

ABUS embedded NVR



Local user interface user guide (basic instructions)

Date: 29/11/2017
Firmware: 3.4.8



This user guide contains important installation and operation information.

Make sure that this user guide is handed over when the product is given to other persons.

Keep this user guide to consult later.

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Important safety information

Explanation of symbols

The following symbols are used in this manual and on the device:

Symbol	Signal word	Meaning
	Warning	Indicates a risk of injury or health hazards.
	Warning	Indicates a risk of injury or health hazards caused by electrical voltage.
	Important	Indicates possible damage to the device/accessories.
	Note	Indicates important information.

The following annotations are used in the text:

	Meaning
1. ...	Required action to be carried out in a set order
2. ...	
• ...	List without a set order, given either in the text or warning notice
• ...	

Intended use

Only use the recorder for the purpose for which it was built and designed. Any other use is considered unintended!

This device may only be used for the following purpose(s):

- This recorder is used in combination with video signal sources (network cameras) and video output devices (TFT monitors) for object surveillance.

Note

Data storage is subject to national data privacy guidelines.

When carrying out the installation advise your customers of the existence of this guideline.

General

Before using this recorder for the first time, please read the following instructions carefully and observe all warning information, even if you are familiar with the use of such recorders.



Warning

All guarantee claims are invalid in the event of damage caused by non-compliance with this user manual.

We cannot be held liable for resulting damage.



Warning

In the event of personal or material damage caused by improper operation or non-compliance with the safety information, we cannot be held liable.

All guarantee claims are void in such cases.

Retain this handbook for future reference.

If you sell or pass on the recorder to third parties, you must include these instructions with the device.

Power supply



Warning

Prevent data loss.

The recorder should only ever be used with a device that is constantly connected to an uninterruptible power supply UPS with surge protection.



Warning

Modifications to the device invalidate the guarantee.

Important safety information

Installation

- Observe all safety and operating instructions before installing the device for the first time.
- Only open the housing to install the hard disk drive.
- Only install the software on devices that are expressly suitable for the intended purpose. Otherwise, damage to the device can occur.

Note

Compatible devices:

- NVR10010
- NVR10020
- NVR10030
- NVR10040



Warning

If in doubt, have the device installed by a specialist technician.

Children

- Do not allow electrical devices to be handled by children. Do not allow children to use electrical devices unsupervised. Children may not properly identify possible hazards. Small parts may be fatal if swallowed.
- Keep packaging film away from children. There is a risk of suffocation.
- This device is not intended for children. If used incorrectly, parts under spring tension may fly out and cause injury to children (e.g. to eyes).

EU Directives

This device complies with the requirements of the EU Low Voltage Directive (2014/35/EU), the EMC Directive (2014/30/EU) and the RoHS Directive (2011/65/EU). The declaration of conformity can be obtained from:

ABUS Security-Center GmbH & Co. KG
Linker Kreuthweg 5
86444 Affing
GERMANY

To ensure this condition is maintained and that safe operation is guaranteed, it is your obligation to observe this user guide.

Please read the entire user manual carefully before putting the product into operation, and pay attention to all operating instructions and safety information.

All company names and product descriptions are trademarks of the corresponding owner. All rights reserved.

If you have any questions, please contact your specialist installation contractor or specialist dealer.

