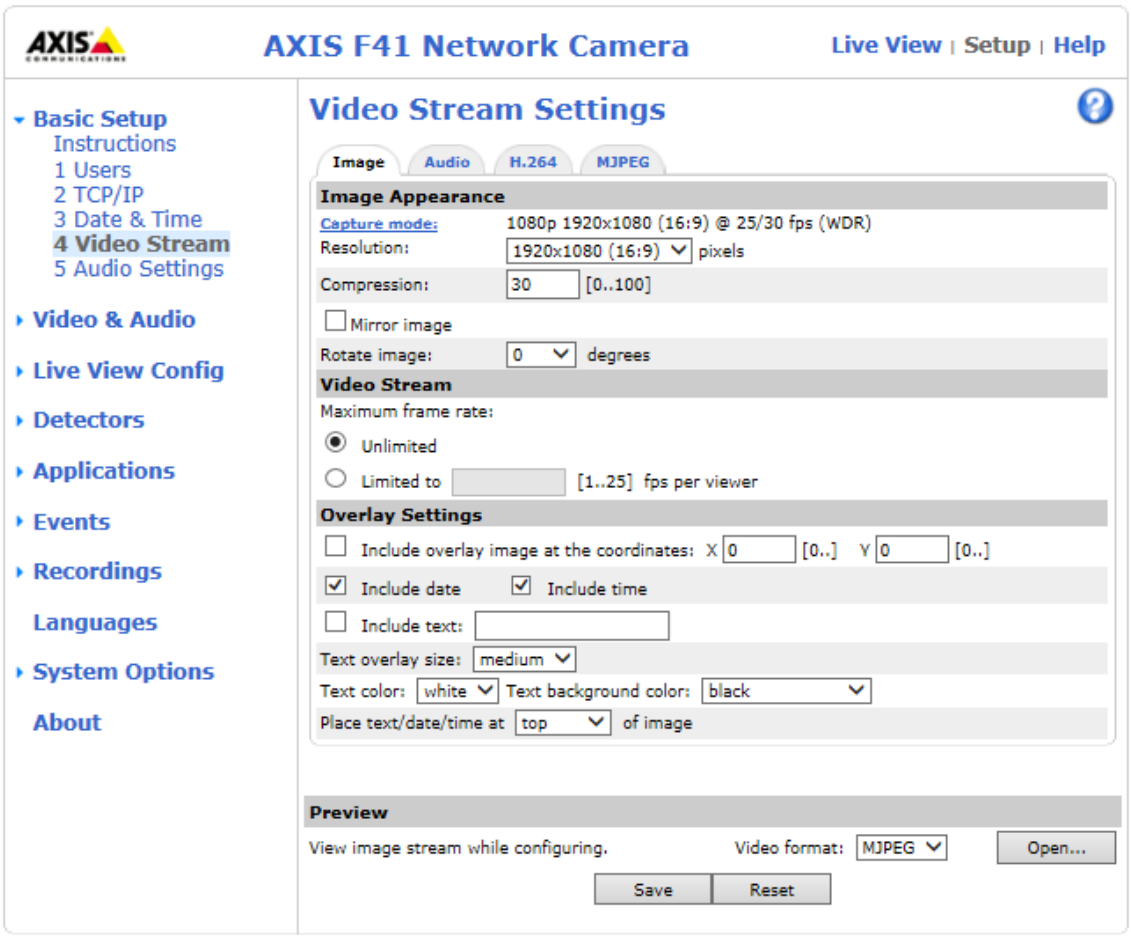


Figure 6.12: Include date and time in the video stream

The setup for in the video image embedded timestamps is finished.

Note:
In case that the video is stuttering or has breaks, please reduce the preset <Maximum frame rate>. Reducing to 15 or 20 fps eliminates the problem which is caused by to high frame rates especially with HD cameras.

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6.5 Audio settings (FW 2.0.1 onwards)

Change to **[Basic Setup]** → **[4 Video Stream]** and switch to the tab **[Audio]**. Activate the checkbox **Enable audio** to enable the general audio functionality.

Note:
Using the AXIS F44 these settings must be made for Camera 1 to 4.
[Basic Setup] → [4 Video Stream] → [Camera …]

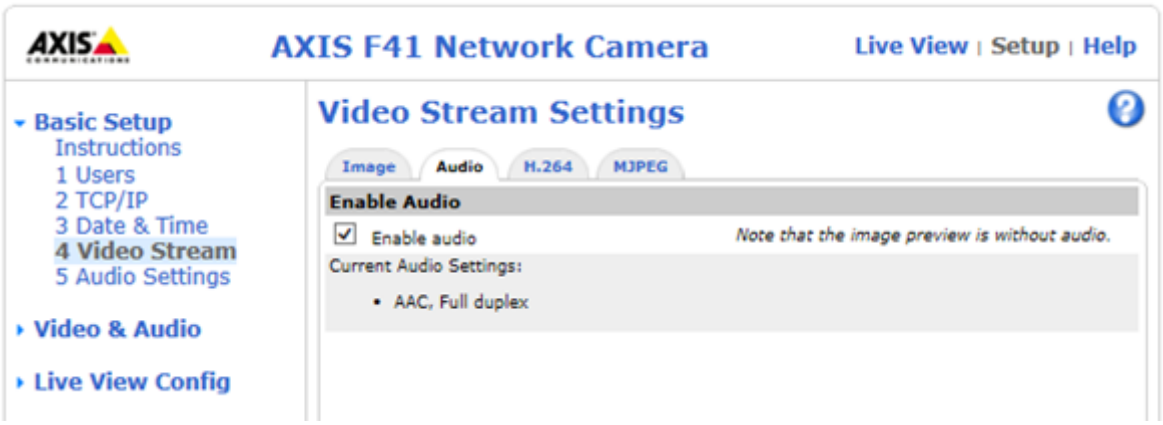

Figure 6.13: Enable audio

6.5.1 Adjusting audio source

Change to the entry **[Video & Audio]** → **[Audio Settings]**. Here you can configure the connected source as well as the recorded audio quality.

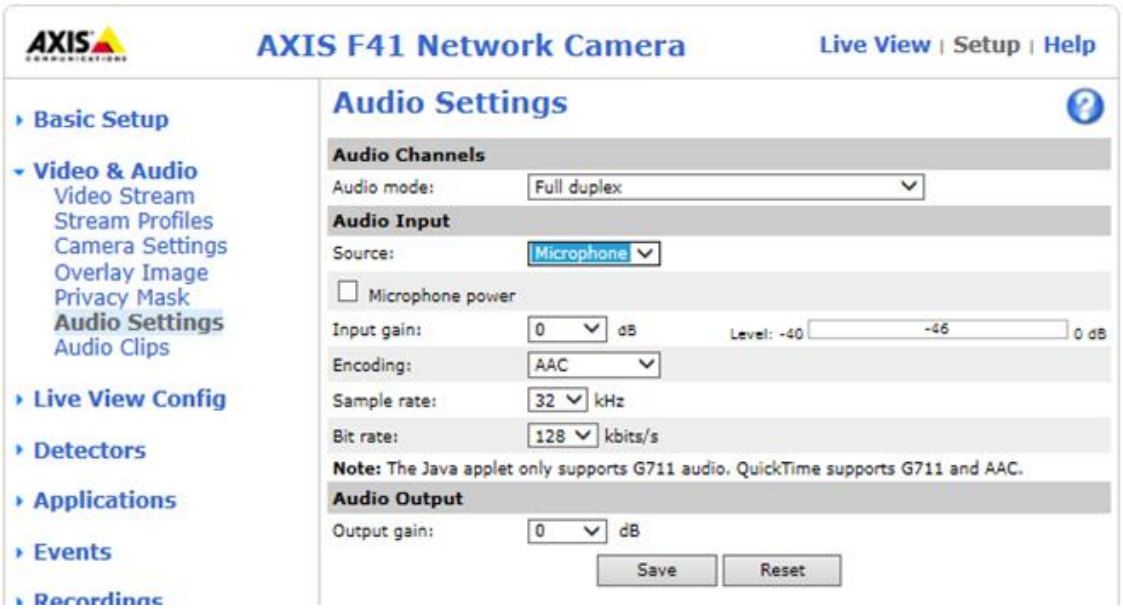

Figure 6.14: Configure audio settings

In the dropdown box next to <Source> you can choose between **[Line]** for an audio source like an MP3 player and **[Microphone]**.

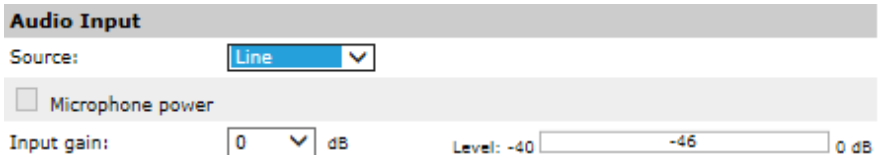

Figure 6.15: Select audio input (Line)

The source **[Microphone]** supports additionally the functionality to power a microphone.

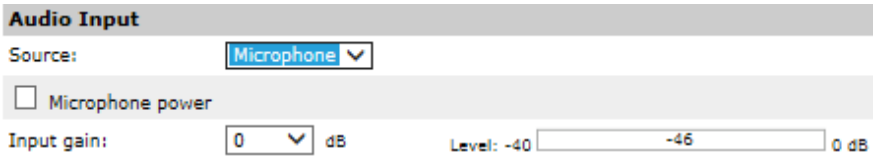

Figure 6.16: Select audio input (Microphone)

The setting of the <Input gain> can be used to configure an internal preamplifier for signal improvement.

Note:
If the source configuration is not valid the audio signal may be distorted.

6.5.2 Adjusting audio quality

For a high audio quality we recommend to configure the <Sample rate> and the <Bit rate> at the highest value. The <Encoding> is left by default (AAC).

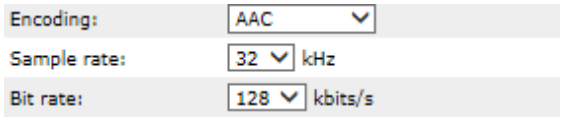

Figure 6.17: Adjust audio quality

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6.6 IP configuration

Change to the entry **[Basic Setup]** → **[2 TCP/IP]**. Choose the <IPv4 Address Configuration> **(o) Use the following IP address**. Type in these data:

IP address:	192.168.1.90
Subnet mask:	255.255.255.0

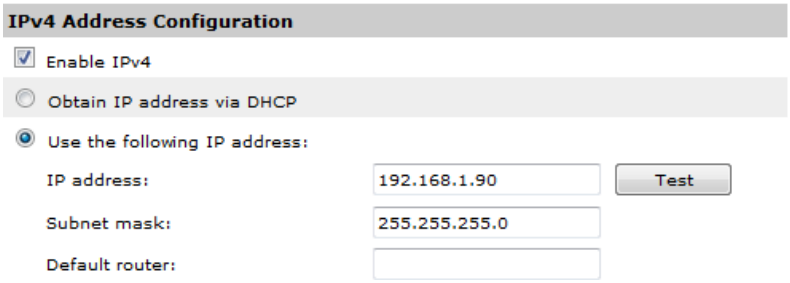

Figure 6.18: Setting an IP address

Confirm the settings with **[Save]**.

Note:
By changing the IP address you lose the connection to the network camera.

This also will be told to you in an information window:

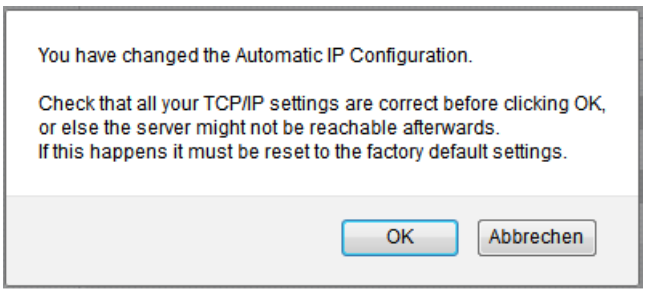

Figure 6.19: Hint 1

Figure 6.20: Hint 2

For reconnecting you have to change your computers IP address to **192.168.1.80**. Then type in your browser the new IP address of the network camera, to access the configuration again.

Note:
Finally, change your PCs or laptops IP configuration back to dynamic configuration.

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6.7 Resetting configuration

The camera AXIS F41/F44 can be set to default settings by the following steps:

1. Disconnect the connection to the power supply.
2. Press and hold the control button next to the SD slot and
3. reconnect to the power supply.
4. Hold the control button for 15 to 30 seconds till the Stat-LED flashes yellow.

When the Stat-LED turns green the process is finished.

7 Configuring the network camera AXIS 207/210/211

Warning:
The camera must have installed the firmware version 4.40. If there is another firmware version installed it is recommended to install the 4.40.

Any camera that is used with the data loggers blue PiraT2 / blue PiraT2 5E / blue PiraT Mini can be installed manually or automatically (recommended).

The manual configuration is done over the camera web interface.

The automatic configuration is done with the program “AXIS Camera Management”. For this variant a template is available.

7.1 Related manuals

- AXIS 207 User Manual **[1]**
- AXIS 210 User Manual **[2]**
- AXIS 211 User Manual **[3]**

7.2 Automatic configuration (recommended)

Needed software: AXIS Camera Management v2.00.31
http://www.axis.com/techsup/software/index.htm or
http://www.axis.com/de/products/cam_mgmt_software/interface.htm

Configuration steps:

1. Check firmware version. Recommended: 4.40 (more information see **[1]**, **[2]**, **[3]** or AXIS online).
2. Resetting camera to the factory default settings (more information see **[1]**, **[2]** or **[3]** chapter “Resetting to the Factory Default Settings“).
3. Connect the camera with the PC / laptop via an Ethernet cable.
4. Set the password (more information see **[1]**, **[2]** or **[3]** chapter “Set the password“).
5. Install camera template by using the program “AXIS Camera Management“.
6. Add administrator.

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7.2.1 Installing the camera template

The template “blue PiraT_Kamera_AXIS-ConfigTemplate_vX.X.cmt” configures your camera automatically. The download file is available in our ServiceCenter at **[blue PiraT] → [Dokumentations]** under the manual of the camera connection.

1. Click **[Apply Template]**.
2. Click on the template file in the shortcut menu or choose it from the memory location with **[Browse…]**.

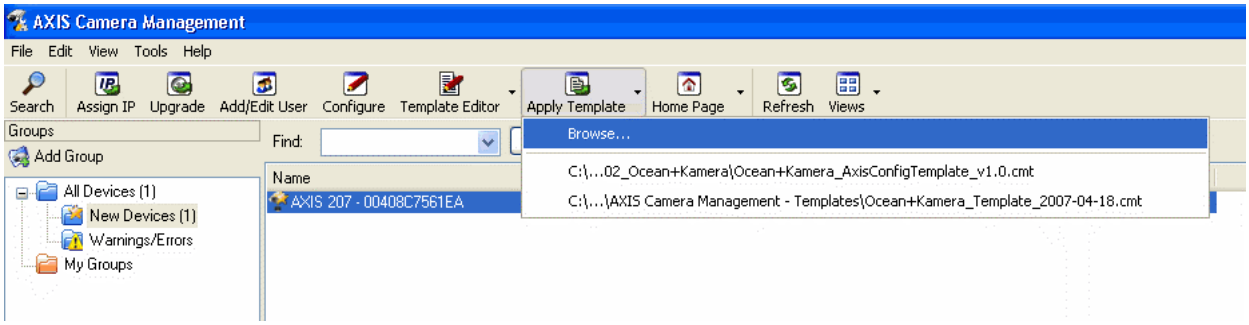

Figure 7.1: Select a template

A dialog opens:

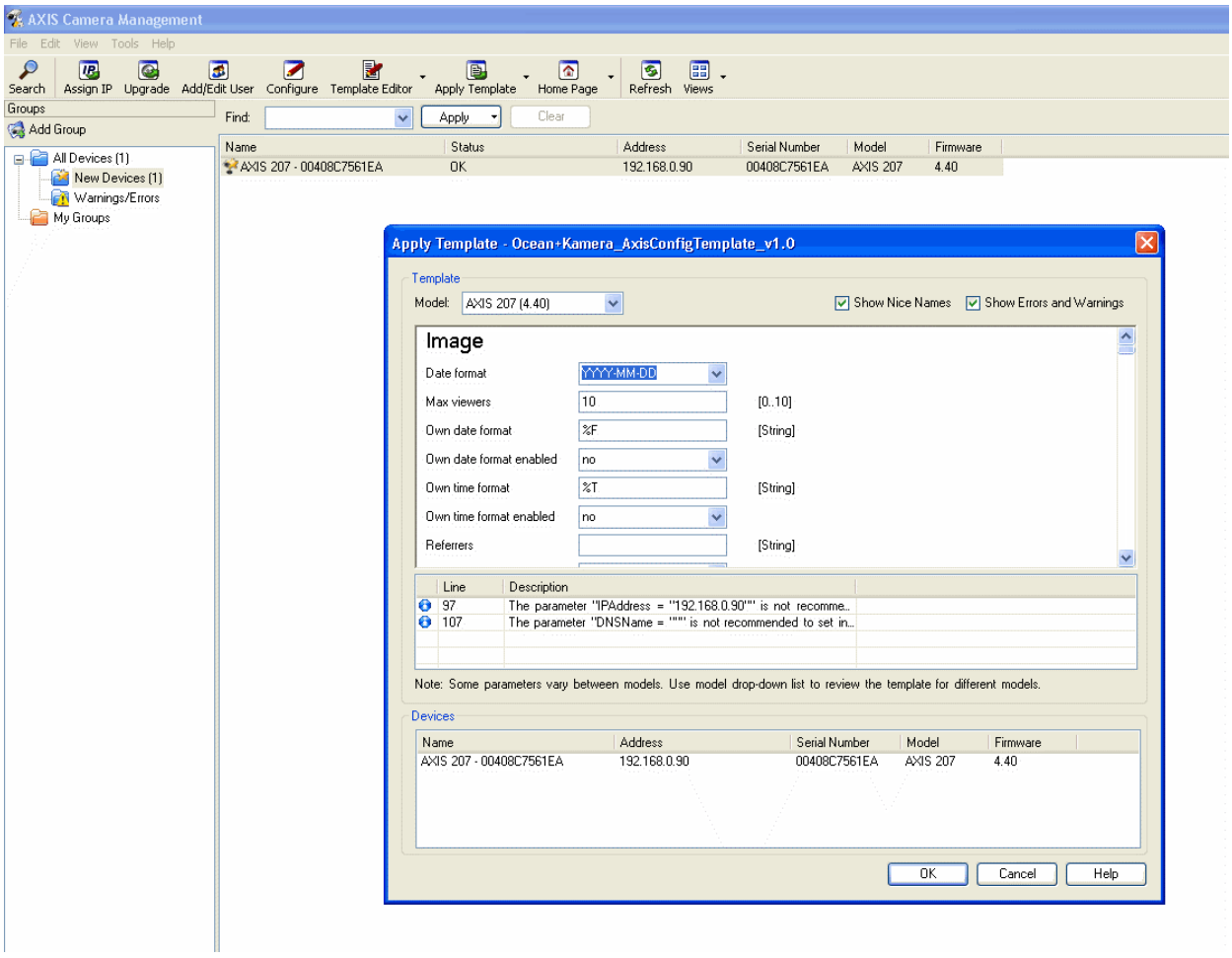

Figure 7.2: Apply template

3. Click **[OK]** to confirm the template.

A dialog opens.

