English

SMAVIA PRELOADED Recording Server

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Dallmeier

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1 Introduction

1.1 Validity

This document is valid for the preloaded VideoIP server software **SMAVIA Recording Server 9.X.3**.

The images in this document might differ from the actual product.

1.2 Documents

Operation

For instructions on using all features of the software

(for operators without technical knowledge)

Configuration (this document)

Instructions for configuring the software

(for trained system integrators)

1.3 Typographical Conventions

This document may contain various warning words and symbols that indicate potential sources of danger:

NOTICE

NOTICE indicates practices for preventing property damage, incorrect configurations or faulty operations.

For reasons of clarity and readability, various text formatting elements and types of emphasis are used in this documentation:

Instructions are indicated by arrows (➢).

➢ Carry out instructions one after the other in the sequence described.

Expressions in ***bold***/***italics*** generally indicate a control element on the device (switches or labels) or on its user interface (buttons, menu items).

Paragraphs in italics provide information on basic principles, special features and efficient procedure as well as general recommendations.

2 General Notes

2.1 Appropriate Use

SMAVIA Recording Server is a server software for the storage of IP-based audio and video streams.

2.2 Warranty

The terms and conditions valid at the signing of the contract shall apply.

2.3 Disclaimer

This documentation includes the full functionality of the VideoIP server software **SMAVIA Recording Server**.

Note that

- *certain functions and properties require a paid license.*
- *certain functions and properties are only in combination with the appropriate appliance available.*

3 Start and Login

After connection and commissioning of the appliance, the SMAVIA Recording Server software can be configured locally or with the **PService** program over Ethernet.

The documentation "Commissioning" contains detailed instructions on mounting, connection assignment and commissioning of the device.

Note that available functions vary depending on the appliance and activated licenses.

3.1 Local Login

In the initial state a login without a password is possible. The rights of the administrators group are valid.

Note that the definition of passwords and network parameters is required for remote access (see chapter „User Management“ on page 17).

➢ Move the mouse pointer to the bottom of the screen.

The ***Login*** button is displayed.

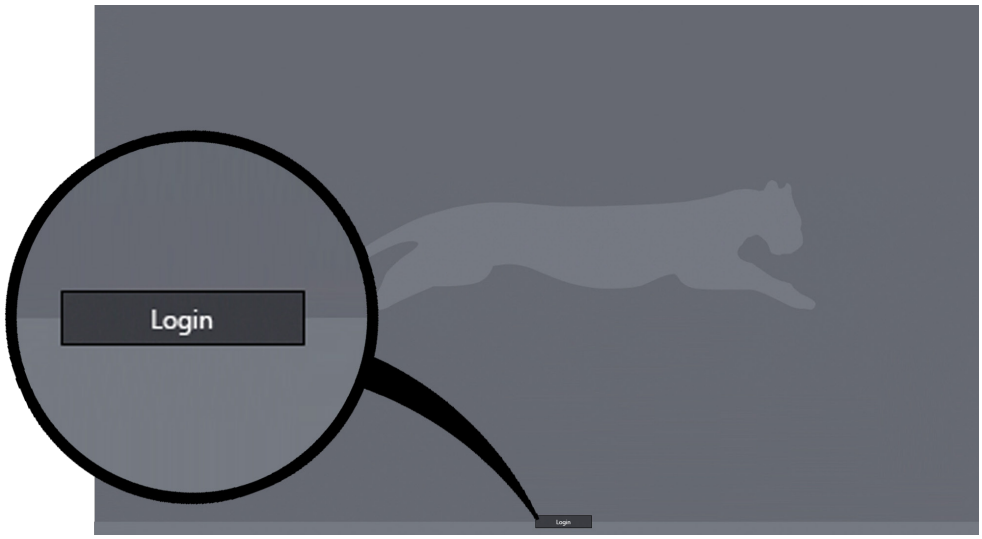


Abb. 3-1

➢ Click ***Login***.

The ***Recorder login*** dialog is displayed.

Abb. 3-2

➢ Click ***Later*** in order to log in without a password change.

The configuration interface is displayed.

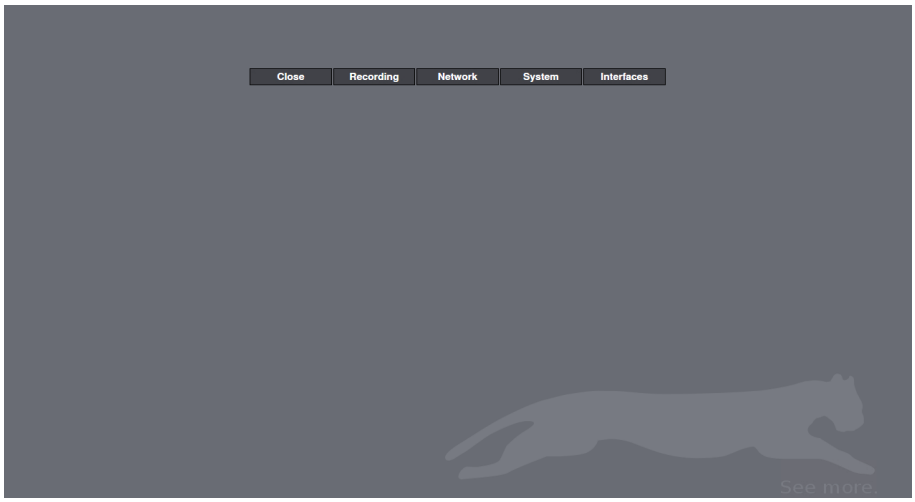


Abb. 3-3

➢ Make the required settings (see below).
➢ Click ***Close*** in order to exit the configuration interface.

3.2 Remote Login

Remote login to an appliance in a network is possible using the **PService** program.

Note that the definition of passwords and network parameters for remote access is required (see chapter „User Management“ on page 17).

- Note the documentation “Operation” of the PService application.
- Start PService.
- Scan the network.
- Select the required appliance.
- Open the context menu with a right-click.
- Click ***NetConfig3***.

The connection is established.

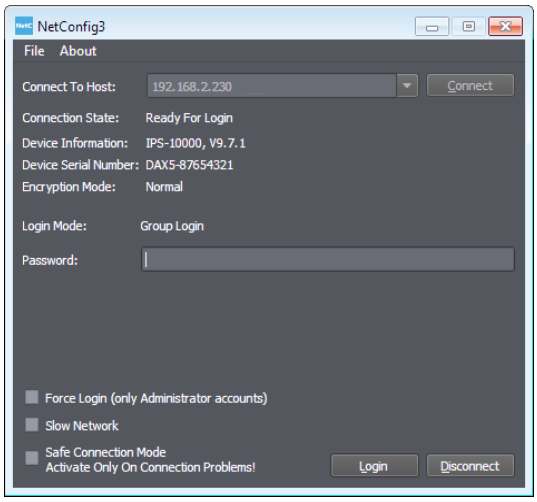


Abb. 3-4

Login Mode User Login

- Enter ***User Name*** and ***Password***.
- Click ***Login***.

Login Mode Group Login

- Enter the ***Password***.
- Click ***Login***.

Force Login

You can force a login if you have administrator rights. Other NetConfig connections will be severed.

- Activate the checkbox ***Force Login (only Administrator accounts)*** before loggin in.

In case the appliance is used locally, you cannot force a login.

The configuration interface is displayed.

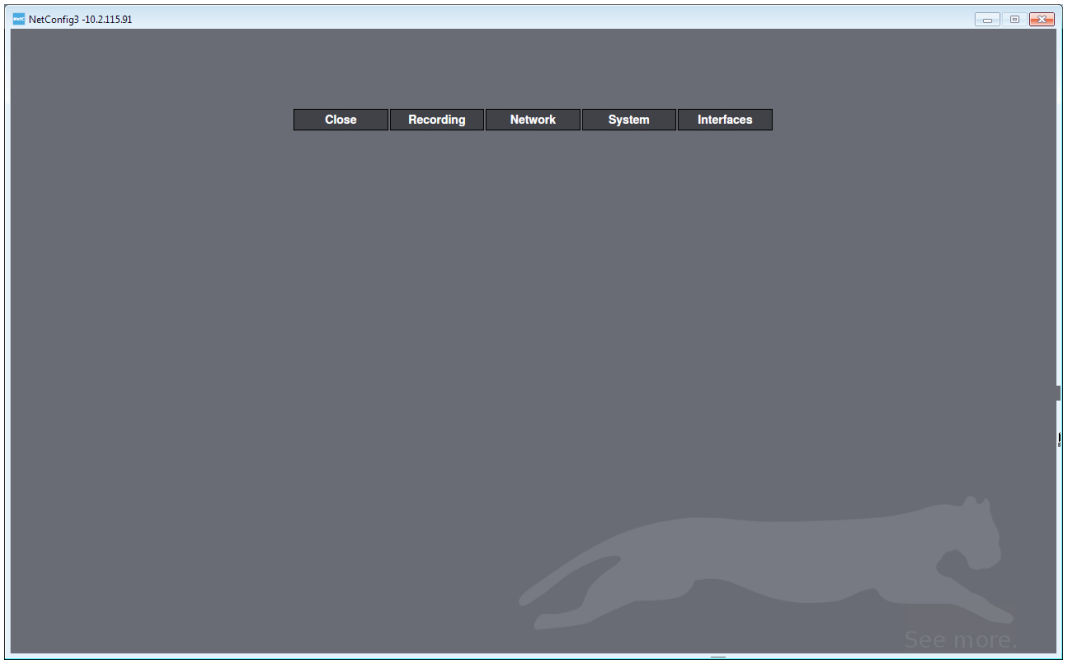


Abb. 3-5

- Make the required settings (see below).
- Click ***Close*** in order to exit the configuration interface.

4 Basic Settings

4.1 Language

The graphical user interface can be displayed in different languages.

➢ Open the ***Language*** dialog by clicking ***System*** > ***Language***.

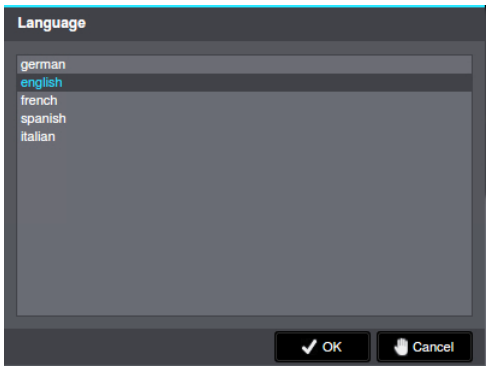


Abb. 4-1

➢ Select the required language.
➢ Confirm with ***OK***.

The labelling of the user interface is changed immediately.

4.2 System Time

The system time can be set manually or is obtained from a time server.
The ***Date format*** and the ***Time zone*** must be adopted in any case.

➢ Open the ***Time*** dialog by clicking ***System*** > ***Time***.

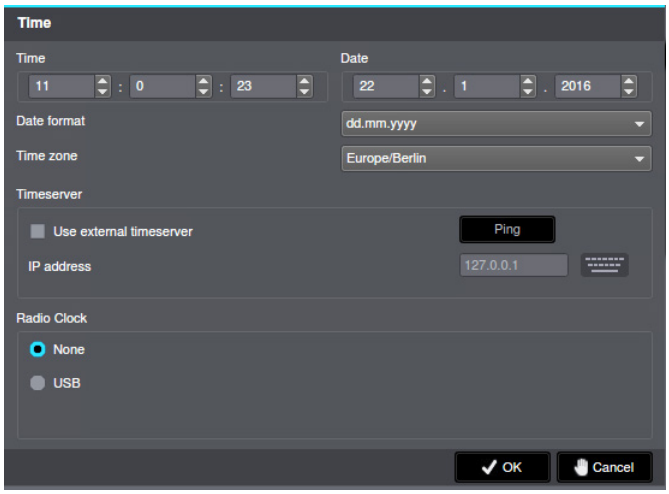


Abb. 4-2

- Select the required ***Date format***.
- Select the required ***Time zone***.
- Configure the system time as described below.

4.2.1 Manual

If no external time server is enabled, the system time is provided by the internal RTC (Real Time Clock) and can be set manually.

- Open the ***Time*** dialog by clicking ***System*** > ***Time***.
- Set the ***Time***.
- Set the ***Date***.
- Finally, confirm with ***OK***.

4.2.2 Time Server

The Network Time Protocol (NTP) is supported. Therefore the system time can be obtained from an external time server over the network automatically.

Other NTP capable devices (e.g. IP cameras, appliances) can use the device as a time server using the network. This function is independent from local settings.

- Open the ***Time*** dialog by clicking ***System*** > ***Time***.

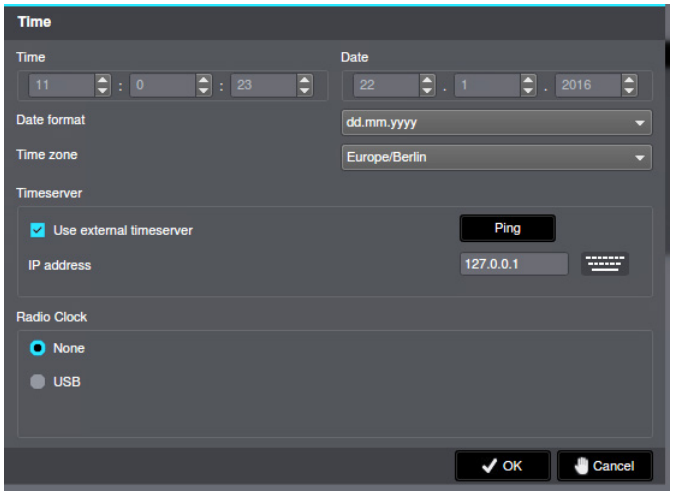


Abb. 4-3

- Enable the ***Use external timeserver*** checkbox.
- Enter the ***IP-Address*** of the time server.
- Check the connection to the time server with a ***Ping*** if required.
- Finally, confirm with ***OK***.

The time of the external time server is used as the system time after rebooting.

4.3 Up / Down Sound

The ***Up/Down Sound*** function refers to the acoustic signal when a **NetConfig3** or **SMAVIA Viewing Client** connection is established or shut down.

➢ Open the ***Options*** dialog by clicking ***System*** > ***Options***.

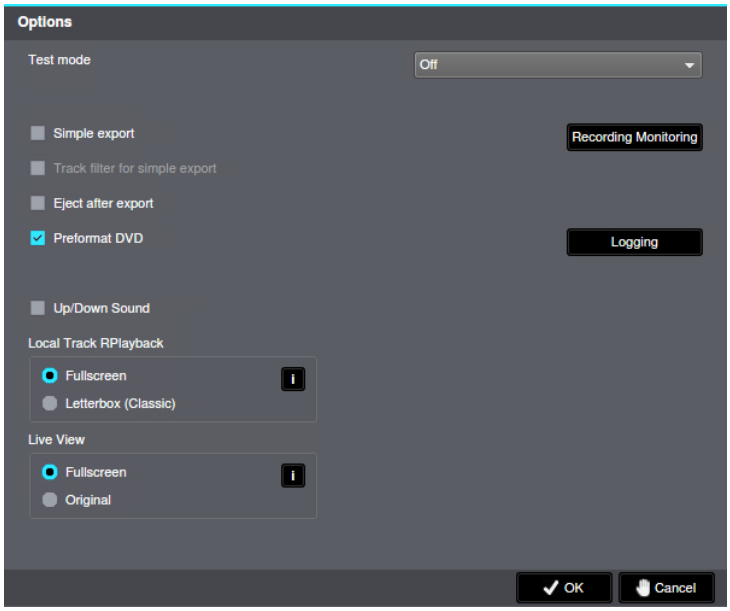


Abb. 4-4

➢ Enable / disable the ***Up/Down Sound*** option.
➢ Click ***OK*** in order to close the dialog.

If the checkbox is enabled, the "Up/Down Sound" is active. If the checkbox is not disabled, the "Up/Down Sound" is inactive.

4.4 Simple Export

The regular export function is activated by default in the standard configuration. The user has to manually select the relevant sequences / images in the single tracks before the export.

The ***Simple Export*** option activates a simplified export function. The user only has to manually select one relevant image in one track before the export. The function saves the same period of time of every track to the export medium, starting with the image's point in time.

Note that

- *the "Simple Export" function is available for storage on an internal or external DVD/ CD-RW drive only.*
- *the "Simple Export" function cannot be used parallel to the regular export function.*

Open the ***Options*** dialog by clicking ***System*** > ***Options***.

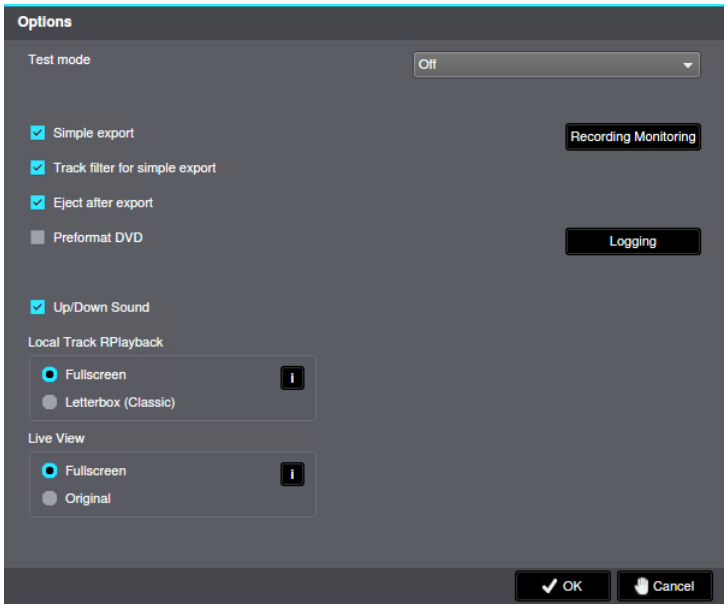


Abb. 4-5

- Note the following explanations.
- Enable the required options.
- Click ***OK*** in order to save the settings.

Track Filter for Simple Export

If this option is activated the ***Cameras*** dialog will be displayed before the execution of the export. It allows the restriction of the simple export on the selected cameras.

Eject after Export

If this option is activated the export medium (DVD/CD) will be ejected after the export is completed. Note that this option is also valid for the regular export function.

Preformat DVD

If this option is activated, the DVD will be preformatted during the export. The export medium will be ejected only once, not once for every track.

The DVD will be formatted in any case, with no regard to preexisting data on the medium.

5 User Management

The configuration of the SMAVIA Recording Server is only possible after successful authentication as an authorized user.

The user management allows to define different access rights and configuration for four different local user groups. If required, individual local users can also be associated with the local user groups.

Furthermore, centralized user management using an Active Directory (AD) directory service (such as Microsoft Windows Server*) or a Linux*) server with Samba) is supported by the Lightweight Directory Access Protocol (LDAP).

By default, ***Login as local group*** is enabled. Logging in without a password is possible for the first configuration. The rights of the user group administrator are valid.

NOTICE

Risk of unauthorized access!

➢ Set the group passwords.

The modes of authentication:

Registration mode	Type of authentication
Login as local group	Group password
Login as local user	User name + User password
Login as LDAP user	LDAP user name + LDAP user password

5.1 Group Login

➢ Open the ***User Management*** dialog by clicking ***System*** > ***User Management***.

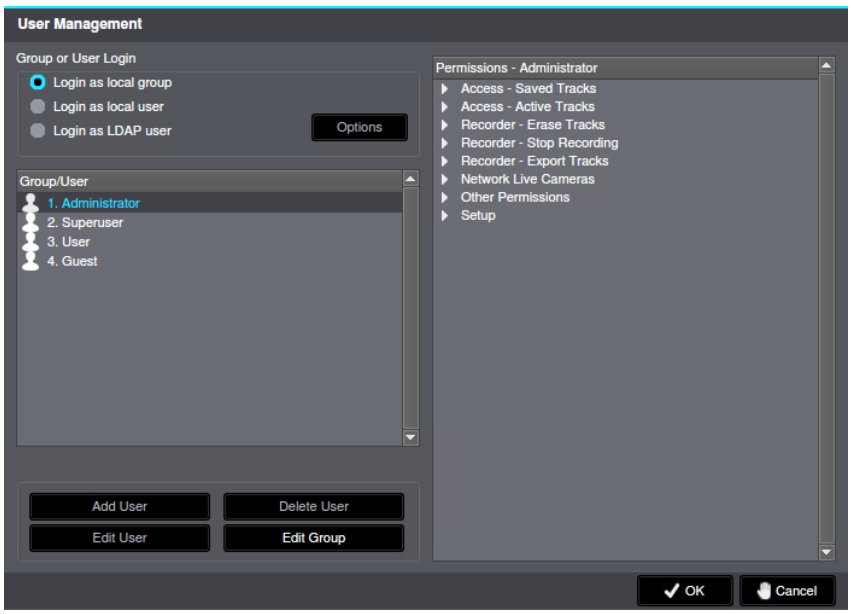


Abb. 5-1

➢ Select the ***Login as local group*** option.

➢ Adjust the required settings (see in the following).

➢ Click ***OK*** to save the settings.

5.1.1 Access Rights

Note that

- *the "Administrator" group has all rights.*
- *the rights of the "Administrator" group cannot be restricted.*
- *the rights assignment can be made only by an administrator.*

➢ Open the ***User Management*** dialog by clicking ***System*** > ***User Management***.

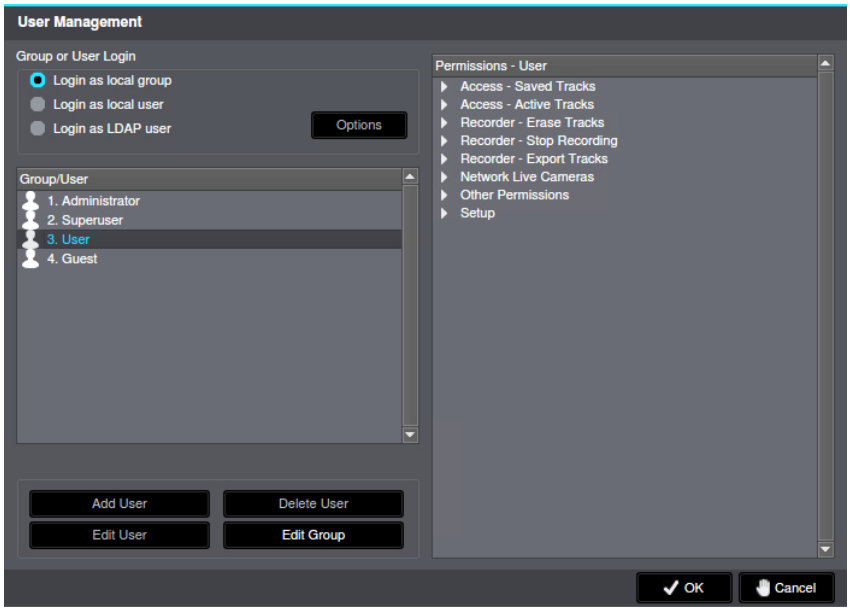


Abb. 5-2

➢ Select the required ***Group***.
➢ Enable / disable the required rights in the ***Permissions*** window.
➢ Click ***OK*** in order to save the settings.

5.1.2 Edit Groups

The group names, passwords, the login process and the using of the image recording can be configured for local groups.

Note that

- *the default password “3” for the local user group “Administrator” is set at the factory.*
- *the default password for the local users group “Administrator” for security reasons absolutely needs to be changed.*
- *by default no password is set at the factory for the local user groups “Installer”, “User” and “Guest”.*
- *a login of local users groups “Installer”, “User” and “Guest” is possible only by setting a password.*

Change Group Names and Passwords

➢ Open the ***User Management*** dialog by clicking ***System*** > ***User Management***.

➢ Select the required ***Group***.

➢ Click ***Edit group***.

The ***User Management - Edit group*** dialog is displayed.

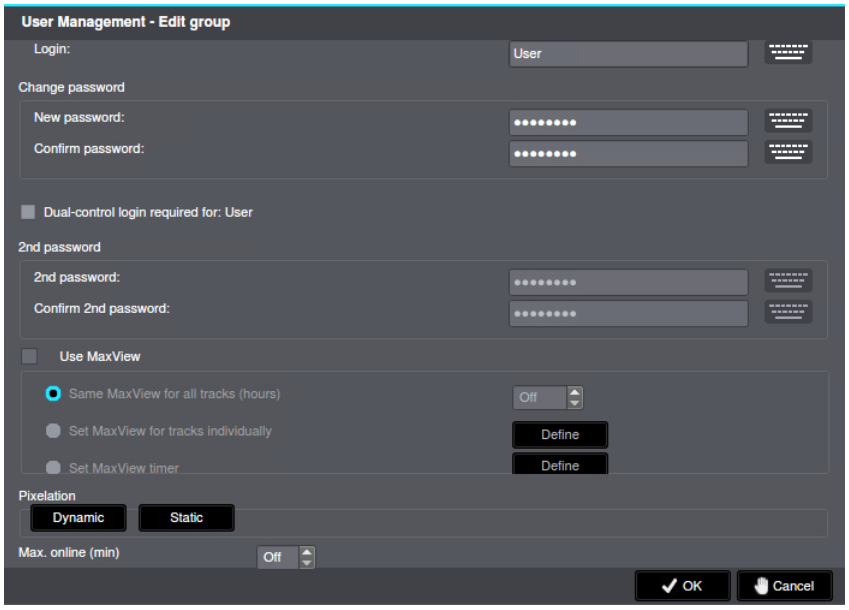


Abb. 5-3

➢ Enter the new group name in the ***Login*** box.

➢ Enter the new password and confirm it in the ***Change password*** area.

➢ Click ***OK*** in order to save the settings.

Dual-Control Login

The login process of a group (except the ***Administrator*** group) can be extended to enter two passwords.

- Open the ***User Management*** dialog by clicking ***System*** > ***User Management***.
- Select the required ***Group***.
- Click ***Edit group***.

The ***User Management - Edit group*** dialog is displayed.

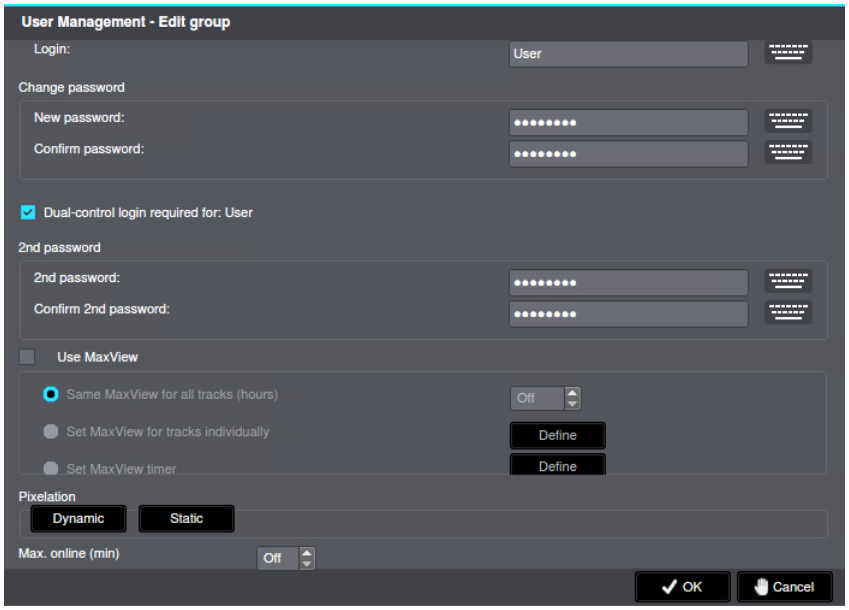


Abb. 5-4

- Enable the ***Dual-control login required for: X*** checkbox.
- Enter the ***2nd password*** and confirm it.
- Click ***OK*** in order to save the settings.

Restrict Image Access

The ***Use MaxView*** function allows it to restrict the unlimited access to recordings for each group (except the ***Administrator*** group). In this case, the group can evaluate any pictures that are older than the set period of time (in hours). This can be done for all or only for individual channels.

- Open the ***User Management*** dialog by clicking ***System*** > ***User Management***.
- Select the required ***Group***.
- Click ***Edit group***.

The ***User Management - Edit group*** dialog is displayed.

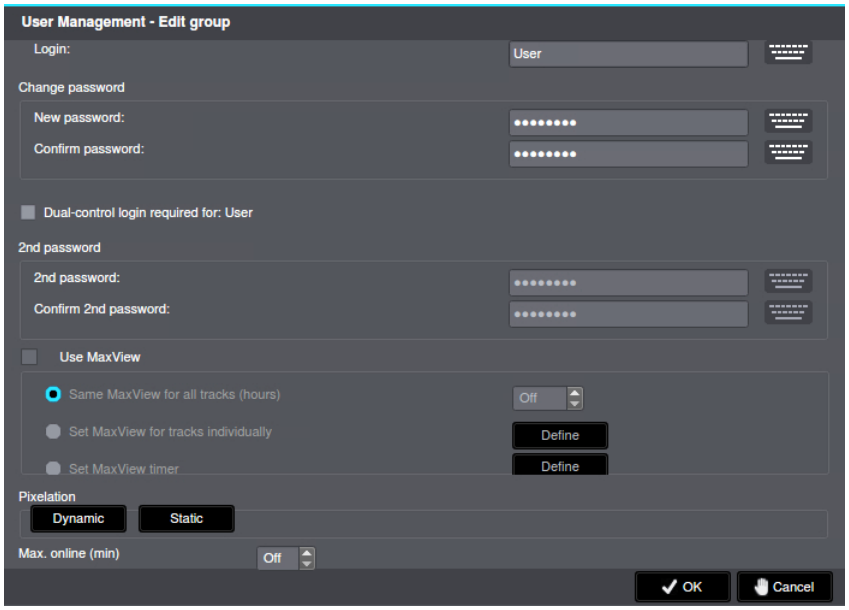


Abb. 5-5

➢ Enable the ***Use MaxView*** checkbox.
➢ Select the required option:

• ***Set MaxView for all tracks (hours)***:
➢ Set the limitation (in hours) for all tracks.
➢ Click ***OK*** in order to save the settings.

• ***Set MaxView for tracks individually***:
➢ Click ***Define***.

The ***Set MaxView values for tracks (hours)*** dialog is displayed.

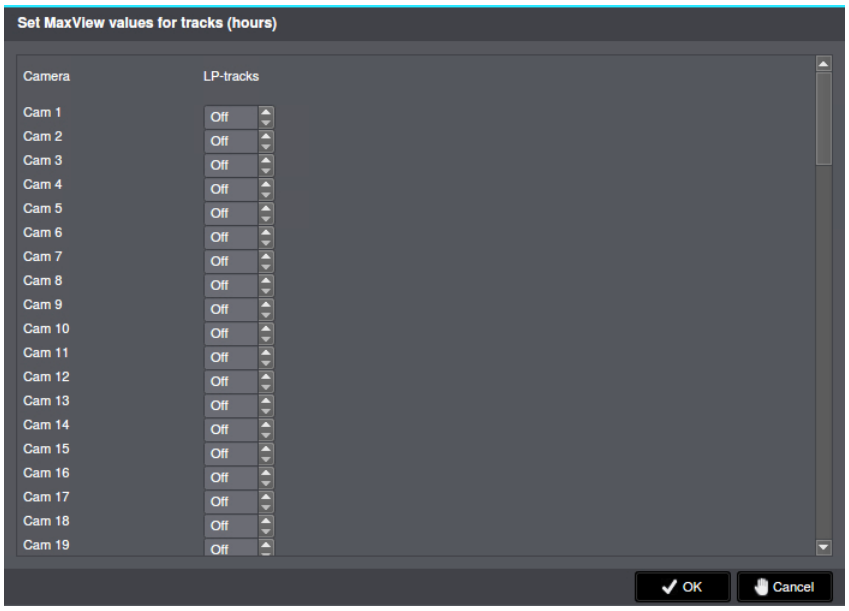


Abb. 5-6

- Set the limitation (in hours) for the required channels.
- Click ***OK*** in order to save the settings.

- ***Set Timer for MaxView***:
- Click ***Define***.

The ***Set Timer for MaxView*** dialog is displayed.

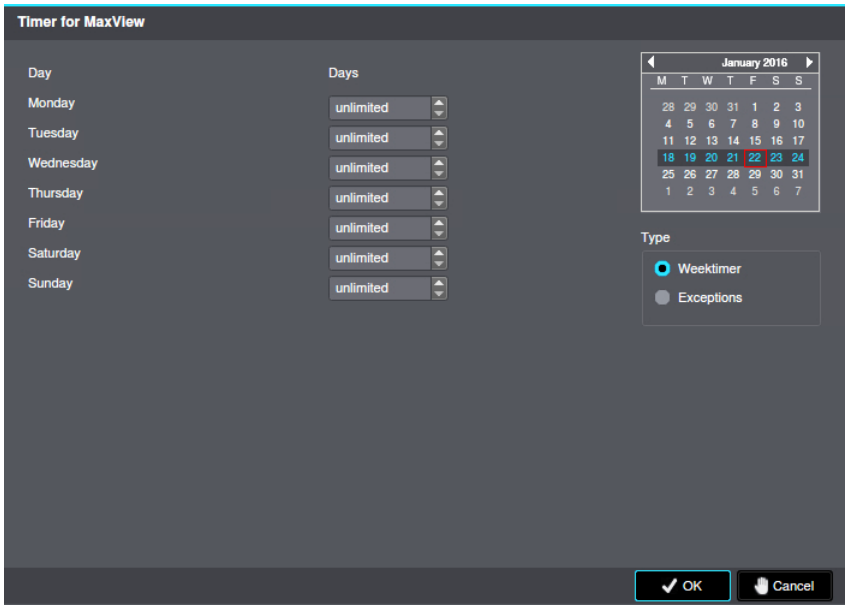


Abb. 5-7

- Set the limitations for required days.
- Define ***Exceptions***, if necessary.
- Click ***OK*** in order to save the settings.

Pixelation

The option Pixelation defines the way pixelated areas behave for the chosen user group.

Dynamic: The pixelated area moves with the pixelated object.

Static: The pixelated area stays in one place.

5.2 User Login

If the ***Login as local user*** option is enabled, the definition of users with individual passwords is allowed.

Even if the "Login as local user" option is enabled, the passwords of the groups of the group login must be changed. Without modification external programs (e.g. SMAVIA Viewing Client) may access on the device with the default password.

5.2.1 Add User

In the "Administrator" group must be created for technical reasons, at least two users.

➢ Open the ***User Management*** dialog by clicking ***System*** > ***User Management***.

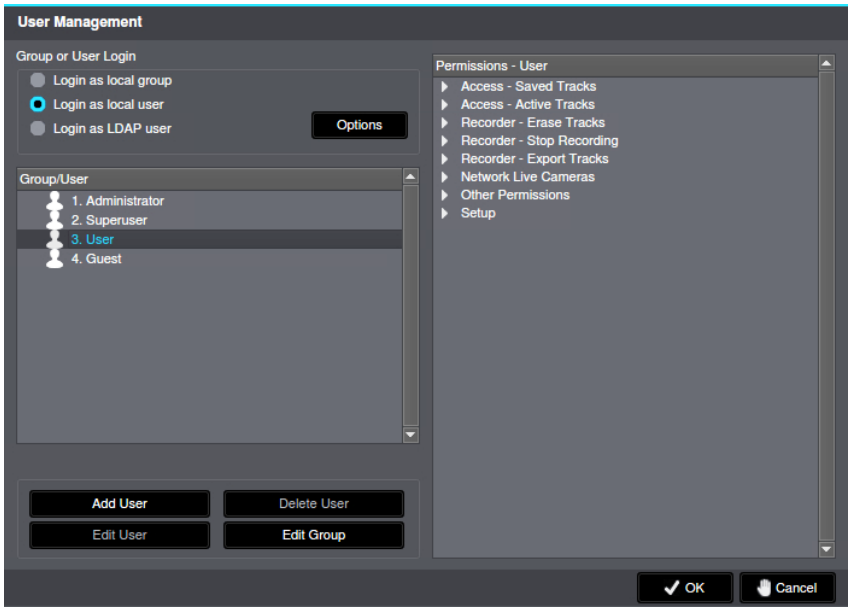


Abb. 5-8

➢ Select the required ***Group***.

➢ Click ***Add User***.

The ***User Management - Add User*** dialog is displayed.

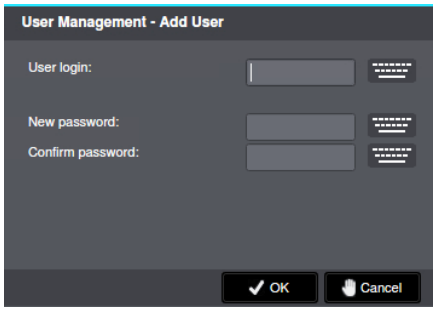


Abb. 5-9

- Enter the name of the new user at ***User login***.
- Enter the new password and confirm it.
- Click ***OK*** in order to save the settings.
- Confirm the subsequent info dialog.

The added user is displayed in the corresponding group.

5.2.2 Options

The options dialog allows to extend the login process. In addition, a password of at least eight characters can be required.

The settings in the "Options" dialog apply to all groups and their users.

- Open the ***User Management*** dialog by clicking ***System*** > ***User Management***.

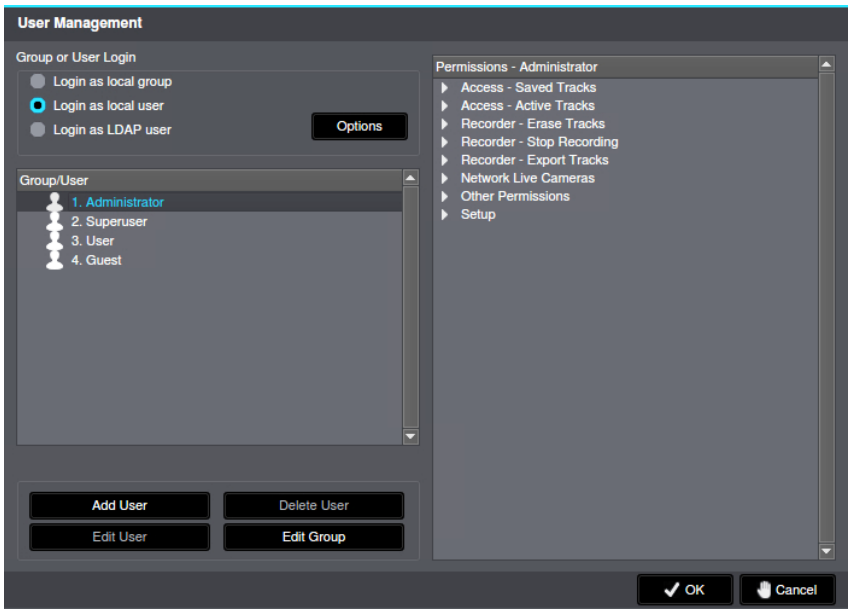


Abb. 5-10

- Click ***Options***.