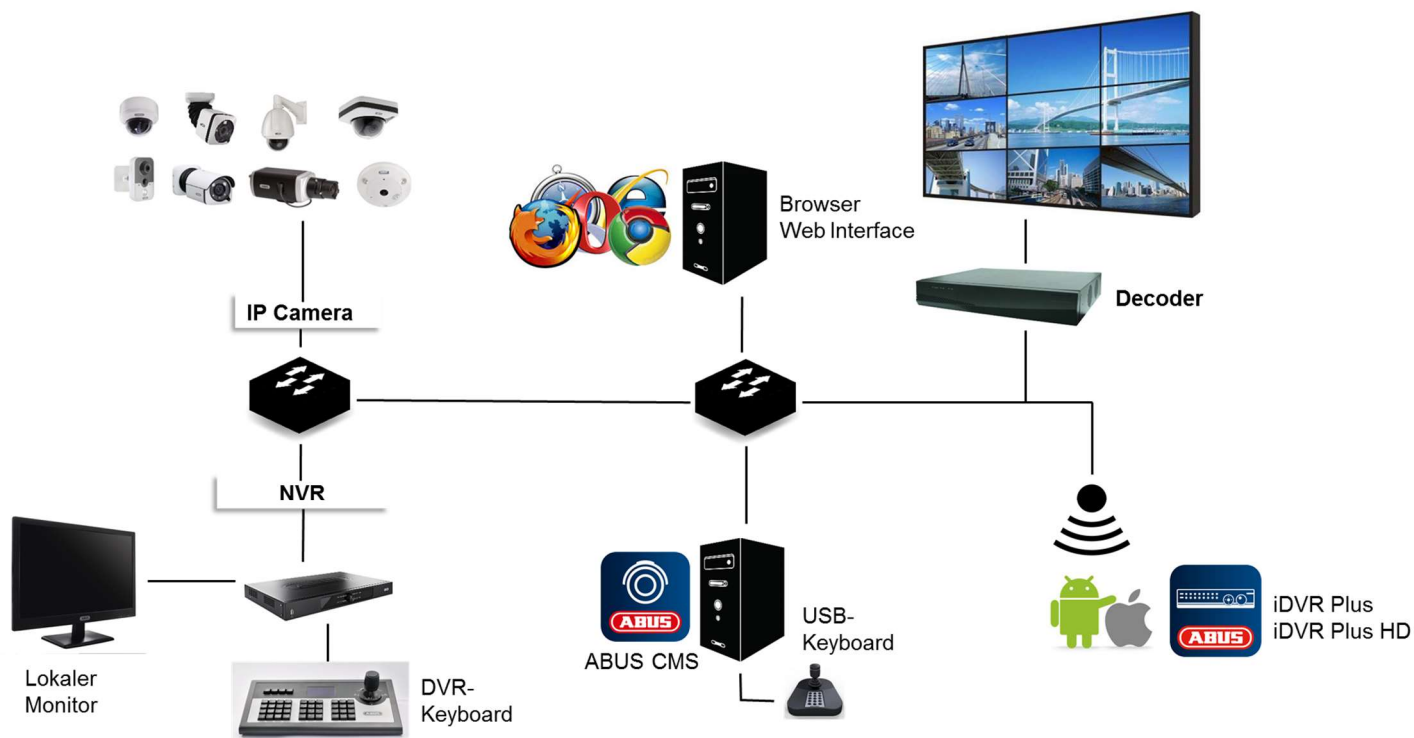


Disclaimer

This user guide has been produced with the greatest of care. Should you identify any omissions or inaccuracies, please contact us at the address shown on the back of the guide. ABUS Security-Center GmbH does not accept any liability for technical and typographical errors, and reserves the right to make changes to the product and user guides at any time and without prior warning. ABUS Security-Center GmbH is not liable or responsible for direct or indirect damage resulting from the equipment, performance and use of this product. No guarantee is made for the contents of this document.

Do not allow electrical devices to be handled by children. Do not leave children unsupervised.

Compatibility



General

ABUS embedded recorders are compatible with a variety of cameras and additional components. Check the compatibility with your device and limitations to the use of the components before use.

Some functions of this recorder (firmware) depend on the connected devices (e.g. fisheye view of hemispheric cameras or PTZ cameras).

Please keep in mind that older devices may not be supported or may be only partially supported.



Note

Check <http://www.abus.com> to find any additional information on compatibility with your camera/recorder.

The following tables show the current versions at the time of publication of this guide (Q1/2017).