4. Check the configuration process.

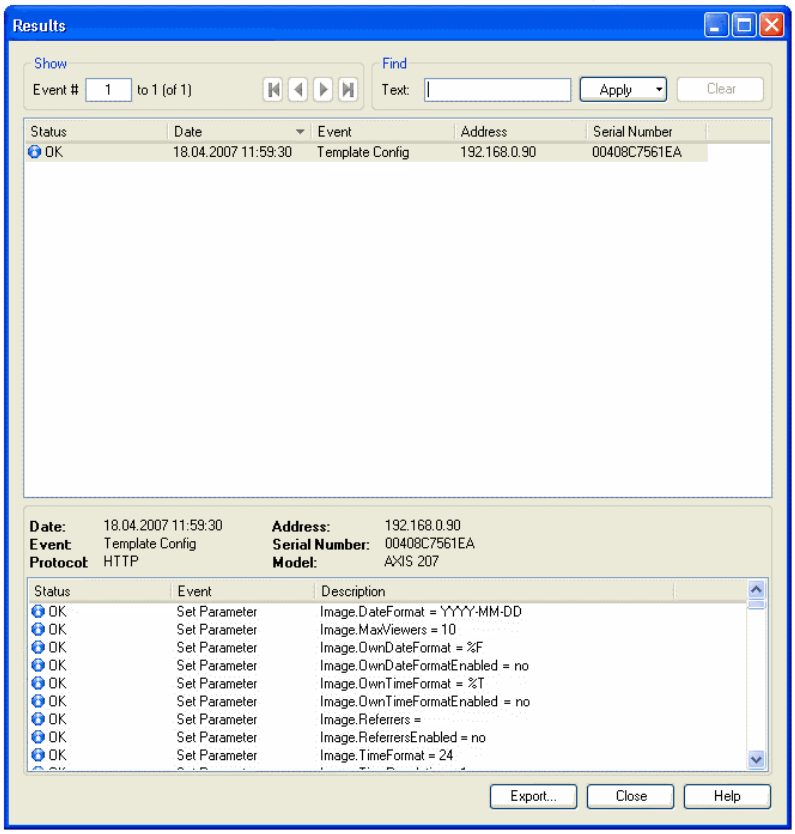

Figure 7.3: Result of the configuration process

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7.2.2 Creating the user “admin”

For communicating with the data logger a special user is needed with administrator rights.

1. Click the configured AXIS camera with the right mouse button.
2. Click **[User Management]** → **[Add/Edit User…]** in the shortcut menu.

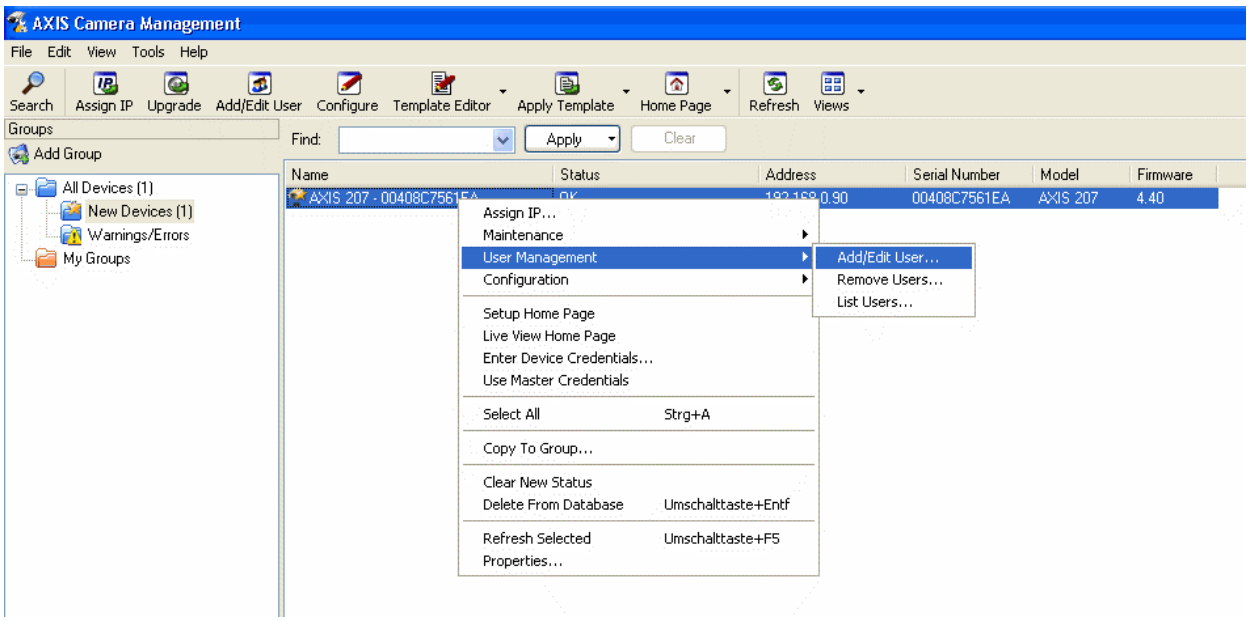
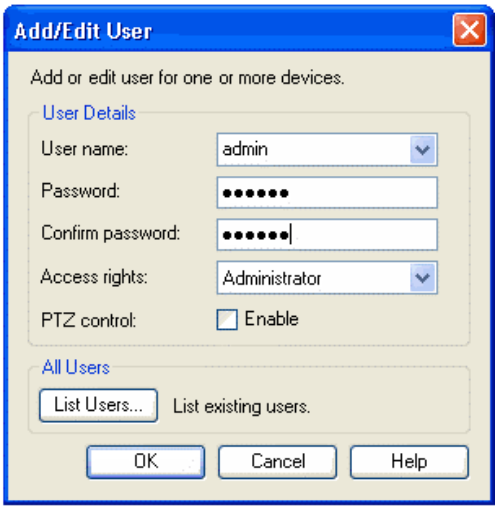


Figure 7.4: Add a user

A dialog opens.

3. Add administrator as follows:



Name the new user “admin” and define a password. This user and password will be needed later too.

Recommended:
User name: admin
Password: 2x8bg4

Choose the <Access rights> “Administrator” and click **[OK]**.

Figure 7.5: Select a user password

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7.3 Manual configuration

1. Reset camera to the factory default settings.
2. Connect camera with the PC / laptop via an Ethernet cable.
3. Open browser.
4. Type in the preset IP address of the network camera: **192.168.0.90**.
5. Press **[Enter]**.
6. Click **[Setup]**.
7. Add administrator.

If you don't know the cameras IP address, use the program “IP-Utility” on the AXIS CD-ROM for detection.

If it is still not possible to connect to the camera setup, please reset the camera via hardware reset. This is described in the camera manual. In this case you have to use the fix IP address 192.168.0.10 for your PC. The camera is reachable by the IP address 192.168.0.90.

A step by step configuration of the camera is described in the section below.

The following instructions are illustrated by screenshots of the camera setup of the AXIS 210. The layout of the other supported cameras 207, 207W and 211 can differ.

Note:
All modifications of one setup screen must be applied by the [Save] button. Otherwise the changes will be discarded.

7.3.1 Resetting configuration

The camera AXIS 207/210/211 can be set to default settings at **[System Options]** → **[Maintenance]** with the **[Default]** button under <Maintain Server>.

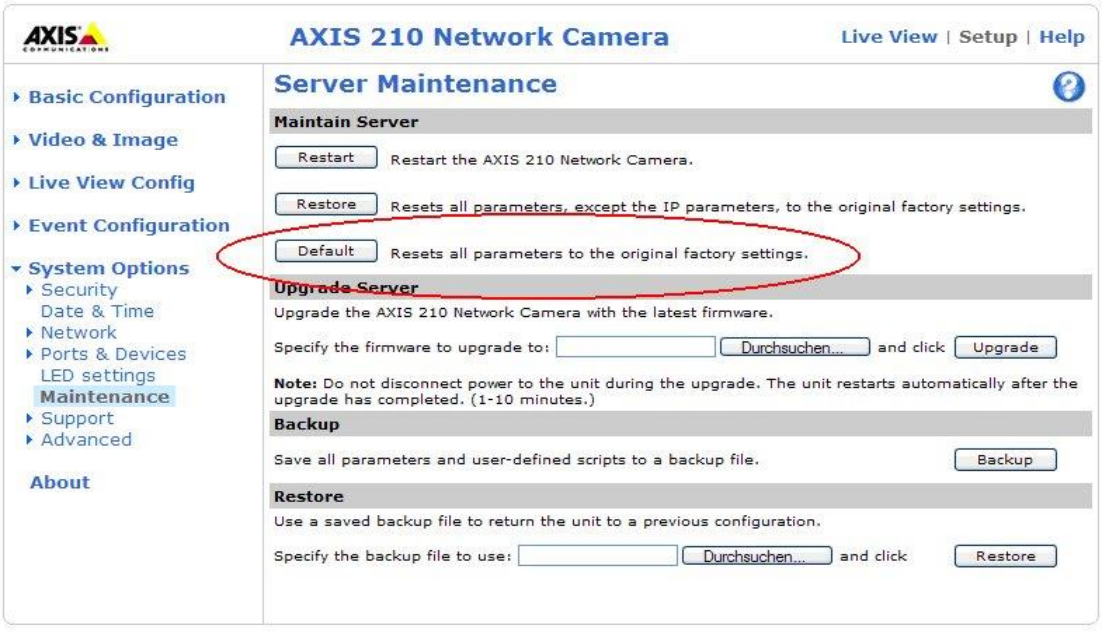

Figure 7.6: Reset configuration

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7.3.2 IP configuration

Change to the entry **[Basic Configuration]** → **[2. TCP/IP]**. Choose the <IPv4 Address Configuration> **(o) Use the following IP address**. Type in these data:

IP address:	192.168.1.90
Subnet mask:	255.255.255.0
Default router:	192.168.1.1

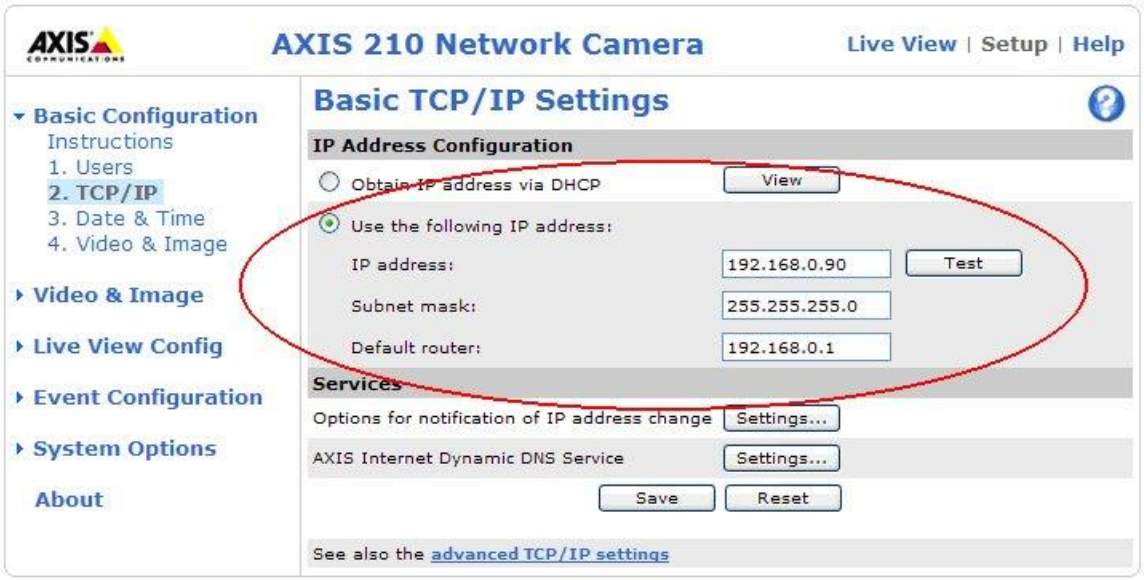

Figure 7.7: Setting an IP address

Note:
When using a port on the rear side of the logger, please type in the <IP address> 192.168.0.90 and the <Default router> 192.168.0.1.
The same IP address has to be used in the data loggers configuration.

Confirm the settings with **[Save]**.

Note:
By changing the IP address you lose the connection to the network camera.

This also will be told to you in an information window:

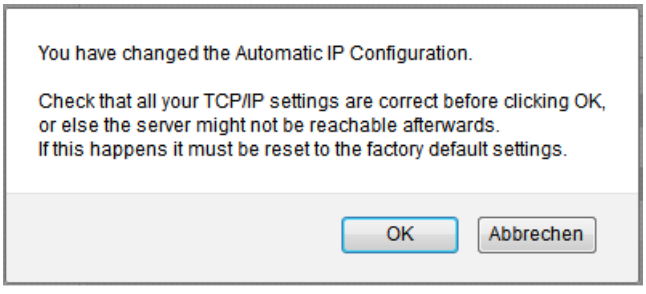

Figure 7.8: Hint 1

Figure 7.9: Hint 2

For reconnecting you have to change your computers IP address to **192.168.1.80**. Then type in your browser the new IP address of the network camera, to access the configuration again.

Note:
Finally, change your PCs or laptops IP configuration back to dynamic configuration.

7.3.3 Creating the user “admin”

For communicating with the data logger a special user is needed with administrator rights.

Click **[Setup]** → **[Basic Configuration]** → **[1. Users]** → **[Add…]**.

A new window is opened.

Name the new user “admin” and define a password. This user and password will be needed later too.

Recommended:
User name: admin
Password: 2x8bg4

Choose the <User group> **(o) Administrator** and click **[OK]**.

Activate at <User Settings> the checkbox **Enable anonymous viewer login (no user name or password required)**. Confirm the settings with **[Save]**.

Note:
If you want to use an individual password for the camera, you have to deactivate this checkbox. Now you can change the password for the user “admin” individually.
This password has also to be configured in the client.