The ***User Management - Options*** dialog is displayed.

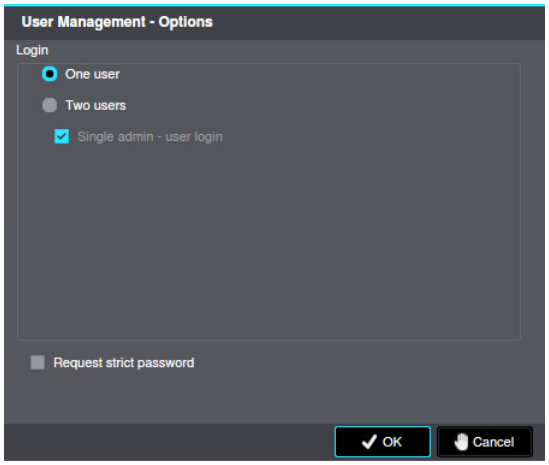


Abb. 5-11

- ➢ Make the required settings (see in the following).
- ➢ Click ***OK*** in order to save the settings.

One User

In the standard option, a user logs on with his password.

Two Users

In this option two user themselves must login simultaneously with their passwords. This also applies if the users belong to different groups.

Single Admin - User Login

This option allows users from the ***Administrator*** group to login anyway individually. If the ***Two users*** option is enabled.

Request Strict Password

If this option is enabled, only passwords are admitted, that consist of at least eight characters (without any specials or spaces).

5.2.3 Delete User

➢ Open the ***User Management*** dialog y clicking ***System*** > ***User Management***.

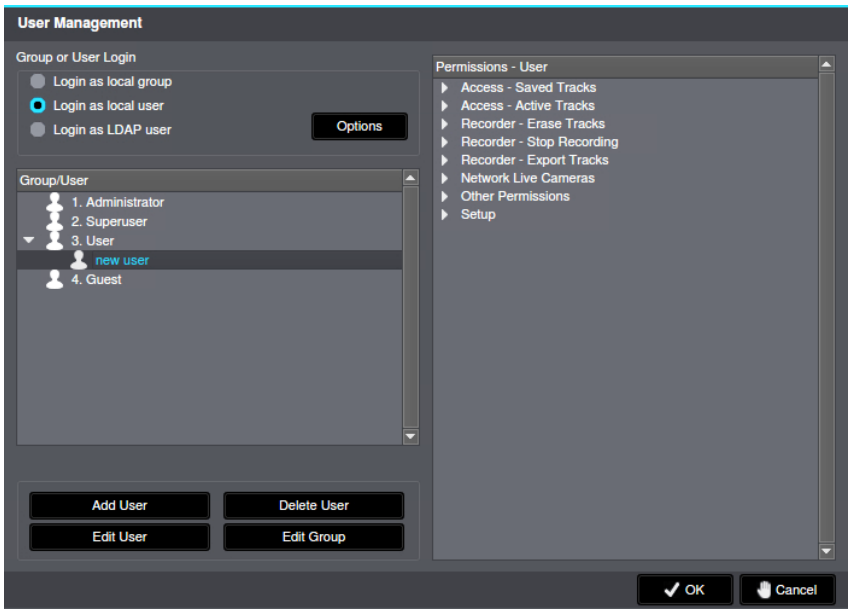


Abb. 5-12

➢ Select the required user.
➢ Click ***Delete User***.
➢ Confirm the subsequent info dialog.

The user is removed from the group.

5.3 LDAP Login

This setting allows centralized user management with LDAP (Lightweight Directory Access Protocol) using an Active Directory (AD) service (such as Microsoft Windows Server or Linux server with Samba).

The individual user rights/permissions are granted by four different group policies defined on the LDAP client (this device).

*For using LDAP, deactivating the **High Security** checkbox under **System > System Security** is mandatory (see „High Security“ on page 36).*

NOTICE

In “Login as LDAP user” mode, logging in as a local user group or a local user is no longer possible.

The following LDAP settings should only be performed by an administrator with advanced skills in LDAP technology.

In order to be able to set the respective group policies/rights on the LDAP client (this device), each LDAP user intended to obtain access to the device must first be assigned to a specific LDAP group on the LDAP server. Then, the defined LDAP group (user-grouprelation) can be read out by the LDAP client (this device).

A valid LDAP group name for each directory entry on the LDAP server must be structured as follows: `[Group prefix][Group suffix]`

The group prefix is a user-definable expression (for example, `myhostname`), however, it is required.

This allows administrators to assign different user groups and, thus, variable user rights to multiple simultaneously installed LDAP clients of the same system design (e.g. Dallmeier cameras described here).

The available group suffixes are fixed expressions:

Group 1 (***Administrator***): `_G4`
Group 2 (***Installer***): `_G3`
Group 3 (***User***): `_G2`
Group 4 (***Guest***): `_G1`

On the LDAP server, the group names preceded by the prefix `myhostname` would then be as follows:

Group 1 (***Administrator***): `myhostname_G4`
Group 2 (***Installer***): `myhostname_G3`
Group 3 (***User***): `myhostname_G2`
Group 4 (***Guest***): `myhostname_G1`

However, it is absolutely necessary to also enter the used group prefix on the LDAP client (this device). For further information regarding this requirement, see below.

Note that for the following settings at least one LDAP user must be a member of group 1 (***Administrator***).

After the LDAP settings have been made on the LDAP server, the LDAP client (this device) must be configured accordingly.

In that respect, note the following steps and descriptions:

➢ Open the ***User Management*** dialog by clicking ***System*** > ***User Management***.

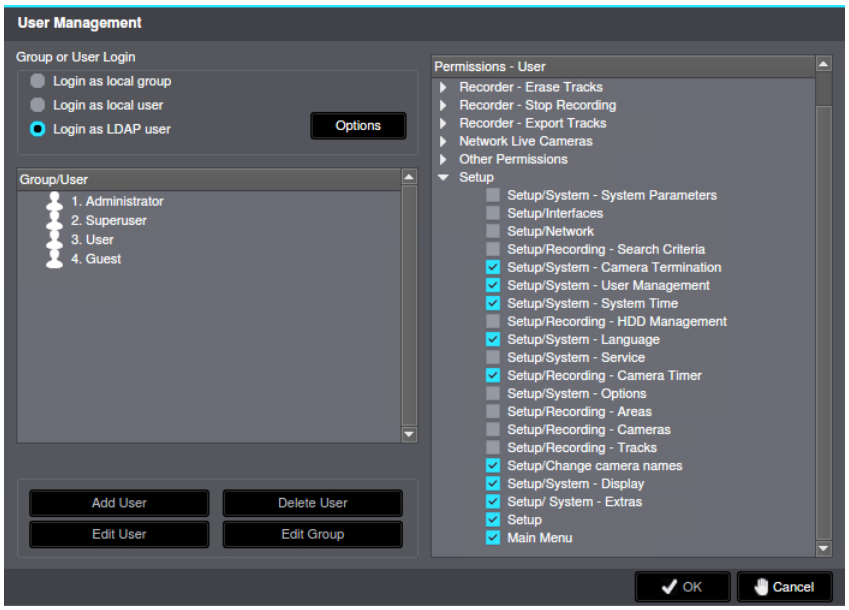


Abb. 5-13

➢ Enable the ***Login as LDAP user*** option.

➢ Click ***Options***.

The ***User Management - Options*** dialog is displayed.

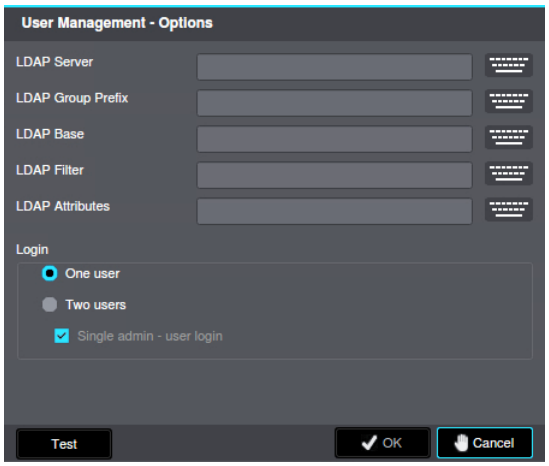


Abb. 5-14

For the correct access to the directory entries on the LDAP server, the following information must be entered:

The following data are case-sensitive!

LDAP Server:	Name or IP address of the LDAP server to which the connection is to be established.
Example:	`ldap://servername` `ldap://192.168.57.3`
LDAP Group Prefix:	Freely definable prefix for LDAP group names Example: `myhostname`
LDAP Base:	Base DN (Distinguished Name, search base on the LDAP server); Object location in the LDAP directory hierarchy Example: `ou=department,dc=example,dc=com`
LDAP Filter:	Default entry: (`sAMAccountName=%UNam%`)
LDAP Attributes:	Default entry: `memberOf`

- Enter the relevant data to access the LDAP server.
- Select the required options in the ***Login*** area as described above.

Before saving the settings, the entries have to be verified.

The validation is performed by querying the LDAP directory for an existing authorized LDAP user with administration rights (member of group 1).

The settings on the LDAP client can only be saved if the query has been successful (returns an internal result).

- Click ***Test***.

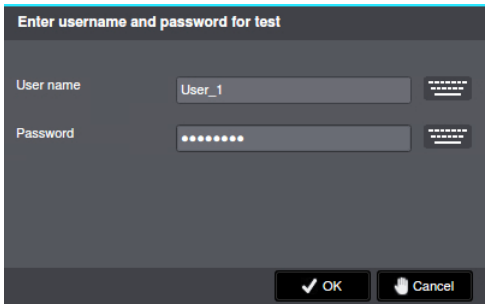


Fig. 5-15

The login dialog for the test is displayed.

- Enter the LDAP user name and the corresponding LDAP user password of an authorized administrator (member of group 1).
- Click ***OK***.
- After a successful test, confirm with ***OK*** in order to save the settings.

From this point on, only authorized LDAP users are able to log into the SMAVIA Recording Server (now the LDAP client).

6 Network

The network settings of the appliance can be configured or automatically assigned by a DHCP (Dynamic Host Configuration Protocol) server. The following settings are used in the default state:

Note that

- *incorrect network settings may result in malfunctions.*
- *the “Ethernet 2” network interface only after activation is available.*
- *the available network speed is displayed in the “Info” dialog.*
- *the recording bit rate may be reduced if many IP cameras are recorded at low network speed.*

➢ Open the ***Ethernet*** dialog using ***Network*** > ***Settings*** > ***Ethernet***.
➢ Make the required settings (see below).
➢ Click ***OK*** in order to save the settings.

6.1 Ethernet

The settings on the ***General*** tab are valid for both Ethernet interfaces.

Depending on the selected ***Mode*** different functions are available (see as follows).

Networking settings can be configured manually or assigned by a DHCP (Dynamic Host Configuration Protocol) server automatically. The following settings are used in standard mode.

General

Mode	standard
Host name	system
Domain name	dallmeier.com
DNS server 1	without
DNS server 2	without

Ethernet 1

Using DHCP	inactive
Allowing IP finder configuration	active
IP address	192.169.2.230
Subnet mask	255.255.255.0
Gateway	192.168.2.1
Data rate	Auto

Ethernet 2

Using DHCP	inactive
Allowing IP finder configuration	inactive
IP address	without
Subnet mask	without
Data rate	Auto

6.1.1 Standard

The ***Ethernet 1*** interface is the default interface and is always active. It permits the use of a default gateway (protocol conversion) for the connection of the device with other networks (e.g. the internet):

The "Allow IP-Finder configuration" checkbox must be enabled for remote configuration of the network settings using the PService Dallmeier-software.

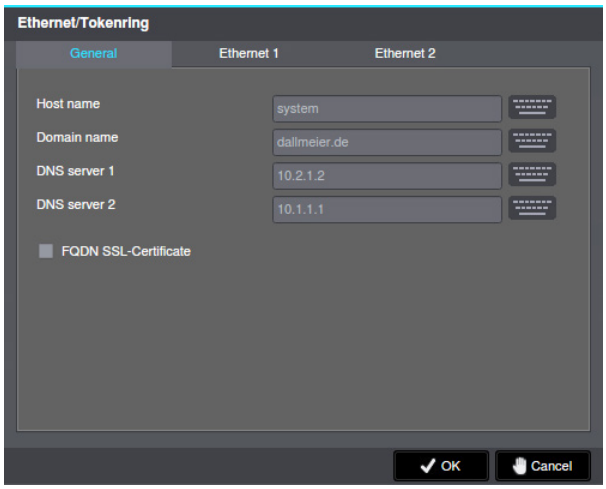


Abb. 6-1

- Enter the name of the device as the ***Host name*** if required.
- Enter the ***Domain name*** if required.
- Enter the IP address of the DNA servers if required.

Manual Configuration

The network settings must be assigned manually if no DHCP server is available.

- Select the ***Ethernet 1*** tab.

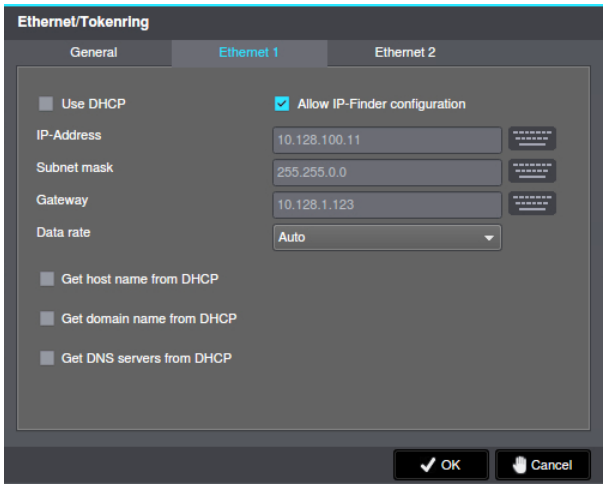


Abb. 6-2

- Note the following explanations.
- Note the fixed and valid IP address ranges of the network.

- Ensure that the ***Use DHCP*** checkbox is disabled.
- Enter the ***IP-Address***, ***Subnet mask*** and the ***Gateway*** address.
- Select the ***Data rate*** if required.
- Finally, confirm with ***OK***.

The new settings are automatically applied and are effective immediately.

DHCP

In order to assign automatically the network settings by a DHCP server, proceed as follows:

- Select the ***Ethernet 1*** tab.

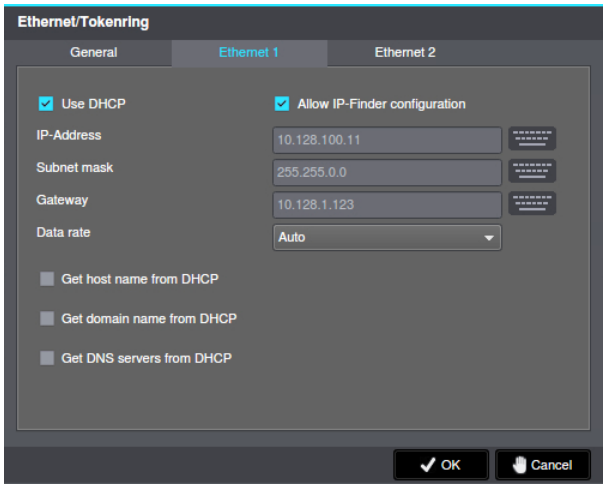


Abb. 6-3

- Note the following explanations.
- Ensure that an active DHCP server is available in the local area network (LAN).
- Enable the ***Use DHCP*** checkbox.
- Select the ***Data rate*** if required.
- Enable the required options:
- Finally, confirm with ***OK***.

The host name and the domain name as well as the IP address of the DNS servers also can be assigned automatically by the DHCP server if the appropriate checkbox is activated.

The settings are assigned by the DHCP server. Note the validity period of the assigned settings (DHCP lease time).

6.1.2 ViProxy Plus

The ***Ethernet 2*** interface is only available with the optional license **DLC – ViProxy**.

It is suitable for direct connection of the appliance with a second local network (e.g. separated network specifically for IP cameras).

Note that

- *the second Ethernet interface is only available for a network strictly separated from the first network interface.*
- *the second Ethernet interface can not be connected through a router to another network because the gateway is permanently assigned to the first Ethernet interface.*

➢ Select ***ViProxy Plus*** mode.
➢ Configure the ***Ethernet 1*** interface as described above.
➢ Select the ***Ethernet 2*** tab.

Manual Configuration

The network settings must be assigned manually if no DHCP server is available.

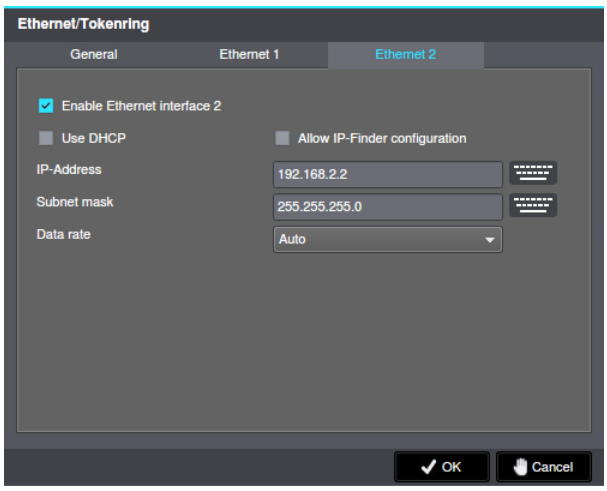


Abb. 6-4

➢ Note the following explanations.
➢ Note the fixed and valid IP address ranges of the network.
➢ Ensure that the ***Use DHCP*** checkbox is disabled.
➢ Enter the ***IP-Address*** and the ***Subnet mask***.
➢ Select the ***Data rate*** if required.
➢ Finally, confirm with ***OK***.

The new settings are automatically applied and are effective immediately.

DHCP

The networking settings for the second Ethernet interface can also be assigned by a DHCP server automatically. This function is limited to the IP address and subnet mask for this interface.

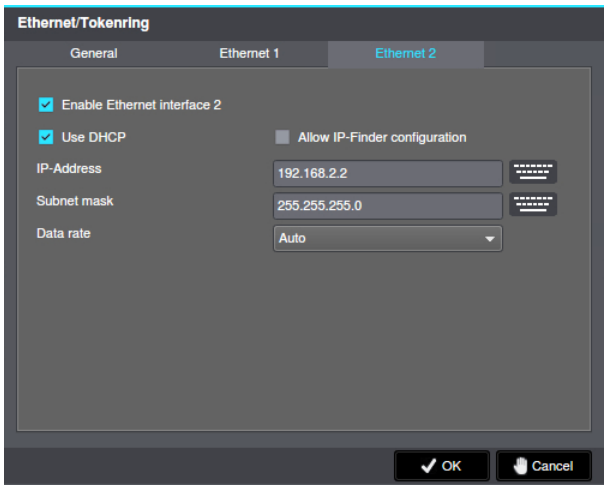


Abb. 6-5

- Ensure that an active DHCP server is available in the local area network (LAN).
- Enable the ***Use DHCP*** checkbox.
- Select the ***Data rate*** if required.
- Finally, confirm with ***OK***.

The settings are assigned by the DHCP server. Note the validity period of the assigned settings (DHCP lease time).

6.1.3 Link Redundancy

The Link Redundancy function bundles the two network interfaces into one logical channel and allows redundant connection of the appliance to two switches. This enables the compensation of the failure of a complete network channel (e.g. cabling, switch and its power supply).

The data traffic usually runs over the first network interface and access switch 1.If this network interface, the network cabling, or the access switch fails, data traffic is switched over and continues to run seamlessly through access switch 2.

Requirements

- All interfaces are operated in full duplex mode
- All interfaces operate at 1Gbps

No special configuration of switches required

6.1.4 Data Throughput

NOTICE

Faulty network connection

If the access switch is not configured appropriately, a connection cannot be established. Refer to the manufacturer's documentation.

The Data Throughput function allows the bundling of both network interfaces to one logical channel with double data throughput. This provides twice the bandwidth for data traffic between the appliance and the access switch.

In the standard system, a bandwidth of 1Gbps is available for data traffic over the first network interface. By bundling the two network interfaces, twice the bandwidth (2Gbps) is available for data traffic between the appliance and the access switch.

Requirements

- Special configuration of the switches is mandatory
- All interfaces are operated in full duplex mode
- All interfaces operate at 1Gbps

6.2 RTSP

The built-in RTSP server allows access to the live video on any channel by an external application (e.g. SMAVIA Viewing Client) using the RTSP (Real Time Streaming Protocol) network protocol.

Note that port forwarding for port 554 in the corresponding network must be enabled.

➢ Open the ***RTSP Server*** dialog by clicking ***Network*** > ***RTSP Server***.

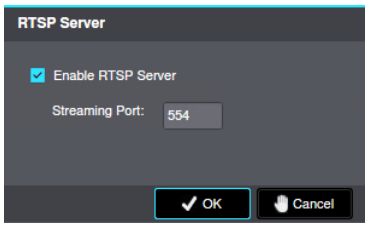


Abb. 6-6

➢ Activate the ***Enable RTSP Server*** checkbox.
➢ Enter the ***Streaming Port*** if required.
➢ Click ***OK*** in order to save the settings.

The RTSP server function can be used with any RTSP-enabled client. The corresponding query expression must be the IP address and relevant channel / camera (X = 1 to 24) matched in terms of:

rtsp://IP-Adresse/channelX-encoder1

6.3 System Security

Some functions require the external access via the network interface and therefore the opening of the corresponding ports of the system. For system security reasons, the number of open ports should be kept to a minimum. Ports definitely not required for Dallmeier systems are closed ex factory and can not be opened. Relevant ports are open to ensure full compatibility.

Relevant ports that are not required can be closed in the ***System Security*** dialog.

➢ Open the ***System Security*** dialog by clicking ***System*** > ***System Security***.

6.3.1 Firewall Settings

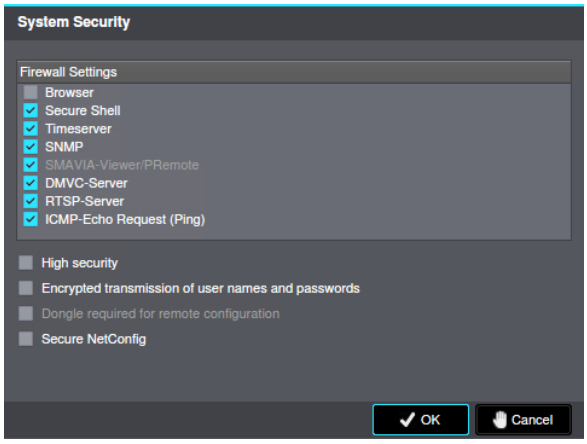


Abb. 6-7 .Activate / deactivate the required protocols / ports.

➢ Click ***OK*** in order to save the settings.

6.3.2 High Security

If the ***High Security*** checkbox is activated, the system bans an IP for 10 minutes, after 10 unsuccessful login attempts.

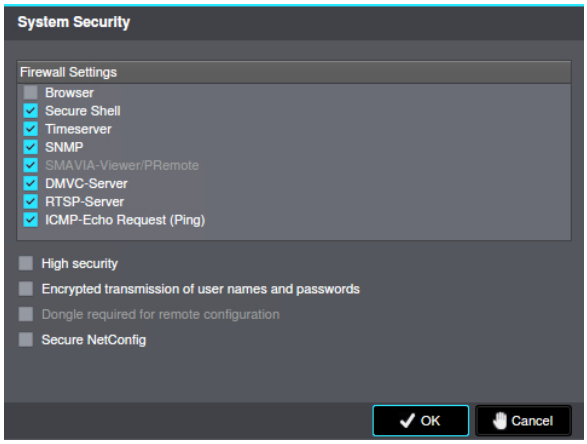


Abb. 6-8

6.3.3 Encryption Of Device Logins

The transmission of user names and passwords between the SMAVIA Recording Server appliance and connected cameras / devices can be encrypted.

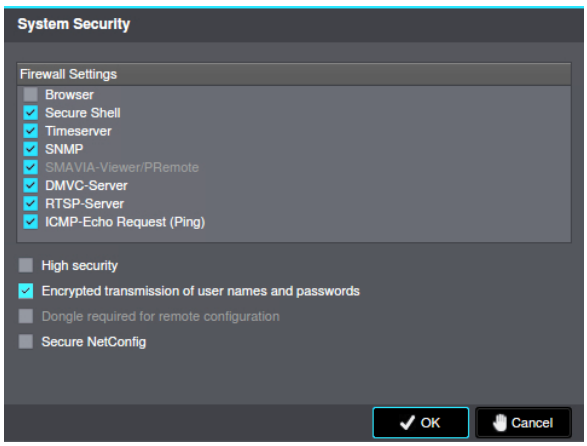


Abb. 6-9

- Enable the ***Encrypted transmission of user names and passwords*** checkbox.
- Click ***OK*** in order to save the settings.

6.3.4 Secure NetConfig

Secure NetConfig allows a secret conntection using NetConfig, without beeing seen on the display. The display keeps on showing splitter or sequencer during the access. Simultaneus local login is not possible.

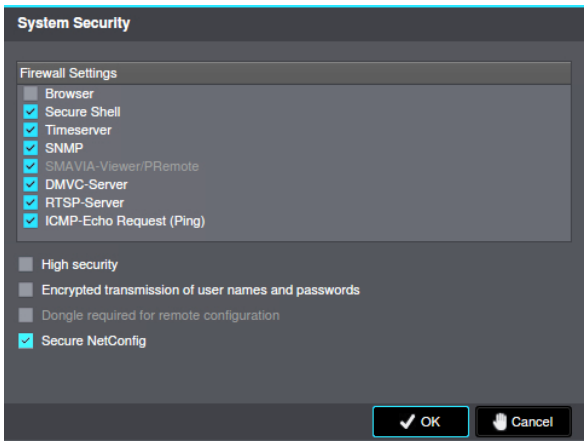


Abb. 6-10

- Activate the ***Secure NetConfig*** checkbox.
- Click ***OK*** to save the settings.

6.3.5 Bandwith / Links

The maximum output bandwith and the maximum number of connections can be regulated with the Bandwith Limits dialog.

➢ Open the Bandwith Limits dialog under ***Network*** > ***Settings*** > ***Bandwith*** / ***Links***.

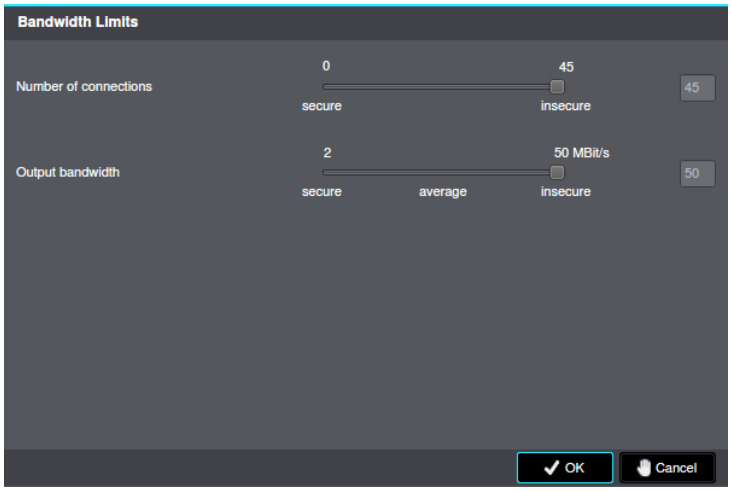


Abb. 6-11

➢ Adjust the sliders as necessary.
➢ Click ***OK*** to save the settings.

7 Recording

SMAVIA Recording Server supports recording IP-based audio and video streams of Dallmeier IP cameras (SD and HD) with TCP/DaVid and analogue cameras (SD) with video IN connection. In addition, the video streams from 3rd party IP cameras can be recorded using TCP/HTTP, TCP/RTP or TCP/RTSP.

➢ Open the ***Recording Settings*** dialog by clicking ***Recording*** > ***Cameras / Tracks***.

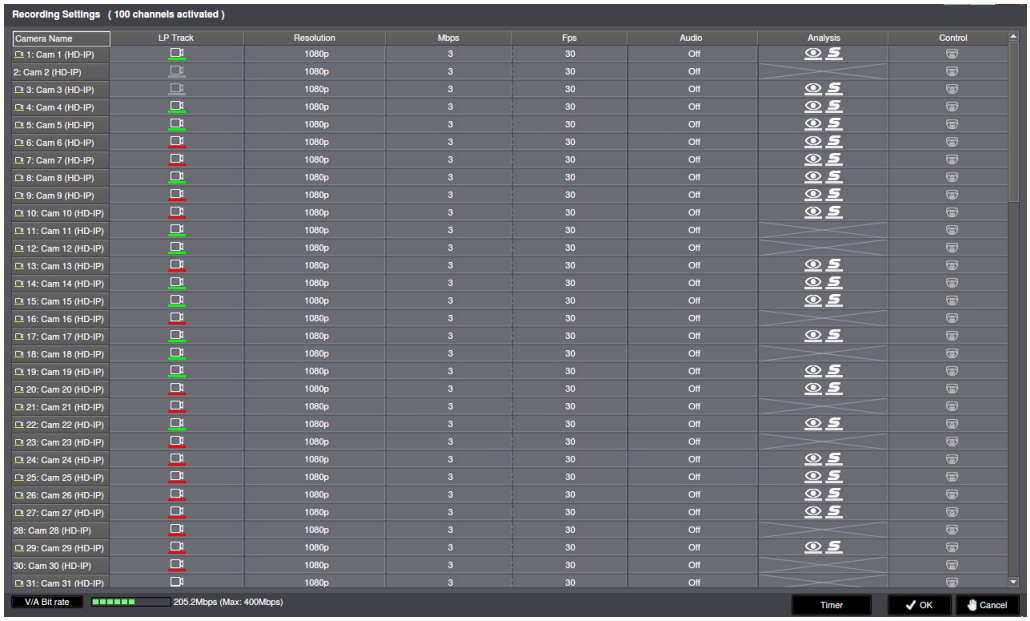


Abb. 7-1

The ***Recording Settings*** dialog always displays 100 channels. The number of actually usable channels depends on the purchased licenses.

The configured camera type is specified by a suffix in the ***Camera Name*** column:

SD-IP	Dallmeier IP camera with SD resolution using TCP/DaVid
HD-IP	Dallmeier IP camera with HD resolution using TCP/DaVid
Pan	Dallmeier Panomera® camera with ***Master*** and ***Sub*** modules
DaVid RTP	Dallmeier IP camera using TCP/RTP (multicast)
DVE	Digital Video Encoder
3rd-IP	3rd party IP camera using TCP/HTTP
RTSP	3rd party IP camera using TCP/RTSP
ONVIF	3rd party IP camera using TCP/RTP, TCP/RTSP, TCP/HTTP

➢ Right-click the ***Camera Name*** column to display a preview image.

➢ Left-click the ***Camera Name*** column to change the name.

The camera name can consist of 2 × 8 alphanumeric characters (connected by a hyphen).

7.1 Basics

7.1.1 Track Mode

In **Automatic** track mode, SMAVIA Recording Server stores the IP-based audio and video streams of cameras. A **longplay track** (LP track) is associated with each camera a ring buffer for recording. The channel, camera and track names are identical.

Operation

In the track mode **Automatic** the hole video storage is split into storage units. If required, each track is assigned to a new storage unit (dynamic track size).

Recording

The audio and video stream is written continuously in a storage unit of the corresponding track. If the storage unit is full, the next free storage unit will be assigned to the track. If no free storage unit is available, the oldest storage unit of all tracks is searched (time of the last image in the storage unit), deleted and assigned to the track.

Track Size

The size track size will be adjusted automatically, and cannot be adjusted manually. All tracks cover the same period approximately (depending on the recording mode).

Changes

Individual tracks can be deleted and new tracks can be created without deleting the images in other tracks. The recording configuration of a track (recording mode, video quality) can be changed without deleting the recordings in the track.

7.1.2 Recording Mode

Depending on the camera type, the following recording modes can be used. Each recording mode can be controlled by the timer function (start / stop).

Dallmeier SD IP and HD IP Cameras (DaVid)

- Permanent
- Motion
- Contact
- Motion/Contact
- Switching by timer

Panomera®

- Permanent
- Motion
- Contact
- Motion/Contact
- Switching by timer

Dallmeier IP Cameras (DaVid RTP)

- Permanent
- Motion

3rd Party IP Cameras (HTTP)

- Permanent
- Contact

3rd Party IP Cameras (RTSP)

- Permanent
- Motion

7.2 Connection

The recording configuration can be made mostly before the connection to cameras is established. Exceptions exist for some options (preview, SEDOR®, SmartFinder) and 3rd party IP cameras.

Each channel can be configured to record any type of camera. The setting of the appropriate data connection results after the definition of the type of camera. The ***IP Scan*** dialog allows to search in a network automatically according to Dallmeier devices and add them.

➢ Click the button in the ***LP-Track*** column of the required camera / channel.

The ***Select camera type*** dialog is displayed.

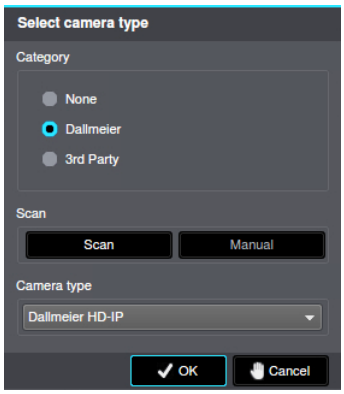


Abb. 7-2

➢ Select the required camera type in the ***Category*** area.

➢ Click ***Scan***.

The ***IP Scan*** dialog is displayed.

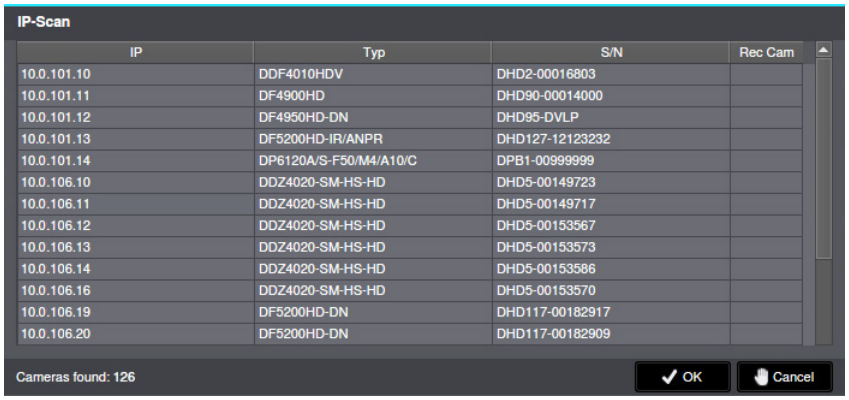


Abb. 7-3

➢ Select the relevant ***Interface*** from the dropdown box, if required.

The "Interface" dropdown box is displayed only when an activation for "Ethernet 2" is enabled („Network" see page 30).

➢ Select the required device from the list.

➢ Click ***OK***.

The camera type is set automatically.

➢ Finally, confirm the ***Set camera type*** dialog with ***OK***.

The dialog for the configuration (connection, recording mode and recording quality) of the corresponding type of camera will be displayed.

With the "Manual" button the dialog for configuring the camera type can be directly activated after selecting the "Category" and the "Camera type".
After completing the configuration and reopening the "Recording Settings" dialog the camera name is extended by a yellow icon.

7.2.1 Dallmeier IP Cameras

Dallmeier IP cameras transmit the audio and video streaming over TCP according to the Dallmeier proprietary video protocol (DaVid).

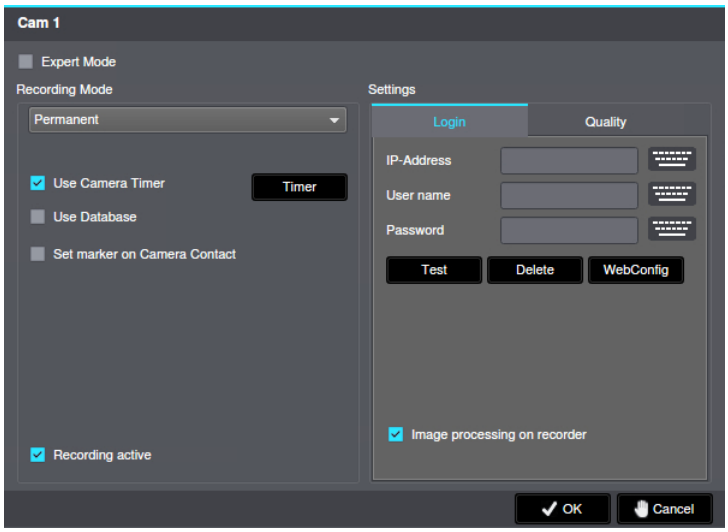


Abb. 7-4

➢ Select the ***Login*** tab.

➢ Enter the ***IP-Address*** of the camera.

➢ Enter the ***User name*** and the ***Password*** if required.

➢ Activate the ***Fisheye*** checkbox, if necessary (see „Fisheye Camera" on page 48).

➢ Perform a ***Test*** of the settings.

➢ Configure the camera with the ***WebConfig*** button, if necessary (*see below*).

➢ Confirm with ***OK***.

The recording of the **video stream** is **automatically enabled** with the default settings.

Image Processing on recorder

The option ***Image Processing on recorder*** is relevant for the ***Motion*** recording mode. As a rule, this option is automatically active, and SMAVIA Recording Server permanently receives a separate video stream of the camera for video analysis on the recorder (RAW stream, uncompressed images).