Compatible recorders

Device type	Item number
NVR	NVR10010, NVR10020, NVR10030, NVR10040

Compatible video walls/decoders

Device type	Item number
Video Wall Decoder	TVAC26100, TVAC26110, TVAC26120, TVAC26130

Compatible IP cameras

IP camera type	Item number
IP Camera	TVIP11560, TVIP41500, TVIP41560, TVIP52502, TVIP61500, TVIP61550, TVIP61560, TVIP70000, TVIP72000, TVIP91100, TVIP91300, TVIP91600, TVIP91700, TVIP92100, TVIP92300, TVIP92500, TVIP92600, TVIP92610, TVIP92700, IPCA33500, IPCA53000, IPCA63500, IPCA66500, IPCA73500, IPCA76500, IPCB42500, IPCB42550, IPCB71500, IPCB72500, IPCS10020, IPCS62520, IPCS72520

Compatibility

IP camera PT/Z	TVIP21560, TVIP41660, TVIP81000, TVIP81100, TVIP82000, TVIP82100, IPCS82502, IPCS82500
IP camera Hemispheric	TVIP82900, TVIP83900, TVIP86900
ONVIF	See http://www.abus.com (recorder download area)
RTSP	RTSP streaming profile

Compatible keyboards

Device type	Item number
PTZ/DVR control panel	TVAC26000
USB keyboard (only in connection with ABUS CMS)	TVAC26010

Compatible software

Device type	Item number
ABUS CMS	TVSW11000
iDVR Plus (Smartphone)	APP12300 (iOS) APP12500 (Android)
iDVR Plus HD (Tablet)	APP12400 (iOS) APP12600 (Android)
ABUS IP installer	TVSW12000

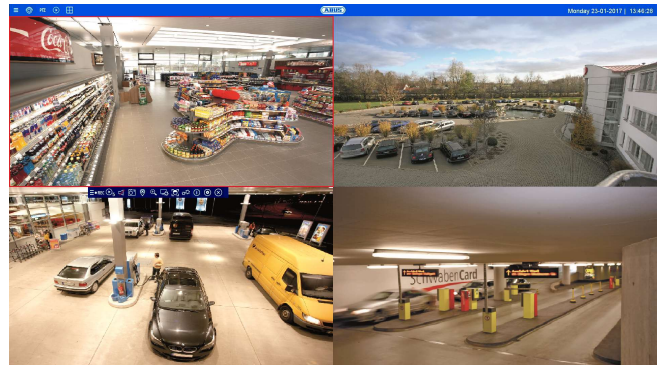
Supported camera functions

Device type	Item number
Smart Search (possibly not all functions depending on the model)	IPCA33500, IPCA53000, IPCA63500, IPCA66500, IPCA73500, IPCA76500, IPCS10020, IPCA62520, IPCA72520, IPCA66500, IPCA73500, IPCA76500, IPCB42500, IPCB42550, IPCB71500, IPCB72500, IPCS10020, IPCS62520, IPCS72520
Virtual alarm inputs and outputs	IPCA33500, IPCA53000, IPCA63500, IPCA66500, IPCA73500, IPCA76500, IPCS10020, IPCA62520, IPCA72520, IPCA66500, IPCA73500, IPCA76500, IPCB42550, IPCB71500, IPCB72500, IPCS10020, IPCS62520, IPCS72520
VCA (restrictions in creating the VCA event images depending on the model)	IPCA33500, IPCA53000, IPCA63500, IPCA66500, IPCA73500, IPCA76500, IPCA62520, IPCA72520, IPCA66500, IPCA73500, IPCA76500

Pre-play storage

Unlike flexible PC systems, embedded recorders have a hardware configuration which is tailored to their intended purpose. As a consequence, the desired recording schedule cannot always be achieved in the special case of pre-play recordings. The available working memory is a crucial parameter for the pre-play recording schedule. Depending on the model, embedded recorders have between 512 MB–2 GB of working memory to manage all the background processes of all cameras. In order to create pre-play recordings, the information for each individual camera, depending on the resolution, bitstream settings and pre-play schedule, must be permanently kept in the memory. A pre-alarm memory of a few seconds is already hard to achieve with the use of 1080p cameras. The higher the resolution of the cameras and the more cameras connected to the recorder, the lower the chance of having enough memory ready for all cameras. Due to the variety of models and configuration settings, as well as the complexity of the evaluation of current scenes, we cannot provide a reliable value for the pre-alarm memory. As a result, we recommend using continuous recording for critical cameras and then using the Smart Search to easily filter out events.