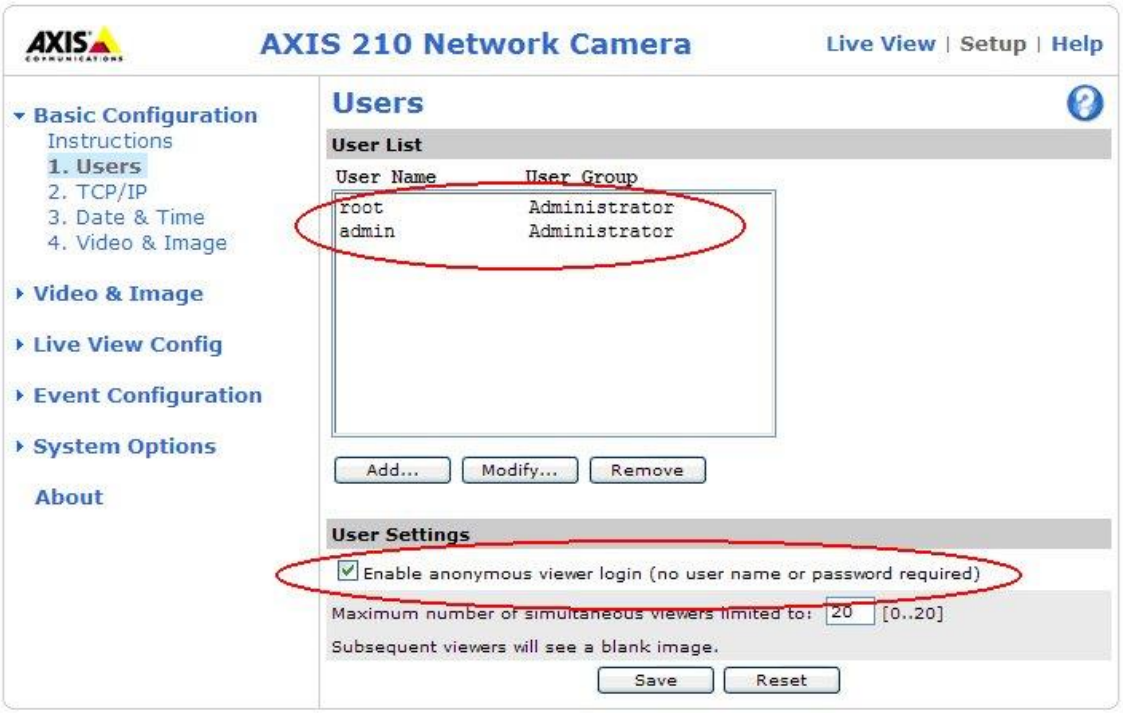

Figure 7.10: Enable anonymous viewer login

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7.3.4 Setting date and time

Change to the entry **[Basic Configuration]** → **[3. Date & Time]**. Choose the <Time mode> **(o) Set manually**. Set up date and time. Confirm the settings with **[Save]**.

Comment:
The time set here is initially only a temporary adjustment. In our system the data logger is the time master and overwrites the logger time after successfully synchronizing with the video server.

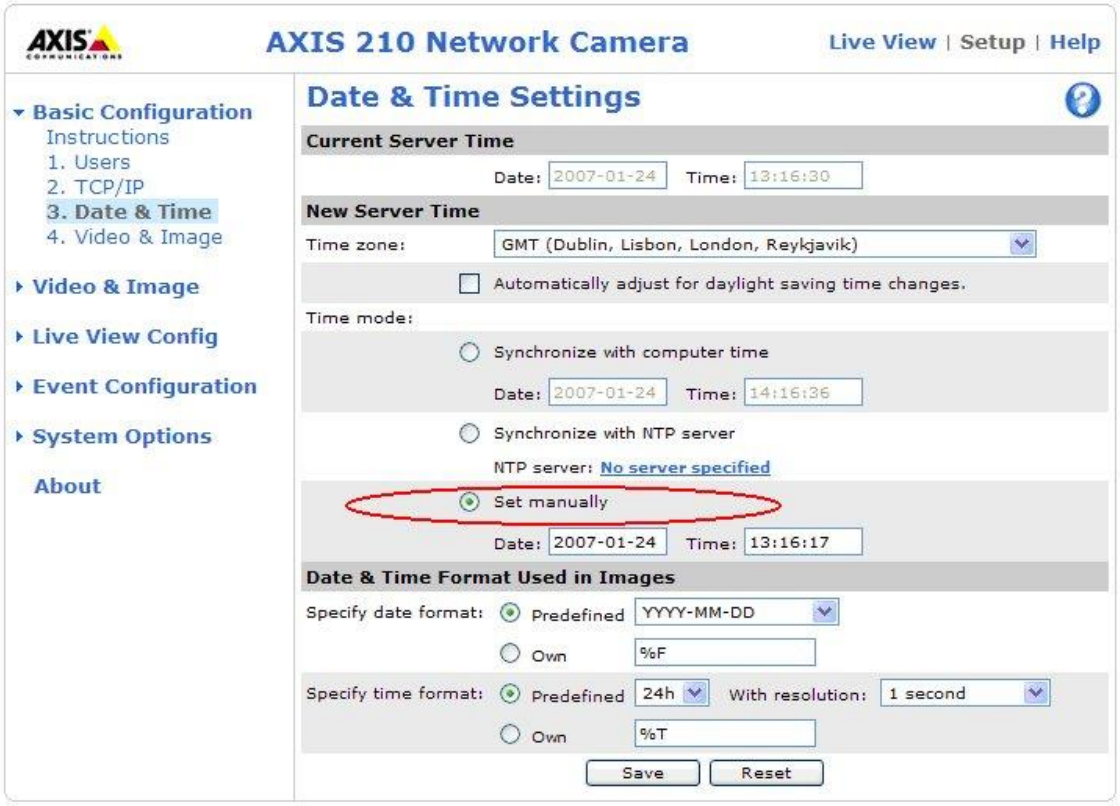

Figure 7.11: Set date and time manually

You can also display date and time on the video image.

Attention:
Before you start recording always set the date and time in the data logger first.
It is impossible to change the timestamp at recorded video data. This means, the setup of a new logger time before downloading does not change the time within the video pictures. In this case, the timestamps of the other channels and the video picture timestamp could not match.

Click **[Video & Image]** → **[Image]**. Activate both checkboxes **Include date** and **Include time** to activate the display on the video image. Confirm the settings with **[Save]**.

If desired, change format options like <Text color>, <Text background color> and text place. Confirm the settings with **[Save]**.

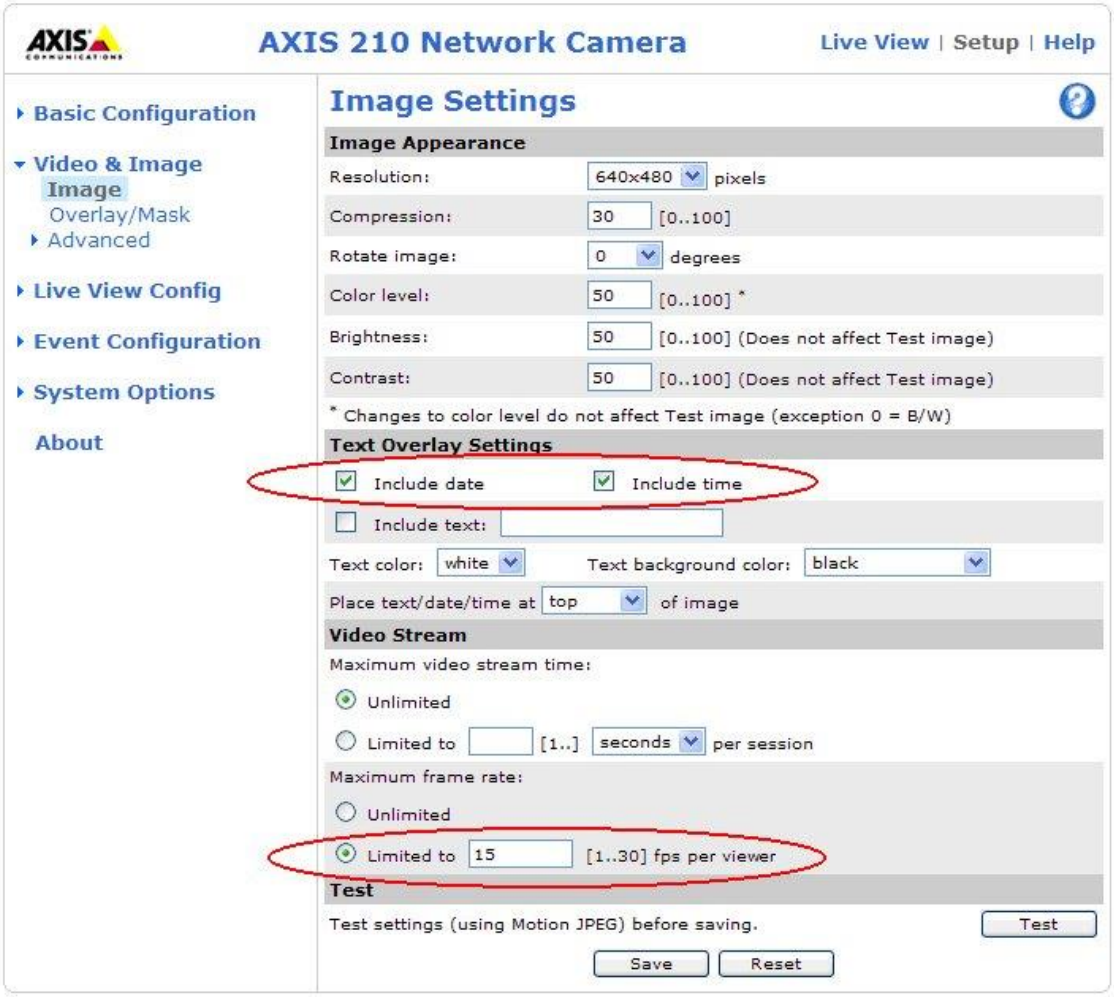

Figure 7.12: Include date and time in the video stream

The setup for in the video image embedded timestamps is finished.

Note:
In case that the video is stuttering or has breaks, please reduce the preset <Maximum frame rate>. Reducing to 15 or 20 fps eliminates the problem which is caused by to high frame rates especially with HD cameras.

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7.3.5 Setting MPEG-4

Change to the entry **[Video & Image] → [Advanced] → [MPEG-4]**. Change <Length> to 32. Choose the <Maximum bit rate> **(o) Limited to … kbit/s**. Type in "3000".

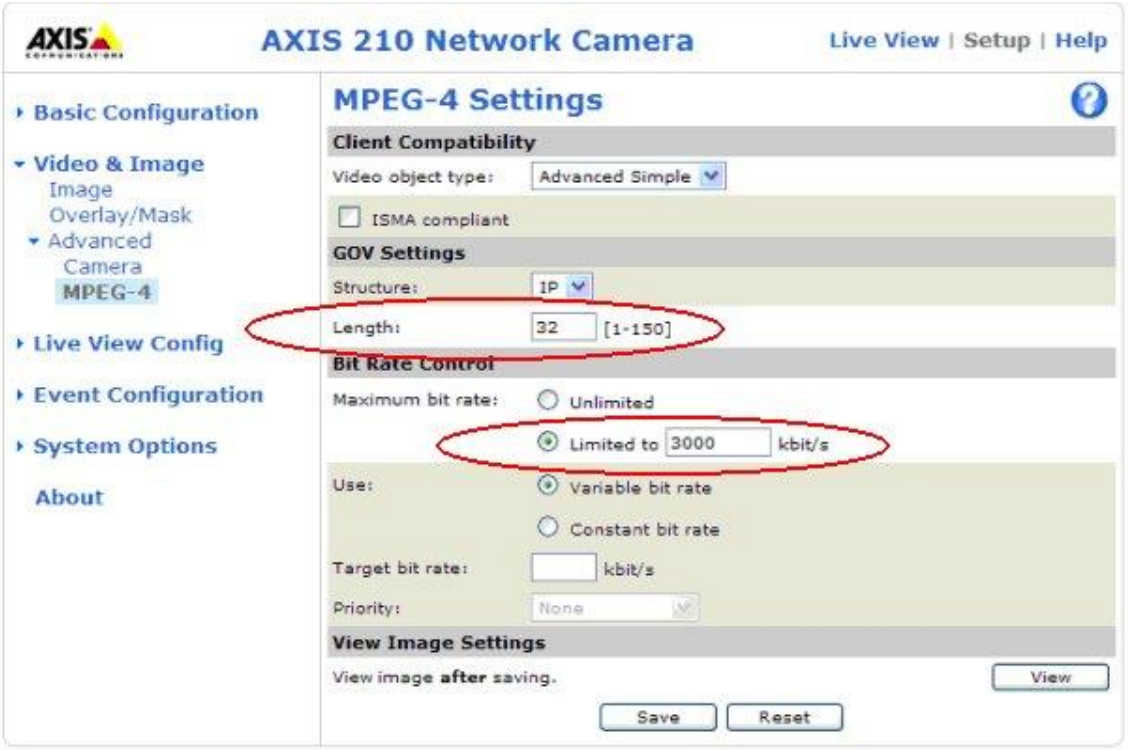

Figure 7.13: MPEG-4 settings

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8 Configuring the Video Encoder AXIS Q7404

8.1 Connecting the Video Encoder AXIS Q7404

Connect the required cameras with the Video Encoder. The BNC connectors of the Video Encoder are numbered. Always start with the first connector.

Connect the power supply to the Video Encoder. Connect your PC or laptop via Ethernet cable to the Video Encoder. Turn on the power supply. All LEDs should light green after about 60 seconds.

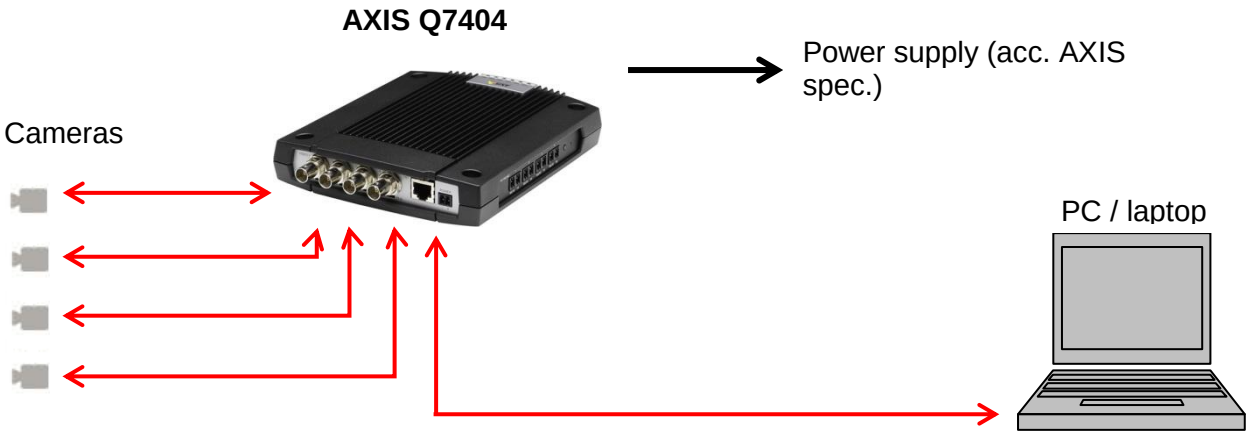

Figure 8.1: AXIS Q7404

Change your PCs IP configuration. Use static IP address with the following settings:

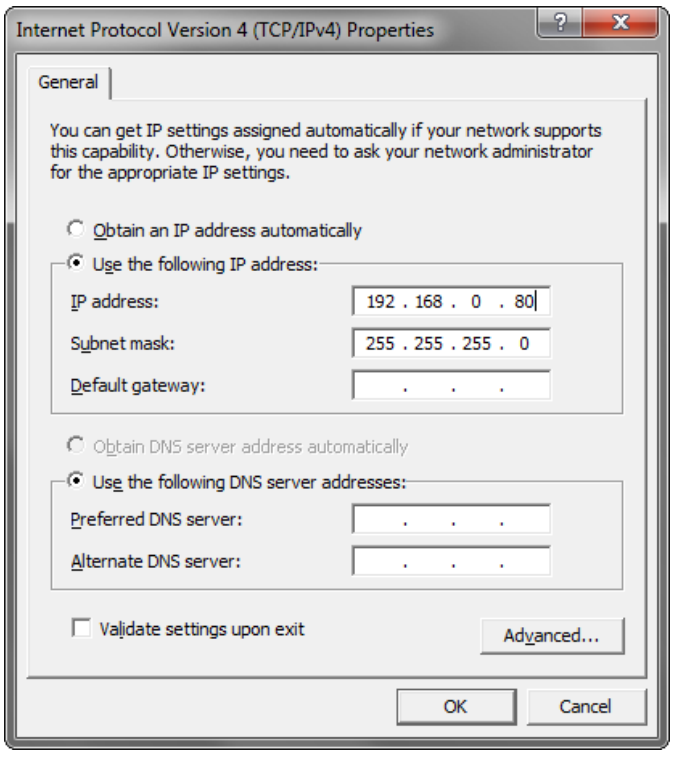

Figure 8.2: Setting a static IP address

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8.2 Access to the Video Encoder AXIS Q7404

Open your browser and type in the preset IP address of the video server: **192.168.0.90**.

Choose your password and type it in. This password will be needed later.
If the system asks for a further authentication, please type in the same password like before.

Figure 8.3: Creating a user password

After setting the password please login to the video server:

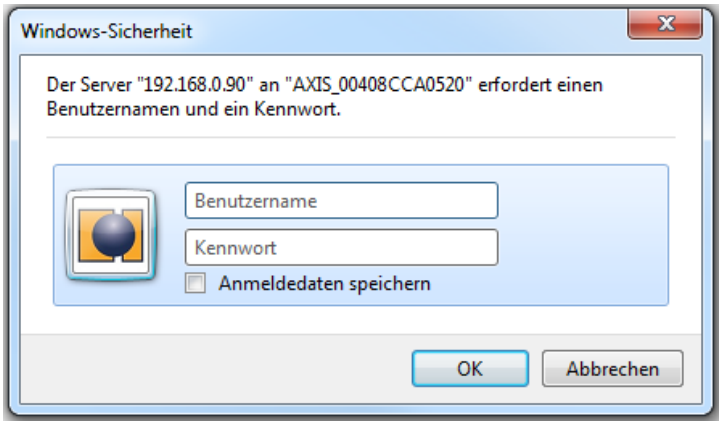

Figure 8.4: Login to the video server

User name: root

Password: (your chosen password from before)

Depending on the installed language at the video server you can now download a new language file or select the existing.