Recording only starts, with the set up video quality, if the ***Motion Detection*** function (of the recorder) detects motion.

Some Dallmeier IP cameras support ***video analysis directly on the camera***.

In this case,the option ***Image Processing on recorder*** can be deactivated. For one thing this reduces the workload of the network, because no separate RAW stream for video analysis has to be sent to the recorder, for another thing, the workload of the recorder drops, because the calculation for ***video analysis*** take place directly on the camera

Configuration Lock

The encoder settings of a connected camera can only be changed through the user interface of SMAVIA Recording Server. The configuration dialog of the camera is locked.

WebConfig

The button WebConfig opens a window simulating camera configuration in the browser. The functions work accordingly (*see the respective documentation for the camera*).

7.2.2 Dallmeier IP Cameras using RTP

Dallmeier IP cameras transmit the video stream via a multicast connection in accordance with the proprietary Dallmeier Video Protocol (DaVid). In order to, RTP is used as the transport protocol.

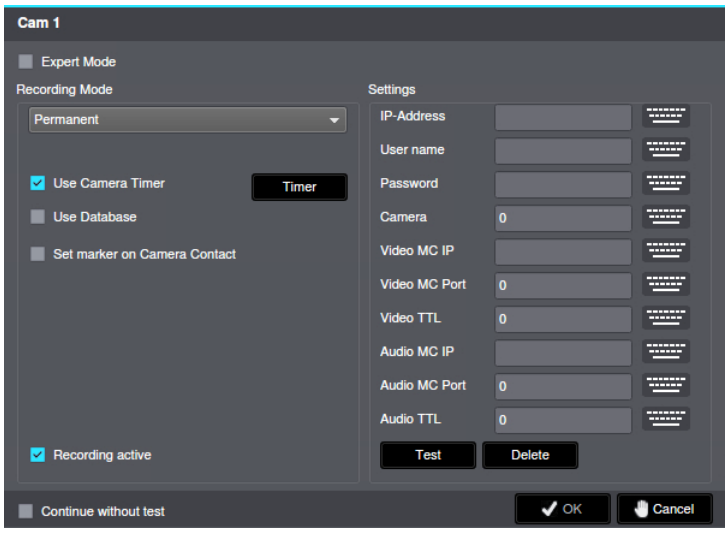


Abb. 7-5

- Enter the ***IP-Address*** of the camera.
- Enter the ***User name*** and the ***Password*** if required.
- Enter the encoder number in the ***Camera*** box.
- Enter the IP address of the multicast video connection (multicast server) in the ***Video MC IP*** box.

- Enter the port number of the multicast video connection in the ***Video MC Port*** box.
- Enter the Time-To-Live value of the video data packets in the ***Video TTL*** box.
- Perform a ***Test*** of the settings if required.

If no connection test is required enable the "Continue without test" checkbox.

- Confirm with ***OK***.

The recording of the **video stream** is **automatically enabled** with the default settings.

7.2.3 3rd Party IP Cameras using HTTP

IP cameras from 3rd party manufacturers usually transfer the video stream in a format that is proprietary and incompatible. But often, they provide a function for the transmission of images in JPEG format over HTTP. These images can be requested with an HTTP request and recorded.

Transfer protocol: HTTP
Transport protocol: TCP

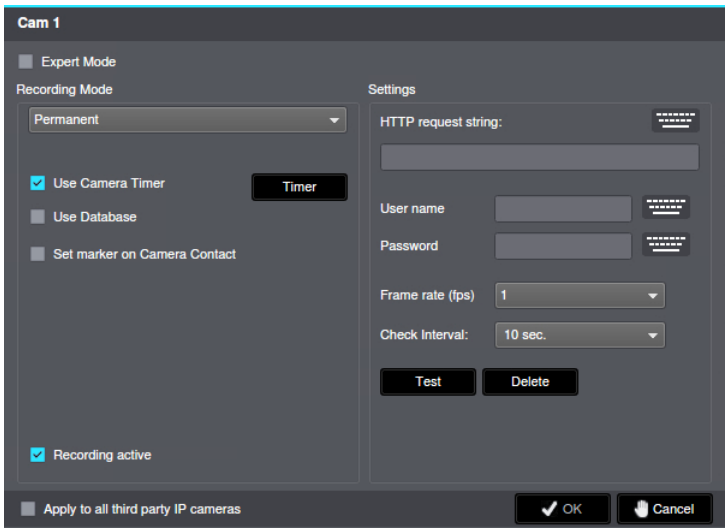


Abb. 7-6

- Enter the ***HTTP request string***.
- Enter the ***User name*** and the ***Password*** if required.
- Perform a ***Test*** of the settings.
- Confirm with ***OK***.

3rd Party HTTP Request

The HTTP request is provided in the documentation of the camera and is, for example, as follows:

Axis: http://IP address/jpg/image.jpg
IQEye: http://IP address/now.jpg?snap=post

Dallmeier HTTP Request

Dallmeier IP cameras can also be queried via TCP/HTTP when the corresponding encoder on ***MJPG*** is set.

Dallmeier encoder 1: http://IP address/live/image0.jpg
Dallmeier encoder 2: http://IP address/live/image1.jpg

7.2.4 3rd Party IP Cameras using RTSP

IP cameras from 3rd party manufacturers with RTSP support transfer the video stream in accordance with the appropriate standardized protocols. The video stream can be requested with an RTSP request and recorded.

Communication protocol:	RTSP
Transfer protocol:	RTP
Transport protocol:	UDP/TCP

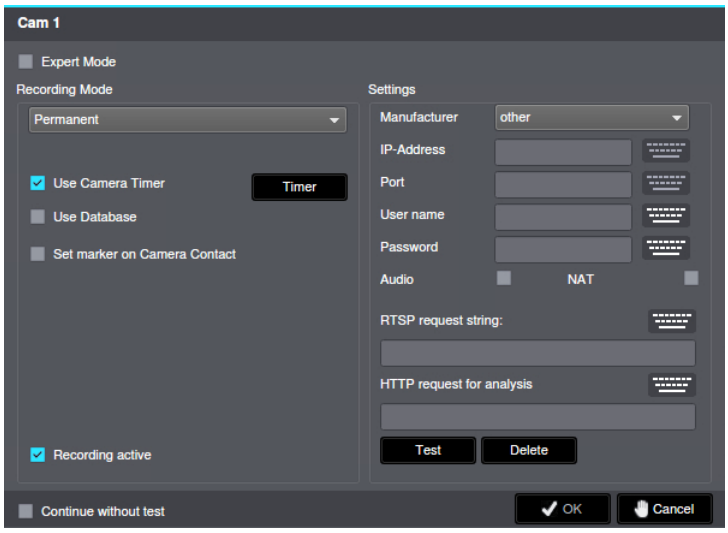


Abb. 7-7

- Select the ***Manufacturer*** of the camera.
- Enter the ***IP-Address*** of the camera.
- Enter the ***User name*** and the ***Password*** if required.
- Check the ***RTSP request string***.
- Enter the ***HTTP request for analysis*** if required.
- Perform a ***Test*** of the settings if required.

If no connection test is required enable the "Continue without test" checkbox.

- Confirm with ***OK***.

3rd Party RTSP Request

The RTSP request may differ for newer camera models or versions. Note the camera‘s documentation if required, and edit the proposed request. The RTSP request can be entered manually if the manufacturer isn‘t in the list. In this case, select ***other*** as the setting.

The RTSP requests from the list of 3rd party manufacturers are only an assistance. The complete compatibility of 3rd party IP cameras can not be guaranteed. Refer to the whitepaper “SMAVIA & 3rd party IP cameras”.

NOTICE

The compatibility of 3rd party IP camera depends on many factors.

- Perform always a detailed test of the camera before the actual use (long-term test, stability test, inspection of image quality).

Dallmeier RTSP Request

Dallmeier IP cameras can also be queried via TCP/RTSP (port 554).

Dallmeier Encoder 1: rtsp://IP address/encoder1

Dallmeier Encoder 2: rtsp://IP address/encoder2

Dallmeier Encoder 3: rtsp://IP address/encoder3

HTTP Request for Analysis

This request is relevant for the recording mode ***Motion***. The HTTP request may differ for newer camera models or versions. Note the camera‘s documentation if required, and edit the proposed request. The HTTP request can be entered manually if the manufacturer isn‘t in the list. In this case, select ***other*** as the setting.

HTTP Request for Dallmeier IP Cameras:

Dallmeier encoder 1: http://IP address/live/image1.jpg

Dallmeier encoder 2: rtsp://IP address/live/image2.jpg

Dallmeier encoder 3: rtsp://IP address/live/image3.jpg

The resolution of the 3rd party IP cameras with motion detection should be ideally not more than 640 × 480 pixels at a frame rate of 2 fps. Accordingly, edit the HTTP request for analysis. Refer to the whitepaper “SMAVIA & 3rd party IP cameras”.

7.2.5 ONVIF Cameras

IP cameras from Dallmeier or 3rd party manufacturers with ONVIF support transfer the video stream in accordance with the appropriate standardized protocols.

Communication protocol:	RTSP
Transfer protocol:	RTP
Transport protocol:	UDP/TCP

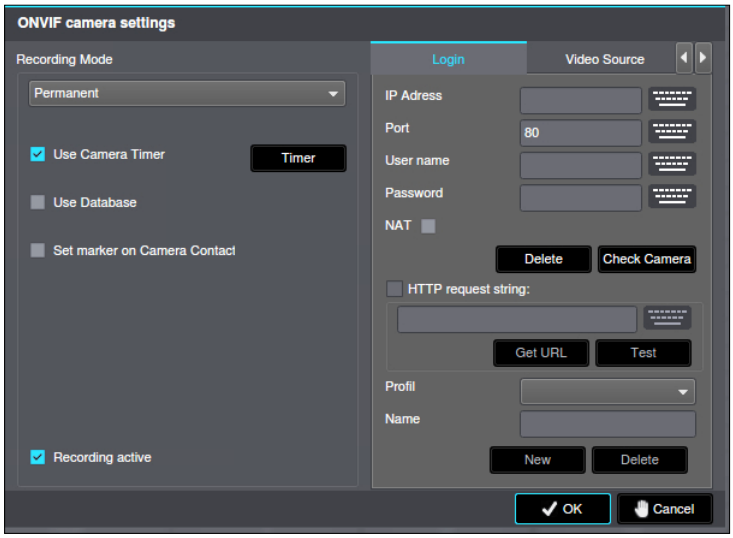


Abb. 7-8

- Select the ***Login*** tab.
- Enter the ***IP Address*** of the camera.
- Enter the ***Port*** if required.
- Enter the ***User name*** and the ***Password***.
- Aktivate the ***NAT*** checkbox, if the stream shall be transferred via TCP.
- Activate the ***Fisheye*** checkbox, if necessary (see „Fisheye Camera“ on page 48).
- Test the connection settings with ***Check Camera*** if required.
- Select the required ***Profile*** from the dropdown menu.
- Confirm with ***OK***.

If a default profile is modified oder adjusted (e.g. another video source or encoder) this new profile can be saved with the “New” button. With the “Delete” button saved profiles can also be removed.

Fisheye Camera

Normally, a fisheye camera is recognized when checking the configuration of the camera, and the respective checkbox is activated automatically. If not, you have to activate the chechbox manually. The ***Fisheye*** tab is added to the menu.

➢ Open the ***Fisheye*** Tab.

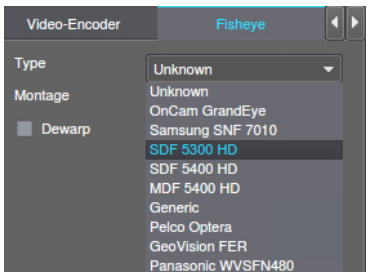


Abb. 7-9

➢ Choose the necessary ***Type*** from the drop-down list.

*If the necessary camera is not included in the Type-list, the standard profile **Generic** can be used.*

➢ Choose how the camera is mounted from the drop-down list ***Assembly***:

- ***Ceiling***: The camera is mounted on the ceiling.
- ***Wall***: The camera is mounted on a wall.
- ***Table***: The camera is mounted on a flat surface, like a table or the floor.

➢ To ***Dewarp*** the picture, activate the respective checkbox.

HTTP Request

To check the quality and parameters of a connection, use the ***HTTP request string***. It is also required for image comparison.

➢ Activate the ***HTTP request string*** checkbox.
➢ Enter the URL of the desired connection or select with ***Get URL***.
➢ Confirm with***Test***.
➢ Result, resolution, bitare and response-time are displayed.
➢ Confrim with ***OK***.

If it is required to adjust the video source, this can be done on the ***Video Source*** tab:

➢ Select the ***Video Source*** tab.
➢ Select the required video source from the ***Token*** dropdown menu.

To check the quality and parameters of a connection, use the ***HTTP request string***. It is also required for image comparison.

➢ Activate the ***HTTP request string*** checkbox.

- Enter the URL of the desired connection or select with ***Get URL***.
- Confirm with ***Test***.
- Result, resolution, bitare and response-time are displayed.
- Confrim with ***OK***.

If it is required to adjust the video source, this can be done on the ***Video Source*** tab:

- Select the ***Video Source*** tab.
- Select the required video source from the ***Token*** dropdown menu.

7.3 Recording Mode

The recording mode can be set separately for each channel (camera). This is already shown in the above dialog to configure a camera type.

Note that

- *the available recording modes depend on the camera type.*
- *for the following examples a Dallmeier IP camera was used.*

- Open the ***Recording Settings*** dialog as described above.
- Click the button in the ***LP-Track*** column of the required camera / channel.

The ***Select camera type*** dialog is displayed.

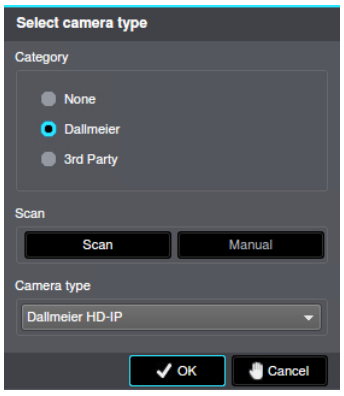


Abb. 7-10

- Make the relevant settings for the camera type as described above if required.
- Confirm with ***OK***.

The dialog for the configuration (connection, recording mode and recording quality) of the corresponding type of camera will be displayed (see below).

7.3.1 Permanent

The ***Permanent*** recording mode stores the video stream sent from the camera continuously in the corresponding track.

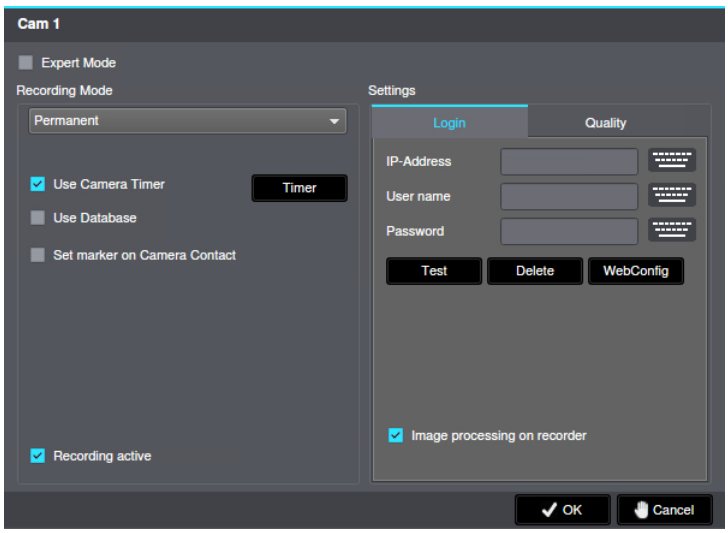


Abb. 7-11

- Note the following explanations.
- Select ***Permanent*** as ***Recording Mode***.
- Activate / configure the ***Camera Timer*** if required.
- Enable the ***Use Database*** option if required.
- Enable the ***Set marker on Camera Contact*** option if required.

- Enable the ***Recording active*** option.
- Confirm with ***OK***.

Timer

In the default configuration, the ***Permanent*** recording mode stores the video stream continuously in the corresponding track. But the recording can be stopped on the basis of a week plan for defined periods of time. Note the detailed description of the ***Timer*** function in the following.

Database

In the default configuration, certain information can be stored with the video stream in the track (for example indexes by ***Set marker on Camera Contact***). If the ***Use Database*** option is enabled, in addition, this information is stored in a database. The advantage of the database shows the faster evaluation of a great track with the **index search** and **advanced search**.

If the SmartFinder function is used, the database for the storage of position data is imperative. Note the detailed description of the SmartFinder function in the following.

Marker on Camera Contact

If this option is enabled, a mark (index) in the track is written as soon as a camera-related contact function is triggered. These indices allow a comfortable evaluation through the use of the **index search** and **advanced search**.

Recording Active

This option activates the selected ***Recording Mode***.

7.3.2 Contact

The ***Contact*** recording mode starts recording the video stream when a camera specific Contact IN function is triggered by a contact signal. The recording is stopped by a contrary Contact IN function or the fulfillment of an option.

Note the detailed description of the "Contact IN" function in the following.

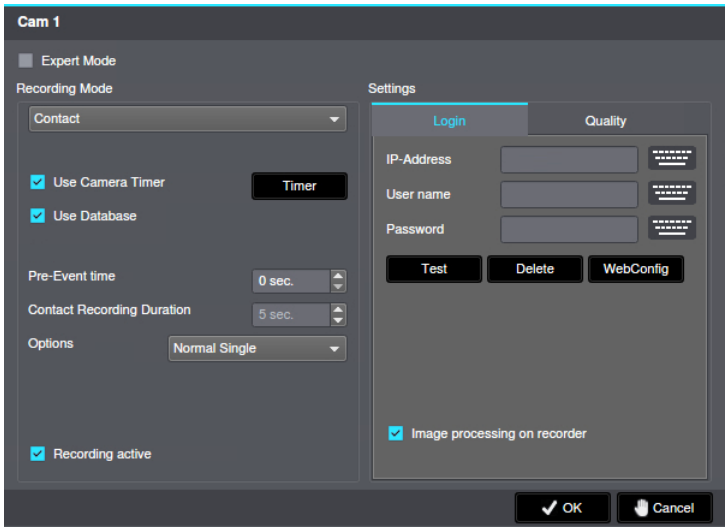


Abb. 7-12

- Note the following explanations.
- Select ***Contact*** as ***Recording Mode***.
- Activate / configure the ***Camera Timer*** if required.
- Enable the ***Use Database*** option if required.
- Set the ***Pre-Event time***.
- Set the ***Contact Recording Duration*** if required.
- Set the ***Options*** of the contact recording.
- Enable the ***Recording active*** option.
- Confirm with ***OK***.

Timer

In the default configuration the ***Contact*** recording mode stores the video stream when a contact function is triggered by a contact signal in the corresponding track. But the recording can be stopped on the basis of a week plan for defined periods of time. Note the detailed description of the ***Timer*** function in the following.

Pre-Event Time

With the ***Pre-Event time*** the buffer size for the video stream is set. If a Contact IN function starts recording, the buffered video stream is stored with the recording. This will ensure that even the creation of the triggering event is included in the recording.

The buffer is always stored with the recording, even if the "Normal Single" option is set.

Contact Recording Duration

The ***Contact Recording Duration*** is only relevant for the ***Timer*** option. After the start of a Contact IN function the recording is continued for the set period. After expiry of the ***Contact Recording Duration*** the recording stops.

Option – Normal Single

The recording of a single image is started by the activation of a Contact IN function.

Option – Normal Sequencer

The recording is started by triggering a Contact IN function. It will continue until the release of the Contact IN function is canceled.

Option – Start

The recording is started by triggering a Contact IN function. It is stopped by the triggering of an opposite Contact IN function (***Stop Recording (Recording Mode Contact)*** or ***Camera Stop***).

Option – Timer

The recording is started by triggering a Contact IN function. It will be stopped after the ***Contact Recording Duration***.

Option – Toggle

The recording is started by triggering a Contact IN function. It is stopped by the re-release of the same Contact IN function.

Recording Active

This option activates the selected ***Recording Mode***.

7.3.3 Motion

The ***Motion*** recording mode analyzes each image sent from the camera. When the change of a given percentage of the image content is detected between two consecutive images, an image comparison event exists. This Image comparison event triggers the recording.

The recording is stopped when the ***Post-Event time*** is expired and no further motion is detected.

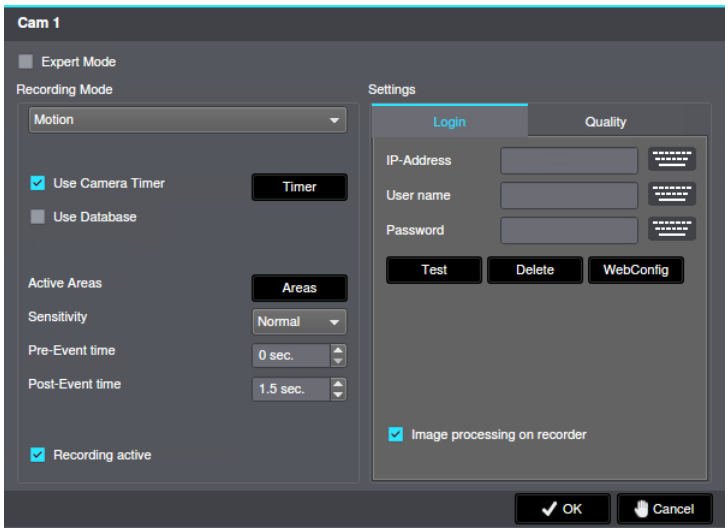


Abb. 7-13

- Note the following explanations.
- Select ***Motion*** as ***Recording Mode***.
- Activate / configure the ***Camera Timer*** if required.
- Enable the ***Use Database*** option if required.
- Configure ***Active Areas*** if required (see „Active Areas“ on page 64).
- Set the ***Sensitivity*** of the motion detection.
- Set the ***Pre-Event time*** and the ***Post-Event time***.
- Enable the ***Recording active*** option.
- Confirm with ***OK***.

Timer

In the standard configuration, the video stream is analyzed for permanent changes and – if there is an image comparison event – recorded. But the recording can be stopped on the basis of a week plan for defined periods of time. Note the detailed description of the ***Timer*** function in the following.

Sensitivity

The more sensitive the image comparison is set, the lower must be the portion of the changed image content, in order to trigger an image comparison event.

Pre-Event Time

With the ***Pre-Event time*** the buffer size for the video stream is set. If a Contact IN function starts recording, the buffered video stream is stored with the recording. This will ensure that even the creation of the triggering event is included in the recording.

Post-Event Time

This value determines how long a picture comparison event is valid. During its validity all subsequent image comparison events are attributed to without even trigger a new event. This is to prevent too many events.

Recording Active

This option activates the selected ***Recording Mode***.

7.3.4 Motion/Contact

This recording mode is a combination of both separate recording modes. A motion as well as a contact event trigger the recording. All parameters of Motion are viable.

Active Areas are only taken into account at a a motion event.

If one of the two kinds of event happen during event time, recording is prolonged accordingly. A message is only dispensed for the respective triggering event.

If for example, a motion event triggers recording, a contact event prolongs the recording, but no message is dispensed about the occurrence of the contact event.

The recording is stopped when the ***Post-Event time*** has expired.

Note the detailed description of the "Contact IN" function in the following.

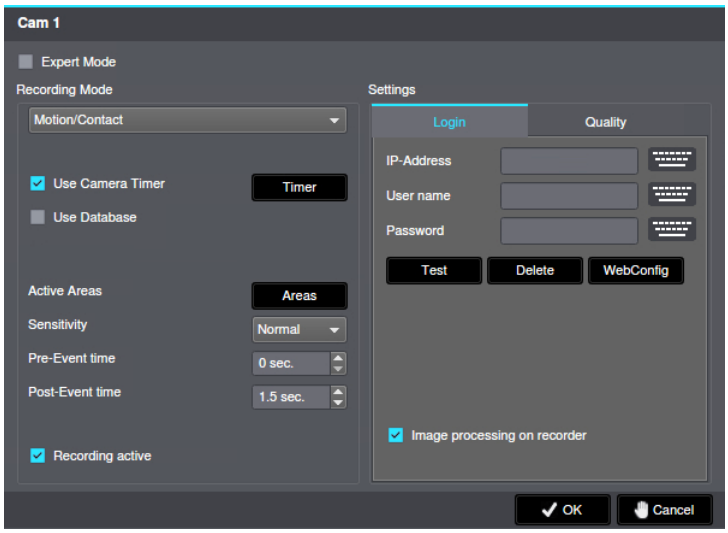


Abb. 7-14

- Note the following explanations.
- Select ***Motion/Contact*** as ***Recording Mode***.
- Activate / configure the ***Camera Timer*** if required.
- Enable the ***Use Database*** option if required.
- Configure ***Active Areas*** if required (see „Active Areas“ on page 64).
- Set the ***Sensitivity*** of the motion detection.
- Set the ***Pre-Event time*** and the ***Post-Event time***.
- Enable the ***Recording active*** option.
- Confirm with ***OK***.

Timer

In the standard configuration, the video stream is analyzed for permanent changes and – if there is an image comparison event – recorded. But the recording can be stopped on the basis of a week plan for defined periods of time. Note the detailed description of the ***Timer*** function in the following.

Sensitivity

The more sensitive the image comparison is set, the lower must be the portion of the changed image content, in order to trigger an image comparison event.

Pre-Event Time

With the ***Pre-Event time*** the buffer size for the video stream is set. If a Contact IN function starts recording, the buffered video stream is stored with the recording. This will ensure that even the creation of the triggering event is included in the recording.

Post-Event Time

This value determines how long a picture comparison event is valid. During its validity all subsequent image comparison events are attributed to without even trigger a new event. This is to prevent too many events.

Recording Active

This option activates the selected ***Recording Mode***.

7.3.5 Switching by Timer

The ***Switching by timer*** recording mode extends the corresponding camera timer. Next to inactive times, time monitored recordings with the recording modes ***Permanent***, ***Motion*** and ***Contact*** can now be configured (each in combination with normal or high video quality). In the default configuration it is always recorded with ***Permanent*** recording mode in normal video quality.

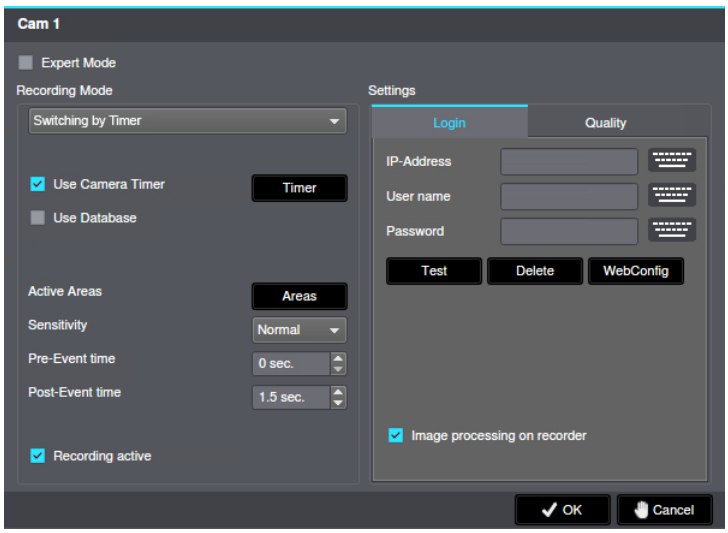


Abb. 7-15

- Note the explanations above and below.
- Enable the ***Expert Mode*** checkbox.
- Select ***Switching by timer*** as ***Recording Mode***.
- Enable the ***Use Database*** option if required.

- Configure ***Active Areas*** if required (see „Active Areas“ on page 64).
- Set the ***Sensitivity*** of the motion detection.
- Set the ***Pre-Event time*** and the ***Post-Event time***.
- Set the ***Contact Recording Duration*** if required.
- Set the ***Options*** of the contact recording.
- Enable the ***Camera Timer***.
- Click the ***Timer*** button.

The ***Camera Timer for camera #X*** is displayed.

The definitionof time areas and exceptions is carried out as normal camera timer (see „Camera Timer“ on page 61).

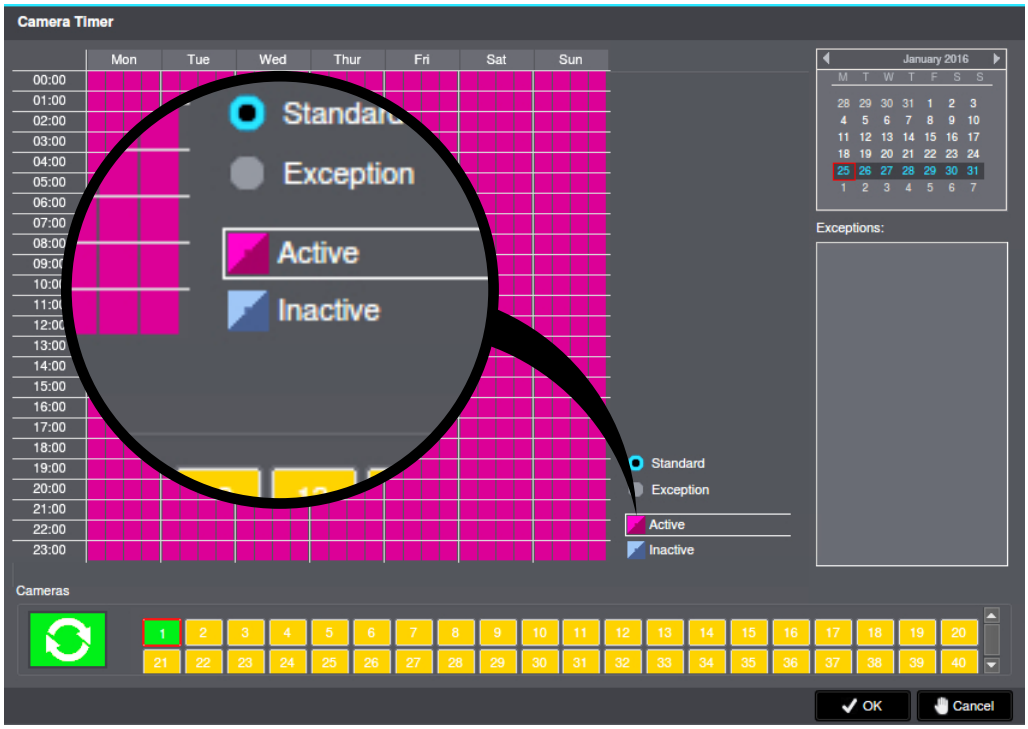


Abb. 7-16

- Select the required recording mode.
- Mark the relevant periods by drawing a rectangle.
- Proceed analog for further time areas/recording modes.
- Configure ***Exceptions*** if required.
- Confirm with ***OK***.
- Enable in the dialog for the recording configuration the ***Recording active*** option.
- Finally, confirm the dialog for the recording configuration with ***OK***.

7.4 Video Quality

The video quality settings are made separately for each camera.

7.4.1 Dallmeier IP Cameras

- ➢ Open the recording configuration dialog for the required camera as described above.
- ➢ Select the ***Normal Quality*** tab.

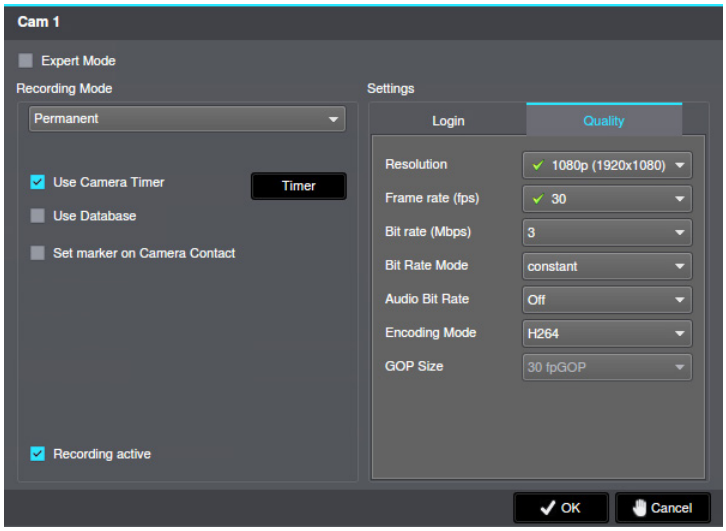


Abb. 7-17

- ➢ Make the required settings (see below).
- ➢ Finally, confirm with ***OK***.

Note if some features are not supported by a camera, the corresponding options are disabled in the dialog.

Resolution

The ***Resolution*** defines the size of the saved images. The entries are made using H.261/ CIF (Common Intermediate Format) and define length × width in pixels.

Frame Rate

The ***Frame rate*** defines the number of individual images that are saved every second. The higher the frame rate the more fluid the playback.

Bit Rate

The ***Bit rate*** is a measure of the degree of compression of video data. It thus has a direct impact on the image quality of the recordings. A low bit rate stands for a high degree of compression with a relatively small volume of data. But the image quality also is poor. A high bit rate stands for a low degree of compression with a relatively large volume of data. The image quality is very good.

Bit Rate Mode

The ***Bit Rate Mode*** allows to configure the video recording to occur at a constant or a variable bit rate. A variable bit rate makes better use of the available hard disk space. The variable setting changes the bit rate in accordance with the activity (changes) in the image. The fluctuation of the bit rate can be limited by making the appropriate setting which is done in percentages.

Audio Bit Rate

The ***Audio Bit Rate*** is a measure of the degree of compression of audio data. It thus has a direct impact on the audio quality of the recordings. The higher the audio bit rate, the better the audio quality. A higher bit rate, however, requires more hard disk space than a lower bit rate.

Deinterlace

This option has no effect for IP cameras.

Encoding Mode

This setting defines the standard of the video compression.

GOP Size

The ***GOP size*** (GOP = Group Of Pictures) defines the number of calculated MPEG images between two frames.

The GOP size depends on the frame rate setting in the current version. It can not be set separately.

7.4.2 3rd Party IP Cameras

Most 3rd party IP cameras use proprietary protocols (protected by licenses) to transfer images. It is therefore not usually possible to implement them to record the video stream.

The other feature that these cameras have in common, however, is that they supply single pictures in JPEG format on demand. These can be received, encoded and saved.

➢ Open the recording configuration dialog for the required camera as described above.

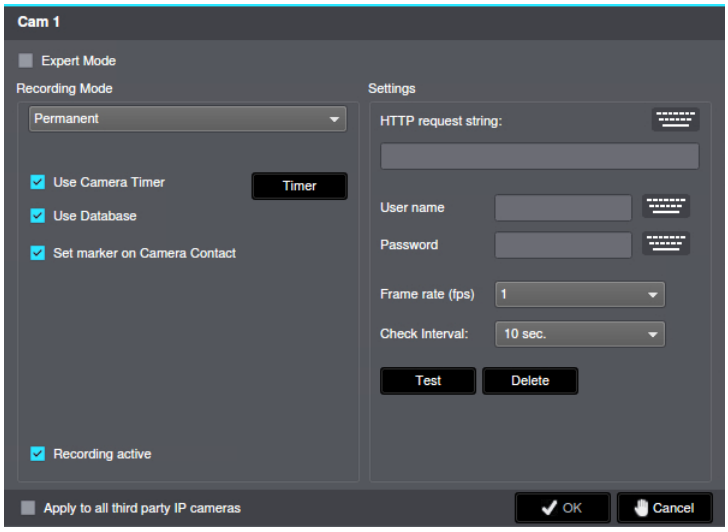


Abb. 7-18

➢ Make the required settings (see in the following).

➢ Finally, confirm with ***OK***.

Frame Rate

With the ***Frame rate***, the number of requested and stored frames per second is set. This value is critical to the fluid of the playback. In the case of a 3rd party IP camera‘s frame rate the number of individual JPEG images is limited, which can be queried from the camera (see the manufacturer‘s documentation).

Check Intervall

Here an interval can be set at which it is checked whether the camera is reachable over the network. This function is independent of the request for images (***HTTP request string***).

7.4.3 ONVIF Cameras

- Open the recording configuration dialog for the required camera as described above.
- Select the ***Video Encoder*** tab.

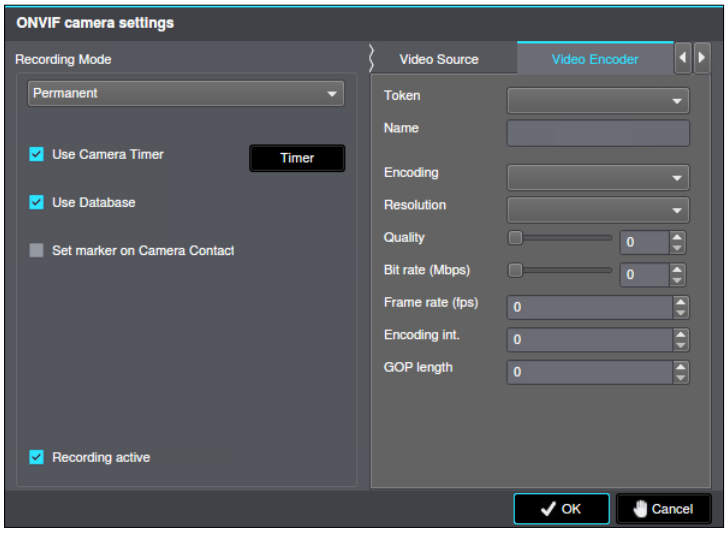


Abb. 7-19

- Select an encoder from the dropdown menu ***Token*** if required.
- Select the required ***Encoding*** option from the dropdown menu.
- Select the required ***Resolution*** from the dropdown menu.
- Set the required ***Quality***.
- Set the required ***Bit rate***.
- Set the ***Frame rate*** if required.
- Select the ***Encoding int.*** (Encoding interval) if required.
- Select the required ***GOP length***.
- Finally, confirm with ***OK***.

In order to get more information on the individual functions and options of the video quality it can be viewed at www.onvif.org and at the manufacturer of the camera.

7.4.4 B-Frames

For Dallmeier IP cameras the option B-Frames (***B-Fr.***) is available in the ***Recording Settings*** dialog. This option allows to increase the quality of the image data while reducing the required amount of data. Thereby better compression rates will be achieved. Disadvantage is an additional time delay (at least 120 ms) in the display of the live image.