Image display



In order to display the IP camera video streams (including live images and the playback of recordings) via the local video output on the recorder (VGA/HDMI/BNC), the digitally compressed data from the recorder must be “decoded”. This process requires processing power on the recorder sufficient for the camera’s resolution. The higher the resolution and bitrate of the camera stream, the higher the required processing power on the recorder for the decoding process.



Warning

When problems/limitations in the local live image view occur when the device is operating, bear this information in mind.

If the number of camera streams to be displayed exceeds the decoding performance of the recorder, the following notification will appear on the monitor:



For this reason, the substream of each camera will be displayed automatically in the multi-view live views with more than 4 channels (greater than 2x2). The substream of a camera is therefore usually set to 720p or lower.

In the playback view, the cameras will be played in their respective recording quality (main stream).

Depending on the application and camera type, it is possible that not all cameras will be able to be displayed at once. As such, you should split up the cameras into different views in order to avoid any limitations.



Note

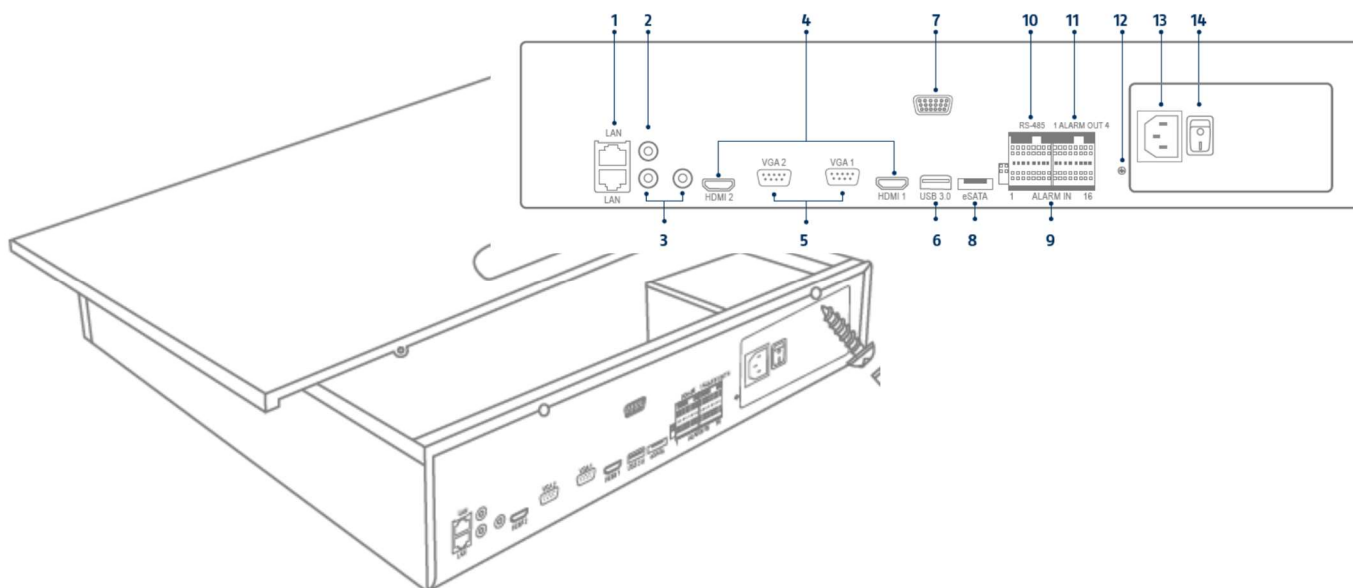
The NVR systems NVR10010, NVR10020, NVR10030 and NVR10040 have a decoding performance of 16 x 1080p.