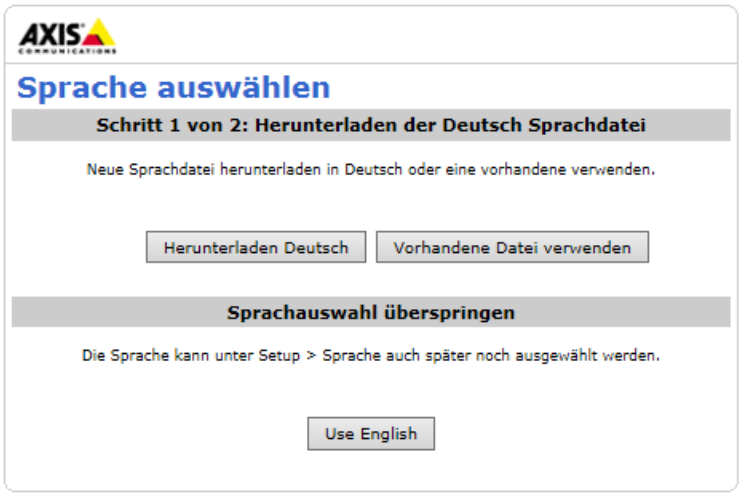

Figure 8.5: Selecting a language

If you download a language file to your PC, it has to be selected in the next step and installed by clicking **[Weiter]**.

In some cases a browser add-on is necessary to display the video stream.

Now you should see the live stream of the connected network camera number 1.

Figure 8.6: Picture of a connected network camera

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8.3 Creating the user “admin”

For communicating with the data logger a special user is needed with administrator rights.

Click **[Setup]** (1) → **[Basic Setup]** → **[1 Users]** (2) → **[Add…]** (3).

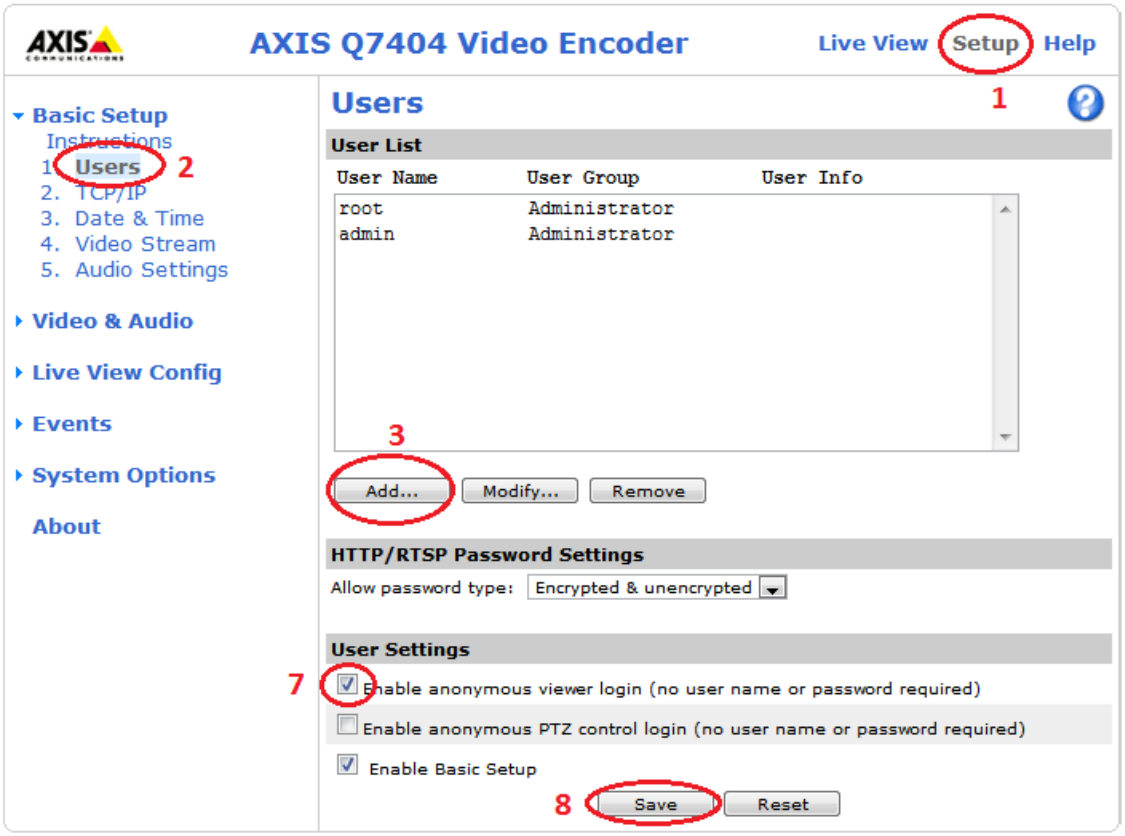
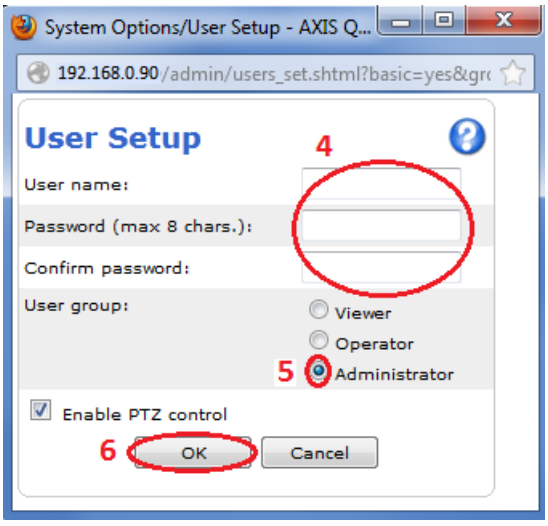


Figure 8.7: Adding a new user

A new window opens.



Name the new user “admin” and define a password (4). This user and password will be needed later too.

Recommended:
User name: admin
Password: 2x8bg4

Choose the <User group> **(o) Administrator** (5) and click **[OK]** (6).

Activate at <User Settings> the checkbox **Enable anonymous viewer login (no user name or password required)** (7). Confirm the settings with **[Save]** (8).

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8.4 Setting date and time

Change to the entry **[Basic Setup]** → **[3. Date & Time]** **(9)**. Choose the <Time mode> **(o) Set manually** **(10)**. Set up date and time. Confirm the settings with **[Save]** **(11)**.

Comment:
The time set here is initially only a temporary adjustment. In our system the data logger is the time master and overwrites the logger time after successfully synchronizing with the video server.

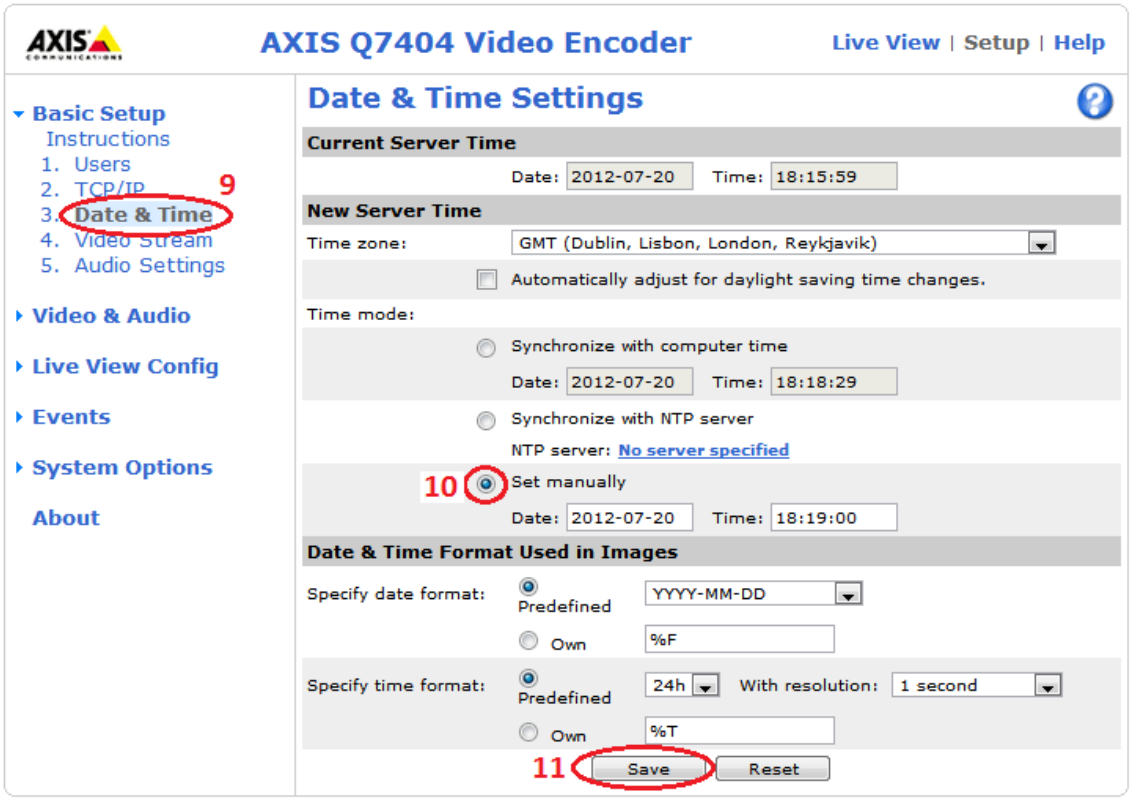

Figure 8.8: Set date and time manually

You can also display date and time on the video image.

Attention:
Before you start recording always set the date and time in the data logger first.
It is impossible to change the timestamp at recorded video data. This means, the setup of a new logger time before downloading does not change the time within the video pictures. In this case, the timestamps of the other channels and the video picture timestamp could not match.

Click **[Basic Setup]** → **[4 Video Stream]** **(6)**. <------ Unterschied zu deutscher Version. Activate both checkboxes **Include date** and **Include time** **(7)** to activate the display on the video image. Confirm the settings with **[Save]** **(9)**.

If desired, change format options like <Text color>, <Text background color> and text place **(8)**. Confirm the settings with **[Save]** **(9)**.

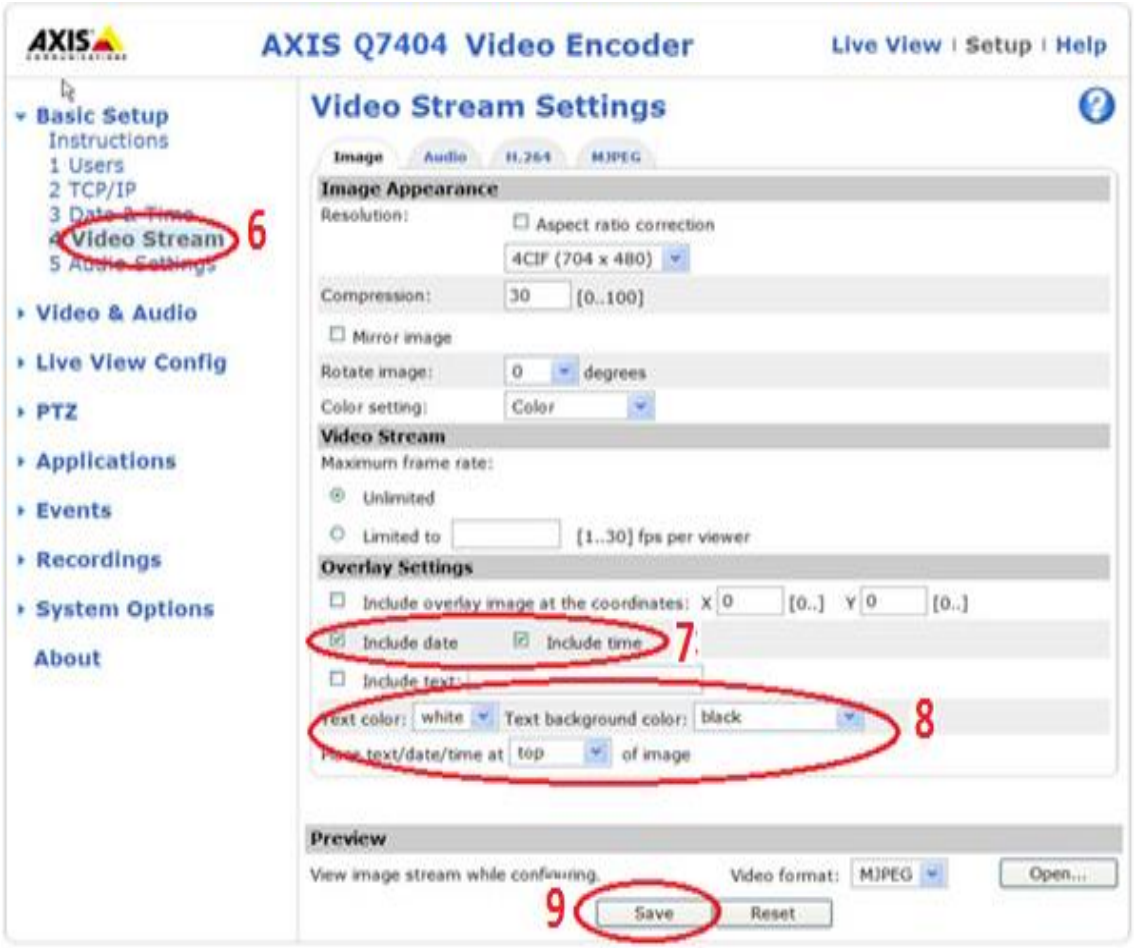

Figure 8.9: Including date and time in the video stream

The setup for in the video image embedded timestamps is finished.

Note:
In case that the video is stuttering or has breaks, please reduce the preset <Maximum frame rate>. Reducing to 15 or 20 fps eliminates the problem which is caused by to high frame rates especially with HD cameras.

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8.5 IP configuration

Change to the entry **[Basic Setup]** → **[2. TCP/IP]** **(12)**. Choose the <IPv4 Address Configuration> **(o) Use the following IP address** **(13)**. Type in these data **(14)**:

IP address:	192.168.1.90
Subnet mask:	255.255.255.0

Confirm the settings with **[Save]** **(15)**.

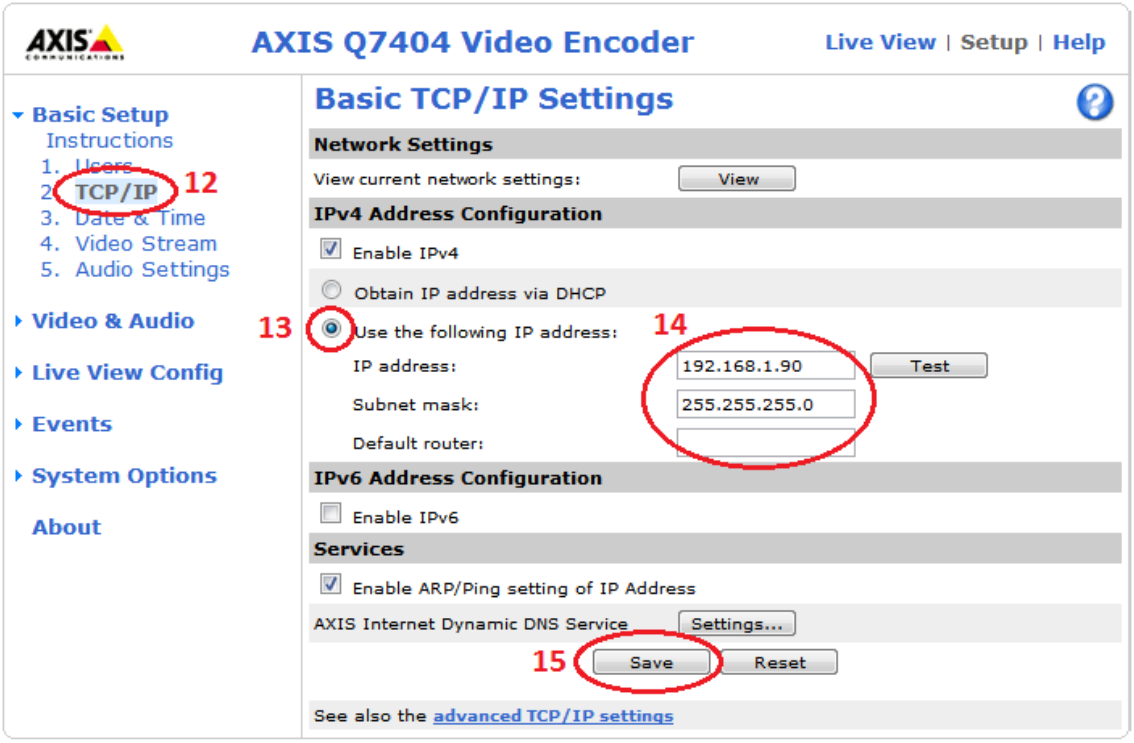

Figure 8.10: Setting an IP address

Note:
By changing the IP address you lose the connection to the video server.