- Open the ***Recording Settings*** dialog via ***Recording*** > ***Cameras / Tracks***.
- Enable the ***Expert Mode*** via ***Settings...*** > ***Expert Mode***.

The B-Frames option (***B-Fr.***) is displayed in the ***Recording Settings*** dialog.

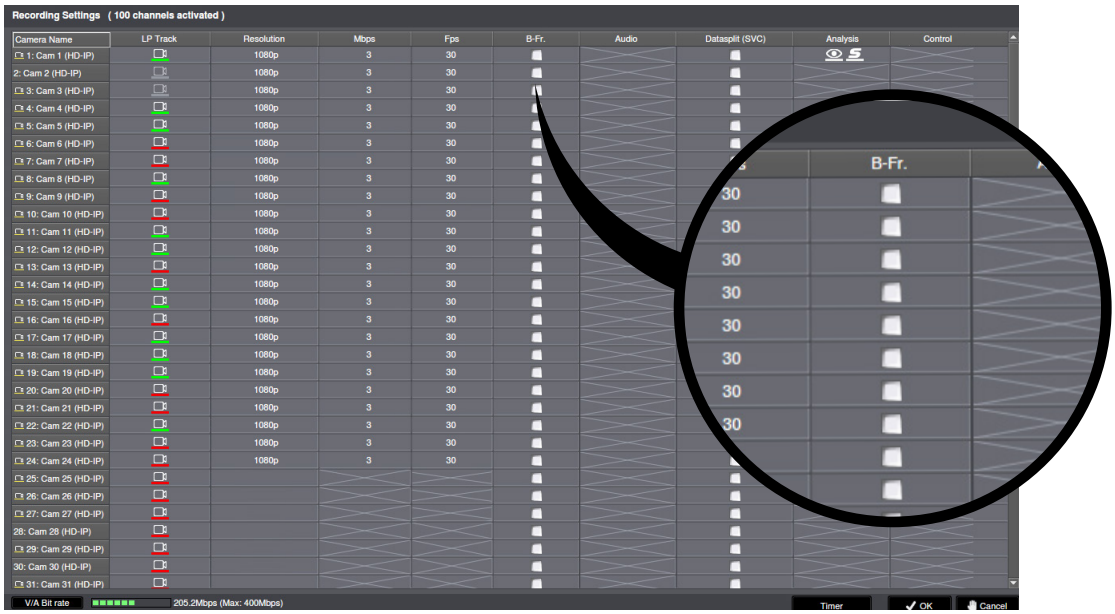


Abb. 7-20

- Enable / disable the ***B-Fr.*** option for the required camera.
- Proceed analog for other cameras.
- Finally, confirm with ***OK***.

7.5 Camera Timer

The camera timer allows time-based recording of a camera.

Note that the camera timer

- *is always enabled in the default configuration (without periods of inactivity).*
- *can be enabled and disabled in the configuration dialog of a camera.*
- *is reset when the trace mode is changed.*

➢ Open the ***Camera Timer*** dialog via ***Recording*** > ***Camera Timer***.

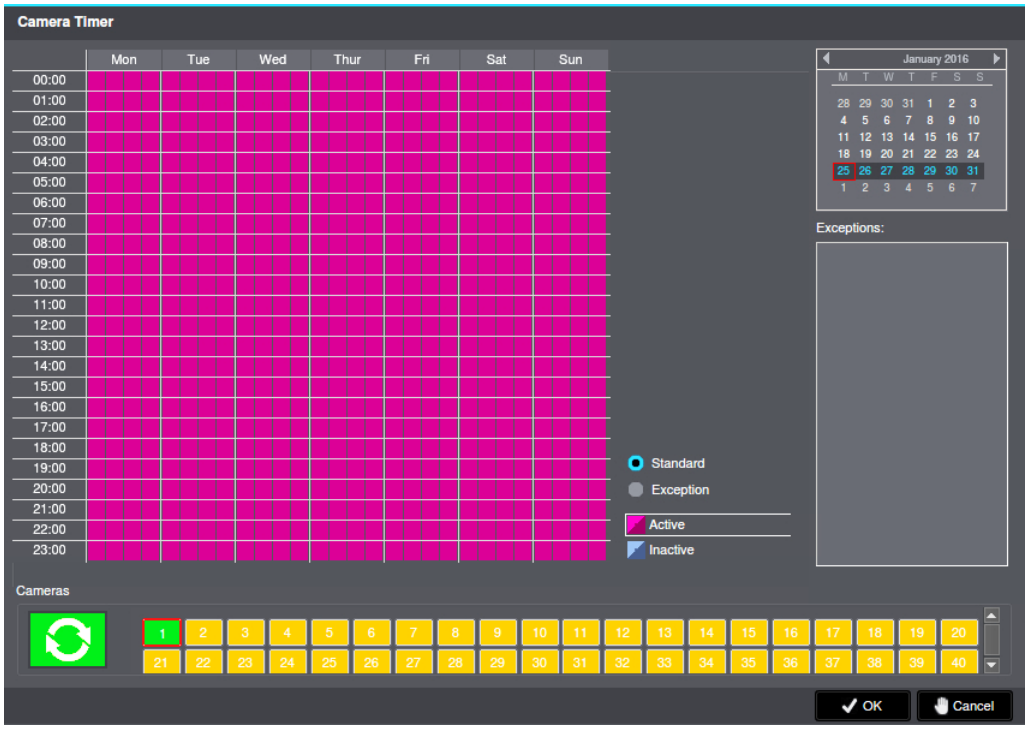


Abb. 7-21

➢ Select the required camera in the ***Cameras*** area.
➢ Set active and inactive periods, as described below.
➢ Set ***Exceptions*** as described below.
➢ Finally, confirm with ***OK***.

Active and Inactive Periods

Set active and inactive periods, as described below.

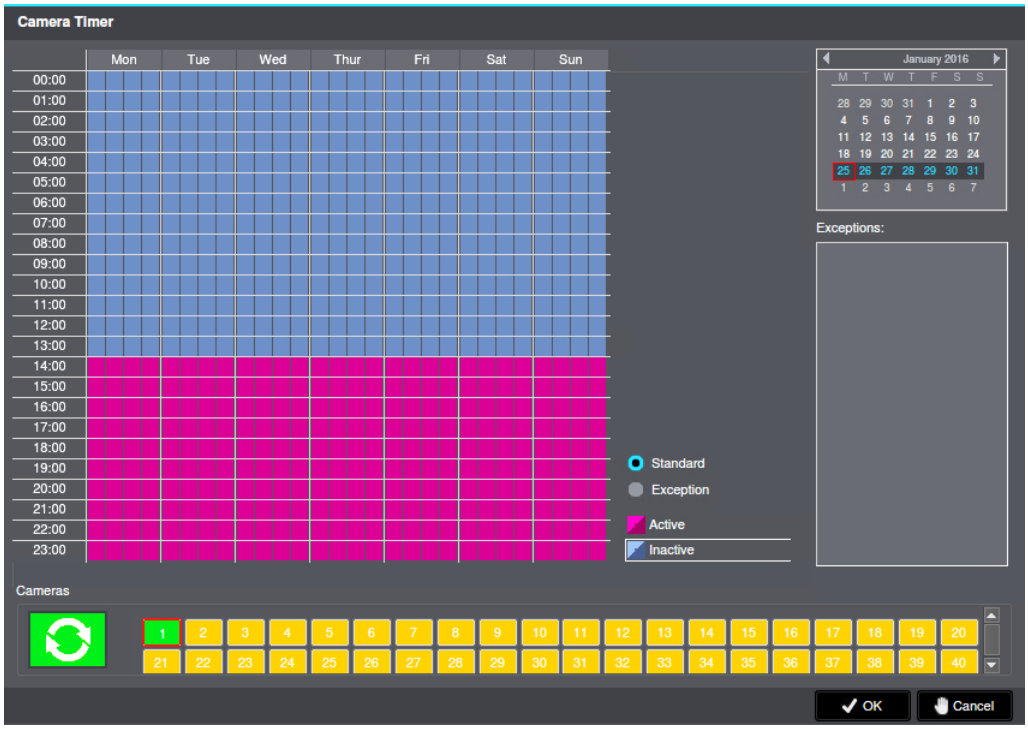


Abb. 7-22

- Make sure that the ***Standard*** option is selected.
- Select the setting of active or inactive time periods.
- Select a time period (15 minutes) with a left click.

  or
- Highlight multiple time ranges by dragging a rectangle.

Exceptions

The default settings are for all 52 weeks of the year. For individual days exceptions can be defined.

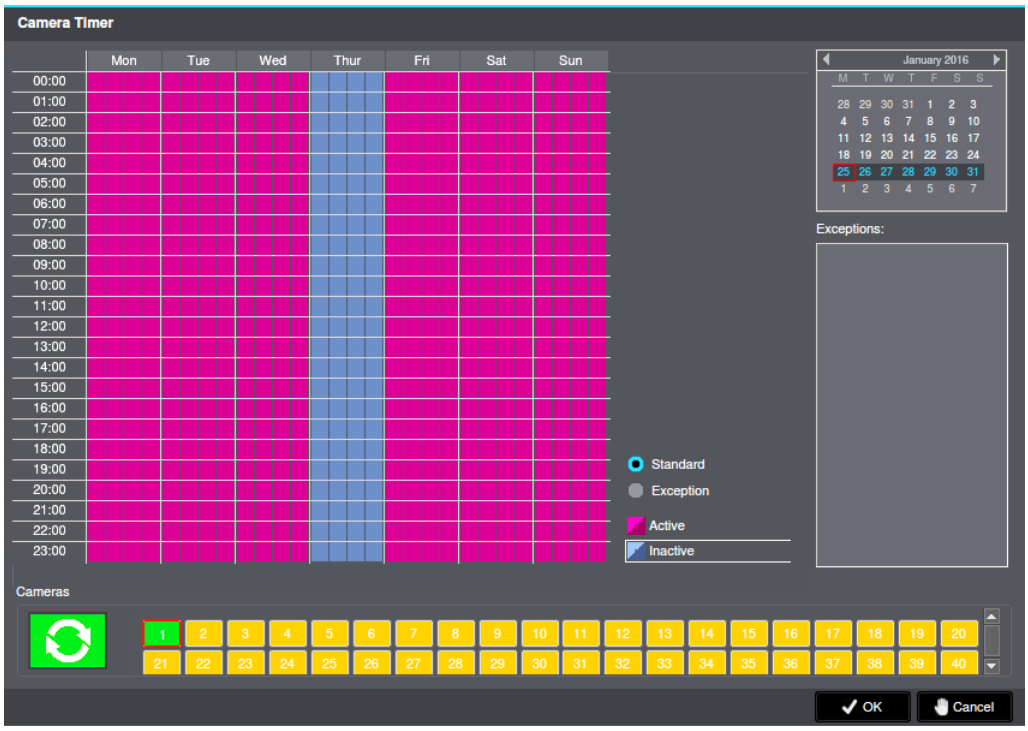


Abb. 7-23

- Select the ***Exceptions*** option.
- Select the required week with the calendar.
- Set active and inactive time periods for the required day, as described above.

The selected day is displayed in the ***Exceptions*** list.

- Proceed analog for all required days.
- Finally, confirm with ***OK***.

The exception replaces the entire standard setting for the relevant day.

7.6 Areas

The ***Areas*** dialog enables the definition of active (relevant) image areas for motion detection.

7.6.1 Active Areas

In the standard configuration, the entire image for motion detection is relevant. When movements in certain areas of the image should not be taken into account, these areas are defined as inactive areas.

➢ Open the ***Areas*** dialog via ***Recording*** > ***Areas***.

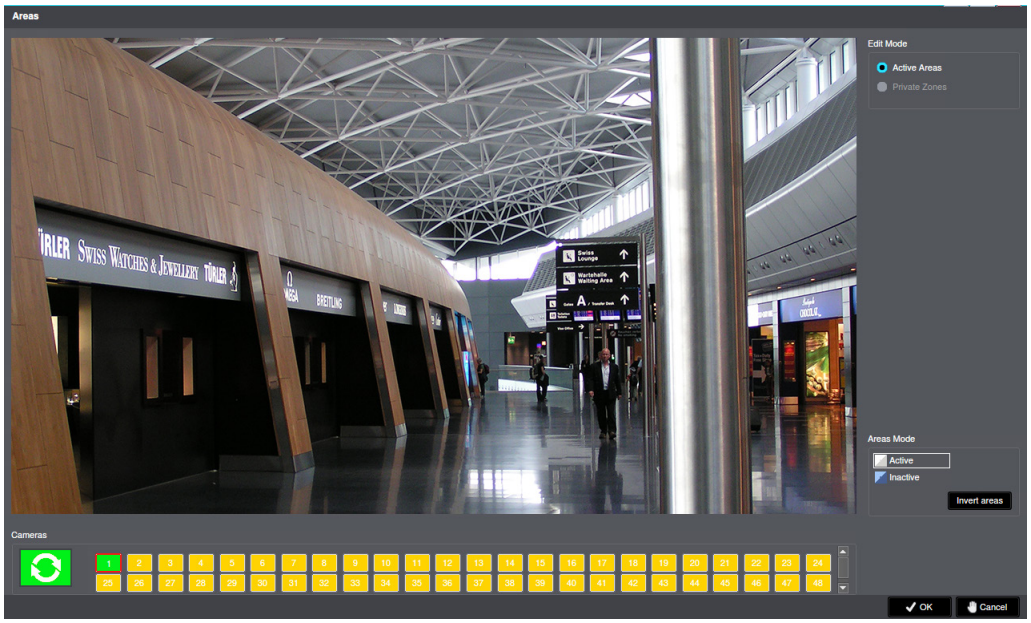


Abb. 7-24

➢ Select the required camera in the ***Cameras*** area.
➢ Make sure that the ***Active Areas*** option is selected.
➢ Select ***Inactive*** as ***Areas Mode***.

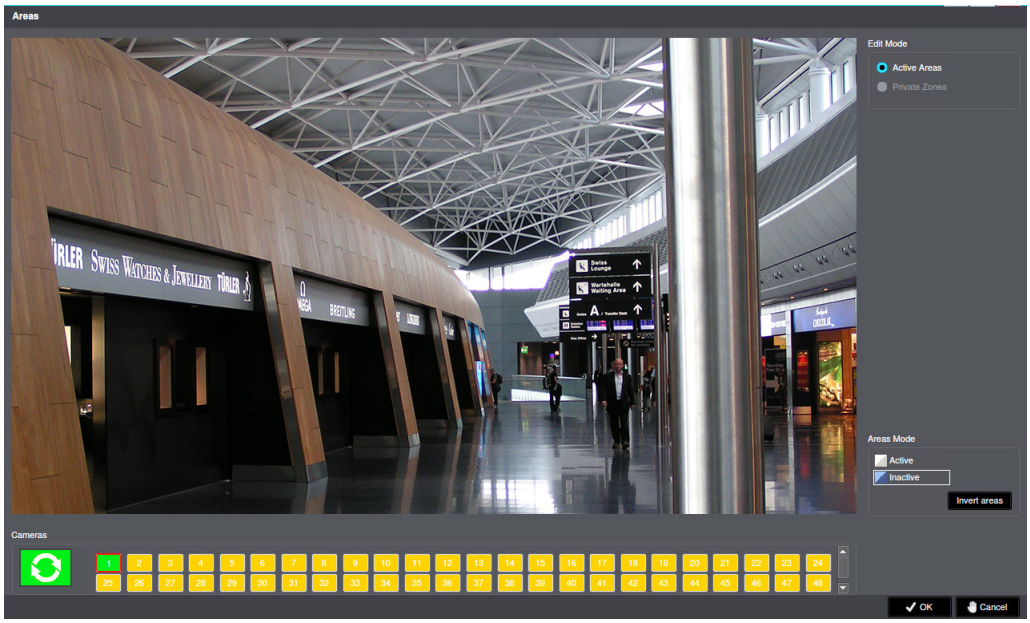


Abb. 7-25

➢ Select one or more inactive areas by drawing a rectangle by dragging and dropping.
➢ Click ***OK*** in order to save the settings.

The “Invert areas” button allow a reversal of the active and inactive areas.

7.7 Analysis

There are two functions available for image analysis of events that are triggered by motion detection: SmartFinder and SEDOR®.

7.7.1 SmartFinder

The SmartFinder function detects motion by analysis and comparison of successive images. A detected motion event is stored with the corresponding coordinates in a database. The analysis of the motion events can be made for any areas of the image with the external Dallmeier software SMAVIA Viewing Client.

*If the checkbox **Image processing on recorder** (see „Image Processing on recorder“ on page 43) is deactivated, the SmartFinder function is activated automatically. This is necessary in order to be able to evaluate the results with the SMAVIA Viewing Client software.*

Note that

- *the function is not suitable for PTZ cameras.*
- *the relevant camera must be mounted free of vibration.*
- *the display and the broadcast of relevant messages is not provided.*
- *the “Use Database” option for the relevant camera is automatically activated.*
- *the “Movement coordinates” option in the “Search criteria” dialog is automatically activated.*
- *changing environmental conditions (brightness, precipitation) can lead to misreporting.*

➢ Open the ***Recording Settings*** dialog via ***Recording*** > ***Cameras / Tracks***.

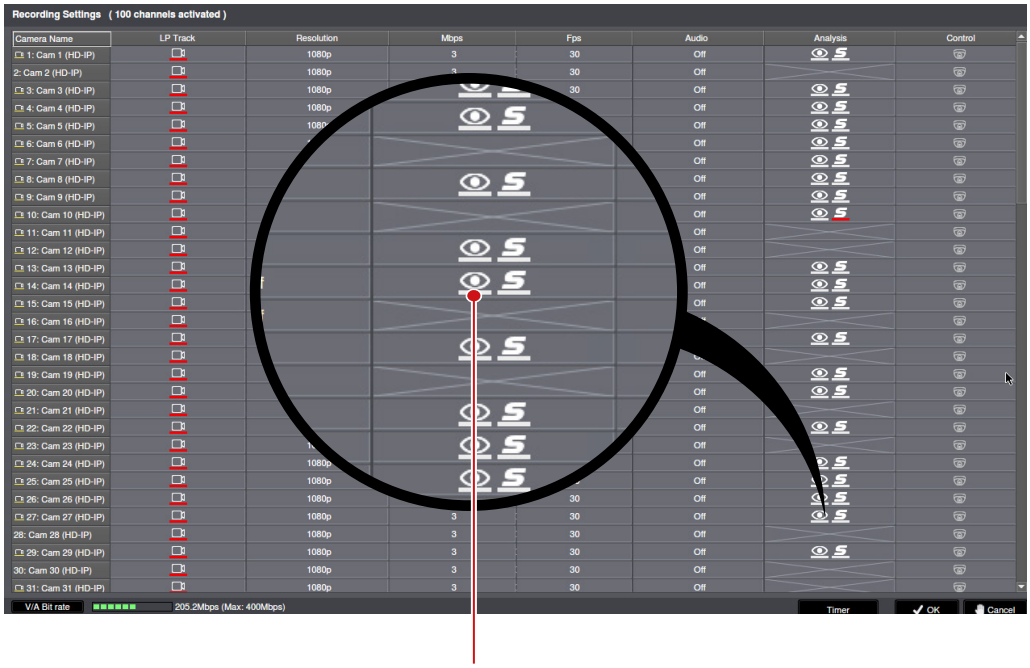


Abb. 7-26

➢ Left-click the *SmartFinder* button of the required camera in the ***Analysis*** column.

The activated SmartFinder button is displayed and the function will be activated with default settings. Further configuration is done in the ***Settings for SmartFinder*** dialog. Proceed as follows in order to open the dialog:

➢ Right-click the activated *SmartFinder* button.

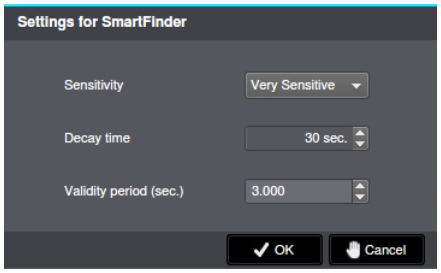


Abb. 7-27

➢ Note the explanations below.
➢ Select the ***Sensitivity***.
➢ Set the ***Decay time***.
➢ Finally, confirm with ***OK***.

Sensitivity

This function checks how far an old (still valid) object and a new object cover. Is the not congruent area larger than a (internal) set value, the new object is considered as a new event.

This function represents a refinement of the set by the ***Decay time*** mechanism.

very sensitive	⇨	Event even if small area congruent
	⇨	Many events
	…	
very insensitive	⇨	Event only if not congruent area is very large.
	⇨	Not much events

Decay Time

The value (in seconds) determines how long an object (changed image related sectors) is valid. If within this period at the same place another object is detected, it is not considered a new event but discarded.

With this setting events can be reduced that are triggered by repeated movement of the same object.

Validity Period

This option is without function in this version.

Deactivate SmartFinder

With a left-click on the activated *SmartFinder* button, the function can be disabled again.

7.7.2 SEDOR

The SEDOR® function analyses the images of a camera and generates reference data. All subsequent images also will be analyses and compared with the reference date by a SEDOR® module. If certain comparison criteria differ, an event will be assumed. Every event can trigger one are more actions.

Note that

- *this function is not appropriate for PTZ cameras.*
- *the camera must be mounted vibration-free.*
- *after every detected event a new reference data is generated.*
- *changing ambient conditions (brightness, humidity) can cause error messages.*

➢ Open the ***Recording Settings*** dialog via ***Recording*** > ***Cameras / Tracks***.

Abb. 7-28

➢ Left-click the *SEDOR®* button of the required camera in the ***Analysis*** column.

First the button will be displayed red. The image analysis starts automatically (learning phase) with default settings and generates reference data. When it is complete the button will be displayed green. The SEDOR® function is active for the corresponding camera.

Information on status, analysis and learning phase will be displayed in the ***SEDOR Properties for Camera No. X*** dialog. In addition, the module can be specified in the dialog (see below).

➢ Open the ***SEDOR Properties for Camera No. X*** dialog with a right-click on the active *SEDOR®* button of the required camera.

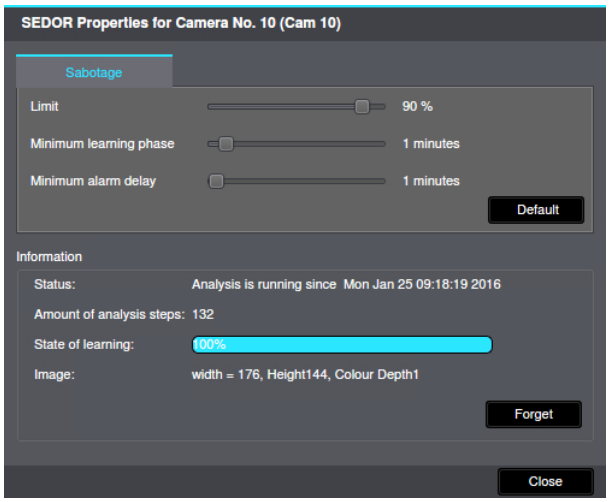


Abb. 7-29

The SEDOR® Sabotage module detects the manipulation of a camera, for example, by defocusing, repositioning or covering.

A sabotage event can trigger a system message, sending of a message to an alarm host or switching of a relay.

Note that the displaying and sending of corresponding messages have to activated separately.

- Note the following explanations.
- Make the required settings (see below).
- Click ***Forget*** in order to discard the current reference data and restart the analysis, if required.
- Finally, confirm the settings with ***Close***.

Limit

The ***Limit*** is the acceptable deviance between current image and reference data. If the Limit is set very low, a minor deviance is enough to trigger a message. In this case slight defocusing of the camera can be detected. But minor deviances often are caused by alternating ambient conditions (passerby, brightness, precipitation). Many false messages have to be anticipated.

If the ***Limit*** is set very high, the current image may differ very much from the reference data. Only almost total repositioning or covering of the camera will be rated as a sabotage event. But only few false messages can be anticipated.

Referent Values

20 % = sensitive / many messages

70 % = average value

90 % = insensitive / few messages

Learning Phase

The ***Minimum learning phase*** determines the duration of the basic image analysis. The longer it is the more untypical deviances can be identified as not relevant for the currently generated reference data. A long learning phase can reduce the number of false messages at the beginning of the SEDOR® sabotage monitoring.

Delay

The ***Minimum alarm delay*** determines how long a deviance has to be detected before a sabotage event is reported. The longer this period is the fewer false messages will be triggered. However short-term sabotage actions can not be detected.

7.8 Camera Control

Suitable dome-/PTZ-cameras can be controlled and configured with the graphical user interface (see documentation Operation) or with a connected external PTZ keyboard (see separate documentation). Depending on the camera various connection types can be used:

- Connection via serial interface and a DNI (Dallmeier Network Interface)
- Direct connection via the serial RS485 interface
- Connection via video cable with UTC

In order to configure the control of a camera proceed as follows:

➢ Open the ***Recording Settings*** dialog via ***Recording*** > ***Cameras / Tracks***.

➢ Left-click on the button of the relevant camera in the ***Control*** column.

➢ Select the relevant serial interface if required.

The camera control function will be activated with default settings for the corresponding camera. The determination of the connection type is done in the ***Recording Settings*** (sub) dialog.

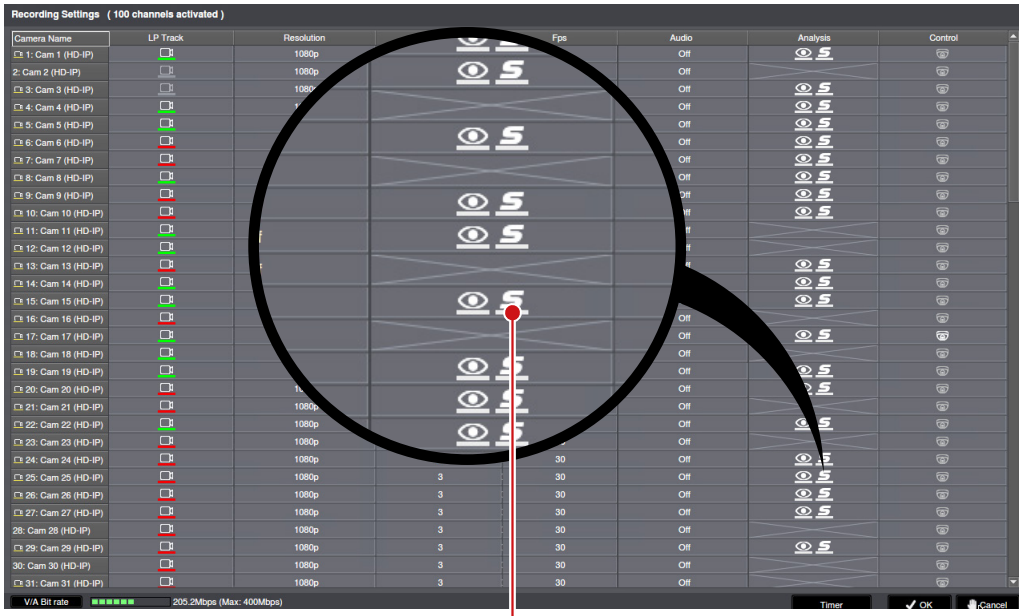


Abb. 7-30

➢ Open the ***Recording Settings*** (sub)dialog with a right-click on the button *Camera control* of the relevant camera.

The ***Recording Settings*** (sub)dialog will be displayed.

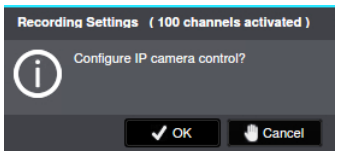


Abb. 7-31

➢ Confirm with ***OK***.

The relevant dialog for controlling the camera opens.

The available connection types depend on the serial interface settings.

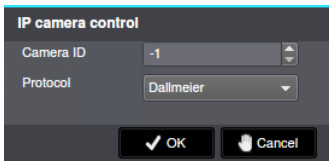


Abb. 7-32

➢ Select the relevant connection to the camera.

➢ Confirm with ***OK***.

Deactivate Camera Control

The function can be deactivated with a left-click on the active *Camera control* button.

7.9 Recording Monitoring

The ***Recording monitoring*** option can be used to control the recording of a camera / channels. The ***Min. storage period*** function is relevant for all types of recording. A channel / recording can be defined so that they normally covers a specific time range. Various events can cause a situation in which more images must be included or more memory is required.

Recording Mode	Event
Motion	More motion than expected.
Contact	More contacts than expected
All recording modes	Increased storage requirements due to lack of image quality

When these events occur permanently, the specified time range ***Min. storage period*** may be less. In this case, the function assumes an error and can display a system message and / or sending an alarm host trigger message.

➢ Open the ***Recording monitoring*** dialog via ***System*** > ***Options*** > ***Recording monitoring***.

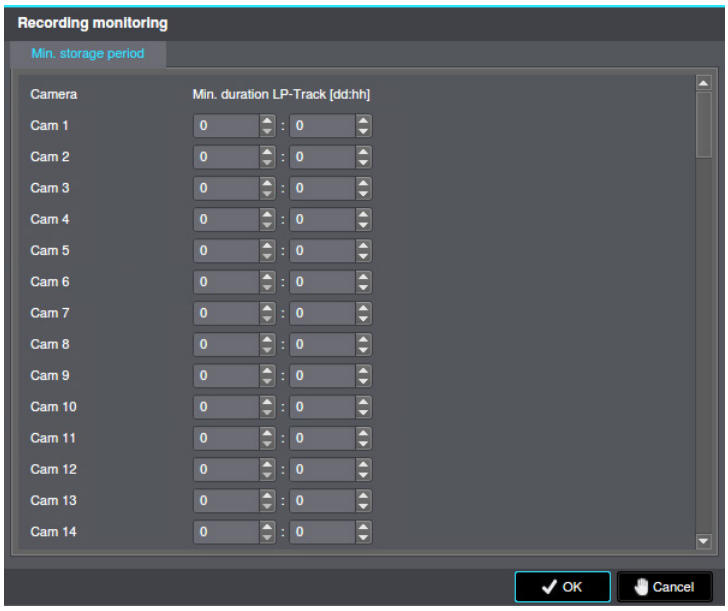


Abb. 7-33

- Set the minimum storage period mode for the required cameras / channels.
- Click ***OK*** in order to save the settings.

8 Display Setting

8.1 Camera Description

With the camera name, a descriptive text can be stored for each camera and the appliance. These descriptions can be displayed during playback as additional information.

➢ Open the ***Camera Descriptions*** dialog via ***Recording*** > ***Camera Descriptions***.

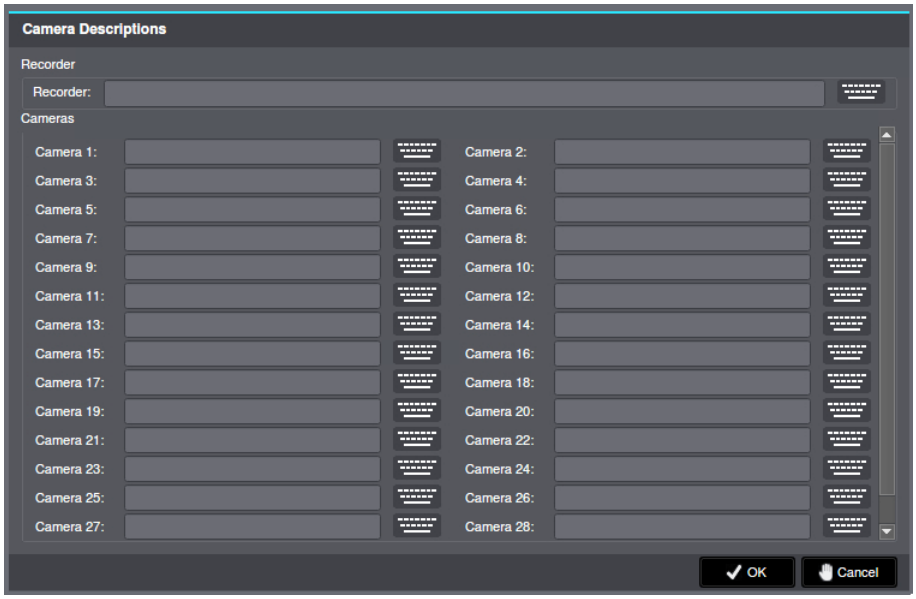


Abb. 8-1

➢ Enter a description for the ***Recorder***.
➢ Enter a description for the relevant ***Cameras***.
➢ Confirm with ***OK***.

The display of the descriptions during playback must be enabled separately. In the "Search Items" dialog "Recorder Description" and "Camera Description" must be enabled (see chapter „Search Criteria" on page 81).

8.2 Local Track Playback

In the ***Options*** dialog can be set with the function ***Local Track Playback*** the display format for monitors at playback. The options ***Fullscreen*** or ***Letterbox (classic)*** are to choose from.

➢ Open the ***Options*** dialog via ***System*** > ***Options***.

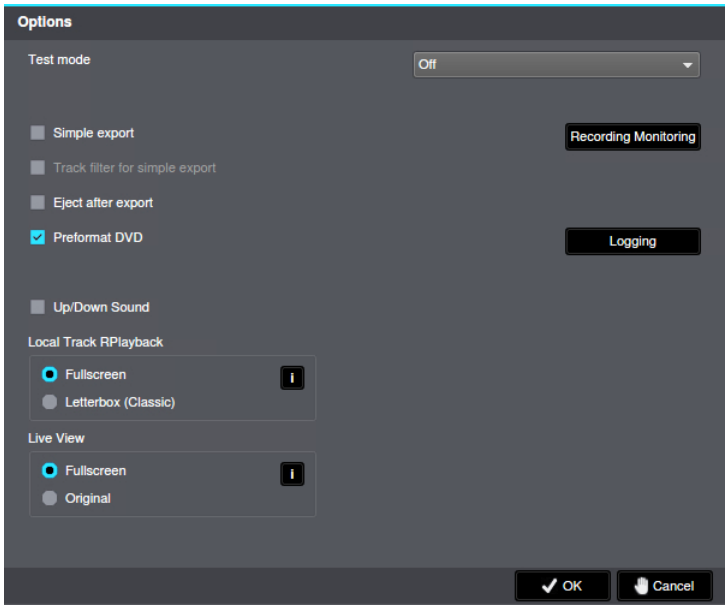


Abb. 8-2

➢ Select in the Local ***Track Playback*** area the appropriate format

➢ Click ***OK*** in order to save the settings.

In the default setting (***Fullscreen***) the image is displayed in full screen on the monitor during playback. The menu dialogs (playback control, setup menu) disappear above and below.

With the ***Letterbox (Classic)*** option the image during playback is centered and the menu dialogs are displayed above and below.

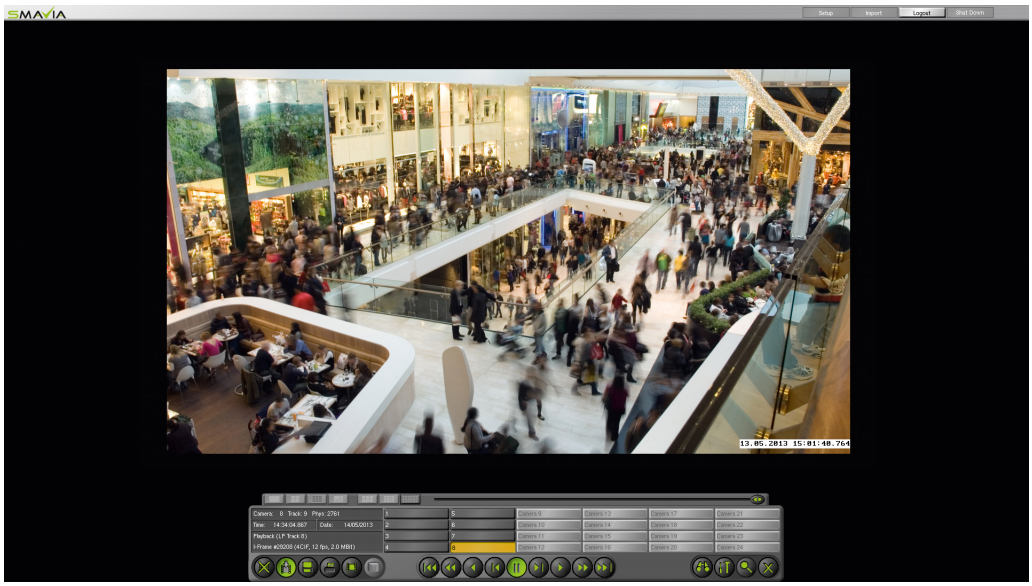


Abb. 8-3 Letterbox (Classic) local track playback

8.3 Display Size

The monitor resolution can be optionally changed for specific applications.

➢ Open the ***Options*** dialog via ***System*** > ***Options***.

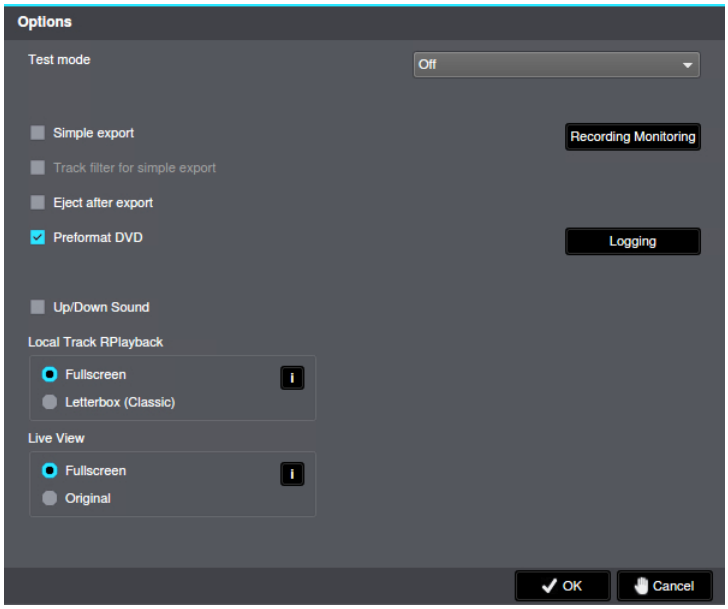


Abb. 8-4

➢ Select in the ***Display Size*** area the ***Auto*** option.
➢ Click ***OK*** in order to save the settings.