The following stream configurations are possible for local image output:

Resolution	Number of decodable cameras
720p	64 cameras
1080p	16 cameras
3 MPx	8 cameras
6 MPx	4 cameras

During remote playback by browser, CMS software or app, the remote device undertakes the decoding process (in order to display the images on the PC monitor/smartphone) and therefore does not impact on the processing power of the recorder.

External I/O connections and wiring



General

The ABUS embedded recorders are equipped with external interfaces for the control of alarm contacts, PTZ cameras, keyboards and audio devices. The structure level of the connections depends on the recorder model. The larger the structure level of the recorder, the more connections are normally present on the device.



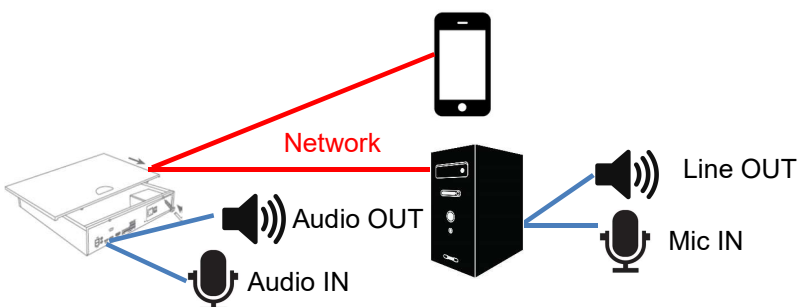
Note

In your recorder's quickstart manual or at <http://www.abus.com>, you will find an exact listing of the external interfaces in the technical data.

Connection	Description
<p>AUDIO IN</p>	RCA audio input for the connection of a separate microphone for 2-way audio communication. If the volume is too low, use an additional preamplifier to raise the signal levels of the microphone input.
<p>AUDIO OUT</p>	RCA audio output for the connection of a separate loudspeaker for 2-way audio communication. Passive loudspeakers must be connected via a locked amplifier.

Audio connections/2-way audio

The audio connections on the recorder are only used for remote 2-way audio communication via a network connection. This can take place via the web interface on the recorder, via the ABUS CMS software or via the iDVR Plus app. The system configuration for this purpose is as follows:



Note

If the 2-way audio communication takes place via a PC, you must ensure that a microphone and loudspeaker are connected. In order to use the web browser function, the ABUS recorder plug-in must be installed.

Alarm inputs

The alarm inputs on the recorder are used for event control via externally wired detectors (door contacts, motion detector, smoke detector, light barriers, etc.). On the recorder side, the inputs can be used to activate a recording, alert via CMS or send an alarm email, among other things. The alarm inputs are purely switch contacts (Normally Open/Normally Closed) which must not be voltage controlled.

Connection	Description
	<p>Depending on the recorder model, 1–16 inputs are available. First, plug the detector contact in an open input (IN1-16) and then connect the grounding contact (G).</p> <p>Connect more detectors in the same way: IN1 → G IN2 → G IN3 → G IN16 → G</p> <p>It does not matter whether you connect all detectors to one grounding contact or divide them up among the available contacts. Use terminal blocks in order to connect multiple detectors to one grounding contact.</p>

Note
 Following the connection of the detector to the alarm input of the recorder, the behaviour in the normal state (NO/NC) and the event reaction must be programmed in the settings menu.

Alarm outputs

The alarm outputs on the recorder are used for the action control of externally wired devices/actuators (sirens, lamps, door openers, etc.). The alarm output switching takes place via integrated relays on the recorder. In order to prevent damaging the relay/recorder, the device's maximum switching power must not exceed the specified values of 12 V / 1 A.

Connection	Description
	<p>Depending on the recorder model, 1–8 outputs are available. First, plug the actuator/device in an open output (OUT1-8) and then connect the grounding contact (G).</p> <p>Connect further actuators in the same way: OUT1 → G OUT2 → G OUT3 → G OUT8 → G</p> <p>It does not matter whether you connect all actuators to one grounding contact or divide them up among the available contacts. Use terminal blocks in order to connect multiple actuators to one grounding contact.</p>

Note
 After the actuator has been connected to the alarm input of the recorder, the event reaction must be programmed in the settings menu.