This also will be told to you in an information window:

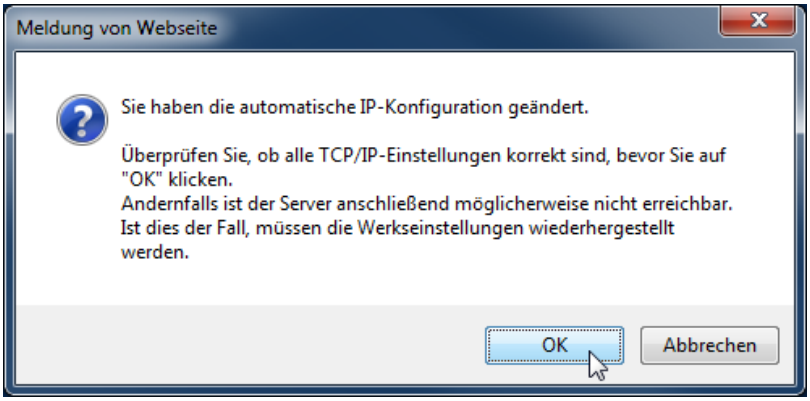

Figure 8.11: Hint 1

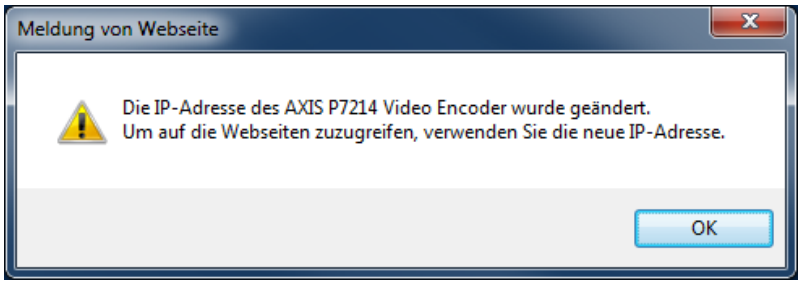

Figure 8.12: Hint 2

For reconnecting you have to change your computers IP address to **192.168.1.80**. Then type in your browser the new IP address of the network camera, to access the configuration again.

The first camera connected to the Video Encoder AXIS Q7404 is now configured. If more than one camera should be connected, the same changes for all connected cameras have to be done. Use the specified IP address in the following table for its respective camera.

	Camera 2	Camera 3	Camera 4
IP address	192.168.1.91	192.168.1.92	192.168.1.93
Subnet mask	255.255.255.0	255.255.255.0	255.255.255.0

Note:
Finally, change your PCs or laptops IP configuration back to dynamic configuration.

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9 Configuring the Video Encoder AXIS P7214

9.1 Connecting the Video Encoder AXIS P7214

Connect the required cameras with the Video Encoder. The BNC connectors of the Video Encoder are numbered. Always start with the first connector.

Connect the power supply to the Video Encoder. Connect your PC or laptop via Ethernet cable to the Video Encoder. Turn on the power supply. All LEDs should light green after about 60 seconds.

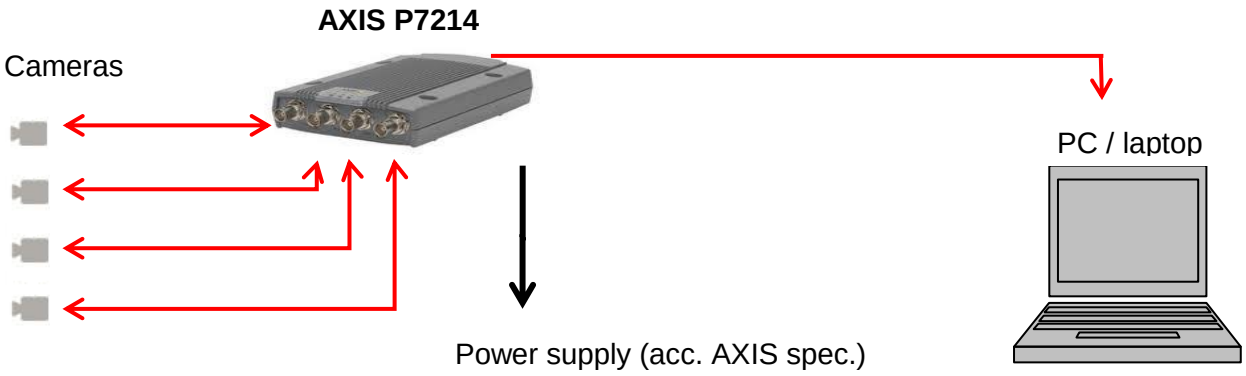

Figure 9.1: Connecting a Video Encoder

Change your PCs IP configuration. Use static IP address with the following settings:

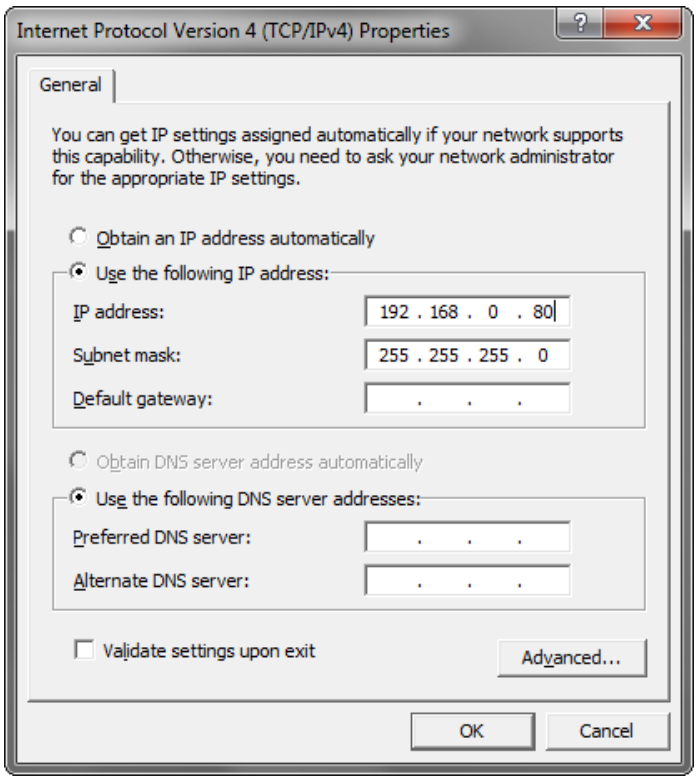

Figure 9.2: Setting a static IP address

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9.2 Access to the Video Encoder AXIS P7214

Open your browser and type in the preset IP address of the video server: **192.168.0.90**.

Choose your password and type it in. This password will be needed later.
If the system asks for a further authentication, please type in the same password like before.

Figure 9.3: Selecting a user password

After setting the password please login to the video server:

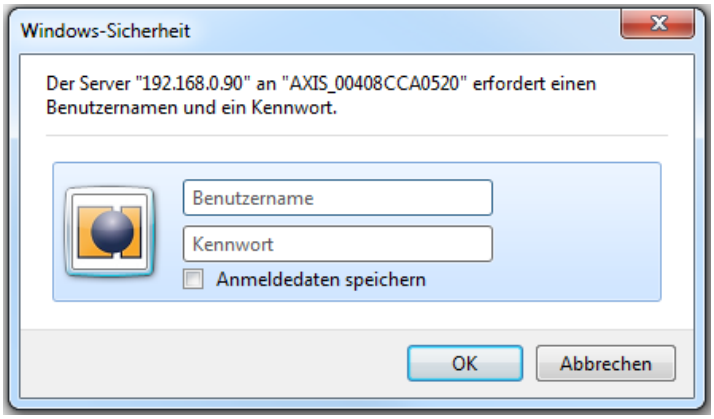

Figure 9.4: Login to the video server

User name: root

Password: (your chosen password from before)

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Depending on the installed language at the video server you can now download a new language file or select the existing.

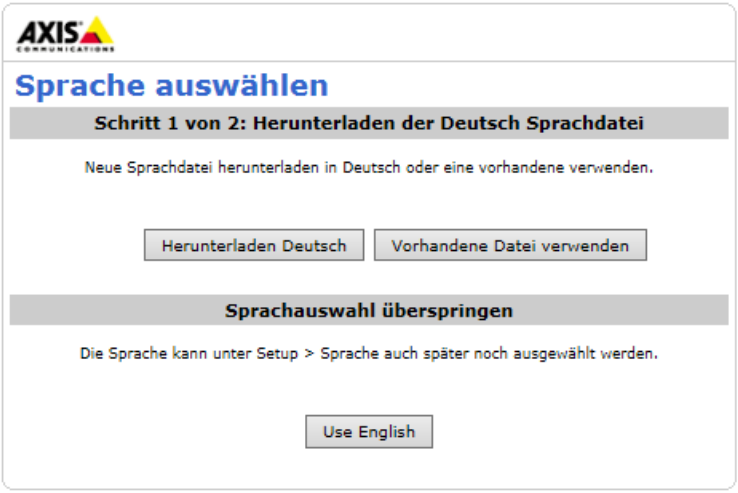

Figure 9.5: Select a language

If you download a language file to your PC, it has to be selected in the next step and installed by clicking **[Weiter]**.

In some cases a browser add-on is necessary to display the video stream.

Now you should see the live stream of the connected network camera number 1.

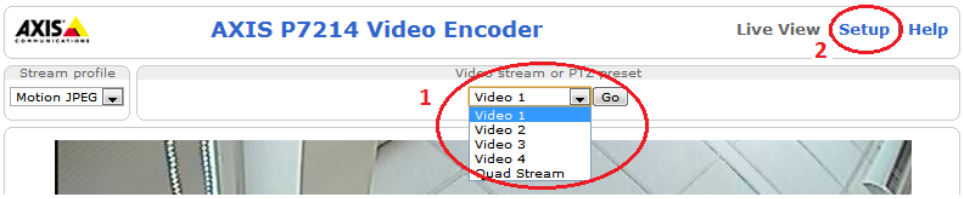

Figure 9.6: Display a video stream

To have a look at the other cameras open the dropdown menu on top and select the one you want to see or to see the videos of all four cameras in one screen click **[Quad Stream]**.

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9.3 Creating the user “admin”

For communicating with the data logger a special user is needed with administrator rights.

Click **[Setup]** (1) → **[Basic Setup]** → **[1. Users]** (2) → **[Add…]** (3).

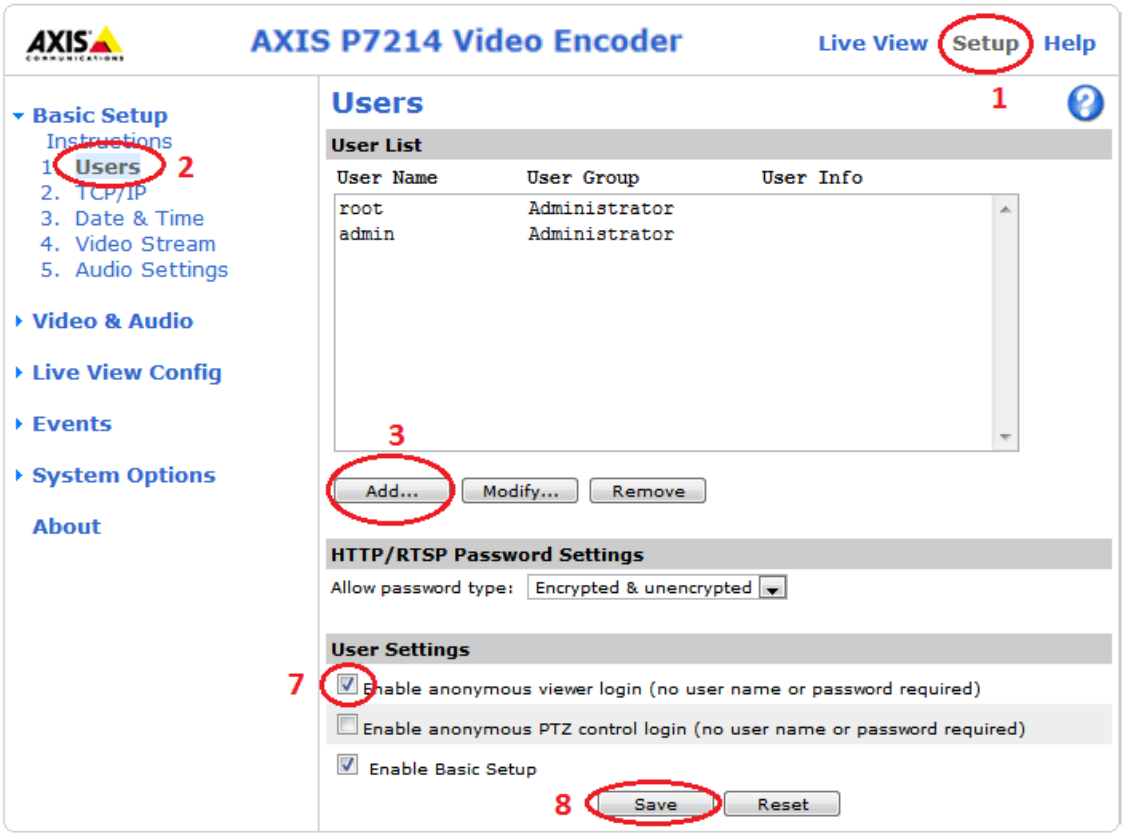
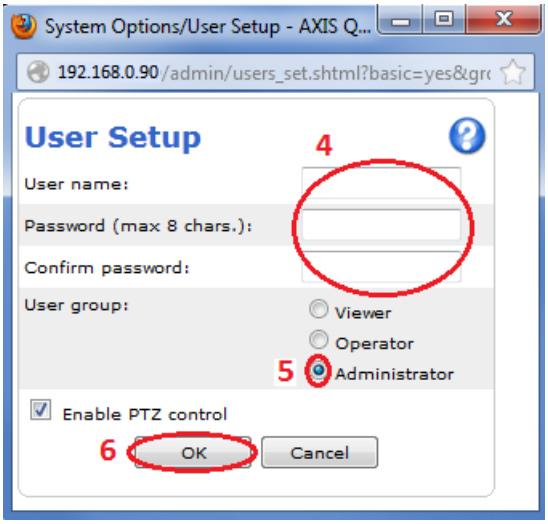


Figure 9.7: Adding a new user



A new window is opened.

Name the new user “admin” and define a password **(4)**. This password will be needed later.

Recommended:
User name: admin
Password: 2x8bg4

Choose the <User group> **(o) Administrator** **(5)** and click **[OK]** **(6)**.

Figure 9.8: Choose a password for the new user

Activate at <User Settings> the checkbox **Enable anonymous viewer login (no user name or password required)** **(7)**. Confirm the settings with **[Save]** **(8)**.

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9.4 Setting date and time

Change to the entry **[Basic Setup]** → **[3. Date & Time]** (9). Choose the <Time mode> **(o) Set manually** (10). Set up date and time. Confirm the settings with **[Save]** (11).

Comment:
The time set here is initially only a temporary adjustment. In our system the data logger is the time master and overwrites the logger time after successfully synchronizing with the video server.

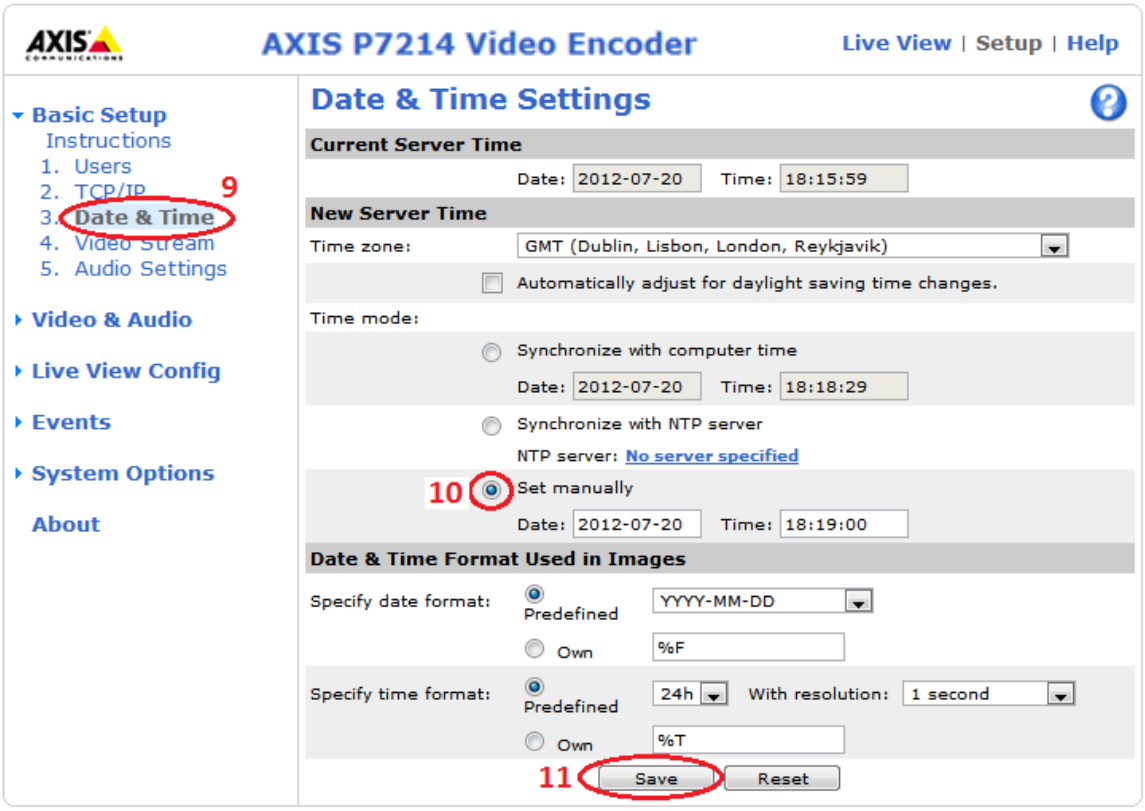

Figure 9.9: Set date and time manually

You can also display date and time on the video image.