The option ***1920×1080*** is required for the live display at local viewing.

8.4 Splitter

The ***Splitter*** function allows pictures from several cameras to be displayed on a single monitor. While each camera is displayed in a split. The allocation can be made in this dialog.

➢ Open the ***Splitter*** configuration dialog via ***System*** > ***Display*** > ***Splitter***.

Abb. 8-5

All available cameras are indicated by a yellow button.

Depending on the number of enabled cameras, the individual splits are pre-assigned (camera number).

➢ Select a monitor from the dropdown menu if required.
➢ Select a ***Split Type*** from the dropdown menu.

8.4.1 Automatic Assignment

The cameras can be automatically assigned to the various splits.

Abb. 8-6

- Note the explanations below.
- Make the required settings.
- Click ***OK*** in order to save the settings.

With the ***Auto*** button, the connected cameras are sequentially assigned to the split of the currently displayed split type.
With the ***Auto all*** button the automatic assignment is done for all split types of the currently selected combination of monitor and split type.

With the ***Fit to split*** checkbox the camera image is adjusted to the particular split.

Splitter settings can be stored and assigned to a monitor without leaving the dialog via the "Assign" button.

8.4.2 Manual Assignment

Cameras can be manually assigned to each split.

Abb. 8-7

➢ Click the required split.

The split is highlighted.

➢ Click the required camera button.

The camera is assigned to the split.

➢ Procedure similar to assign additional cameras.
➢ Click ***OK*** in order to save the settings.

Splitter settings can be stored and assigned to a monitor without leaving the dialog via the "Assign" button.

If no camera should be assigned to a split, this can be done via the ***Empty Split*** button.
With the ***Fit to split*** checkbox the camera image is adjusted to the particular split.

8.5 Sequencer

The ***Sequencer*** function allows the pictures from various cameras to be displayed in a defined order.

Note that

- *that the defined "Display Sequence" will be displayed in the live mode single split only.*

➢ Open the ***Sequencer*** dialog via ***System*** > ***Display*** > ***Sequencer***.

Display Sequence

In the ***Cameras*** area all available cameras are indicated by a yellow button.

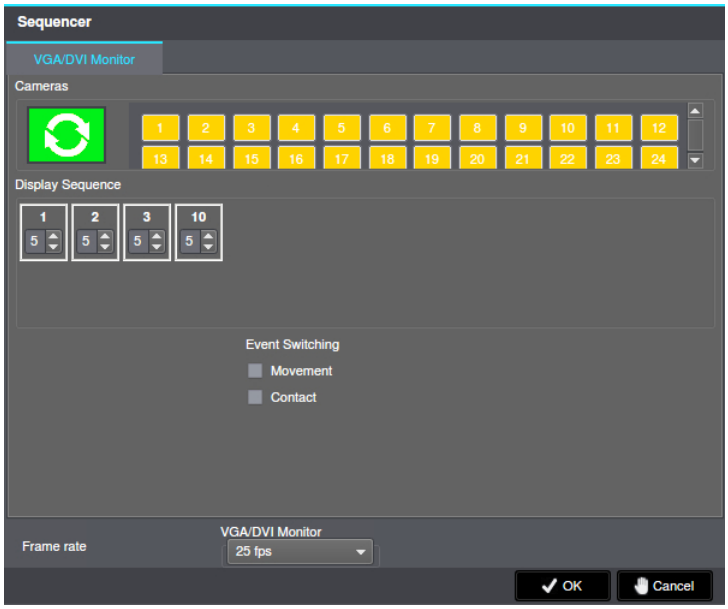


Abb. 8-8

➢ Note the explanations below.
➢ Select the tab of the required monitor.
➢ Click on the ***Cameras*** buttons in the required order.

The selected cameras are displayed in the ***Display Sequence*** area.

➢ Set the display time (in seconds) for each camera in using the cursor buttons.
➢ Make the required settings (see below).
➢ Click ***OK*** in order to save the settings.

Event Switching

An interruption to the current sequencer can be defined by checking the ***Event Switching*** checkboxes:

- ***Movement***

An arbitrary camera can be defined to record using the ***Motion*** recording mode. If a movement is detected (start recording) the live picture from this camera will be displayed for 5 seconds. After this the sequencer will continue automatically.

- ***Contact***

An arbitrary camera can be defined to record using the ***Contact*** recording mode. If a contact is being triggered the live picture from this camera will be displayed for 5 seconds. After this the sequencer will continue automatically.

Frame Rate

The ***Frame rate*** can be adjusted by using the dropdown menu under ***VGA/DVI monitor***. By reducing the frame rate for playback, the system load is reduced. This is more performance for the recording. But at a very low frame rate (e.g. ***1 fps***) no more fluid playback is possible.

The frame rate is automatically adjusted, if an external application (e.g. SMAVIA Viewing Client) established a PRemote connection to the device. According to PRemote disconnection, the original settings are restored.

Remove Camera

➢ Click in the ***Display Sequence*** area on the camera number to remove a camera from the sequence.

Lock Camera

A camera can be locked and thus removed from the display sequence of all monitors. The camera can be selected either in the sequencer / live mode or in playback / live mode.

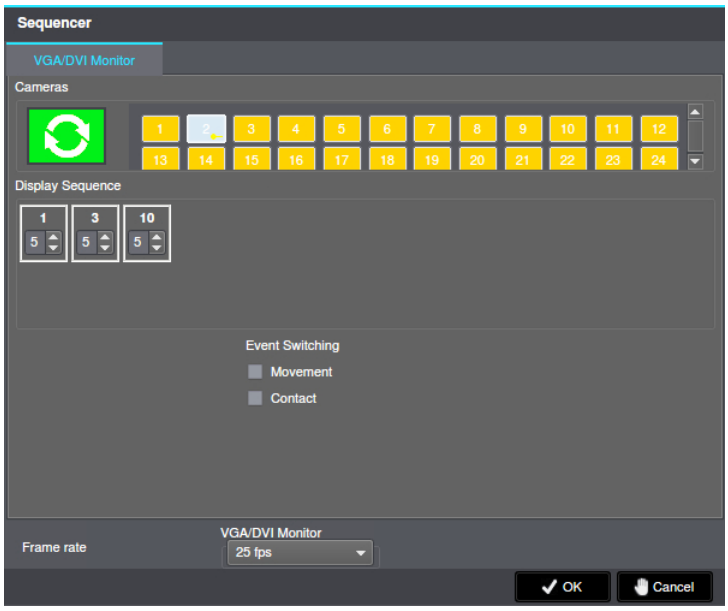


Abb. 8-9

➢ Click with the right mouse button on a camera button to lock the camera (blue).

➢ Click with the right mouse button on the camera button to release the camera.

9 Search Criteria

Data sent from external devices can be stored with the corresponding image and displayed. The data can be analyzed by the search function using the SMAVIA Viewing Client software.

9.1 Search Criteria

To exclude non-relevant results, search criteria can be defined.

➢ Open the ***Search Items*** dialog by clicking ***Recording*** > ***Search Criteria*** > ***Search Items***.

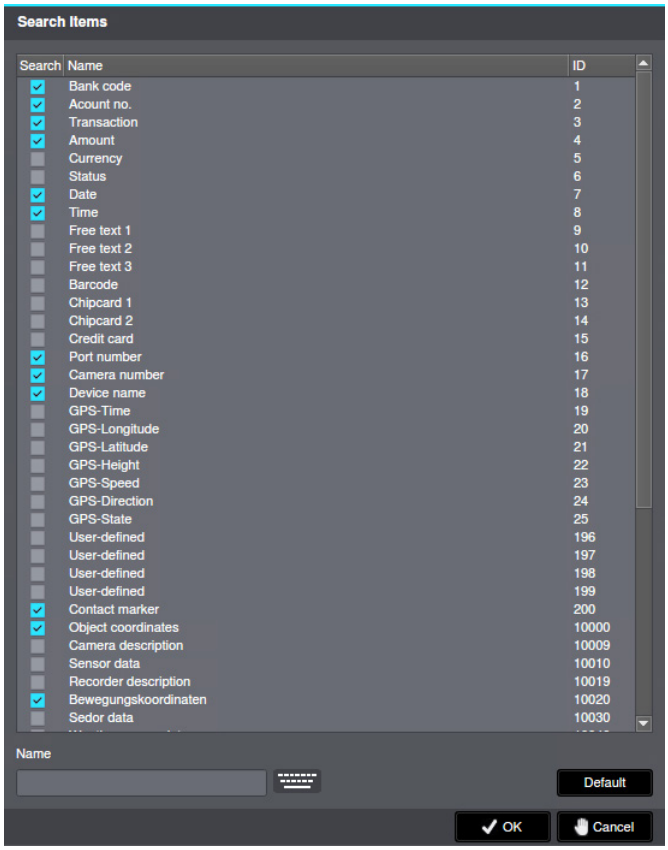


Abb. 9-1

➢ Note the explanations below.
➢ Enable the required search criteria.
➢ Confirm with ***OK***.

The Seach Items Bewegungskoordinaten and Sedor data are activated automatically if the option Image processing on recorder is deactivated (see „Image Processing on recorder“ on page 43). These Search Items have to be active, in order to enable the evaluation of the results of the analysis with SMAVIA Viewing Client.

Search

The data received from an external device are stored and are available for the advanced search with the SMAVIA Viewing Client.

Live

Received data from an external device will be displayed briefly in the live image.

9.2 Live Text

The ***Live Text*** option determines how data sent by external devices are displayed in the image of individual cameras.

➢ Open the ***Live Text*** dialog by clicking ***Recording > Live Text***.

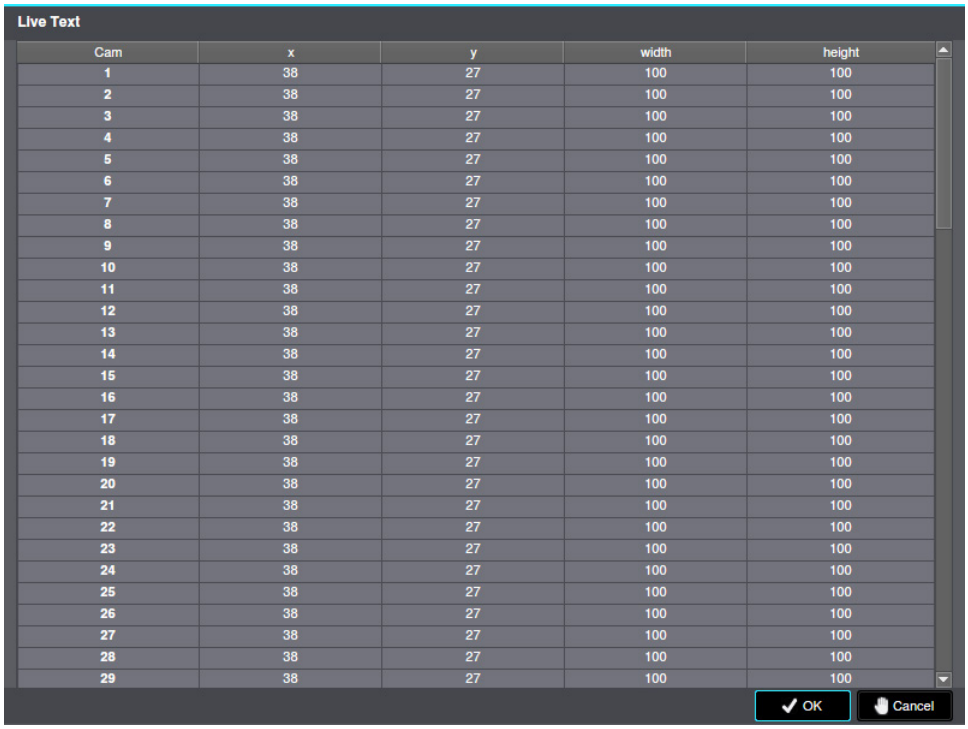


Abb. 9-2

➢ Make the necessary changes.

➢ Confirm with ***OK***.

10 Alarm Hosts

An alarm host is a receiver of messages and alarms sent by an external device. Up to eight receiver can be configured in the ***Alarm Hosts*** dialog (connection type, message type or activity period).

➢ Open the ***Alarm-Hosts*** dialog by clicking ***Network*** > ***Alarm Hosts***.

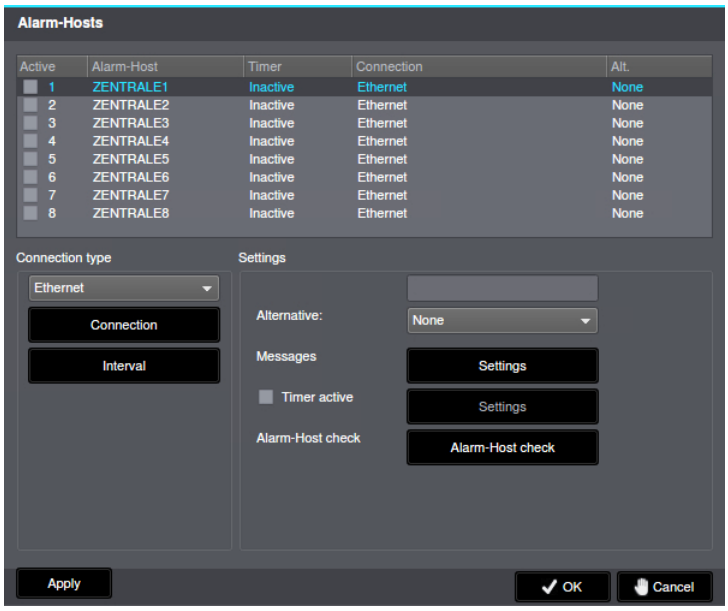


Abb. 10-1

The "Apply" button saves current settings, without having to close the dialog by clicking "OK" .

10.1 Name

An alarm hosts' name can be changed.

Note that an alarm hosts' name cannot be set individually if DHCP is enabled. The alarm hosts' must always match the IP address or the host name of the receiving device.

➢ Open the ***Alarm-Hosts*** dialog by clicking ***Network*** > ***Alarm Hosts***.
➢ Select the required alarm host.
➢ Open the virtual keyboard next to the ***Change Name*** box.
➢ Enter a name without special characters.
➢ Confirm with ***OK***.

10.2 Connection

The definition of an alarm hosts' connection type also defines the message format and the usable receiver.

10.2.1 Ethernet

Each message is sent in a proprietary format (DaVid Protocol) to the alarm host over the network. For the evaluation and management of messages the software **PGuard advance** is available.

- Open the ***Alarm-Hosts*** dialog by clicking ***Network*** > ***Alarm Hosts***.
- Select the required alarm host.
- Select ***Ethernet*** as the ***Connection type***.
- Open the ***Ethernet*** dialog by clicking ***Connection***.

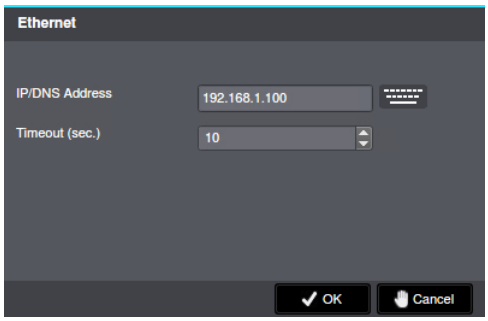


Abb. 10-2

- Note the explanations below.
- Enter the required ***IP-Address*** of the alarm host.
- Set the duration (in seconds) of a connection attempt as the ***Timeout***.
- Click ***OK*** to save the settings.

Timeout

If the ***Timeout*** has expired, the connection attempt is aborted. The ***Interval*** function allows the connection attempt to restart (see below).

10.2.2 SMTP

Each message is integrated as text into an email and sent over the network to the alarm host. The evaluation of the messages can be done with an E-Mail client.

If a DNS server is configured for Internet access, a list with the most popular E-mail providers is available. If the relevant provider for E-mail sending is selected from this list, the connection settings are configured automatically.

Depending on the used SMTP server and its configuration a specific sender or authentication may be required.

Subject and Message

The device message is integrated into the email. In addition, a subject and a message can be defined for each alarm host. Both are sent with each email.

Attach Image

This option is relevant for camera-related messages only. If the option is enabled, the corresponding image (JPEG) is sent as an attachment with the email.

- Open the ***Alarm-Hosts*** dialog by clicking ***Network*** > ***Alarm Hosts***.
- Select the required alarm host.
- Select ***SMTP*** as the ***Connection type***.
- Open the ***Ethernet/SMTP*** dialog by clicking the ***Connection*** button.

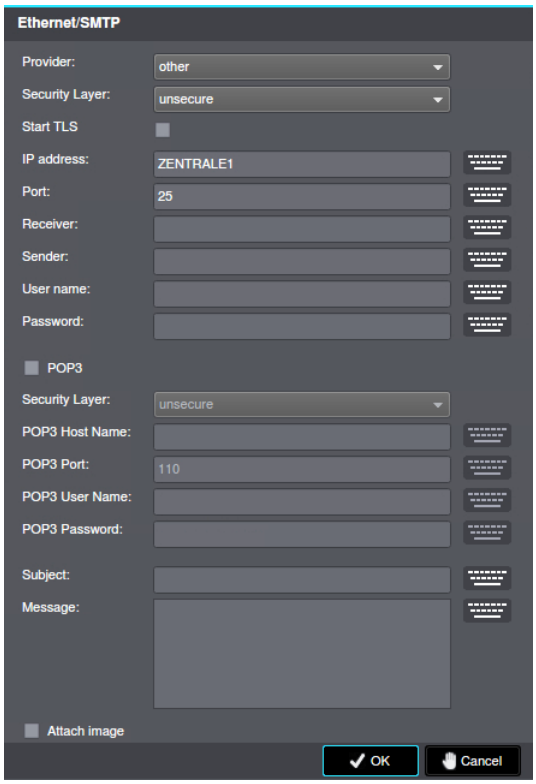


Abb. 10-3

Configure Connection Automatically

The encryption process (“Security Layer”) set up by the provider is configured automatically.

- Note the preceding explanations.
- Select the relevant provider from the ***Provider*** dropdown box.
- Enter the E-mail address of the ***Receiver***.
- Enter the E-mail address of the ***Sender***.
- Enter ***User name*** and ***Password***.
- Enter ***Subject*** and ***Message*** if required.
- Enable the ***Attach image*** checkbox if required.
- Confirm with ***OK***.

Configure Connection manually

- Note the preceding explanations.
- Select the used encryption method from the ***Security Layer*** dropdown box if required.
- Enable the ***Start TLS*** checkbox if required.
- Enter the ***IP address*** of the E-Mail server.
- Enter the ***Port*** number if required.
- Enter the E-mail address of the ***Receiver***.
- Enter the E-mail address of the ***Sender***.
- Enter ***User name*** and ***Password***.
- Enter ***Subject*** and ***Message*** if required.
- Enable the ***Attach image*** checkbox if required.
- Confirm with ***OK***.

If POP3 is used as transmission method, activate the “POP3” checkbox and configure the credentials for the E-mail server in this area of the dialog.

10.2.3 Interval

Sending a message may fail due to a faulty connection. In this case, the message is not discarded. The ***Connection Interval*** dialog allows the definition of number and interval of new connection attempts.

- Open the ***Alarm-Hosts*** dialog by clicking ***Network*** > ***Alarm Hosts***.
- Select the required alarm host.
- Click ***Interval***.

The ***Connection Interval for X*** is displayed.

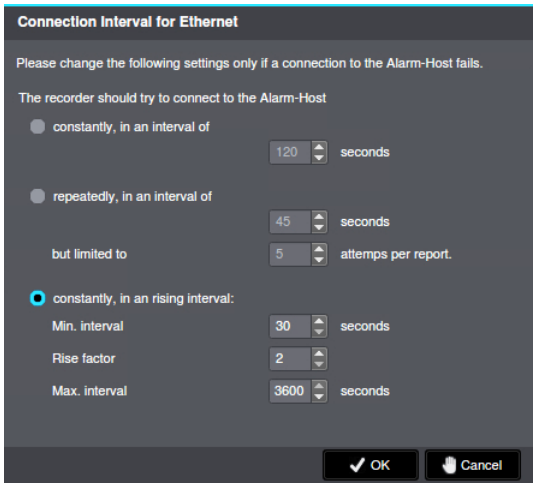


Abb. 10-4

- Note the explanations below.
- Make the required settings.
- Confirm with ***OK***.

The appliance should try to connect to the Alarm-Host

- ***constantly, in an interval of***
  Constant attempts at establishing a connection are made at the specified interval (in seconds), until a connection is successfully established and the message sent.
- ***repeatedly, in an interval of***
  Repeated attempts at establishing a connection are made at the specified interval (in seconds), until a connection is successfully established and the message sent.
  The attempts per message can be limited to a certain number, after whom the message is discarded.
- ***constantly, in an rising interval:***
  Constant attempts at establishing a connection are made at the specified interval (in seconds), until a connection is successfully established and the message sent.
  For this, an initial interval (***Min. interval***) is determined which continually increases by the selected ***Rise factor*** until the maximum interval (***Max. interval***) is reached.

10.2.4 Alternative

For each alarm host an alternative can be defined. The message is sent to the alternative alarm host, if the original alarm host is permanently inaccessible (see „Interval“ on page 87).

➢ Open the ***Alarm-Hosts*** dialog by clicking ***Network*** > ***Alarm Hosts***.

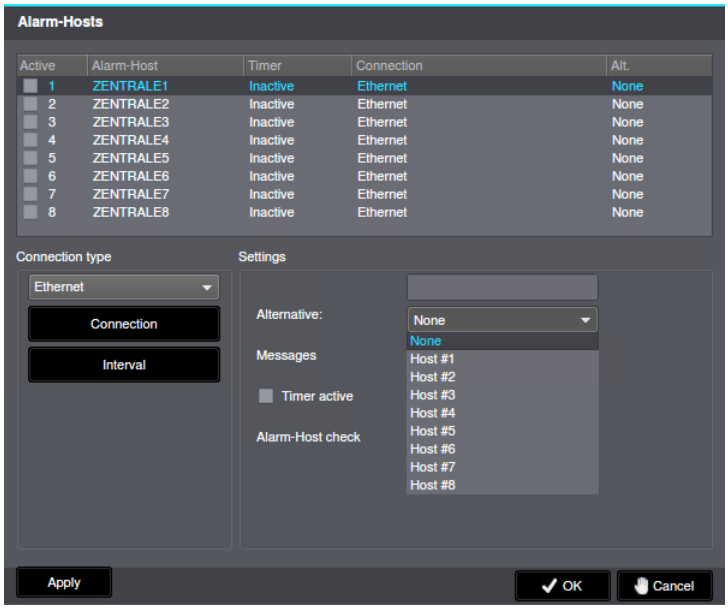


Abb. 10-5

➢ Select the required alarm host.
➢ Select the required alternative alarm host under ***Alternative*** in the drop-down menu.

The alternative alarm host is displayed in the ***Alt.*** column.

10.2.5 Connection Check

The connection between SMAVIA Recording Server and an alarm host can be checked by sending a test message. It can be a single test or a permanent test set up (at intervals or at a specific time of day or week). A successful transfer can only be tested on the alarm host with the evaluation and management software PGuard. The SMAVIA Recording Server does not receive feedback.

Single Test

- Open the ***Alarm-Hosts*** dialog via ***Network*** > ***Alarm Hosts***.
- Select the required alarm host.
- Click ***Alarm-Host check***.

The ***Alarm-host check configuration*** dialog is displayed.

- Select the required countdown (***immediately***, ***1***, ***2***, ***5*** or ***10*** minutes) in the ***Send test message*** area from the drop-down menu.

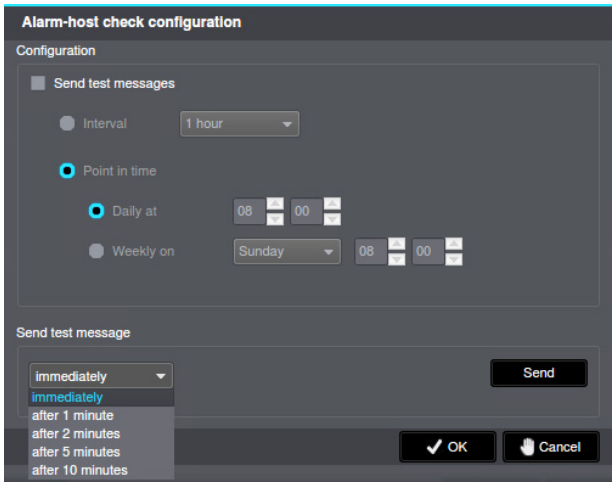


Abb. 10-6

- Click ***Send*** in order to start the process.
- Click ***OK*** in order to close the dialog.

The test message is sent once after the countdown.

Interval Check

- Open the ***Alarm-Hosts*** dialog by clicking ***Network*** > ***Alarm Hosts***.
- Select the required alarm host.
- Click ***Alarm-Host check***.

The ***Alarm-host check configuration*** dialog is displayed.

- Enable the ***Send test message*** checkbox.
- Enable the ***Interval*** option.
- Select the required Interval from the drop-down menu.

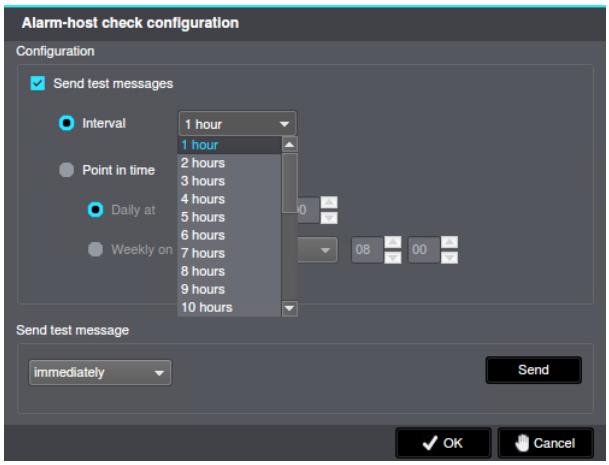


Abb. 10-7

➢ Click ***OK*** to close the dialog.

The test message is sent continuously at the specified interval.

Point in Time Check

➢ Open the ***Alarm-Hosts*** dialog by clicking ***Network*** > ***Alarm Hosts***.
➢ Select the required alarm host.
➢ Click ***Alarm-Host check***.

The ***Alarm-host check configuration*** dialog is displayed.

➢ Enable the ***Send test message*** checkbox.
➢ Enable the ***Point in time*** option.

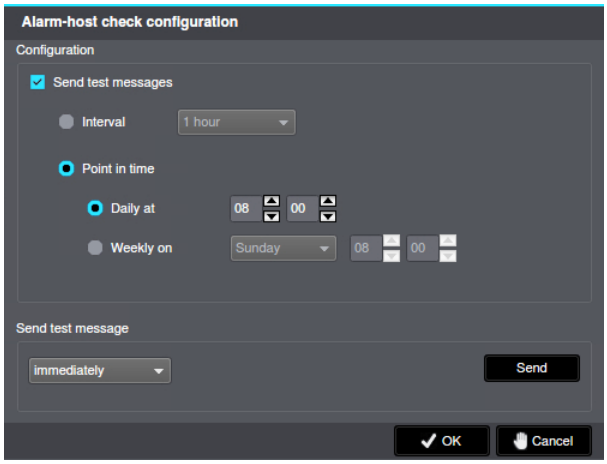


Abb. 10-8

➢ Select the required option: ***Daily at*** or ***Weekly on***.
➢ Set the required daily or weekly point in time.
➢ Click ***OK*** in order to close the dialog.

The test message is sent continuously at the specified point in time of the day or week.

10.3 Messages

The relevant messages can be set separately for each alarm host.

Note that the individual messages are grouped into categories.

- Open the ***Alarm-Hosts*** dialog by clicking ***Network*** > ***Alarm Hosts***.
- Select the required alarm host.
- Click the ***Settings*** button at ***Messages***.

The ***Messages*** dialog is displayed.

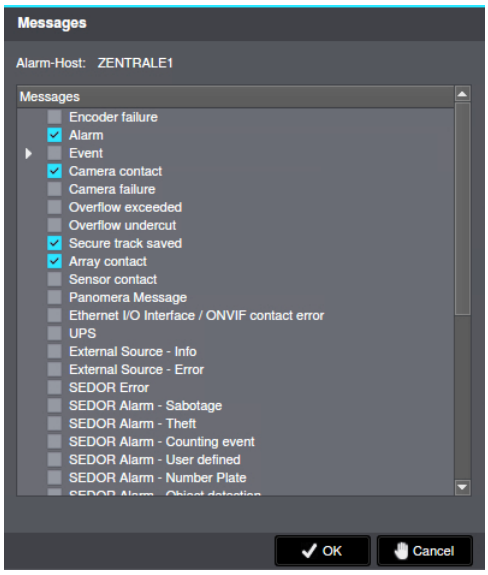


Abb. 10-9

- Note the explanations below.
- Enable the required messages.
- Confirm with ***OK***.

The available messages are dependent on different software and hardware options.

Alarm

This message will be sent when the device starts or ends the alarm state. The alarm state is triggered by the ***Start alarm*** Contact IN function. It is stopped by the corresponding Contact IN functions or after the alarm duration (10 seconds) has expired.

Array contact

This message will be sent if the recording of a camera starts because of a Contact IN function (***Start recording (recording mode Contact)***).

Camera contact

The message will be sent when any camera with a Contact IN function (***Camera start***) starts recording.

Camera deactivation due to excess of the bit rate

This message will be sent when a camera is deactivated for exceeding the allowed bit rate.

Camera failure

This message will be sent if a camera fails or is working again.

Dongle messages

This message will be sent when the license dongle is not available.

Encoder failure

This message will be sent when the integrated video encoder reports an error.

Event

This message will be sent when SMAVIA Recording Server starts recording a camera due to a motion event.

External Source - Error

An external device sends an error message that is forwarded to the alarm host.

External Source - Info

An external device sends a status message that is forwarded to the alarm host.

HDD Errors

This message will be sent when a HDD read or write error is detected.

Housekeeping - Error

This message will be sent if the system monitoring (housekeeping) detects an event of the category **error**.

Events of the category **error** are:

- The I/O board could not be put into operation.
- The I/O board is ready for operation.
- The display could not be put into operation.
- The display is ready for operation.
- The CPU temperature cannot be determined.
- The CPU temperature can be determined.
- The internal temperature cannot be determined.
- Error during determination of the internal temperature
- The internal temperature can be determined.
- The external temperature cannot be determined.
- Error during determination of the external temperature.
- The external temperature can be determined.
- The revolution of the front fan cannot be determined.
- Error during determination of the revolution of the front fan.
- The revolution of the front fan can be determined.
- The front fan does not rotate anymore.
- The front fan rotates again.
- The revolution of the rear fan cannot be determined.

- Error during determination of the revolution of the rear fan.
- The revolution of the rear fan can be determined.
- The rear fan does not rotate anymore.
- The rear fan rotates again.
- The revolution of the HDD fan cannot be determined.
- Error during determination of the revolution of the HDD fan.
- The revolution of the HDD fan can be determined.
- The HDD fan does not rotate anymore.
- The HDD fan rotates again.
- The housing screw has been loosened.
- The housing screw has been screwed in.
- The housing cover has been opened.
- The housing cover has been closed.
- Power supply unit 1 failed.
- Power supply unit 1 is operational again.
- Power supply unit 2 failed.
- Power supply unit 2 is operational again.

Housekeeping - Sabotage

This message will be sent if the system monitoring (housekeeping) detects an event of the **sabotage** category.

Events of the **sabotage** category are:

- The BNC terminal has been removed.
- The BNC terminal is ready for operation.

Housekeeping - System monitoring

This message will be sent if the system monitoring (housekeeping) detects an event of the category **info**.

Events of the category **info** are:

- The internal temperature is in the upper/lower/normal range.
- The external temperature is in the upper/lower/normal range.
- The CPU temperature is in the upper/lower/normal range.
- The average system temperature is in the upper/lower/normal range.
- The internal/external/CPU or average system temperature has reached the upper limit. The device will be shut down.
- The revolution of the front fan is too high/too low/normal.
- The revolution of the rear fan is too high/too low/normal.
- The revolution of the HDD fan is too high/too low/normal.

Minimum recording period undercut

This message will be sent if the ***Min. storage period*** function detects an error. A track/recording can be defined to cover a certain time period. Various events can cause a situation when more images have to be recorded or more memory capacity is required.

If these events occur permanently the defined ***Min. storage period*** can be underrun. The function assumes an error in this case and can trigger a system message and/or an alarm host message.

No recording

This message will be sent if no recording is triggered in a particular track during a defined period. Cameras/tracks with the recording mode ***Motion*** or ***Contact*** are relevant. The appropriate configurations are made under ***System*** > ***Options*** > ***Recording monitoring***.

Overflow exceeded

This message will be sent if more than 80 % of the video memory is occupied.

Overflow undercut

This message will be sent if the occupation of the video memory is less than 80 % (for example when tracks have been deleted).

RAID Error

This message will be sent if the internal (software) RAID system detects an error.

SEDOR Alarm - Counting event

This message is not supported by the current version.

SEDOR Alarm - Jam

This message is not supported by the current version.

SEDOR Alarm - Number plate

This message is not supported by the current version.

SEDOR Alarm - Object detection

This message is not supported by the current version.

SEDOR Alarm - Sabotage

This message will be sent if SEDOR® detects a sabotage event on a camera (defocusing, turning, and covering).

SEDOR Alarm - Theft

This message is not supported by the current version.

SEDOR Alarm - User defined

This message is not supported by the current version.

SEDOR Error

This message will be sent if SEDOR® detects an internal error.

Secure track saved

This message will be sent if a secure track is saved from being overwritten. It is irrelevant which event (Alarm or Contact IN) triggers the saving function.

Sensor contact

The message will be sent when the sensor (sensor card SK6) detects movement and thereby triggers a recording.

System

This message will be sent in case of certain errors in the complete system or if status messages of a system component arrive:

- Camera failure
- Write or read fault error of a HDD
- Unknown software problem, application does not react or reacts only very slowly
- Housekeeping error event
- Error message of UPS
- Initialization error
- RAID (internal) error

UPS

The uninterruptible power supply unit (UPS) sends a message that is forwarded to the alarm host.

10.4 Timer

After activating the timer (see below) messages are sent at any time (24/7) to the alarm host. Notwithstanding this default, the active time can also be limited.

➢ Open the ***Alarm-Hosts*** dialog by clicking ***Network*** > ***Alarm Hosts***.

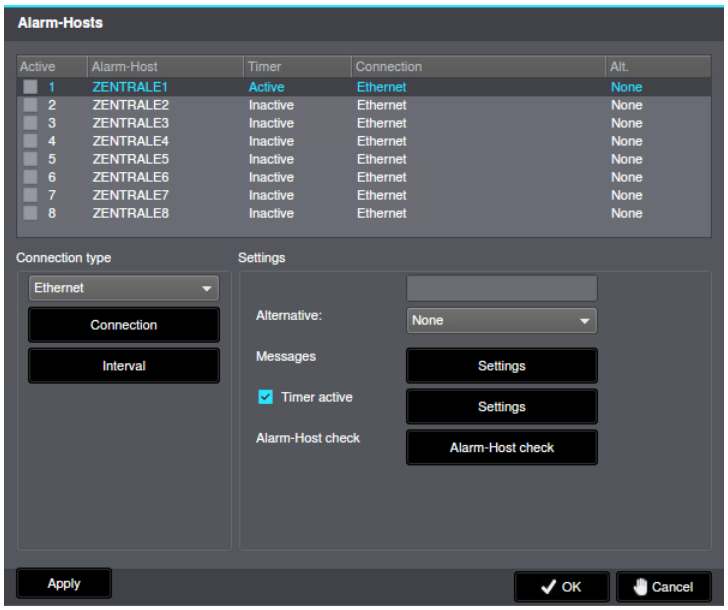


Abb. 10-10

➢ Select the required alarm host.
➢ Enable the ***Timer active*** checkbox.
➢ Click ***Settings*** next to the checkbox.

The ***Timer*** dialog is displayed.

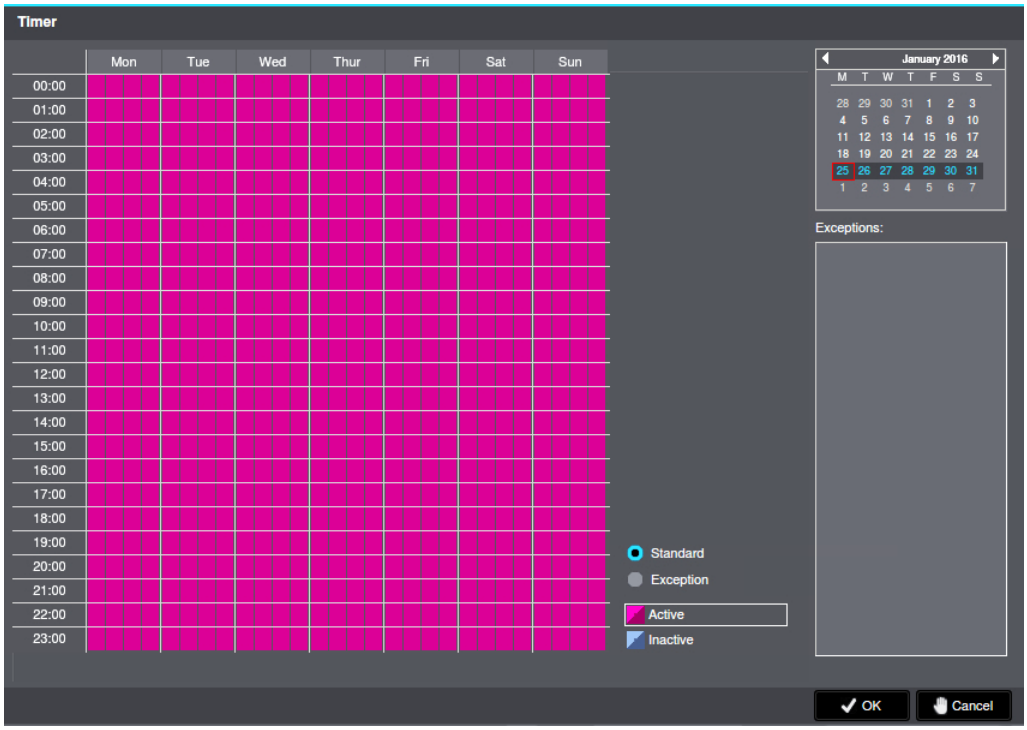


Abb. 10-11

At first, the messages are constantly (24/7) active. Each box marks a time range of 15 minutes.