Attention:
Before you start recording always set the date and time in the data logger first.
It is impossible to change the timestamp at recorded video data. This means, the setup of a new logger time before downloading does not change the time within the video pictures. In this case, the timestamps of the other channels and the video picture timestamp could not match.

Click **[Basic Setup]** → **[4 Video Stream]** (6). Activate both checkboxes **Include date** and **Include time** (7) to activate the display on the video image. Confirm the settings with **[Save]** (9).

If desired, change format options like <Text color>, <Text background color> and text place (8). Confirm the settings with **[Save]** (9).

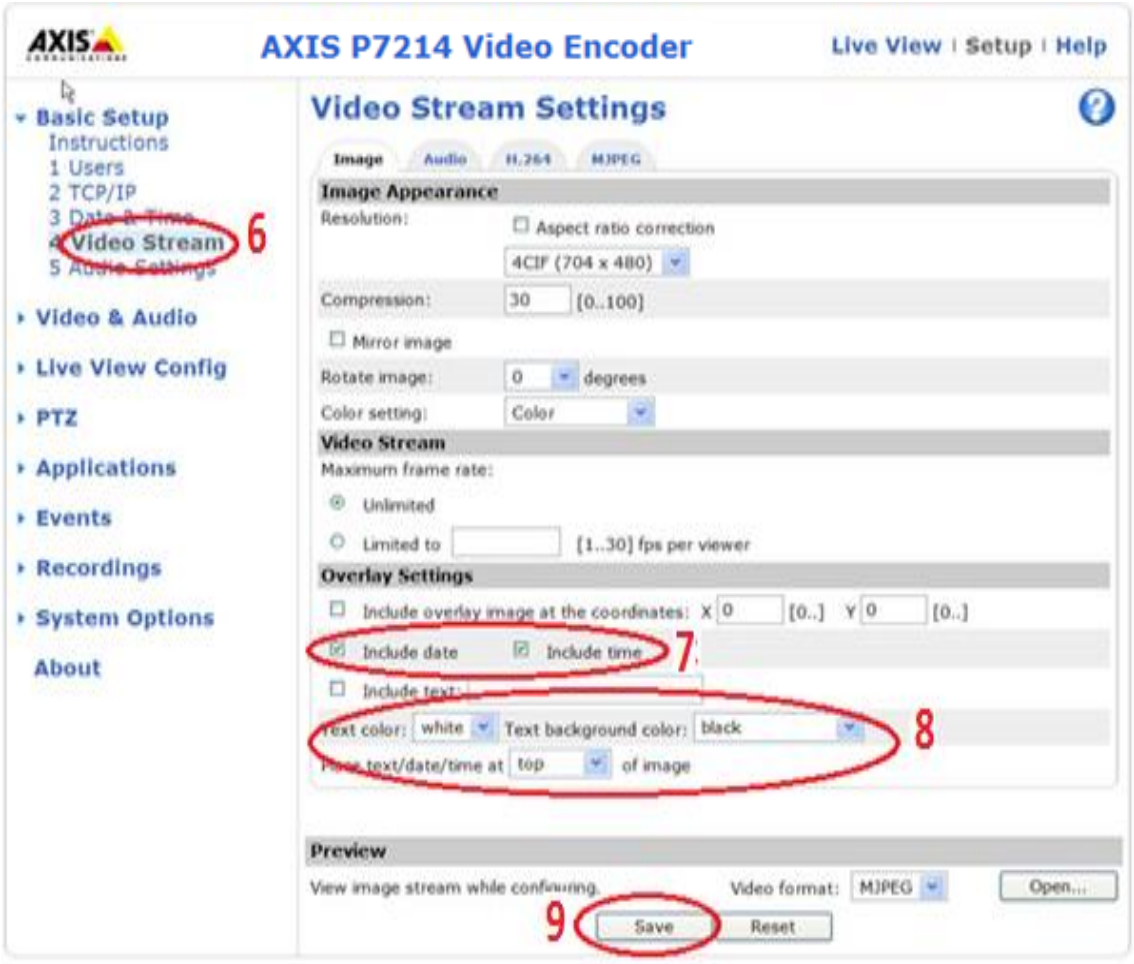

Figure 9.10: Include date and time in the video stream

The setup for in the video image embedded timestamps is finished.

Note:
In case that the video is stuttering or has breaks, please reduce the preset <Maximum frame rate>. Reducing to 15 or 20 fps eliminates the problem which is caused by to high frame rates especially with HD cameras.

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9.5 IP configuration

Change to the entry **[Basic Setup]** → **[2 TCP/IP]** **(3)**. Choose the <IPv4 Address Configuration> **(o) Use the following IP address** **(4)**. Type in these data **(5)**:

IP address:	192.168.1.90
Subnet mask:	255.255.255.0

Confirm the settings with **[Save]** **(6)**.

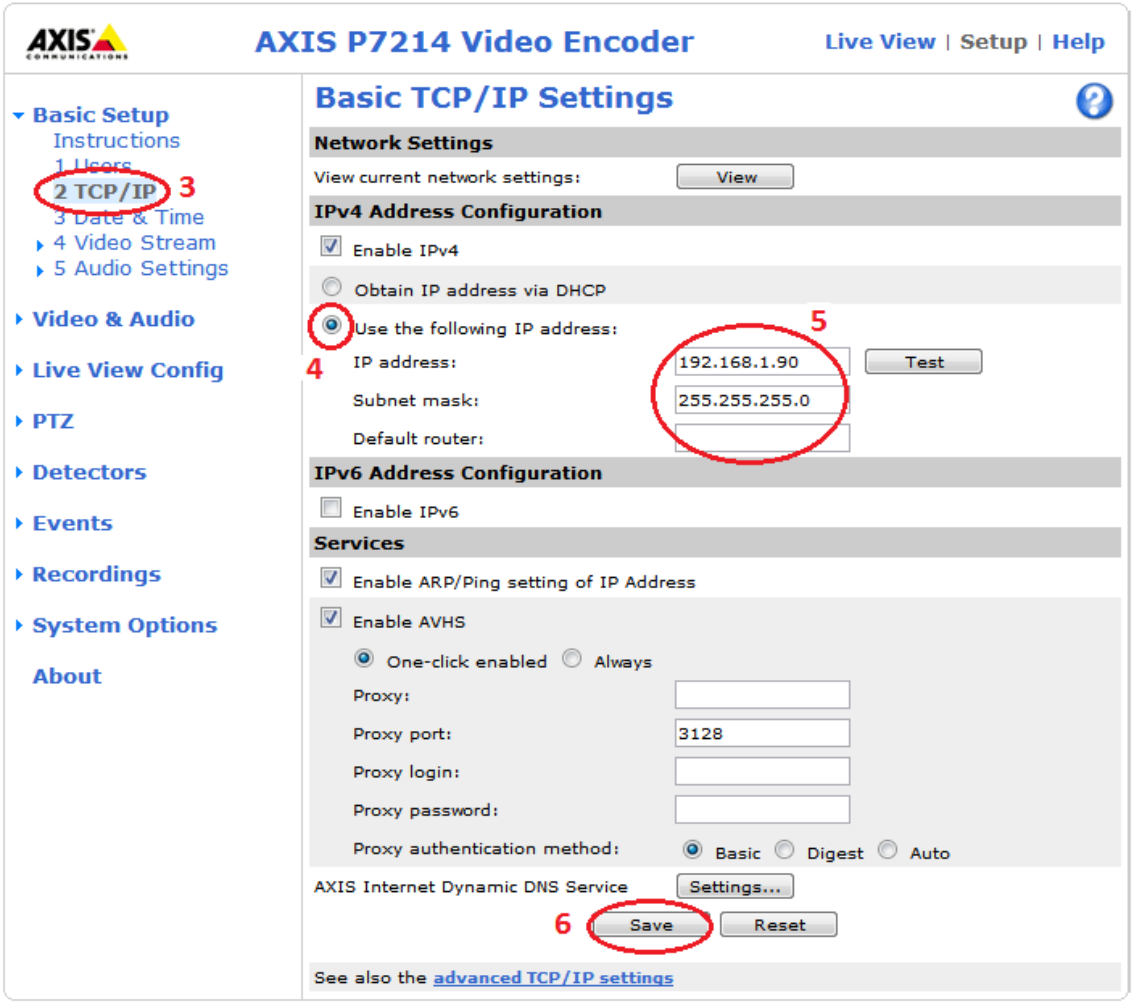

Figure 9.11: Setting an IP address

Note:
The video server AXIS P7214 has only one IP address. The camera configuration automatically changes the settings of the other cameras. It is therefore unnecessary to set the other cameras.

Note:
By changing the IP address you lose the connection to the video server.

This also will be told to you in an information window:

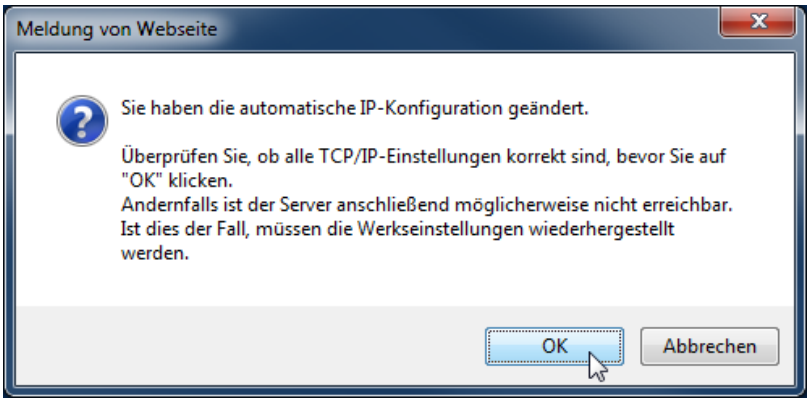

Figure 9.12: Hint 1

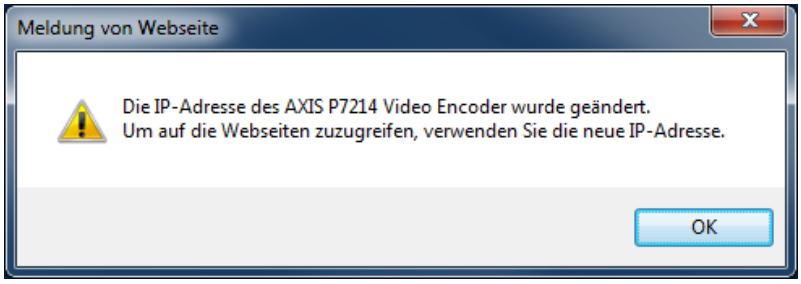

Figure 9.13: Hint 2

For reconnecting you have to change your computers IP address to **192.168.1.80**. Then type in your browser the new IP address of the network camera, to access the configuration again.

Note:
Finally, change your PCs or laptops IP configuration back to dynamic configuration.

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10 Save and restore the Video Encoder settings

To save all settings of the AXIS video server you can use the program “AXIS Camera Management”, which can be downloaded on the website of AXIS (registration required).

Needed software: AXIS Camera Management v2.00.31
http://www.axis.com/techsup/software/index.htm or
http://www.axis.com/de/products/cam_mgmt_software/interface.htm

Attention:
If you use a newer version of the program it may be that the communication between software client and data logger is disturbed. That is because the program changes some network settings, so UDP pings are not correctly transferred from the logger to the AXIS Camera Management Client.
In this case the older version (mentioned above) should be used or the program should be uninstalled after the saving.

After installing the software you can start it by using **[Start]** → **[AXIS Camera Management]** → **[AXIS Camera Management Client]**.

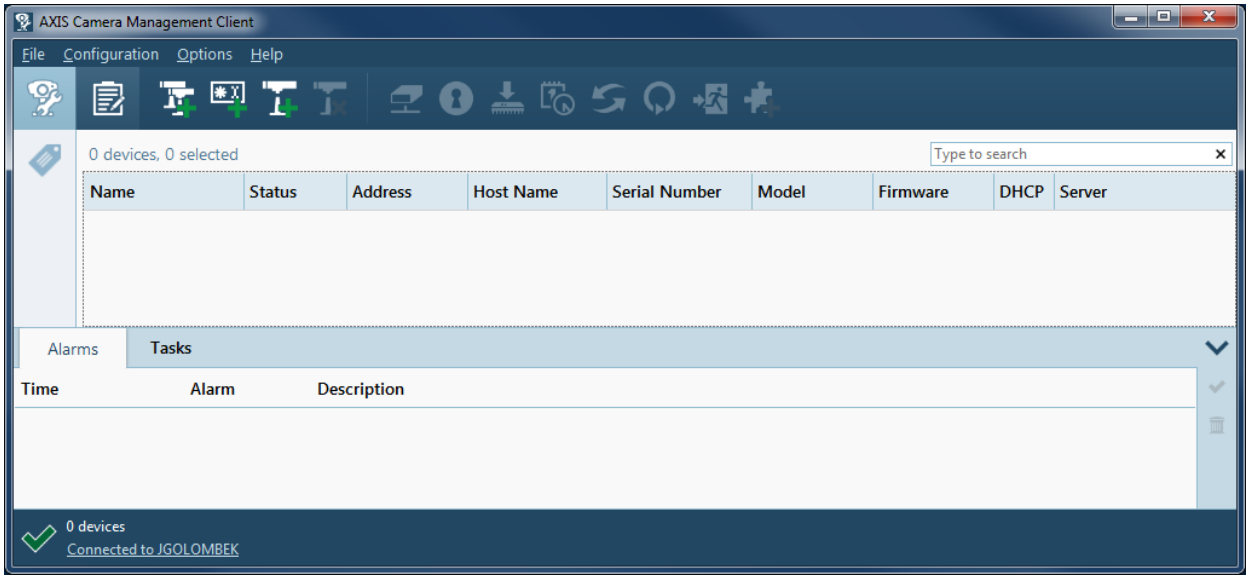

Figure 10.1: AXIS Camera Management Client

You can add your device by clicking **[Add devices]**.

Figure 10.2: Adding devices step 1

After selecting your device and logging in with your chosen password for the user “root” from before you add the device to the device list with **[Next >]** and **[Finish]** in the next window.

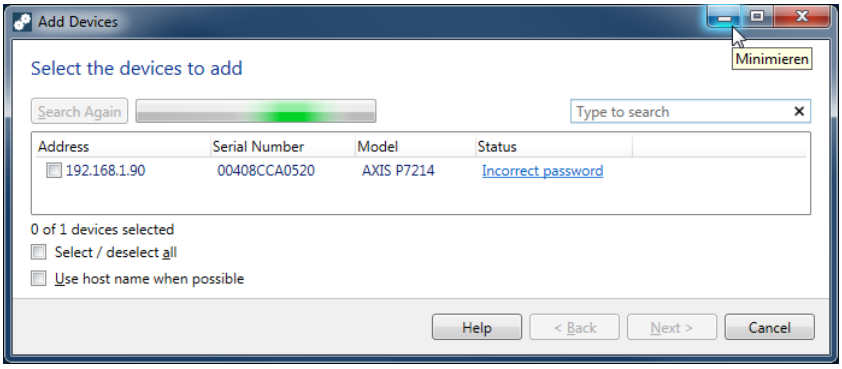

Figure 10.3: Adding devices step 2

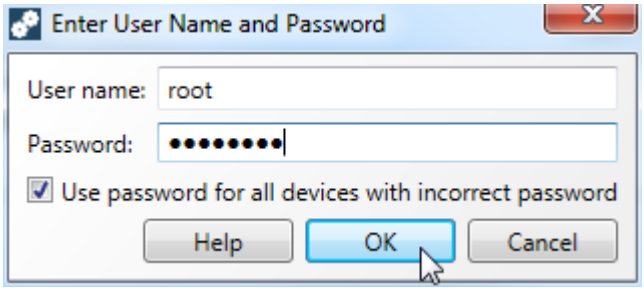

Figure 10.4: Adding devices step 3

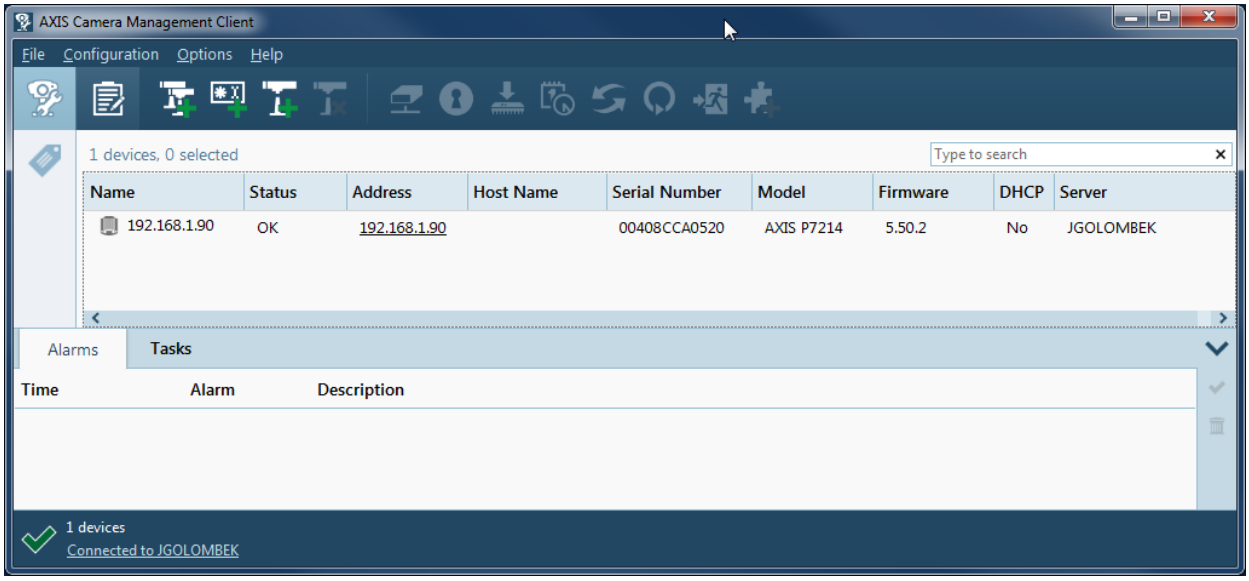

Figure 10.5: Device added

To save the current settings please right click your device. In the shortcut menu select **[Parameter Management] → [Create Parameter File…]**.

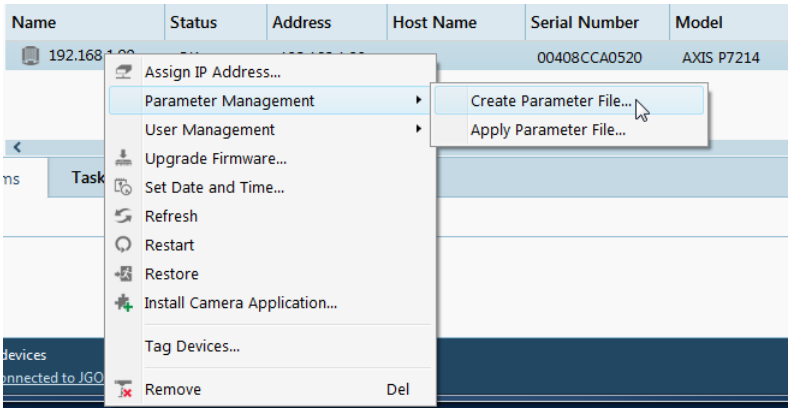

Figure 10.6: Creating Parameter File

The program reads the configuration from the video server. Activate the checkbox **Select / Deselect all** and then click **[Save]** to save the configuration to your local system.

To restore the saved settings to your device select **[Parameter Management] → [Apply Parameter File…]** in the shortcut menu of the device.

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11 Resetting the Video Encoder AXIS Q7404 / P7214

If something is configured incorrectly in the camera or the password is lost, it is important to reset the video server for a new configuration. This will reset all parameters in all four video channels (including all IP addresses) to the factory default settings.

First disconnect the power supply from the AXIS Video Encoder. Then press and hold the **[RESET]** button **(1)** while reconnecting with the power supply.

AXIS Q7404

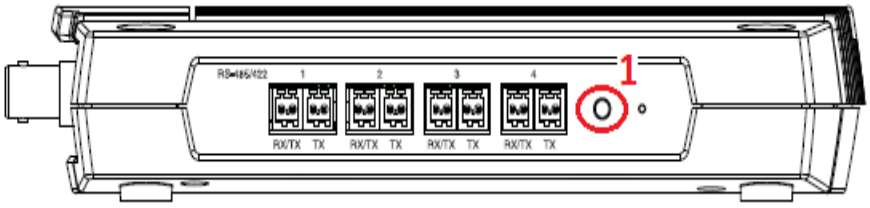

Figure 11.1: Reset button AXIS Q7404

AXIS P7214

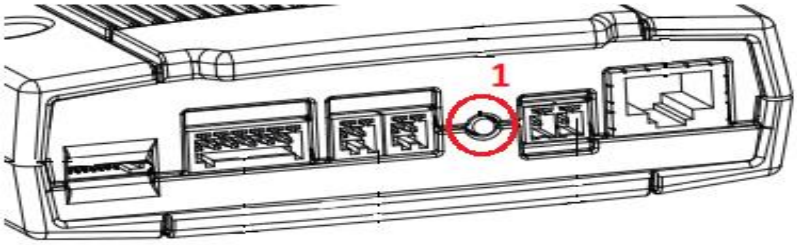

Figure 11.2: Reset button AXIS P7214

Keep the **[RESET]** button **(1)** pressed.
The STATUS LED turns yellow. This may take up to 15 seconds.

Release the **[RESET]** button **(1)** when the STATUS LED lights permanently green. This may take up to one minute.

The video server is set back to factory default settings and can be configured again.

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12 Connecting video equipment to the data logger

Depending on the logger model you have several ways to connect the network camera or Video Encoder to the logger.

blue PiraT Mini: It is possible to use one of the front Ethernet ports (**ETH #1 / TSL** or **ETH #2 / TSL**) or one of the back ports (**ETH #3** or **ETH #4**).

blue PiraT2 5E: It is possible to use the front Ethernet port (**ETH #1 / TSL**) or one of the back ports (**ETH #2** to **ETH #5**).

blue PiraT2: It is possible to use the **Gigabit-Ethernet** port on the front side or the **Ethernet kit** on the back.

At the blue PiraT2 / blue PiraT2 5E the back ports should be preferred. In this case the front port still can be used for access to the logger while the Video Encoder is recording data. This alternative is described in the following.

Connect the Gigabit-Ethernet port of the logger via an Ethernet cable with the Ethernet port of your PC / laptop. The data logger is configured as a DHCP server by default.
Connect the logger via the affiliated power harness (**red/+/clamp 30** and **black/-/clamp 31**) with a power supply (e.g., the vehicle battery).
Connect the Ethernet kit with the FCI port of the blue PiraT2 (rear side). Connect the Ethernet kit with the network camera or the Video Encoder.
When using a Video Encoder the network camera can be connected to its BNC connector number 1. Connect the Video Encoder and if required even the network camera to the according power supply. The Video Encoder is starting. Wait until all its LEDs turn green.

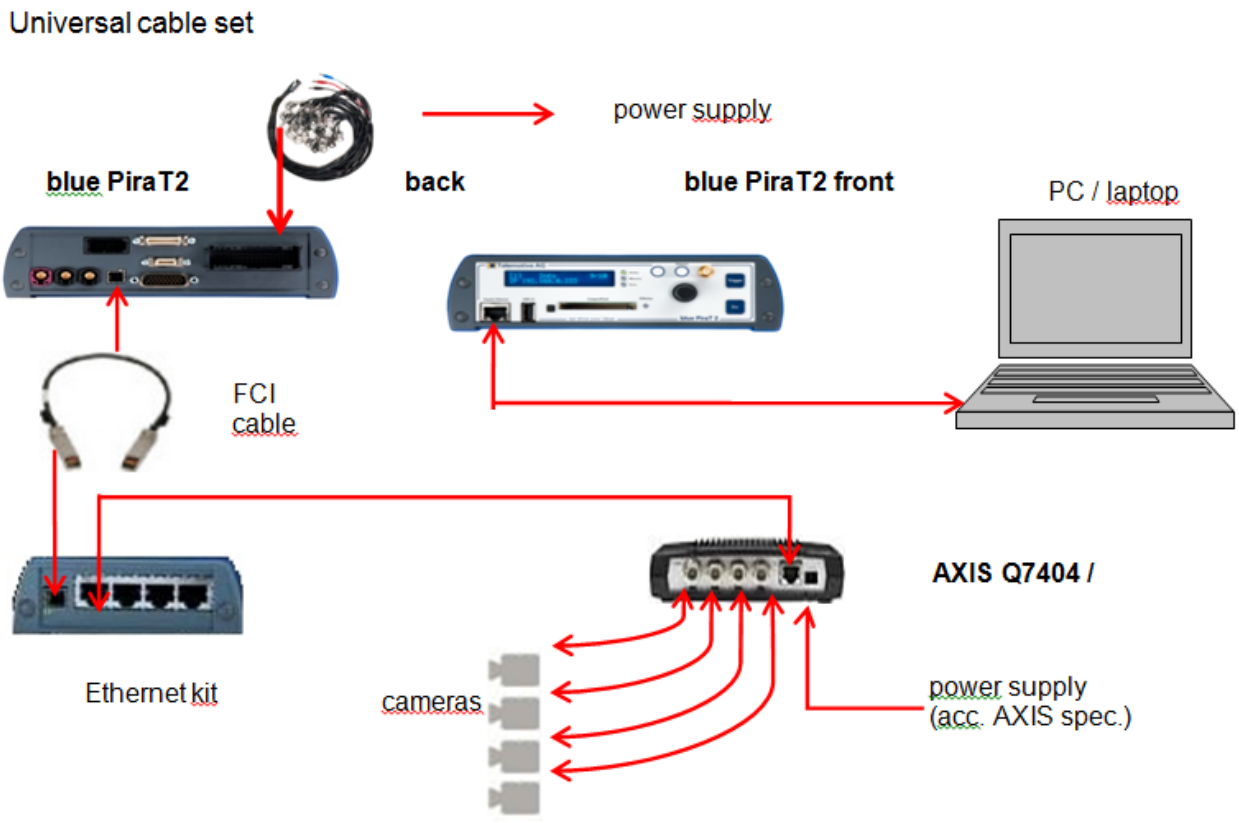


Figure 12.1: Connecting video equipment to a data logger

13 Configuring the data logger

13.1 General settings

The logger should be configured as DHCP server, if it is not already configured accordingly (default value).

Therefore click on the application **[Open configuration]** (5) in the Telemotive System Client. Expand the folder **[General]** in the window to the right and click on **[Network settings]**. Enable the <DHCP mode> **(o) DHCP server**.

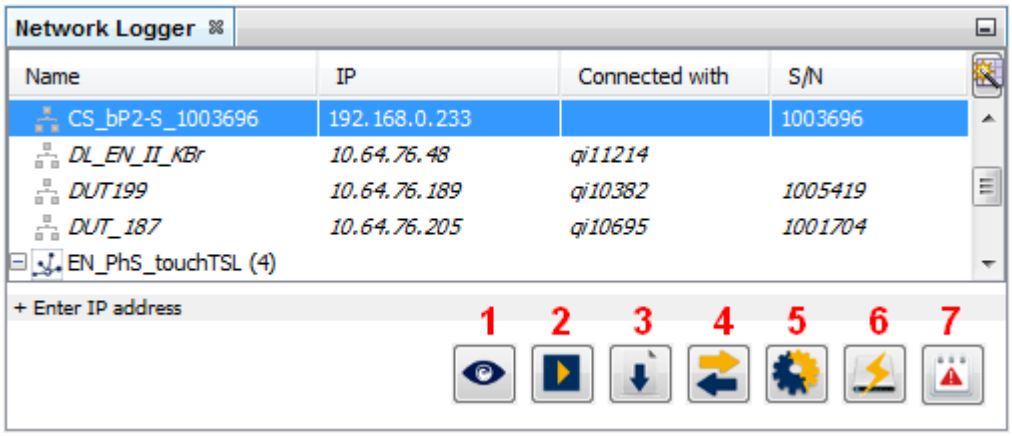


Figure 13.1: Selecting an application in the Telemotive System Client

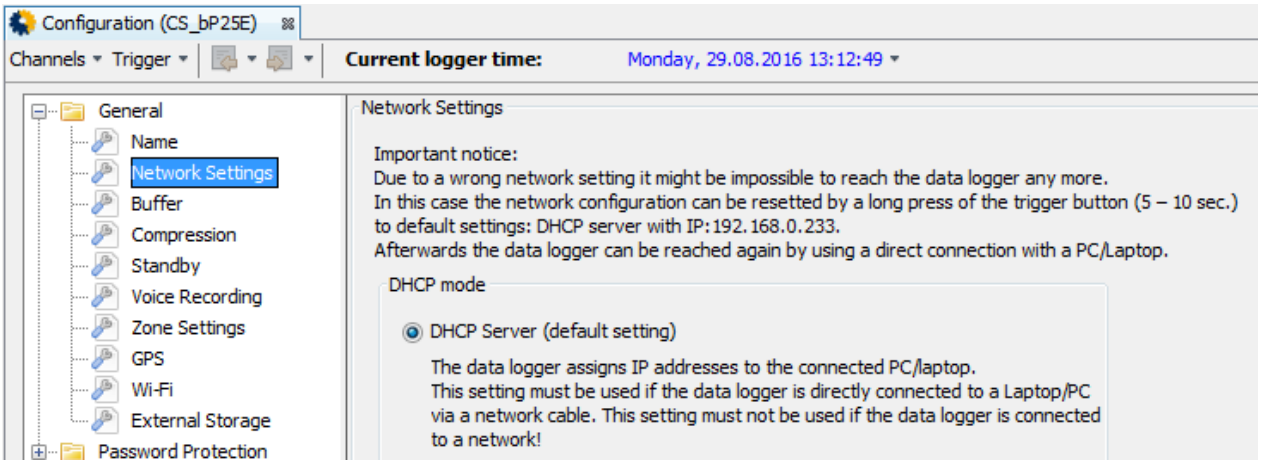


Figure 13.2: Setting the network settings in the Telemotive System Client

Please be sure about the setting of the logger's standby.

You can activate or deactivate the automatic standby at **[General]** → **[Standby]**. If active, there are two different time settings for network connection.
If the data logger is not connected to a network at the front Ethernet port and does not receive any data during the timeout entered in the upper text field, then it shuts down and enters standby mode.
If the data logger is connected to a network at the front Ethernet port with active link and does not receive any data during the timeout entered in the lower text field, then it shuts down and enters standby mode.

This has important implications when using the camera function since Ethernet is required. If you activated the automatic standby, no further channels are connected or they are inactive, the

logger shuts down and enters standby mode according to the lower time indication despite the video recording. So you have two options:

- Deactivating the automatic standby and shifting the device to standby manually, if necessary or
- Configuring a channel (e.g., CAN channel), whose activity coincides with the camera activity.

13.2 Camera settings

Click on the application **[Open configuration]** in the Telemotive System Client. Expand the folder **[Camera]** in the window to the right and click on **[General settings]**.

If the checkbox for **Only record video data around a Marker** is:

- activated: the logger records no data, except these around a Marker.
- deactivated: the logger always records all video data.

You can define the time range around a marker under **[General]** => **[Buffer]:**

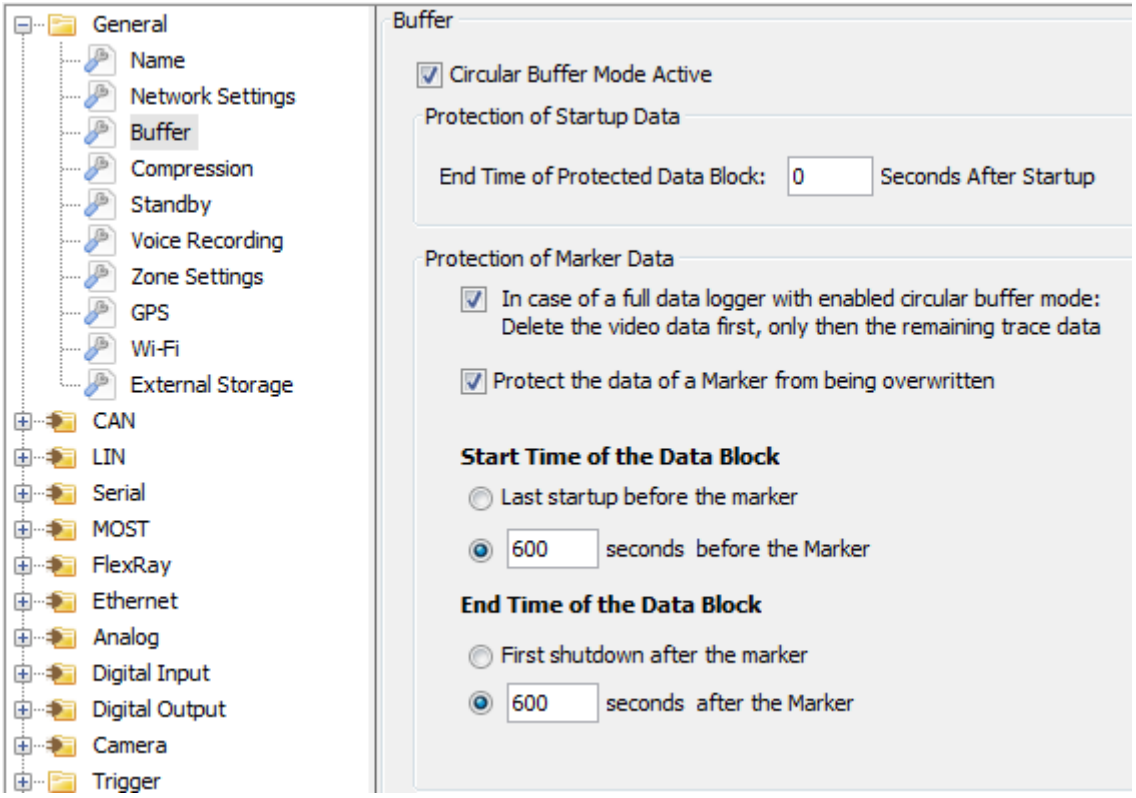


Figure 13.3: Setting the time range around a marker

To record video blocks of certain length, type in your desired value in seconds at <Video block length>.