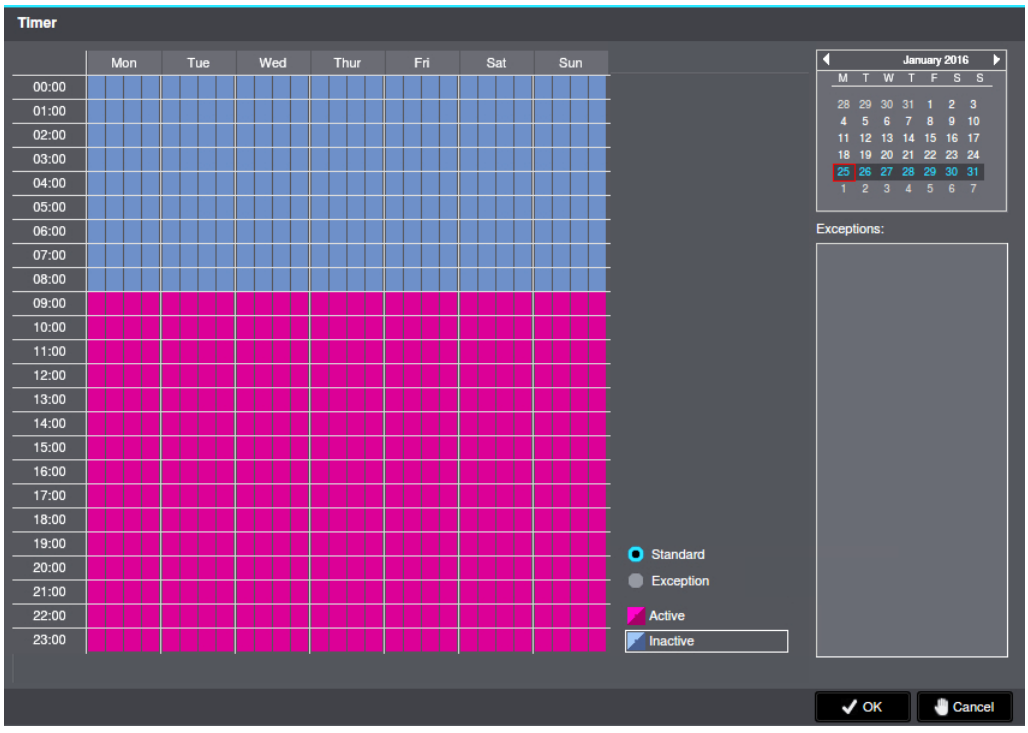


Abb. 10-12

- ➢ Select the ***Inactive*** setting.
- ➢ Mark the required inactive periods using drag and drop.

➢ Click ***OK*** in order to save the settings.

These settings are then permanently active (24/7) again.
In order to set exceptions for certain days, proceed as follows:

➢ Enable the ***Exceptions*** option.

At first, all days are active.

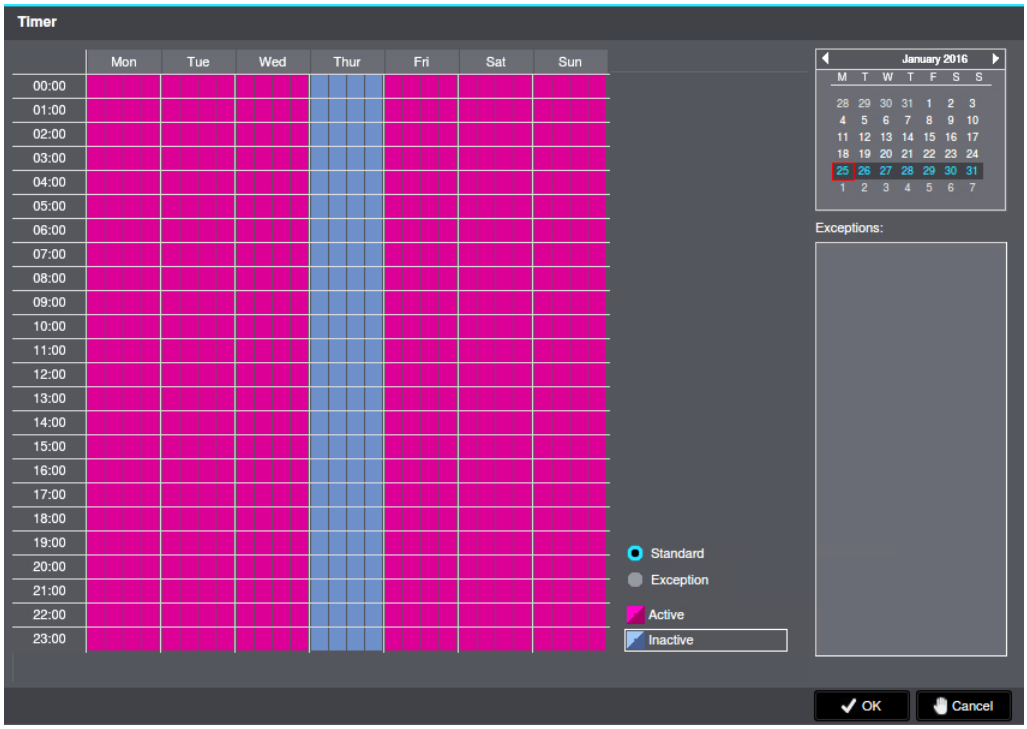


Abb. 10-13

➢ Select the required month / week / day from the calendar.
➢ Select the required option: ***active*** / ***inactive***.
➢ Mark the required time periods using drag and drop.

The exceptions are displayed in the ***Exceptions*** box.

➢ Click ***OK*** in order to save the settings.

10.5 Activation

After completing the configuration the alarm host must be enabled.

➢ Open the ***Alarm-Hosts*** dialog by clicking ***Network*** > ***Alarm Hosts***.

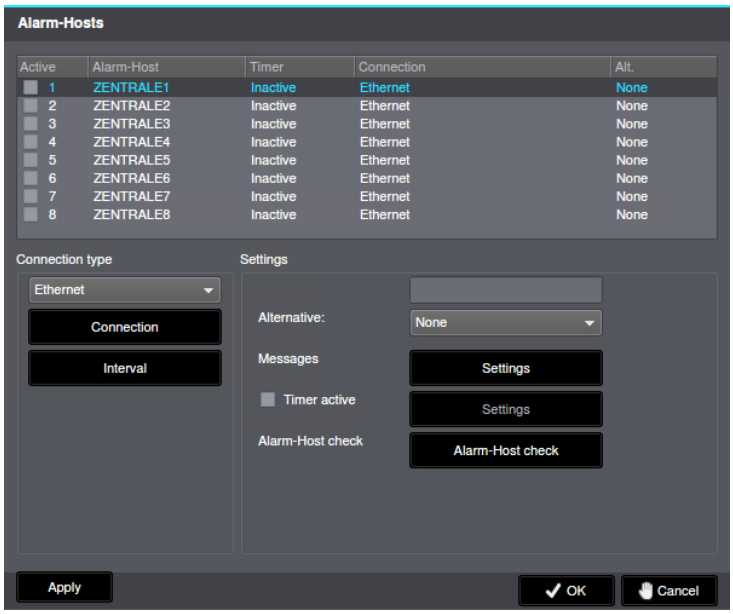


Abb. 10-14

➢ Select the required alarm host.
➢ Enable the checkbox in the ***Active*** column.
➢ Proceed accordingly for all required alarm hosts.
➢ Click ***OK*** in order to save the settings.

10.6 Import / Export Settings

The network parameters of the alarm hosts can be exported for further use.

10.6.1 Export

Proceed as follows to export the network parameters of alarm hosts:

➢ Open the ***Export network files*** dialog via ***Network*** > ***Import / Export*** > ***Export***.

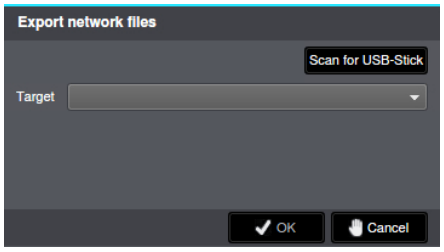


Abb. 10-15

➢ Click ***Search...***.

The file manager of the operating system is displayed.

➢ Select the required storage directory.
➢ Confirm the save dialog of the file manager.

The file will be exported and saved to the selected directory.

10.6.2 Import

Proceed as follows to restore network parameters of alarm hosts by import.

➢ Open the ***Export network files*** dialog by clicking ***Network*** > ***Import/Export*** > ***Import***.

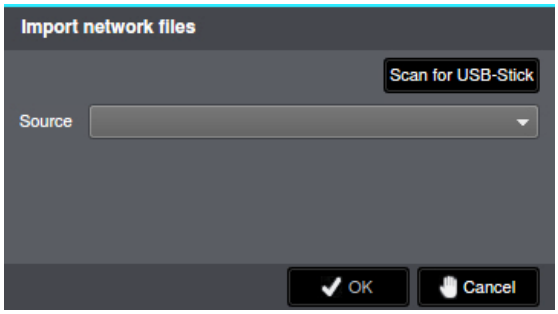


Abb. 10-16

➢ Click ***Search...***.

The file manager of the operating system is displayed.

➢ Select the required storage directory of the required file.
➢ Select the required file.
➢ Confirm the open dialog of the file manager.

The network parameters are imported and restored.

11 Reference Images

The reference image memory is used to compare image quality and camera perspective revisions. That way it can be determined, whether the lens has been adjusted or the camera has been mechanically modified in position.

The images stored at any given time are called a reference image set.

11.1 Create New Reference Image Set

➢ Open the ***Reference Image Memory*** dialog by clicking ***Recording*** > ***Reference Images***.

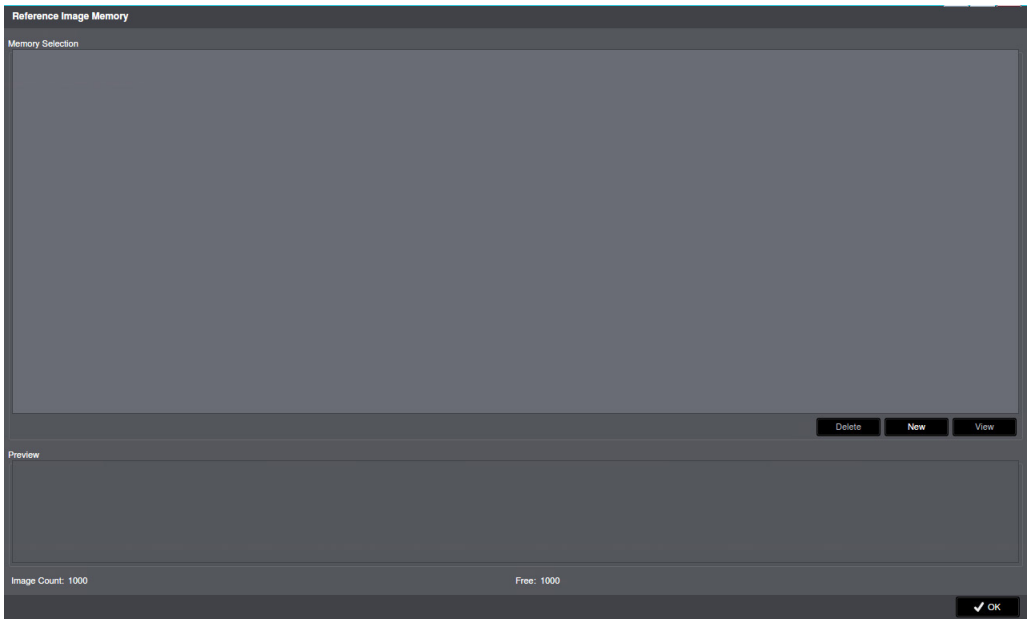


Abb. 11-1

➢ Click ***New***.

The virtual keyboard is displayed.

➢ Enter the required name for the new reference image set.
➢ Confirm with ***OK***.

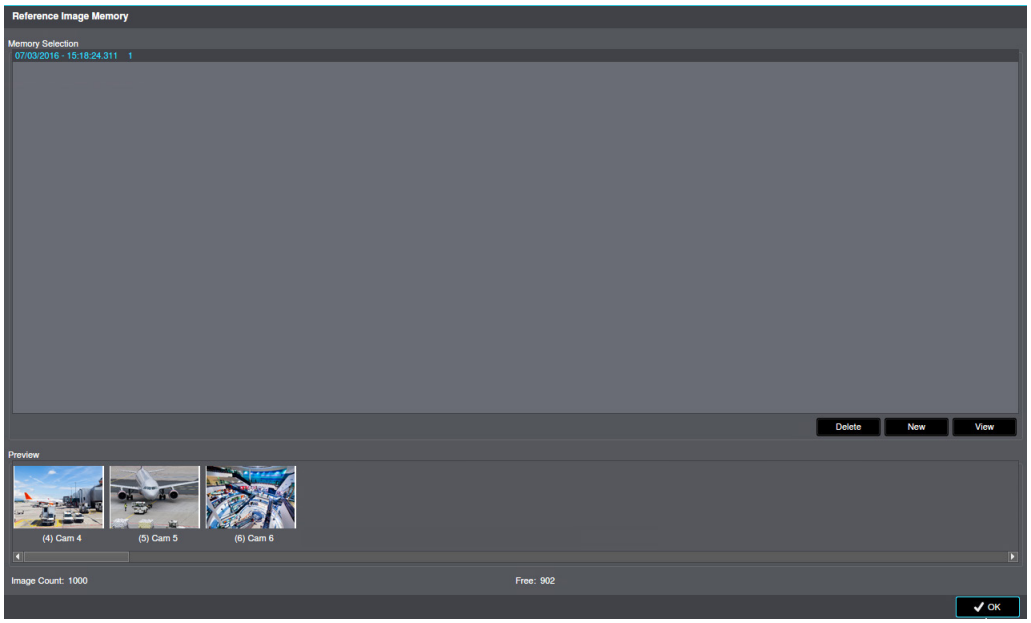


Abb. 11-2

The reference image set is automatically generated and displayed the ***Memory Selection*** field, including time and date.

In the ***Preview*** window, the stored images of the connected cameras are displayed.

In order to create further reference image sets, proceed as described above.

The storage volume of the reference image memory is limited to a maximum of 1000 images. This corresponds to approximately 41 image sets with 24 cameras connected.

11.2 Image Comparison

For comparing a reference image set with the current images of cameras, open the ***Reference Image Memory*** dialog.

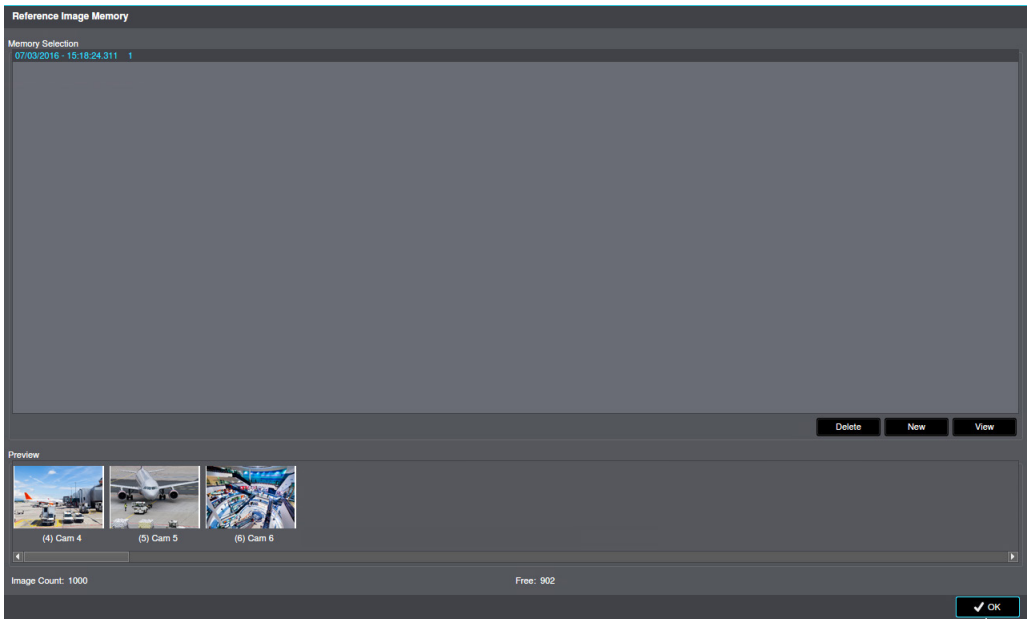


Abb. 11-3

➢ Select an image set in the ***Memory Selection*** field.
➢ Click ***View***.

The images of the reference image set are displayed in the ***Preview*** field.

➢ Mark the image of the required camera in the ***Preview*** field.

The ***Reference Image Memory*** dialog is hidden.
The reference image is displayed.

Abb. 11-4

In order to switch between the stored reference image and the current image of the camera use the ***Ref Pic*** button and the ***Live*** button.

➢ Click ***Close*** in order to close the dialog.

The ***Reference Image Memory*** dialog is displayed again.

11.3 Delete

Because the storage volume of the reference image memory is limited, the oldest reference image sets should be deleted.

➢ Open the ***Reference Image Memory*** dialog by clicking ***Recording*** > ***Reference Images***.

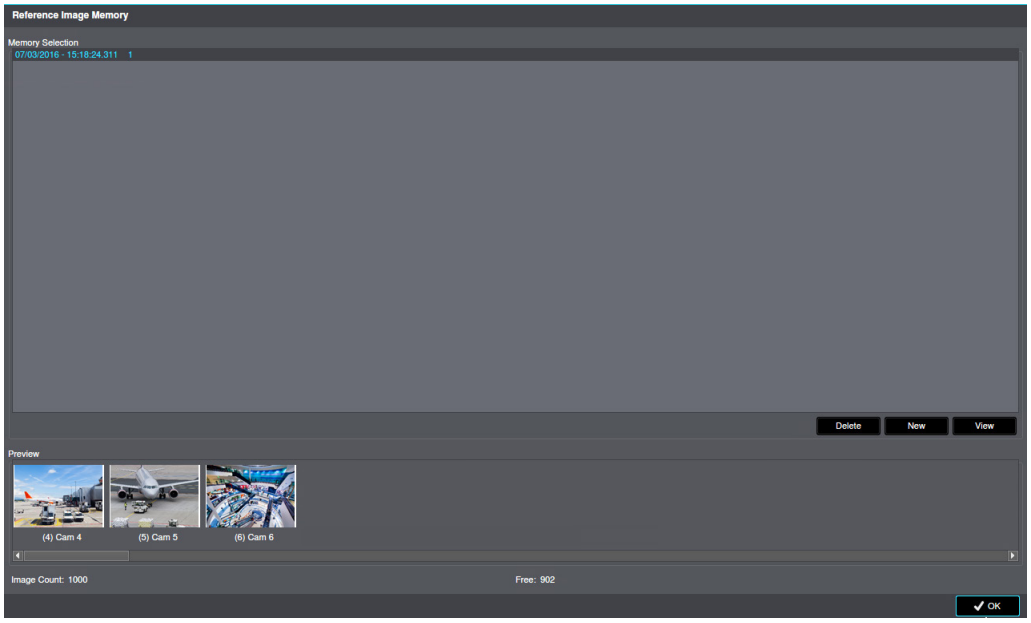


Abb. 11-5

➢ Select the required reference image set in the ***Memory Selection*** field.
➢ Click ***Delete***.
➢ Confirm the subsequent info dialog.
➢ Click ***OK*** to close the dialog.

12 Serial Interface

The serial interface allows the connection of and the communication with external devices.

12.1 Setting

➢ Open the ***Serial Interfaces*** dialog by clicking ***Interfaces*** > ***Serial***.

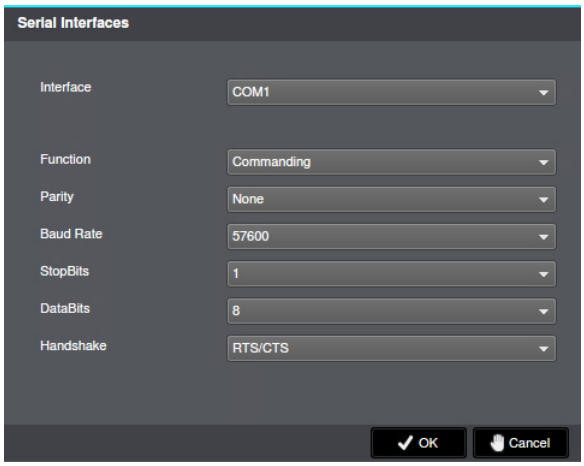


Abb. 12-1

➢ Select the relevant ***Interface***.
➢ Select the relevant ***Function***.
➢ Set the connection parameter if required.
➢ Confirm with ***OK***.

12.2 Functions

The available functions of the interface depend on various software and hardware options.

None
The interface is deactivated.

Commanding
This function allows the device to be controlled by an external application / device over the serial interface (DaVid protocol). Control commands are only received, no confirmation is returned.

Commanding with Acknowledgement
This function allows the device to be controlled by an external application / device over the serial interface (DaVid protocol). Control commands are received and a confirmation is returned.

Transparent Data Channel / Direct Camera Control

Using this function data can be sent by a the device to another device over the recorder. The data arrive at the receiver exactly the same as they were sent by the transmitter (transparent data channel).

This is used, for example, to send control signals from SMAVIA Viewing Client over LAN to the device. This then forwards them to a controllable camera via the serial port. In the opposite direction, confirmation signals from the camera are read at the serial port and sent via LAN to SMAVIA Viewing Client.

External Source

This function has been implemented for specially adopted external devices. It can receive error and info messages from an external device and forward them to an alarm host. The alarm host messages ***External Source - Info*** and ***External Source - Error*** have to be activated in addition.

13 Contact IN

The Contact IN function allows external devices to trigger contact events using the Contact IN interface.

13.1 Global Contacts and Camera Contacts

By default only the freely configurable global contacts will be displayed.

The camera-related contact inputs are displayed if the ***Show camera contacts*** checkboxes are activated.

➢ Open the ***Contact IN*** dialog by clicking ***Interfaces*** > ***Contact IN***.

Abb. 13-1

The camera contacts are preset with ***Start camera***. Therefore the recording of the relevant camera is started if the required recording settings have been made.

If the recording of a camera is not supposed to use the ***Contact*** recording mode, the function can be changed in the same way as the global contacts.

13.2 Make and Break Contact Functions

At first only the configuration of the make contact function (***Function n.o.***) is displayed. These refer to the function that is executed when the contact switches (normally when closing) .

Additionally functions can be defined that are executed when the contact is released (normally when it is opened).

The configuration of functions for the break contact function (***Function n.c.***) is displayed when activating the checkbox ***show Function n.c.***.

➢ Open the ***Contact IN*** dialog by clicking ***Interfaces*** > ***Contact IN***.

Abb. 13-2

➢ Enable the ***show Function n.c.*** checkbox.

The configuration for the Function n.c. is displayed.

13.3 Settings

Every contact input can be assigned four functions for the ***Function n.o.*** and the ***Function n.c.***. These are executed in order when the contact is switched or released.

➢ Open the ***Contact IN*** dialog via ***Interfaces*** > ***Contact IN***.

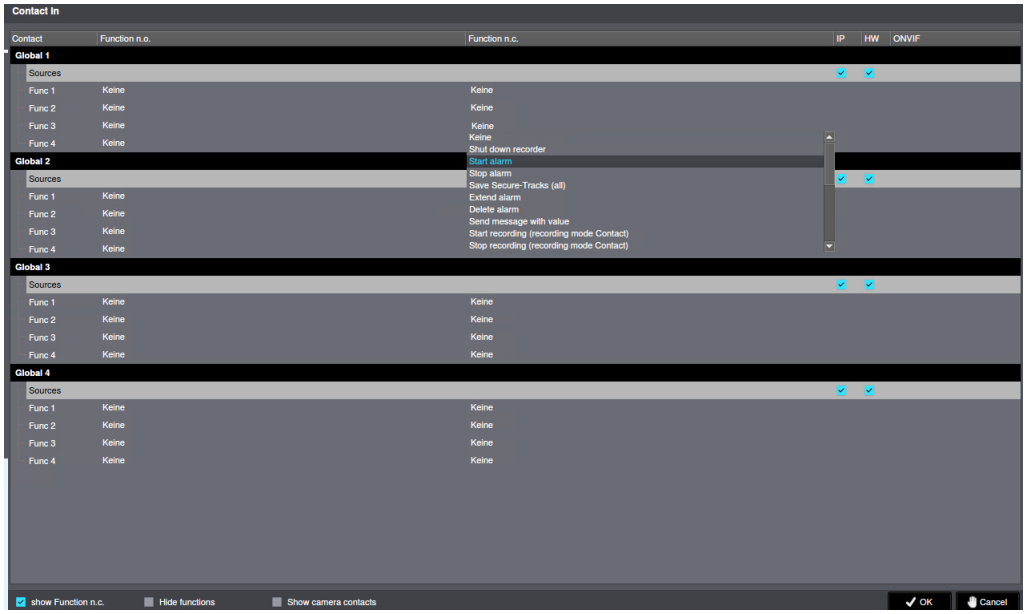


Abb. 13-3

➢ Enable the ***show Function n.c.*** checkbox if required.
➢ Enable the ***Show camera contacts*** checkbox if required.
➢ Left-click the required ***Function***.
➢ Select the required functions from the dropdown menu (see below).
➢ Proceed analogous for all other functional assignments.
➢ Click ***OK*** in order to save the settings.

Contact Parameters

Some functions allow to enter additional parameters (see below). These are marked by the orange button that is displayed in the function selection.

Abb. 13-4

➢ Click the ***P*** button in order to activate the parameter settings of the function.

Assigning of triggers

There are three different ways to trigger the contact event

- ***DaVid Protokoll (Ethernet)***

➢ Activate the IP chebox to trigger the contact event using an external application over the DaVid protocol (Ethernet)

- ***Contact IN Interface***

➢ Activate the ***HW*** checkbox to trigger the contact event using the ***Contact IN Interface*** of the appliance.

- ***Ethernet I/O Interface***

➢ Click the ***P button*** in the ***I/O Interface*** column to trigger the contact event using ***Ethernet I/O Interface.***

- ***ONVIF***

➢ Click the ***P button*** in the ***ONVIF*** column to trigger the contact event using ***ONVIF.***

The license for 3rd party cameras is mandatory for using ONVIF as a trigger.

13.4 Functions

The following functions can be selected:

None

No function selected.

Shut down recorder

The appliance will be shut down.

Start alarm

This function activates the alarm state of the appliance.

Stop alarm

The contact function ***Stop alarm*** allows an active alarm state to be stopped before the end of the alarm duration (10 seconds).

Save Secure Tracks (all)

All security tracks are saved.

Activate Sequencer

With this function, the sequencer is activated.

Extend alarm

If the ***Extend alarm*** contact function is triggered before the end of the alarm duration (10 seconds), the active alarm state will be extended indefinitely (or until the corresponding track is full).

The alarm state can then only be stopped by the ***Stop alarm*** contact function.

Delete alarm

The last alarm state is undone. This function triggers a message to an alarm host. In this case, a binary value can be set (input binary, decimal or hexadecimal value) in the ***Contact Parameters*** dialog. This is sent with the message and can be freely interpreted by the alarm host.

Send message with value

This function triggers the discontinuation of a message to an alarm host. A binary value (input binary, decimal or hexadecimal value) can be set in that case in the ***Contact Parameters*** dialog. It is sent with the message and can be freely interpreted by the alarm host.

Start recording (recording mode Contact)

This function is preset for camera contacts. It starts recording on one or more cameras that are defined with ***Contact*** recording mode.

Stop recording (recording mode Contact)

This function stops each recording that is still active (timer can be expired) that was triggered by ***Start recording (recording mode Contact)***.

Quit pause of all alarm-hosts

This function allows to activate all configured alarm hosts. This contact function is no counterpart to the ***Pause all active alarm-hosts*** contact function. It does not matter if the alarm host was deactivated by ***Pause all active alarm-hosts*** or before.

Pause all active alarmhosts

This contact function allows to deactivate all configured and activated alarm hosts. No messages are sent to the alarm hosts until the ***Quit pause of all alarm-hosts*** contact function is triggered. A binary value (input binary, decimal or hexadecimal value) can be set in that case in the ***Contact Parameters*** dialog. It is sent with the message and can be freely interpreted by the alarm host.

Pause recording (all recording modes)

This function stops any ongoing recording (timer may have expired), that has been triggered by the function ***Start recording (recording mode Contact)***. In the ***Contact Parameters*** dialog can be set to which alarm host the message is sent.

Quit recording pause (all recording modes)

This function starts/activates each recording that was stopped by ***Pause recording (all recording modes)***. The recording mode of the camera does not play a role for this function. However, attention must be paid to the fact that a recording may not occur immediately with recording modes ***Contact*** or ***Motion*** detection. The ***Contact Parameters*** dialog defines to which alarm host the message is sent.

Start recording camera (recording mode Contact)

This function starts the recording of one camera that is defined with recording mode ***Contact***. A binary value (input binary, decimal or hexadecimal value) can be set in that case in the ***Contact Parameters*** dialog. It is sent with the message and can be freely interpreted by the alarm host.

Stop recording camera (recording mode Contact)

This function stops any ongoing recording (timer may have expired) which was triggered by the ***Start camera*** function.

Live-display camera

This function enables the live viewing of the relevant camera.

Disable remote access (LAN, ISDN, Modem)

This contact function breaks all active connections of applications or users that do not have the right ***Network access with contact***. New connection requests are rejected. This has no impact on users defined as administrators. This user group has always all rights. The ***Contact Parameters*** dialog defines to which cameras remote access should be prevented.

Enable remote access (LAN, ISDN, Modem)

This function cancels restrictions by the ***Disable remote access (LAN, ISDN, modem)*** contact function. The ***Contact Parameters*** dialog defines to which cameras remote access should be allowed again.

Dome / UTC camera - move towards saved position

This function allows to select the stored positions of dome cameras. In the ***Contact Parameters*** dialog can be determined which cameras are relevant and to which mode they should be switched.

Split Rotation

With this function, the split views are changed in the defined order at each contact.

Reboot

The SMAVIA Recording Server appliance is rebooted.

Switch Recording Quality

This function switches the recording quality to ***High Quality***. Which camera is relevant can be defined in the ***Contact Parameters*** dialog. Every activated camera can be selected. It does not matter if the camera is connected or configured for recording.

Reset Recording Quality

This function switches the recording quality to ***Normal Quality***. Which camera is relevant can be defined in the ***Contact Parameters*** dialog. Every activated camera can be selected. It does not matter if the camera is connected or configured for recording.

Dome - send PTZ escape command

This function allows to stop an automatic tour of a PTZ camera.

SEDOR Arm / Disarm

With this function you can arm or disarm SEDOR globally, or track-wise.

Change Motion Recording to Permanent

Changes the recording mode to “Permanent” (see „Permanent“ on page 50).

Reset Permanent Recording to Motion

Changes the recording mode to “Motion” (see „Motion“ on page 53).

Set Split

Activates a certain split that is defined by a split-ID in case of a contact event.

Switch to next live camera

Activates the next camera in a sequence.

Switch to previous live camera

Activates the previous camera in a sequence.

Start delayed shutdown

Starts a delayed shutdown of the system specified in milliseconds. The camera continues recording until the system is shut down.

Stop delayed shutdown

Stops a delayed shutdown (see paragraph above).

14 Camera Contacts

The function ***Camera Contacts*** allows for a separate configuration of the contacts of each camera if necessary, for example if changes were made on part of the camera.

*Dallmeier cameras are configured as **Normally closed** by default.*

Configuration of Camera-Related Contacts

The camera-related contact inputs can be freely configured as ***Makers*** or ***Breakers***.

➢ Open the ***Camera Contacts*** dialog by clicking ***Setup*** > ***Interfaces*** > ***Camera Contacts***.

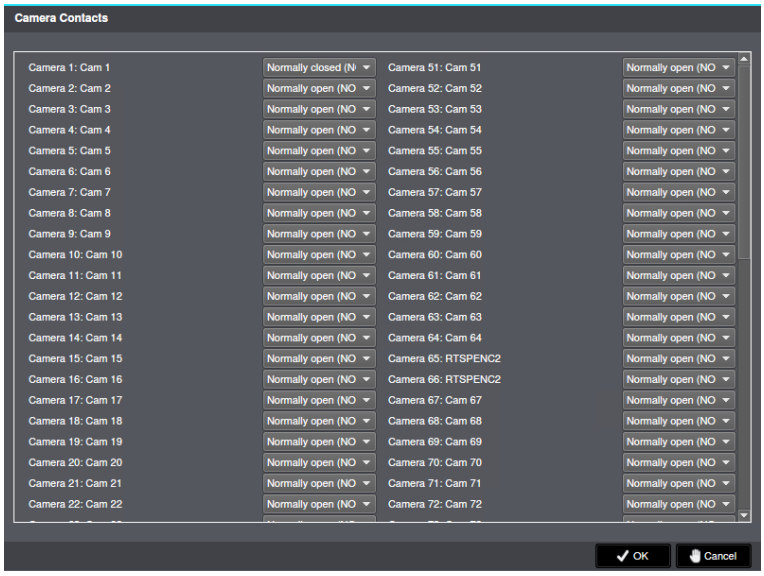


Abb. 14-1

➢ Make the required settings.

➢ Click ***OK*** to save the settings.

15 Relays OUT

The relays allow the event based control of external devices.

15.1 Setting

➢ Open the ***Relay*** dialog by clicking ***Interfaces*** > ***Relay OUT***.

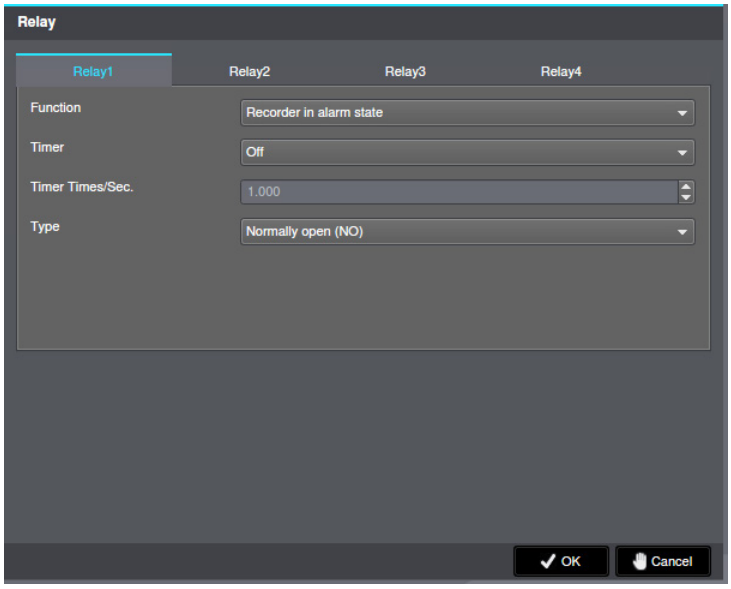


Abb. 15-1

➢ Set the triggering event as the ***Function***.
➢ Switch on the time controlled hold time with ***Timer*** if required.
➢ Set the hold time as ***Timer Time/Sec.*** if required.
➢ Set the relay ***Type***.
➢ Confirm with ***OK***.

15.2 Functions

The available functions of the interface depend on various software and hardware options.

None

No function selected.

Recorder in Alarm Select

This function switches and holds the relay when the device is in alarm state.

The alarm state is triggered by the Start alarm contact IN function. It is stopped by the corresponding contact IN functions.

The behavior of the relay corresponds to the Alarm LED of the device.

If the relay is active the alarm LED of the recorder starts to light.

System Error

The relay is switched in case of certain errors in the complete system or if status messages of a system component arrive.

- Camera failure
- Write or read fault error of a HDD
- Unknown software problem, device does not react or reacts only very slowly
- Housekeeping error event
- Error message of UPS
- Initialization error
- RAID (internal) error

The relay is held until the system error is eliminated.

The time for which the relay is held can also be set via the ***Timer***.

If an error is detected the Error LED of the recorder starts to light.

Start Recording by Image Comparison Event

The relay is switched if recording of a camera is triggered by motion detection.

The time for which the relay is held must be set by the ***Timer*** (e.g. 1 second).

More than 80 % of a Track Occupied

Using this function does not make any sense under the standard configuration of the recorder, since tracks are defined as ring buffers and therefore cannot be "fully occupied". The definition of a track as permanent storage and of the corresponding percent value is done by changing internal parameters. Please contact the Dallmeier support team, if necessary.

This function switches the relay if more than X % of the reserved disk space of a track (permanent storage) are occupied.

The relay is held until the track is deleted.

The time for which the relay is held can also be set via the ***Timer***.

More than 80 % of the Secure Tracks Occupied

This function switches the relay if more the 80 % of the defined/reserved secure tracks have been protected against overwriting.

The relay is held until a sufficient number of tracks has been released.

The time for which the relay is held is set by the ***Timer***.

Start Recording by Image Contact IN

The relay is switched if the recording of a camera is triggered by a Contact IN function (***Start recording camera*** (one camera, recording mode ***Contact***)). The time for which the relay is held is set by the ***Timer*** (e.g. 1 second).

Error on Writing / Reading onto HDD

The relay is switched if an error (read/write) occurs during HDD access.

The relay is held until it is possible to read or write again.

The time for which the relay is held can also be set by using the ***Timer***.

Writing / Reading onto HDD

This relay function allows to represent the HDD access.

The relay is switched and held directly before the HDD access (read/write). The relay is reset after the HDD access.

The Record LED of the recorder starts lighting if the device is recording.

Remote Control Through PView

This function allows the relay to be remote-controlled by using an external software (e.g. SMAVIA Viewing Client). It is switched, held or reset according to the commandos of the software.

The time for which the relay is held can also be set by the ***Timer***.

SEDOR® Sabotage-Event

The relay is switched if SEDOR® detects a sabotage event on a camera (defocusing, turning, covering).

The time for which the relay is held must be set by the ***Timer***.

Housekeeping Sabotage-Event

The relay is switched if the system monitoring (housekeeping) detects an event of the category sabotage.

Events of the category sabotage are:

- The BNC terminal has been removed.
- The BNC terminal is ready for operation.

The relay is held until the system monitoring defines the status as normal.

The time for which the relay is held can also be set by using the ***Timer***.

Housekeeping Info-Event

The relay is switched if the system monitoring (housekeeping) detects an event of the category info.

Events of the category info are:

- The internal temperature is in the upper / lower / normal range.
- The external temperature is in the upper / lower / normal range.
- The CPU temperature is in the upper / lower / normal range.
- The average system temperature is in the upper / lower / normal range.
- The internal / external / CPU temperature average system temperature has reached the upper limit. The device dialog will be shut down.
- The revolution of the front fan is too high / too low/normal.
- The revolution of the rear fan is too high / too low/normal.
- The revolution of the HDD fan is too high / too low/normal.

The relay is held until the system monitoring defines the status as normal.

The time for which the relay is held can also be set by using the ***Timer***.

Housekeeping Error-Event

The relay is switched if the system monitoring (housekeeping) detects an event of the category error.

Events of the category error are:

- The I/O board could not be put into operation.
- The I/O board is ready for operation.
- The display could not be put into operation.
- The display is ready for operation.
- The CPU temperature cannot be determined.
- The CPU temperature can be determined.
- The internal temperature cannot be determined.
- Error during determination of the internal temperature.
- The internal temperature can be determined.
- The external temperature cannot be determined.
- Error during determination of the external temperature.
- The external temperature can be determined.
- The revolution of the front fan cannot be determined.
- Error during determination of the revolution of the front fan.
- The revolution of the front fan can be determined.
- The front fan does not rotate anymore.
- The front fan rotates again.
- The revolution of the rear fan cannot be determined.
- Error during determination of the revolution of the rear fan.
- The revolution of the rear fan can be determined.
- The rear fan does not rotate anymore.
- The rear fan rotates again.
- The housing screw has been loosened.
- The housing screw has been screwed in.
- The housing cover has been opened.
- The housing cover has been closed.
- Power supply unit 1 failed.
- Power supply unit 1 is operational again.
- Power supply unit 2 failed.
- Power supply unit 2 is operational again.

The relay is held until the system monitoring defines the status as normal.

The time for which the relay is held can also be set by using the ***Timer***.

Housekeeping Event

The relay is switched if the system monitoring (housekeeping) detects an event of the categories (sabotage, info or error).

The relay is held until the system monitoring defines the status as normal.

The time for which the relay is held can also be set by using the ***Timer***.

SEDOR® All Cameras and Events

The relay is switched on every SEDOR® event.

SEDOR® Sabotage-Event

The relay is switched if SEDOR® detects a sabotage event on a camera (defocusing, turning, covering).

The time for which the relay is held must be set via the ***Timer***.

16 PRemote

This function requires an activation,which is optionally available.

Normally the image will be transferred via the LAN or WAN in recording format H.264. This can result in errors during playback caused by an external application (for example in SMAVIA Viewing Client) if the available bandwidth is too low.

In this case the external application can request the picture data using the ***PRemote*** recording function.

The ***PRemote*** function makes image and audio data available to external applications in a format that requires less bandwidth and can also be scaled (MPEG4 rather than H.264). This makes it possible to achieve fluid playback even with low bandwidth although a loss of image quality must be accepted in this case.

In addition, the ***PRemote*** function allows the creation of an intercom to a workstation and the corresponding external application (e.g. SMAVIA Viewing Client) over the Ethernet. Therefore, only the used ***Audio IN*** interface must be set on the device.

➢ Open the ***PRemote settings*** dialog by clicking ***Interfaces*** > ***PRemote***.

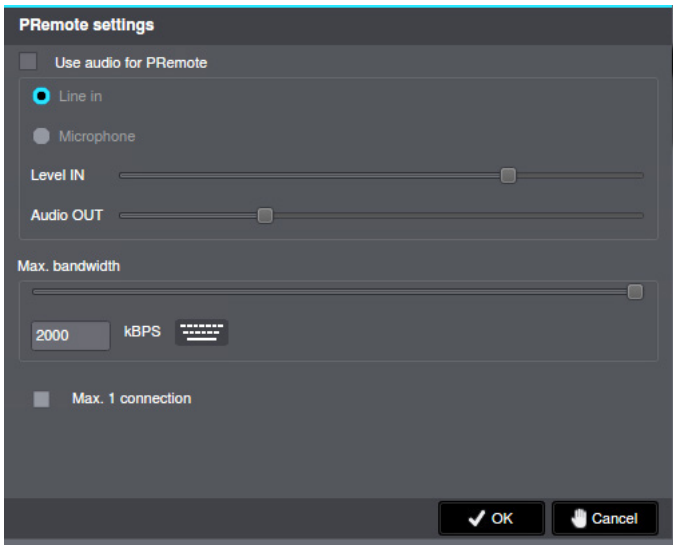


Abb. 16-1

➢ Enable the ***Use audio for PRemote*** checkbox if required.
➢ Select the source of the audio signal (***Line in*** / ***Microphone***) of the intercom if required.
➢ Set the microphone volume with the slider below ***Level IN***.
➢ Set the level for the audio output with the slider under ***Audio OUT***.
➢ Set the maximum bandwidth with the slider under ***Max. bandwidth*** or enter it in the ***kBPS*** box.
➢ Activate the ***Max.1 connection*** checkbox to allow one connection only.
➢ Click ***OK*** in order to save the settings.

17 HDD Management

The Internal Hard Disks Management Dialog shows the overall capacity of the built-in HDDs, and offers further options for their management.

➢ Open the ***Internal Harddisk Management*** dialog by clicking ***Recording*** > ***HDD Management***.

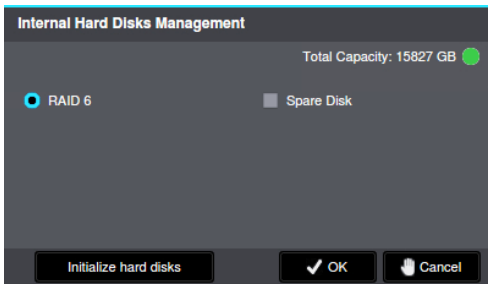


Abb. 17-1

Spare Disk

With the ***Spare Disk*** option, another HDD can be set up for redundant recording, which offers additional security for the recorded data.

➢ Activate the checkbox ***Spare Disk***, if necessary.

The overall capacity of the system is reduced accordingly.

Initialize harddisks

NOTICE

Data loss!

After changing the settings to a RAID, all previous recordings will be deleted.

The ***Initialize harddisks*** option can be used to rebuild the RAID-System, for example after HDDs have been exchanged.

➢ Click ***Initialize harddisks*** to open the ***Internal Hard Disks Management*** dialog.

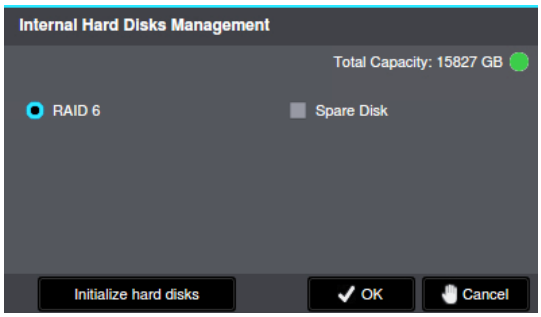


Abb. 17-2

➢ Confirm with ***OK***.

The appliance can only be run with RAID 6.

*The device must be run with HDDs of identical construction and capacity. The system automatically recognizes HDDs of different manufacturers or series and labels them as unfit for use. It displays an according GUI warning at each start. Unfit HDDs are marked with an exclamation mark in the **Info** dialog and on the display.*

For further information on the topic of HDDs please refer to the „RAID status“ handout and the „HDD Lifetime & RAID Systems” whitepaper.

18 Protect/Release Tracks

18.1 Protect Tracks

Recorded tracks can be protected from being overwritten, in order to save or analyze them later. Protected tracks are intended for the short time storage of the respective material only. When protecting a track, at least 2 data packets have to remain unprotected for each respective camera, in order for the ring puffer to work properly.

➢ Open ***Recording*** > ***Protect Tracks***, in order to create or manage protected tracks.

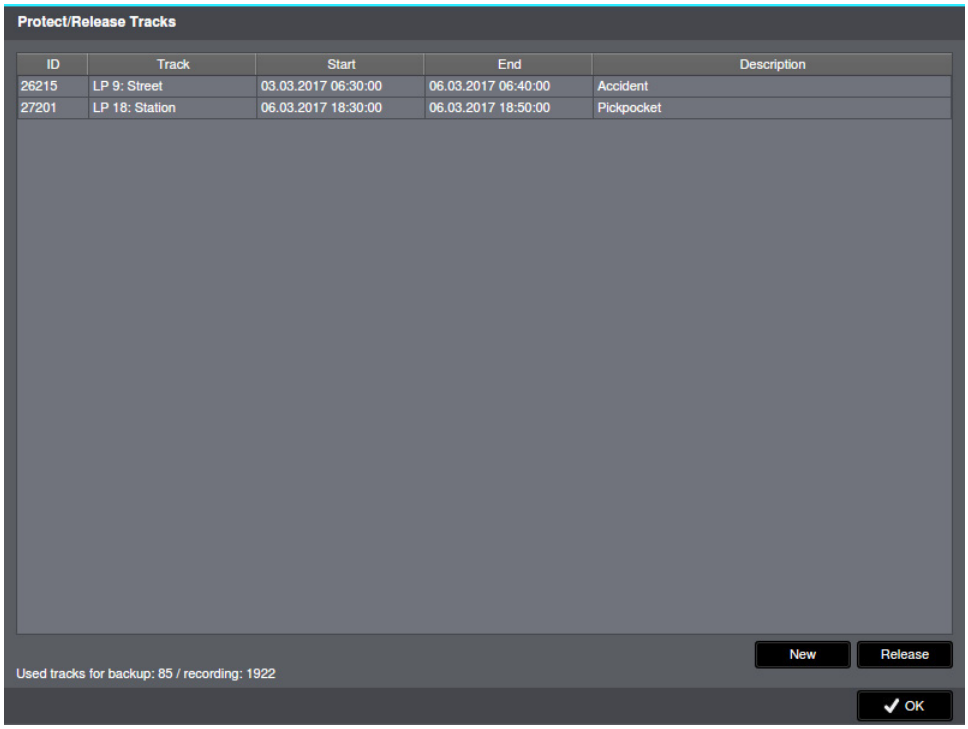
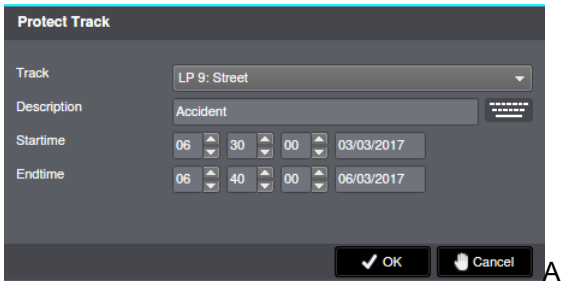


Abb. 18-1

➢ Click ***New***.

The Protect Track dialog opens.



A

Abb. 18-2

➢ Choose a ***Track*** from the drop-down list.
➢ Add a ***Description***, no longer than 25 characters.
➢ Set a ***Starttime*** and an ***Endtime***.

Note that, while the set up interval is protected in any case, ***Starttime*** *and* ***Endtime*** *are somewhat exceeded, due to package size.*

- Confirm with ***OK***.

The track is now protected.

18.2 Release Tracks

When a protected track is no longer needed, it has to be released, so its space is available for recording again.

- Open ***Recording*** > ***Protect Tracks***.
- Click the necessary track.
- Click ***Release***.

The chosen track is no longer protected.

19 Optional Periphery

19.1 UPS

The use of a UPS (uninterruptible power supply) allows the device to be operated without problems even in the case of temporary power cuts. In addition the device can receive and display the status messages from a UPS connected by an USB port of the serial interface.

NOTICE

Potential malfunction of the UPS!

➢ Use only the cables provided by the manufacturer of the UPS.

If a serial UPS is to be connected, the corresponding serial interface must be configured first.

➢ Open the ***UPS*** dialog via ***Interfaces*** > ***UPS***.

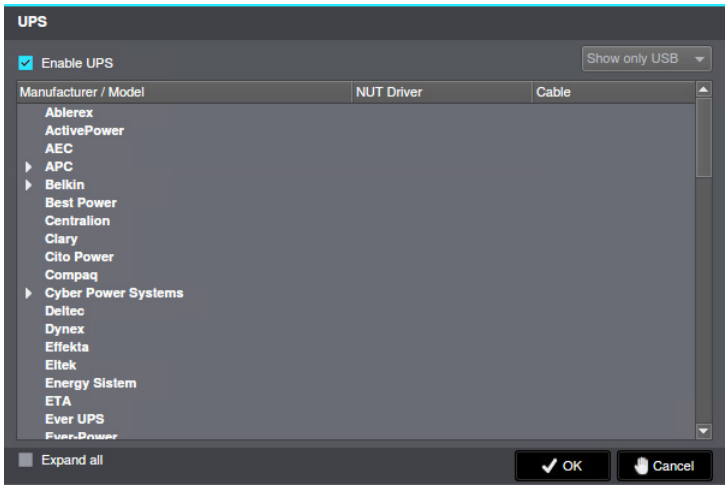


Abb. 19-1

➢ Activate the ***Enable UPS*** checkbox.
➢ Select the ***Manufacturer***.
➢ Select the connected ***Model***.
➢ Select the used ***Cable*** if required.
➢ Confirm with ***OK***.

NOTICE

Potential malfunction of the data transmission (serial UPS).

➢ Set the UPS ***Model*** with the used ***Cable*** if required.

19.2 External I/O Interface

The event message of a video analysis can be sent to a peripheral device via relay contact. For this a separate device is necessary, which can be connected to the appliance with the ***Ethernet I/O Interface***.

➢ Open ***Interface*** > ***Ethernet I/O Interface***.

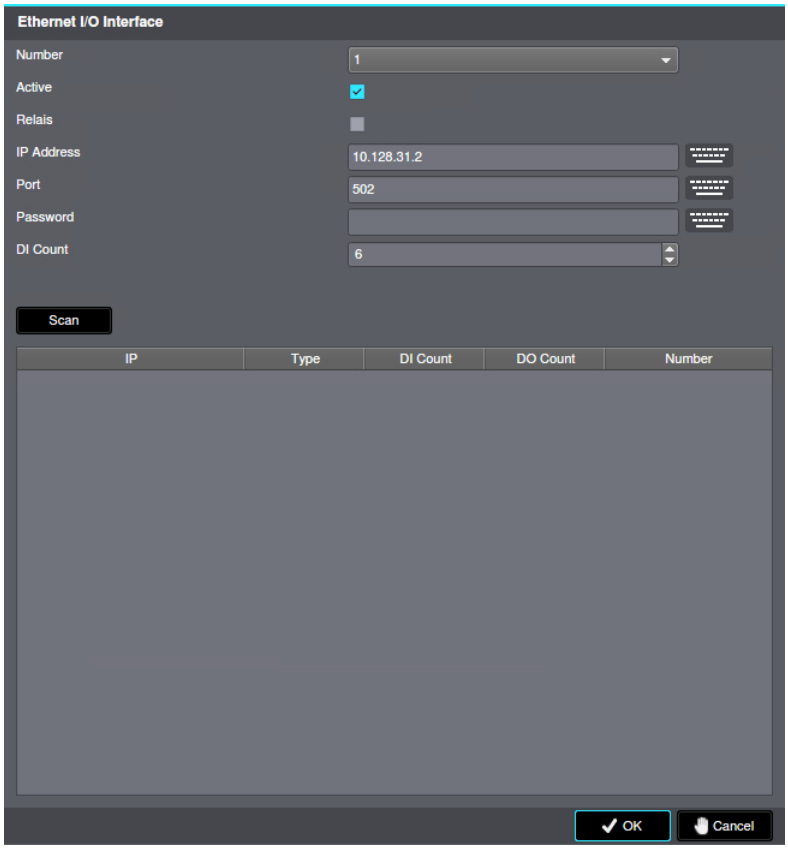


Abb. 19-2

➢ Click ***Scan***.
➢ Choose the necessary peripheral device.
➢ Confirm with ***OK***.

The data can also be entered manually, in their corresponding fields.

20 System Messages

Logging of system messages include user actions and results of the completeness check of the system (e.g. camera failure or HDD error).

The logging is done automatically and cannot be disabled.

In order to support, the messages can be displayed by a warning dialog / alarm signal.

20.1 Evaluation

The evaluation of logged system messages can be done via the configuration interface.

➢ Open the ***System Messages*** dialog via ***System*** > ***System Messages***.

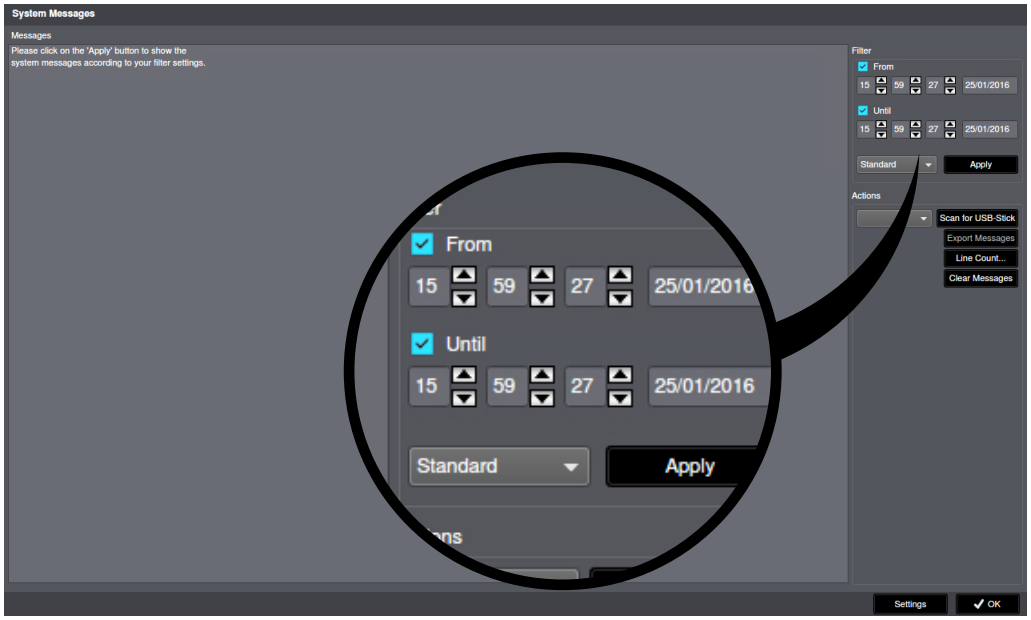


Abb. 20-1

➢ Set the required time period in the ***From*** / ***Until*** area.

➢ Select the required message category from the drop-down list:

- ***Standard***
  System messages that are also displayed by the graphical user interface.
- ***Protocol***
  General protocol of system events.
- ***Actions***
  User actions, for example concerning password changes and system parameters.
- ***Login***
  Login attempts (failed and successful) with respective IP, application and user group.

➢ Click ***Apply*** in order to start the query of the system messages.

The events are displayed in the ***Messages*** window.

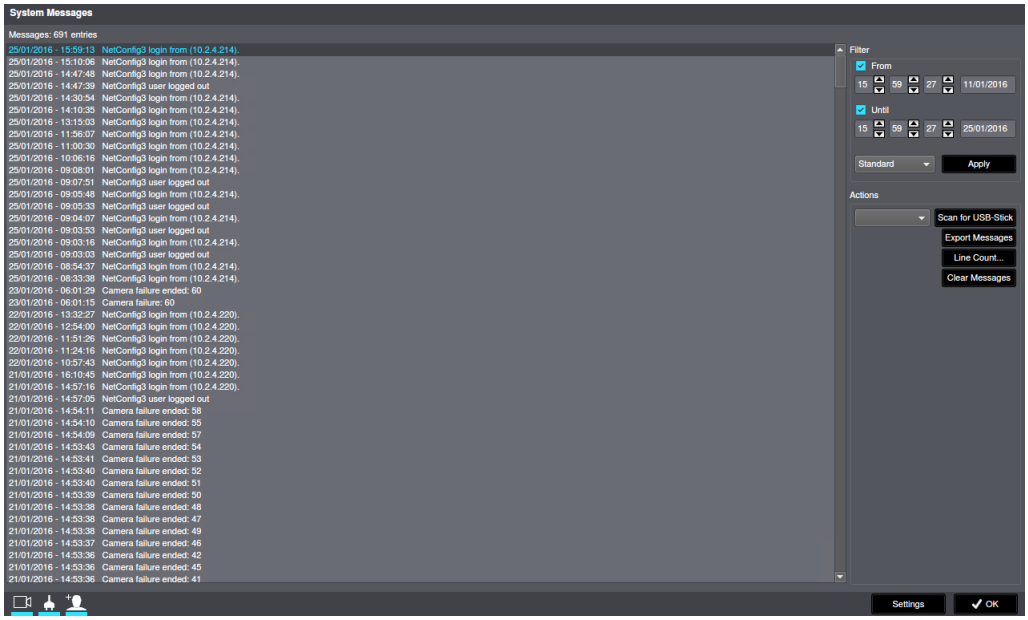


Abb. 20-2

20.2 Filter

The messages can be filtered by topic. Only filters that match results fot the query are available.

➢ Select the required messages as described above.

All messages are displayed.

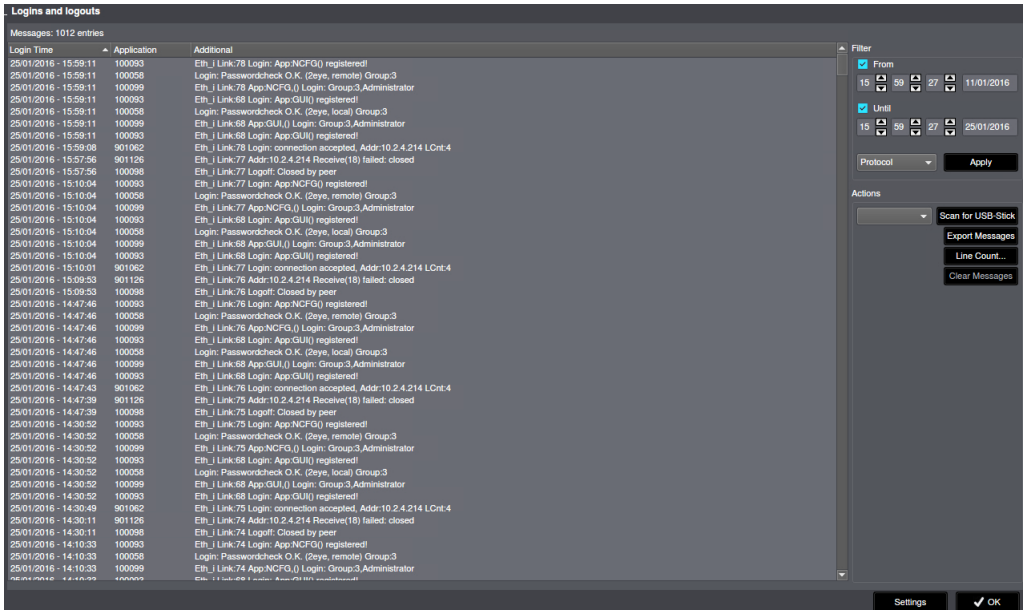


Abb. 20-3

➢ Click the required filter button.

The filter button is marked and the messages matching the selected filter type will be listed. A tooltip indicates which filter type is applied. Multiple filters can be combined.

20.3 Number of Lines

The number of stored messages, and thus the maximum lenght of the message list can be set for the categories ***Standard*** and ***Protocol***.

This function is only available for the "Administrator" user group.

- Select the required category from the dropdown menu.
- Click ***Line Count...***.

The ***Line Count*** dialog is displayed.

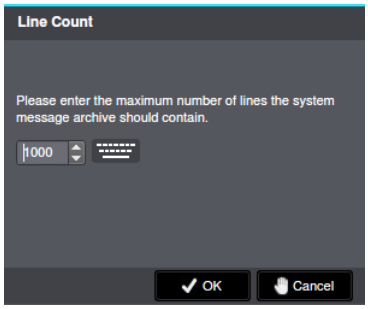


Abb. 20-4

- Enter the required number of lines (maximum 10.000).
- Click ***OK*** to save the settings.

The setting takes effect when the system messages are updated.

20.4 Export

The messages archive can be exported.

The exported system messages depend on the selection settings and the start and stop time setting. If all system messages in the archive are to be exported, all settings must be enabled and both start and stop time must be disabled.

Default file names for the three messages categories:

Standard `logsysmessages.txt`
Protocol `protocol-tab.txt`
Actions `useraction-tab.txt`

The default file names can be changed before saving.

- Select the required messages as described above.

The messages are displayed.

Abb. 20-5

➢ Click ***Export Messages***.

The file manager of the operating system is displayed.

➢ Select the required storage directory.
➢ Click ***Save***.

20.5 Delete

The message archive can be deleted for the categories ***Standard*** and ***Actions***.

This function is only available for the user group "Administrator".

➢ Select the required category from the dropdown menu.
➢ Click ***Clear Messages***.
➢ Confirm the subsequent info dialog.

20.6 Settings

In the settings dialog, the logging of system messages can be enabled and disabled. In addition, one can determine which user actions should be logged.

20.6.1 System Messages

➢ Open the ***System Messages*** dialog via ***System*** > ***System Messages***.

Abb. 20-6

➢ Click ***Settings***.

The ***System Messages*** dialog is displayed.

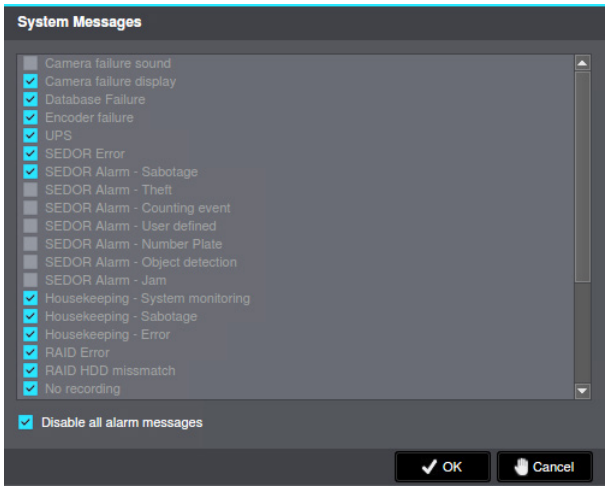


Abb. 20-7

➢ Enable/disable the required system messages.
➢ Click ***OK*** in order to save the settings.

20.6.2 User Actions

➢ Open the ***Options*** dialog by clicking ***System*** > ***Options***.

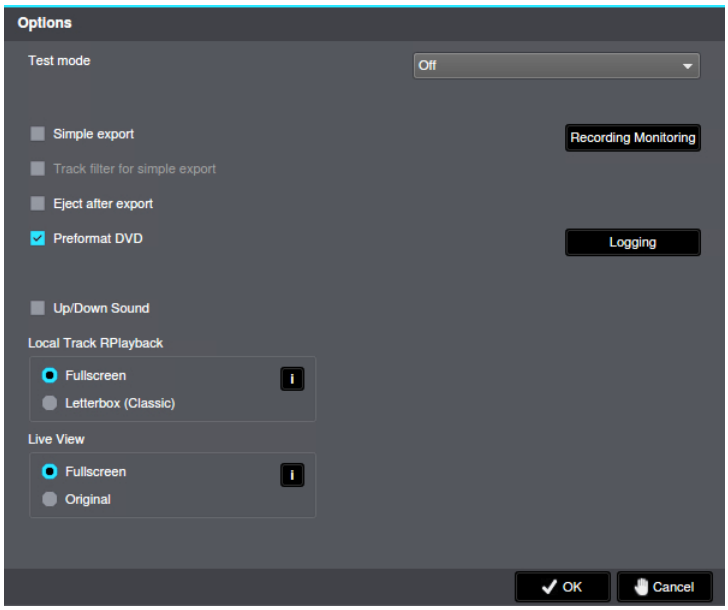


Abb. 20-8

➢ Click ***Logging***.

The ***Configure logging*** dialog is displayed.

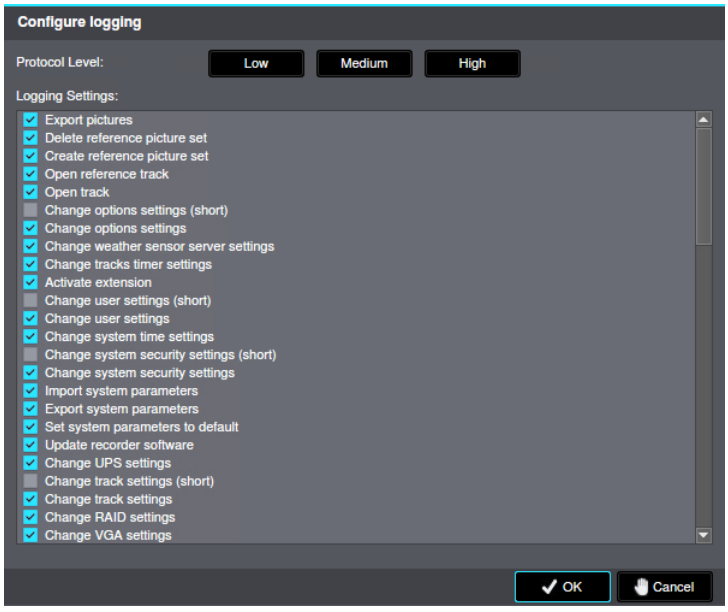


Abb. 20-9

- Select the automatic intensity of the ***Protocol Level*** if required.
  - ***Low***
    Only the most important processes are logged.
  - ***Medium***
    Intermediate logging setting.
  - ***High***
    Almost all processes are logged.
- Enable / disable the individual ***Logging Settings*** if required.
- Click ***OK*** in order to save the settings.

21 Licenses

Certain features and functions of the software are optional. They are only available if they are ordered when purchasing the system or subsequently acquired. For this, it may be required to purchase a hardware extension together with a license code.

After the activation of features and functions, a restart of the appliance is recommended.

➢ Open the ***License Code*** dialog by clicking ***System*** > ***Service*** > ***License Code***.

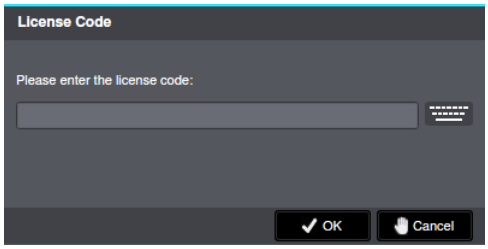


Abb. 21-1

➢ Enter the license code.
➢ Click ***OK*** in order to save the entry.
➢ Open the ***Licenses*** dialog via ***System*** > ***Info*** > ***Licenses***.

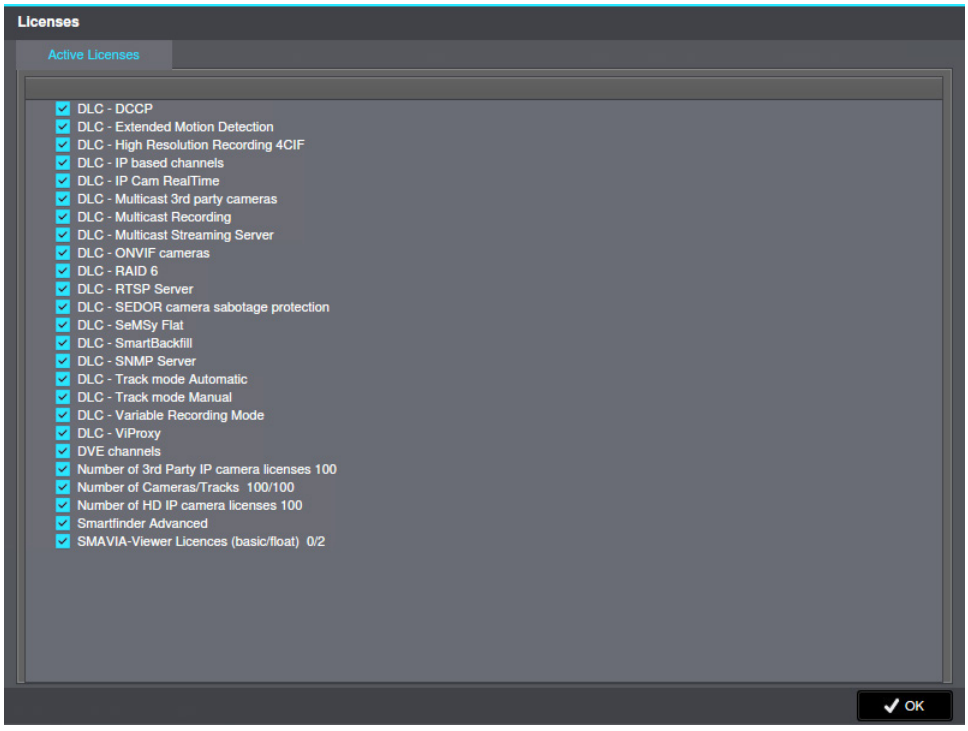


Abb. 21-2

➢ Make sure that the feature or function is selected as active.
➢ Check the functionality of the feature or function.
➢ Note that further settings are required under certain circumstances.

22 Update

To update the recorder software, an USB stick with the most recent software version is required. It can be downloaded at the Dallmeier website. It is also possible to conduct the update using the PService Software also available at the Dallmeier website (refer to the “Operation” documentation of the PService software).

NOTICE

Error during the software update!

- Disconnect all Contact IN connectors of the recording system before you start with the update.
- Insert the plugs again until after the update is complete.

- Open the ***Software Update*** dialog via ***System*** > ***Service*** > ***Software Update***.

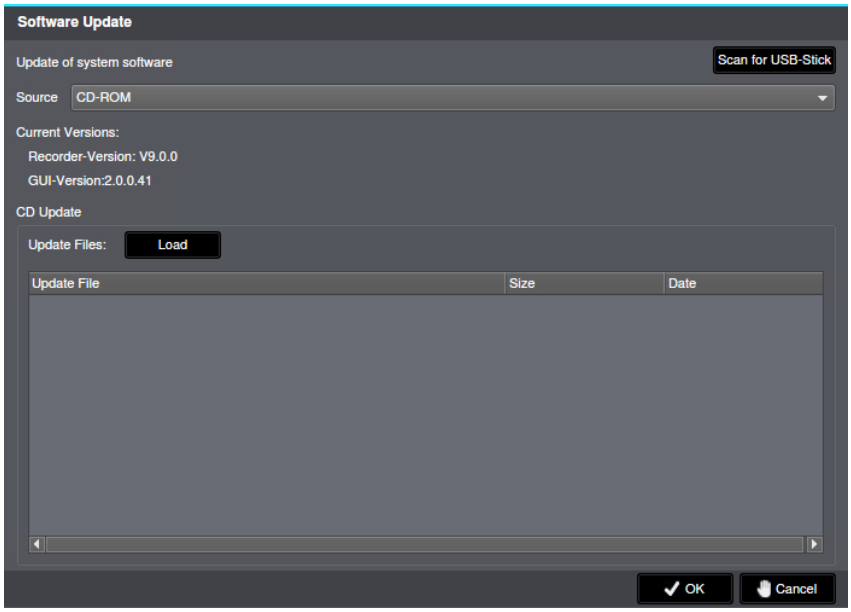


Abb. 22-1

- Select the storage device as ***Source***.
- Click ***Load***.
- Select the relevant ***Update File***.
- Confirm with ***OK***.
- Follow the instructions of the subsequent dialogues.

23 System Parameters

23.1 Default Parameters

The original configuration of SMAVIA Recording Server can be restored by resetting to the default system parameters.

NOTICE

Data loss!

If the device is reset to the default system parameters, all recordings and recording settings will be lost.

➢ Open the ***System Parameters*** dialog by clicking ***System*** > ***System Parameters*** > ***Default***.

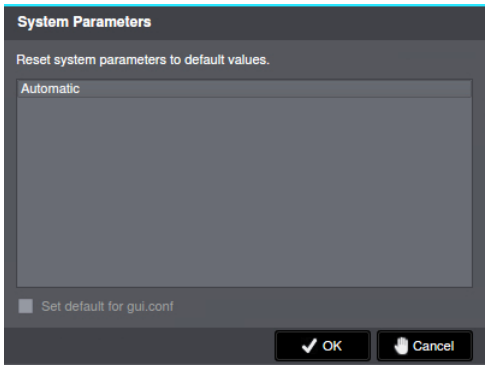


Abb. 23-1

➢ Click ***OK***.

The default system parameters will be restored.

23.2 Export Parameters

The system parameters can be exported. After export they can be archived and modified to specific requirements.

In addition to the system parameters, various log and protocol files are stored.

➢ Open the ***Save Configuration*** dialog by clicking ***System*** > ***System Parameters*** > ***Save Configuration***.

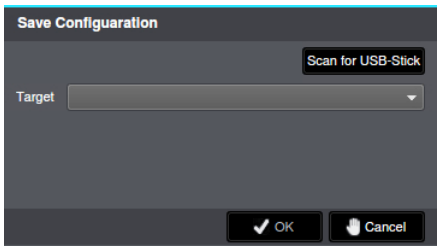


Abb. 23-2

- Click ***Search...***.
- Select the appropriate storage directory as ***Target***.
- Click ***OK***.

The system parameters will be exported.

23.3 Import Parameters

Secured or modified system parameters can be imported to restore the configuration of SMAVIA Recording Server.

NOTICE

Data loss!

System failure!

Inappropriate or incorrectly modified system parameters can lead to the loss of recordings and a permanent system fault.

- Open the ***Restore Configuration*** dialog by clicking ***System*** > ***System Parameters*** > ***Restore Configuration***.