In the dropdown menu at <Video Servers> select the connected network camera / Video Encoder. The following options are available:

Option 1: No video server / video server with 4 IPs
AXIS Q7404 / 207 / 210 / 211 / P12 series / F41

Option 2: Video server with one IP and 4 channels
AXIS P7214 / F44

Option 3: Video server with one IP and one *quad* channel
AXIS P7214 / F44

Note:
Quad channel means that up to 4 video streams are recorded in one window.

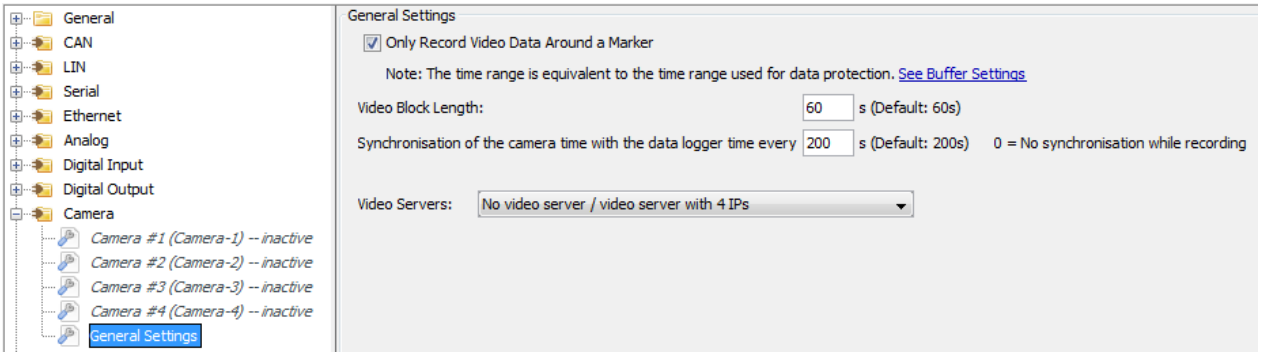


Figure 13.4: General settings of the camera functionality

If you select **option 2** or **3**, please type the IP address of the AXIS P7214 / F44 in the approaching fields below.

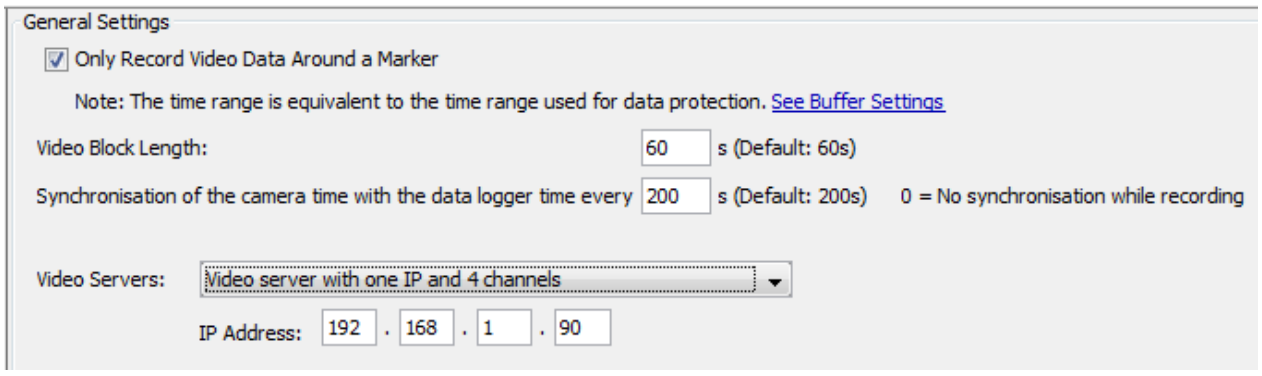


Figure 13.5: Setting an IP address

In the folder **[Camera]** click **[Camera #1]** **(1)** and activate the checkbox for **Camera interface active** **(2)**. Choose the connector **(3)** depending on the Ethernet port the Video Encoder / network camera is connected to. Enter the Video Encoders / network cameras IP address **(4)**. If the AXIS P7214 is used, the IP address is already specified in the general settings. It is taken from there.

If you have chosen to use the recommended user and password, you can activate the checkbox for **Default password (5)**.

If you have chosen to use your own password, deactivate the checkbox for **Default password (5)** and type in your chosen “admin” password from before **(6)**.

Type in the additional IP-alias of the data logger **(7)**. The data logger has to be in the same subnet as the Video Encoder / network camera.

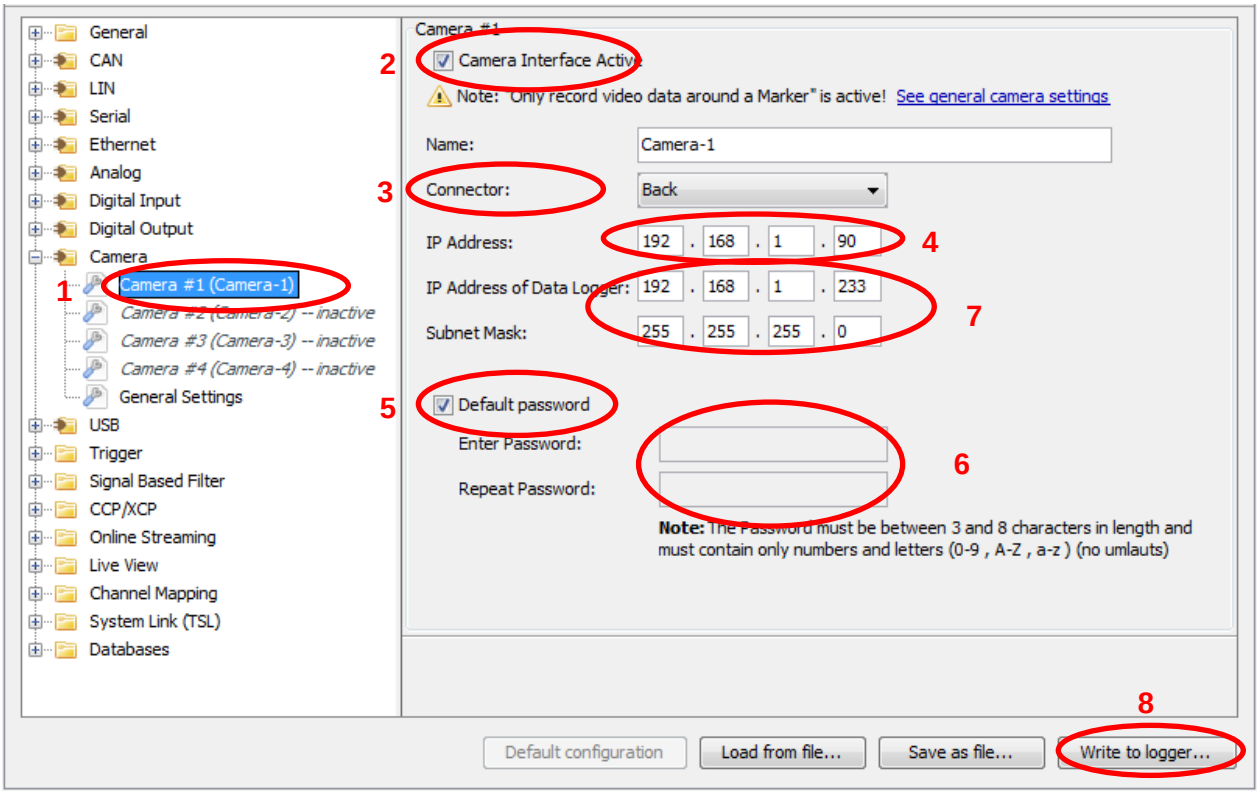
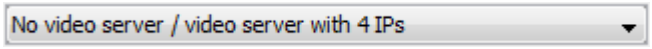


Figure 13.6: Configuring the cameras

If you have selected 

under **[General],** make the same changes for all connected cameras with the following IP addresses:

	Camera 1	Camera 2	Camera 3	Camera 4
AXIS Q7404, 207, 210, 211 AXIS P1204, F41	192.168.1.90	192.168.1.91	192.168.1.92	192.168.1.93
AXIS P7214, F44	192.168.1.90	192.168.1.90	192.168.1.90	192.168.1.90

After setup click on the button **[Write to logger] (8)**.

The configuration is finished. The logger starts recording the video signal as configured.

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13.3 Front display of blue PiraT2

With the **[OFF / Esc]** button at the front of the data logger the main window appears on the display. By switching the rotary knob you can change the displayed interfaces. There you can see the configuration of the four cameras, represented by “VID” and meaning video. Each sign after the word “VID” is placed for one video channel.

Three cases are listed:

Case 1
“–” means, the camera license is installed but no configuration has been performed. All four channels are however recognized.

Figure 13.1: Display: VID ----

Case 2
„X“ means, all parameters are configured. The video data are not recorded or there is no connection between logger and server. The following figure shows that camera 1 and 2 are configured but not recorded and camera 3 and 4 are not activated.

Figure 13.2: Display: VID XX--

Case 3
„T“ means, logger and server are connected and the videos are recorded. The following figure shows that camera 1 and 2 are recording and camera 3 and 4 are not configured.

Figure 13.3: Display: VID TT--

Does the data recording runs without errors, there should always be shown a “T” (Traffic).

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14 Downloading video data

The Telemotive System Client application allows downloading and saving the recorded data as offline data set from the logger on the computers disk to use it later or to convert the data directly from the logger. (see chapter 15)

Download and conversion of data is explained in detail in the **Telemotive System Client User Guide**. This manual you can find in the ServiceCenter of Telemotive AG.

While all of the other trace files are recorded in the Telemotive format from the logger, video signals are directly provided as MPEG4 stream from the camera and saved as it is on the logger.

For the video application, there is a special characteristic about the video block length. If you select a time period or a marker for download, so the downloaded data does not match exactly to the expected start- and end time. The reason is that the video block length of 60 seconds does not match exactly to the selected download time. The system always downloads complete video blocks. The downloaded video is in all cases longer than selected. It starts earlier and ends later than the selected period. But the selected time is always included.

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15 Converting video data

The Telemotive System Client additionally allows to save data from the logger in a requested format on a PC or external storage device. Because video signals are directly provided as MPEG4 stream there is no direct conversion possible.

This document describes only the specifics for the video conversion.

The conversion can left the video blocks separate (untouched) or converted to one video file. Choose the required option in the client output window **(4)**.

Please keep in mind, that when converting into one video file, the system can combine a maximum of 400 video blocks per file. After that the client opens a new file.

For both options the result will be the ".mpeg4" video format.

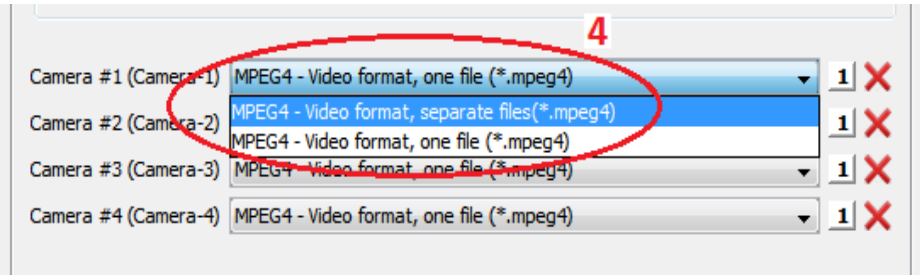

Figure 15.1: Settings for converting video data in the Telemotive System Client

The Telemotive System Client can also convert offline data, which are downloaded already from the data logger. Only an installed client is necessary.

In the tab <Favorites> click the green **[+]** **(1)** and choose the main download folder. The download folder appears **(2)**. Double clicking the main folder **(3)** will open the conversion tab.

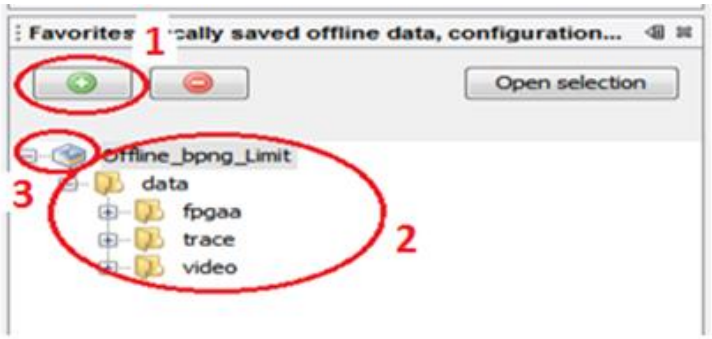

Figure 15.2: Choose an offline dataset

Like this you can convert every part of an offline data set at any time.

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16 Watching videos

The .mpeg4 video files cannot be watched with the data logger. They can be used only if they have been downloaded or converted and saved to a computers disk first.

They can be played on any standard video player.

Note:
In case that the video is stuttering or has breaks, please reduce the preset <Maximum frame rate>. Reducing to 15 or 20 fps eliminates the problem which is caused by to high frame rates especially with HD cameras.

17 Axis IP Utility

is a small tool that you can download from the Axis Hompepage over the following link:

http://www.axis.com/global/en/support/downloads/axis-ip-utility

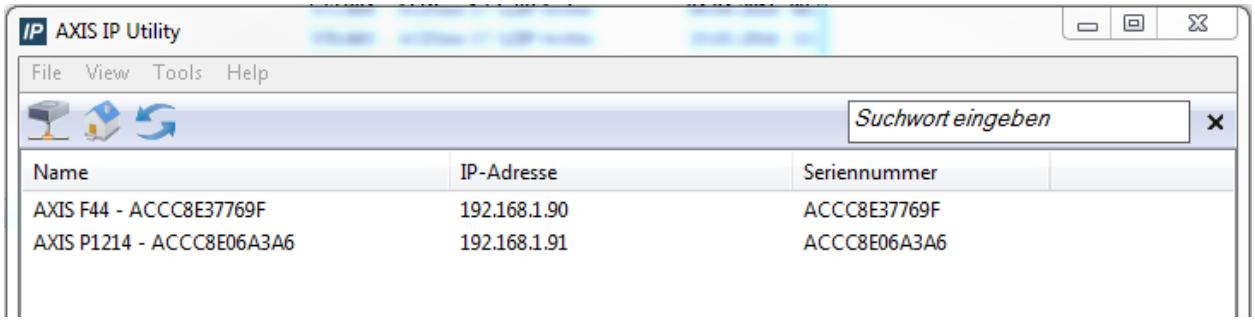

Figure 17.1: Axis IP Utility

AXIS IP Utility helps you set the IP address of an Axis network video product. Axis devices on the network are automatically discovered and displayed. Assign network parameters (IP Address, Subnet mask and Default router) or configure the device to obtain its IP address from DHCP.

The Axis device and the client computer must be on the same subnet/network segment.

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18 Abbreviations

Kürzel / abbreviation	Bedeutung / meaning
blue PiraT	**P**rocessing **I**nformation **R**ecording **A**nalyzing **T**ool
bP	**b**lue **P**iraT
bP2	**b**lue **P**iraT**2**
bP2 5E	**b**lue **P**iraT**2** 5E
bPMini	**b**lue **P**iraT Mini
RC Touch	**R**emote **C**ontrol **T**ouch
bP Remote	**b**lue **P**iraT **R**emote
A2L	**A**SAM MCD-**2** MC **L**anguage
AE	**A**utomotive **E**lectronics
ACK	**ACK**nowledged
CAN	**C**ontroller **A**rea **N**etwork
CCP	**C**AN **C**alibration **P**rotocol
CF	**C**ompact **F**lash
CRO	**C**ommand **R**eceive **O**bject
DAQ	**D**ata **A**cquisition
DTO	**D**ata **T**ransmission **O**bject
ECL	**E**lectrical **C**ontrol **L**ine
ECU	**E**lectronic **C**ontrol **U**nit
FIBEX	**FI**eld **B**us **Ex**change Format
FW	**F**irm**w**are
GMT	**G**reenwich **M**ean **T**ime
INCA	**IN**tegrated **C**alibration and **A**pplication Tool
LAN	**L**ocal **A**rea **N**etwork = Netzwerk
LIN	**L**ocal **I**nterconnect **N**etwork
MAC	**M**edia **A**ccess **C**ontrol
MCD	**M**easure **C**alibrate **D**iagnose
MDX	**M**eta **D**ata E**X**change Format
MEP	**M**OST **E**thernet **P**acket
MOST	**M**edia **O**riented **S**ystems **T**ransport (www.mostnet.de)
ODT	**O**bject **D**escriptor **T**able
ODX	**O**pen **D**ata E**X**change
OEM	**O**riginal **E**quipment **M**anufacturer

PHY	**PHY**sical Bus Connect
PW	**P**ass**w**ort
RX	**R**eceiver Data
SD	**S**ecure **D**igital
SFTP	**S**ecure **F**ile **T**ransfer **P**rotocol
SHA	**S**ecure **Ha**sh
SSL	**S**ecure **S**ockets **L**ayer
TCP/IP	**T**ransmission **C**ontrol **P**rotocol/**I**nternet **P**rotocol
TLS	**T**ransport **L**ayer **S**ecurity
TMP	**T**ele**m**otive **P**acketformat
TSL	**T**elemotive **S**ystem **L**ink
UDP	**U**ser **D**atagram **P**rotocol
USB	**U**niversal **S**erial **B**us
UTC	**U**niversal **T**ime, **C**oordinated
Wi-Fi	**Wi**reless **Fi**delity
WLAN	**W**ireless **L**ocal **A**rea **N**etwork
XCP	Universal Measurement and **C**alibration **P**rotocol

Table 18.1: Abbreviations

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