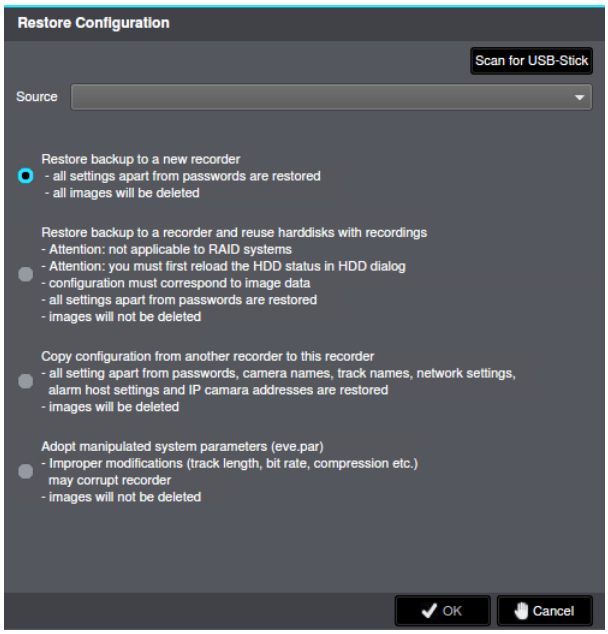


Abb. 23-3

- Note the detailed explanations in the dialog.
- Click ***Search USB stick*** if required.
- Select the required storage medium as a ***Source***.
- Select the relevant import option.
- Finally, click ***OK*** in order to start the import.

The saved system parameters will be restored.

24 Download

The ***Download*** dialog enables to export Dallmeier software and browser plugins (e.g. SMAVIA Viewing Client, NetConfig3, PService) to a storage medium . These applications can then be installed on suitable Windows devices.

Note the documentation for the respective applications.

➢ Open the ***Download*** dialog by clicking ***System*** > ***Download***.

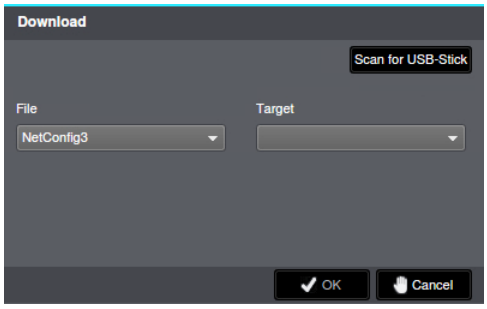


Abb. 24-1

➢ Select the required ***File***.
➢ Click ***Search USB stick*** if required.
➢ Select the required ***Target***.
➢ Confirm with ***OK***.

25 Info

The Info dialog displays different information about the system and the software.

➢ Open the ***Info*** dialog by clicking ***System*** > ***Info***.

Recorder
The ***Recorder*** tab displays the version number of licensed cameras and serial numbers.

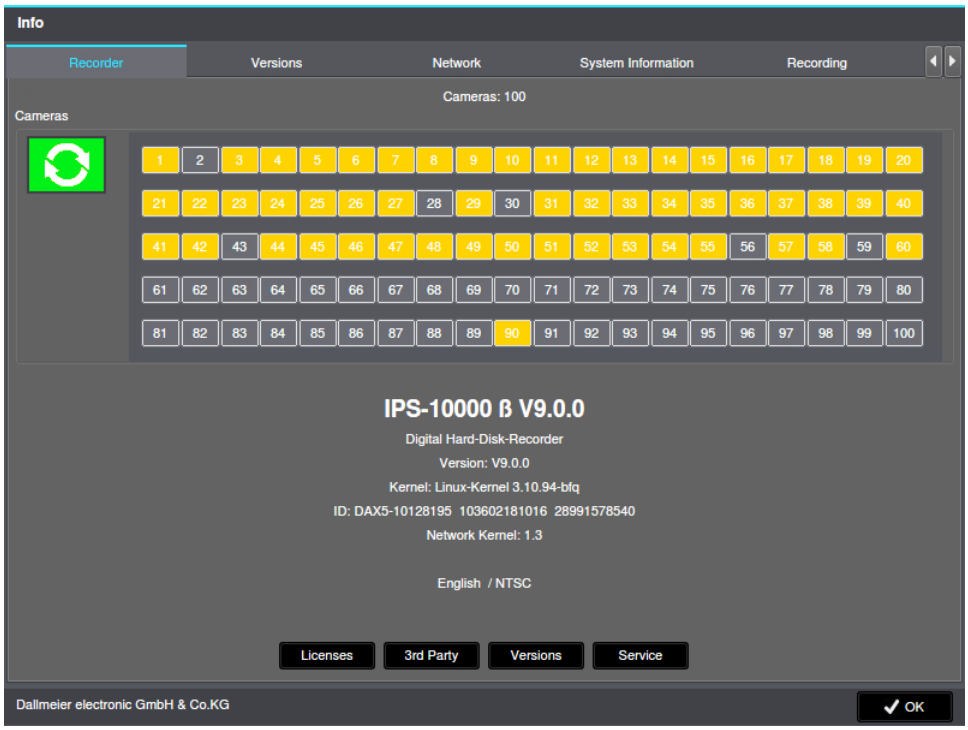


Abb. 25-1

Connected active cameras are displayed with a button and the camera number (update by clicking on the button with the camera icon).

Licenses
The ***Licenses*** dialog displays all licensed functions of the system.

➢ Click ***Licenses***.

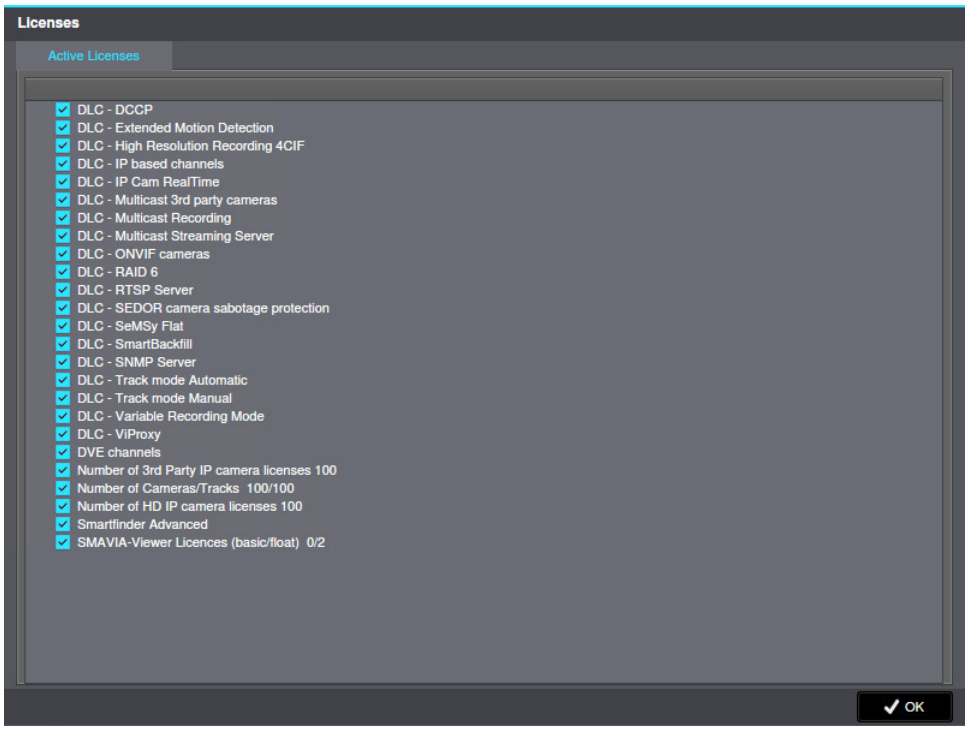


Abb. 25-2

Service

The ***SW-Maintenance*** dialog displays all maintenance and access licenses of the system.

➢ Click ***Service***.

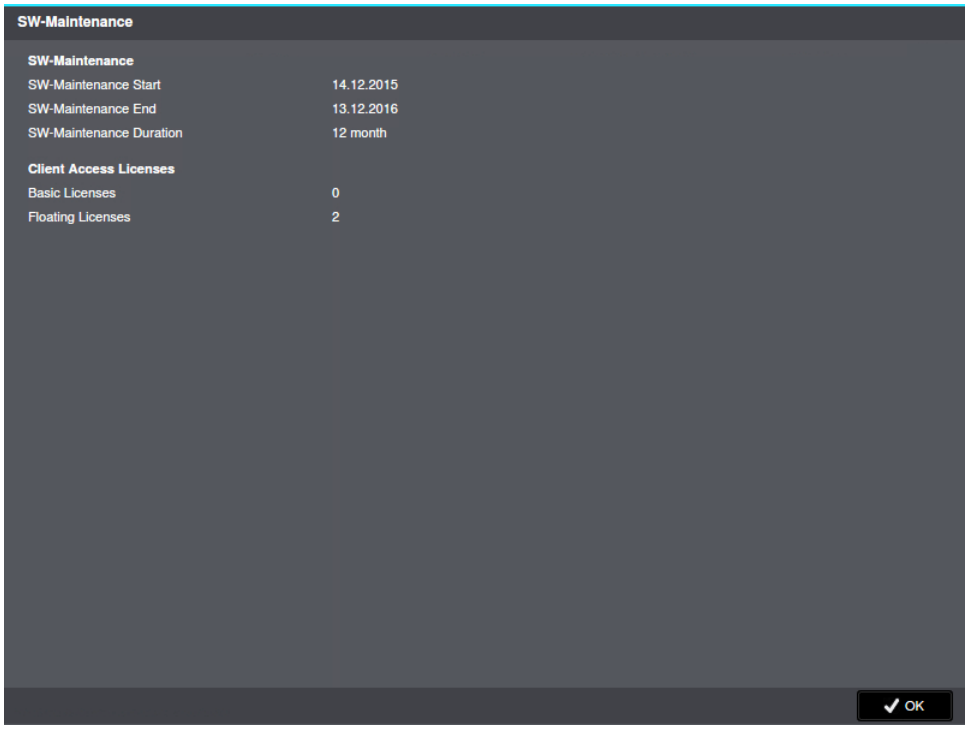


Abb. 25-3

Versions

The ***Versions*** tab contains information about the versions of the components of the system.

➢ Select the ***Versions*** tab.

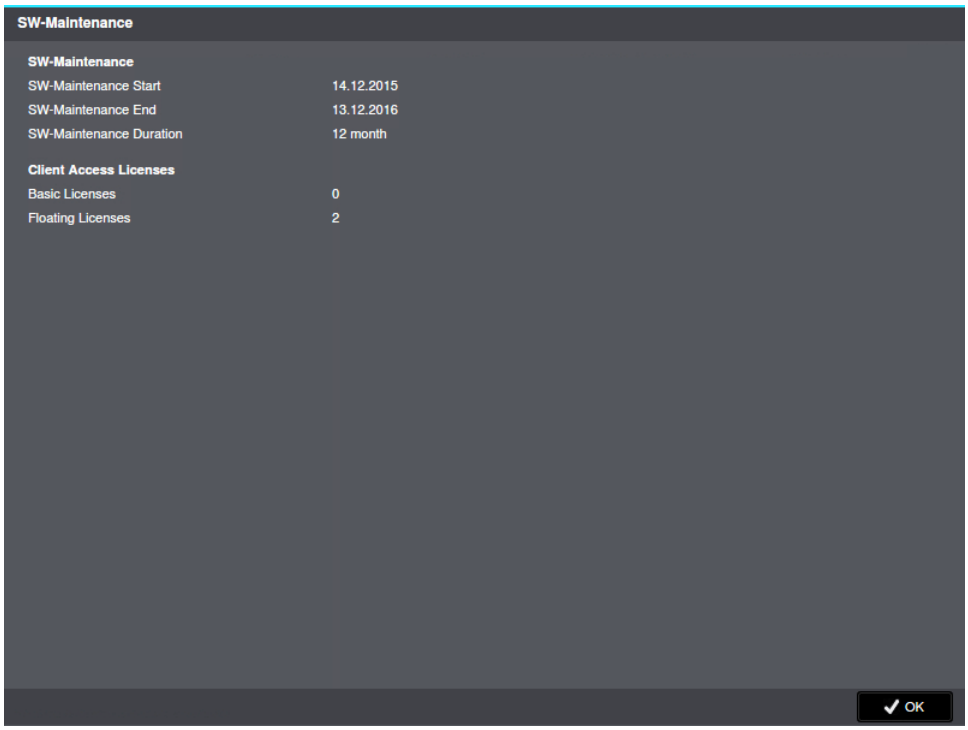


Abb. 25-4

➢ Click ***Refresh*** in order to update the display.

Network Connections

The ***Network*** tab displays all active requests (DaVid Protocol) by the network interface of the system (e.g. SMAVIA Viewing Client).

➢ Select the ***Network*** tab.

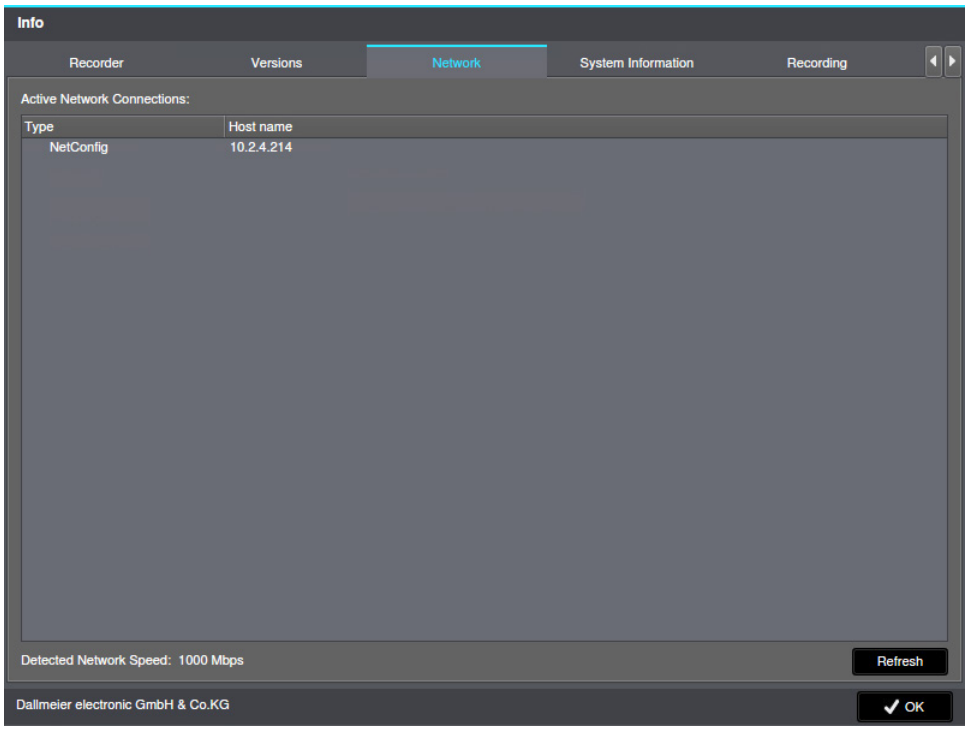


Abb. 25-5

➢ Click ***Refresh*** to update the display.

System Information

The ***System Information*** tab provides an overview of memory and processors.

➢ Select the ***System Information*** tab.

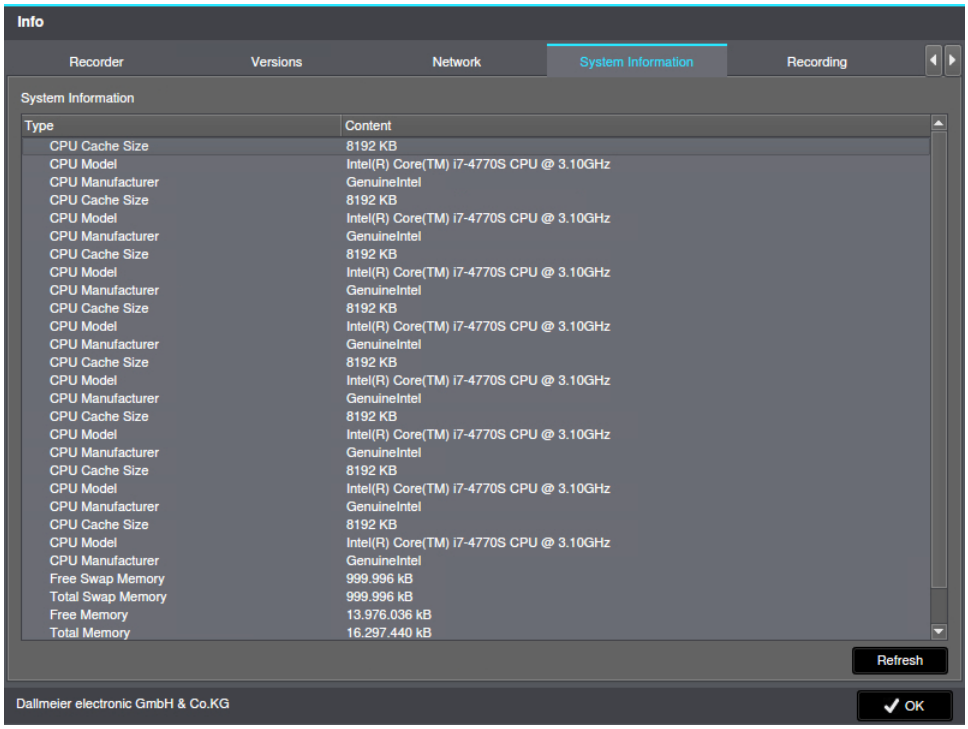


Abb. 25-6

➢ Click ***Refresh*** to update the display.

Recording

The ***Recording*** tab includes information about all active channel recording times and video memory usage.

➢ Select the ***Recording*** tab.

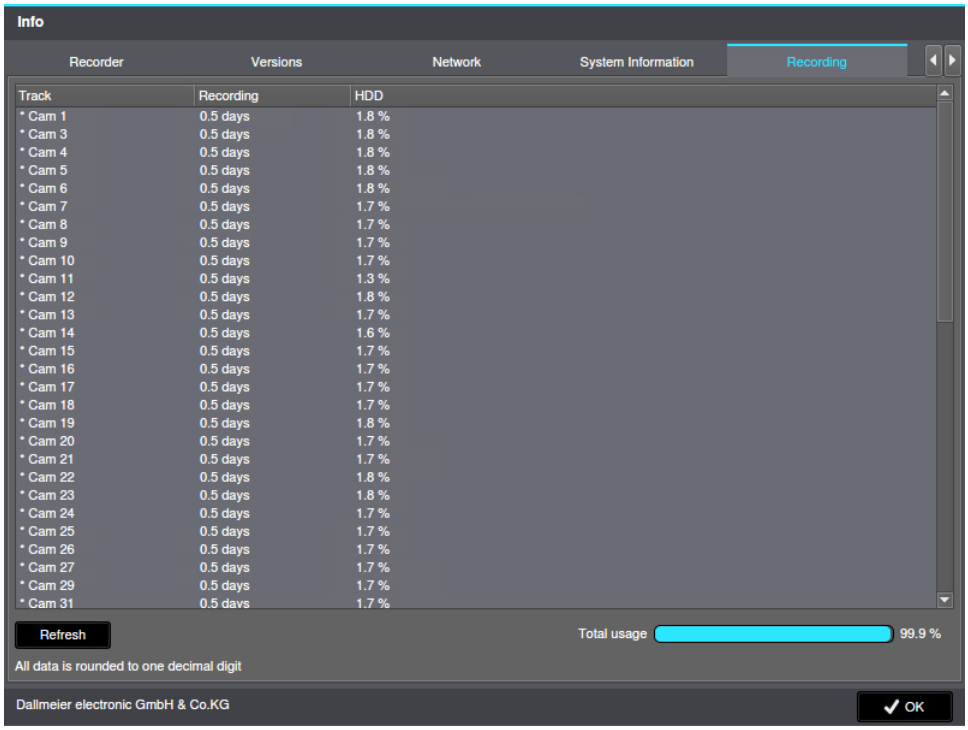


Abb. 25-7 Recording dialog, example IPS 10000

➢ Click ***Refresh*** to update the display.

Housekeeping

The ***Housekeeping*** tab summarizes the measured temperature and speed of the fans. In addition, the status of the cover contact, sabotage contact and motion detection is displayed.

➢ Select the ***Housekeeping*** tab.

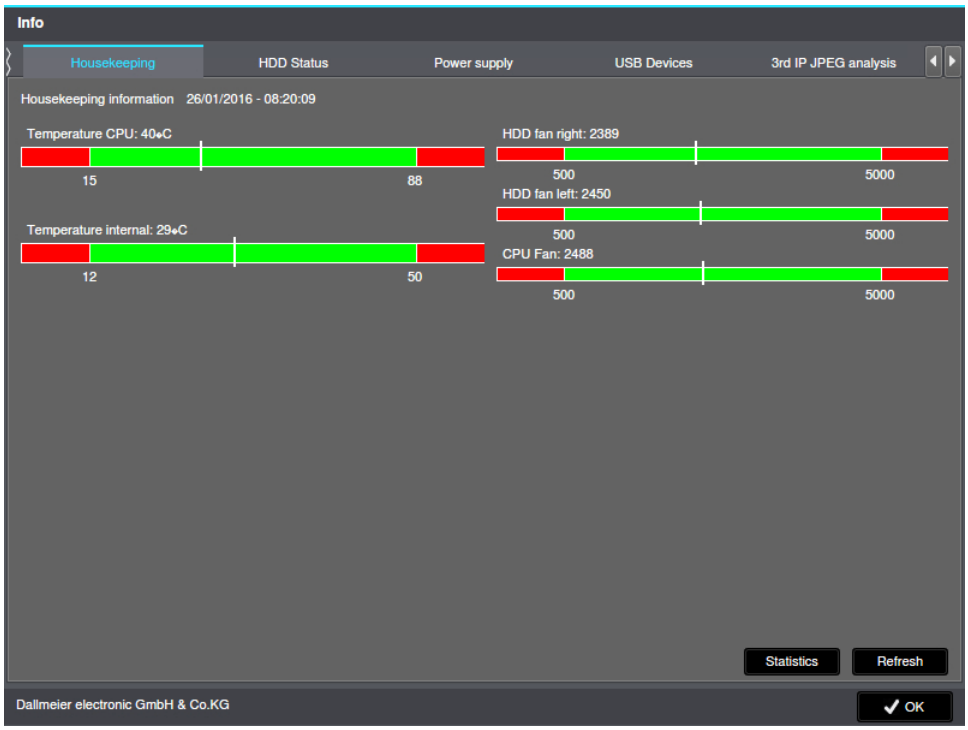


Abb. 25-8

➢ Click ***Refresh*** to update the display.

Housekeeping Statistics

➢ Click the ***Statistics*** button on the ***Housekeeping*** tab.

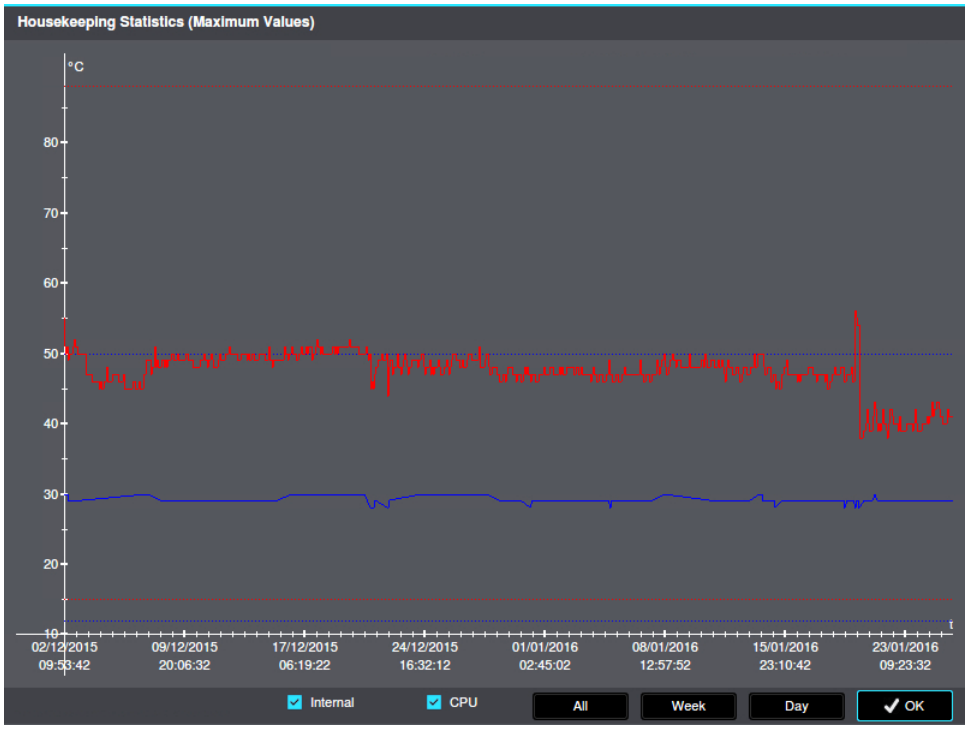


Abb. 25-9

This dialog visualizes the history of the measured temperatures.

Several checkboxes and buttons allow filtering for external, internal and CPU temperatures as well as time period.

HDD-Status

The ***HDD Status*** tab provides an overview of the HDDs connected to the appliance. Defective HDDs are shown in red.

➢ Select the ***HDD Status*** tab.

Abb. 25-10 HDD Status dialog, example IPS 10000

Power Supply

The ***Power Supply*** tab shows the current status of the existing power supply units within the appliance.

➢ Select the ***Power Supply*** tab.

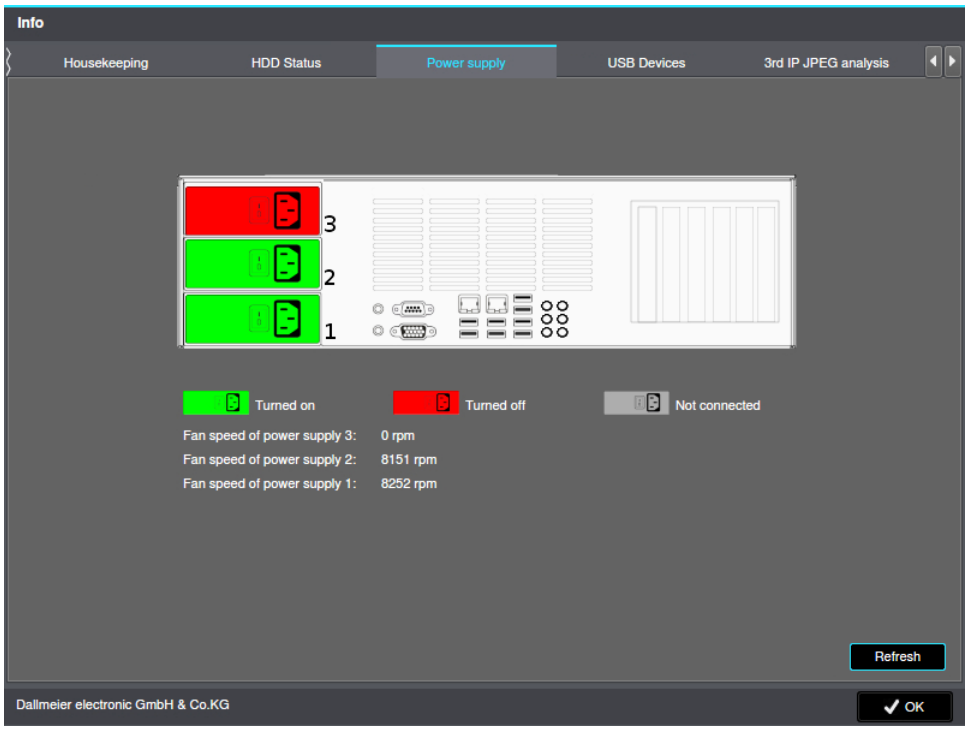


Abb. 25-11

Working power supply units are shown in green.

Power units currently turned off are shown in red.

Power units that are not connected are shown in grey.

USB Devices

This tab lists all USB devices that are connected to the USB bus of the appliance. Included are internal as well as external devices.

➢ Select the ***USB Devices*** tab.

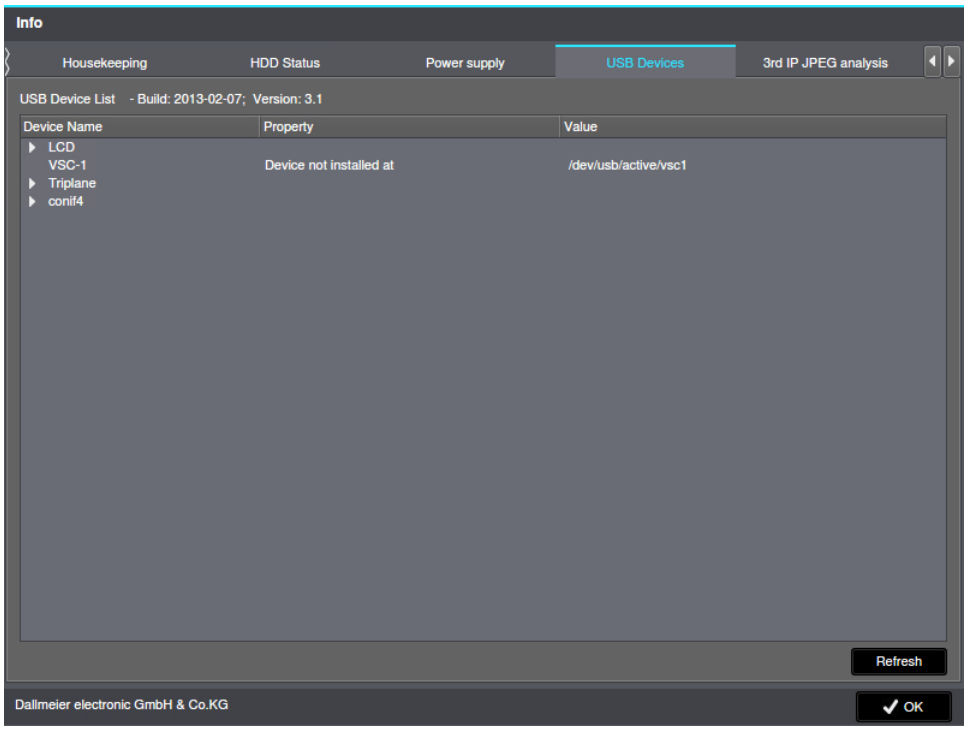


Abb. 25-12

➢ Click ***Refresh*** to update the display.

3rd IP JPEG analysis

The function 3rd IP JPEG analysis checks if the JPEG files provided by a 3rd party IP camera meet the requirements for exact motion analysis.

Only 3rd party IP cameras sending a RTPS-video stream via UDP / RTP, and JPEG files via TCP / HTTP can be set to the ***Motion*** recording mode.

➢ Chose the ***3rd IP JPEG analysis*** tab

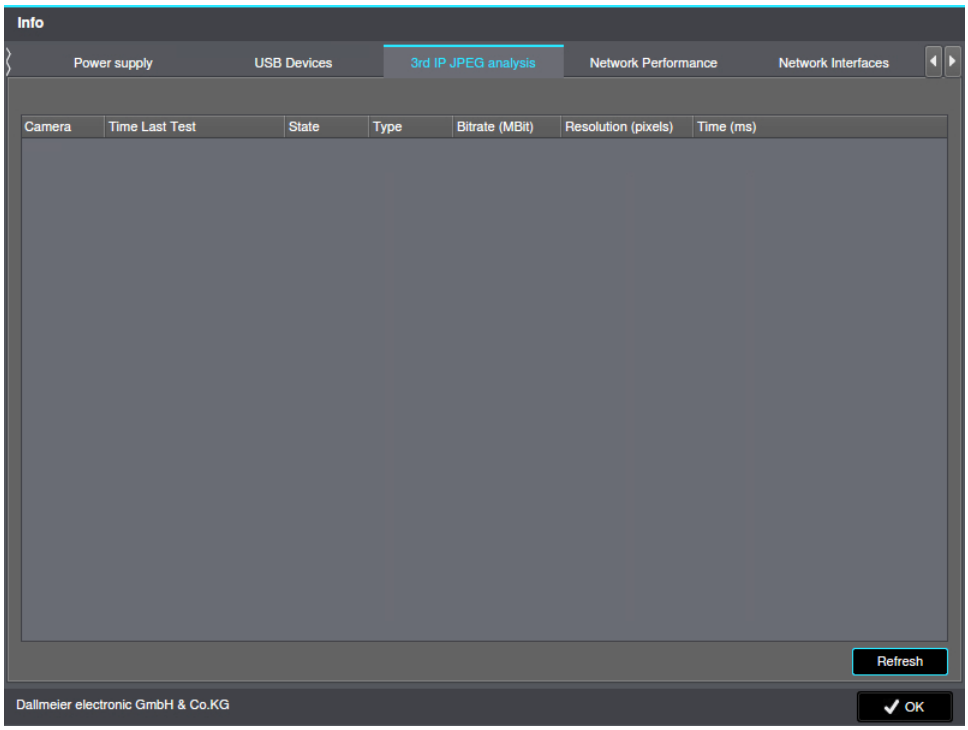


Abb. 25-13

Network Performance

The ***Network Performance*** tab provides an overview for the current status of the network connection to the different cameras.

➢ Chose the ***Network Performance*** tab

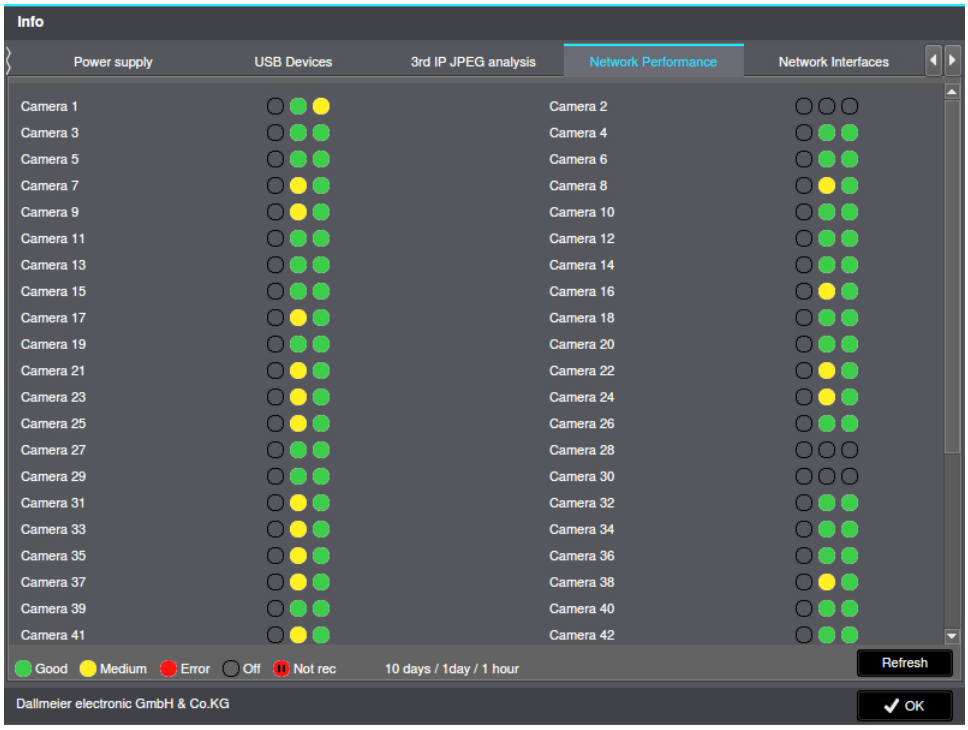


Abb. 25-14

Network Interfaces

Under ***Network Interfaces*** one finds the performance data of the different Ethernet interfaces of the appliance.

➢ Chose the ***Network Interfaces*** tab

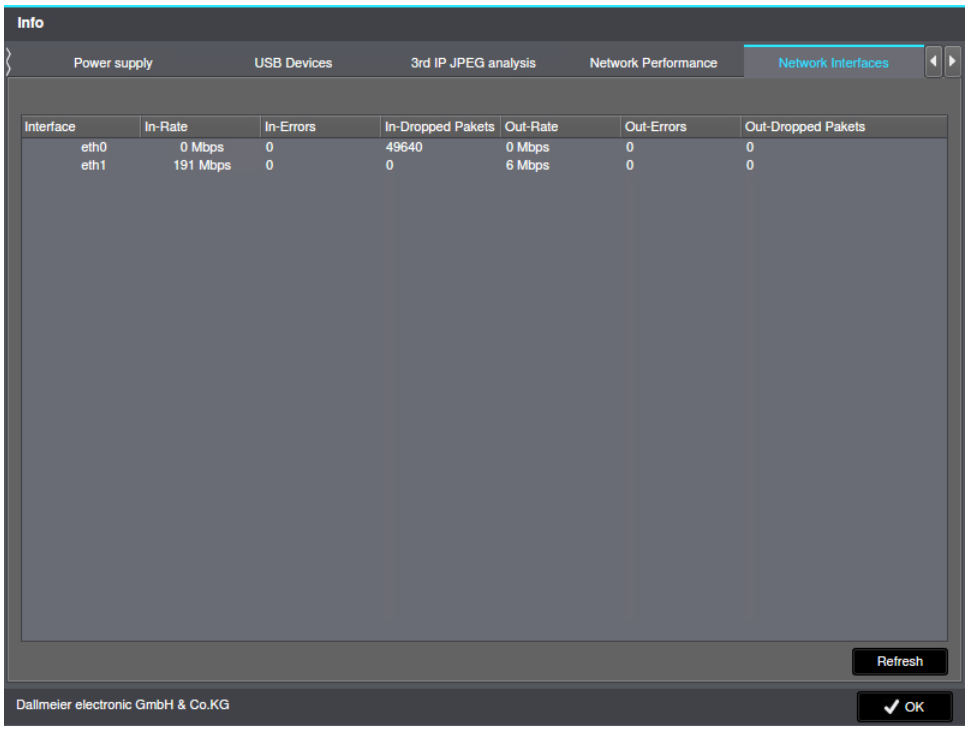


Abb. 25-15