RS-485 output (NVR10030/NVR10040)

The RS-485 output on the recorder is used to control analogue PTZ cameras.

IP cameras with an integrated PTZ function are fully controlled via the network.


The use of the interface is intended as an alternative for the use of IP cameras with external motor control.

Connection	Description
	<p>Connect the PTZ control by using the Transmit and Receive pins.</p> <p>Only available on NVR10030/NVR10040 !</p>

Keyboard output

The keyboard output on the recorder is used to control the recorder using the optional keyboard (TVAC26000).

The local recorder functions can alternatively (instead of using a mouse) be called up by using the external keyboard.

Connection	Description
 <p>The diagram shows a rectangular panel with a large square area at the top labeled 'KB'. Below this are two columns of terminals. The left column has two terminals labeled 'D-' and the right column has two terminals labeled 'D+'. Below these are four smaller square terminals arranged in a 2x2 grid.</p>	<p>Connect the keyboard using connections D- and D+ on the interfaces DVR-CON Ta and Tb.</p>

Introduction

General information

This handbook describes the commissioning and use of the ABUS embedded recorder via the local user interface.

For this purpose, the recorder must be connected to a monitor using the VGA/HDMI interface. During operation, use the USB mouse which was included in the scope of delivery.



We recommend that you complete the initial setup using the local interface in order to set up basic settings like the network address and the hard disc drive configuration.

i Note

Before the initial commissioning, make sure that both the recorder and the IP cameras are connected using the same network.



Note

Make sure that the recorder is connected directly to your CCTV network (Switch) via a network cable. For the best possible performance, do not use a Wi-Fi connection between the recorder and the CCTV network.

Starting the device



Important:

The device may only be connected to a mains voltage supply as specified on the type plate.

For security, use an uninterruptable power supply UPS.

When the device is connected to the power supply, it starts up automatically and the blue status LED blinks.

1. During the start-up procedure, the device carries out a self-test (blue LED will blink).
2. The start-up procedure is complete when the blue LED is lit continuously.
3. Subsequently, the setup wizard (during the first system start) or the live image display of the cameras that have been set up will appear (after the setup wizard has been completed successfully).

On-screen keyboard

If you click with the mouse in a text input field, the on-screen keyboard appears:



For simple figure input, the following on-screen keyboard appears:



The keys have exactly the same function as a computer keyboard.

- To input a figure, click on it with the left mouse key.
- To finish the entry, click on **Enter**.
- To delete the figure in front of the cursor, click on **←**.
- To switch between upper and lower case text, click on the framed **a**. The active setting is indicated above the keyboard.
- To cancel an entry, or to leave the field, click on ESC.

i Note

Be aware that alterations to the recorder carried out via the software must be accepted by clicking "Apply"/"Confirm" before leaving the tab or menu.

Switching off the device, locking, rebooting

In the main menu, click on Shutdown. The overview appears.



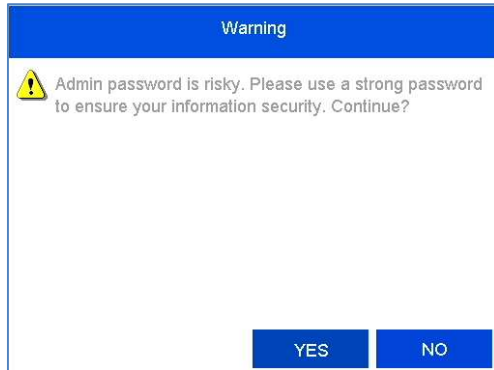
- To switch off, select the **Shutdown** option and confirm the query with **Yes**. The device is switched off.
 - Do not press any key during the switch off procedure.
 - Now pull out the plug of the power supply unit.
- 3. To lock the system, select the left hand symbol **Logout**. The user interface is locked. To reach the menu, a password must be entered.
- 4. To reboot, select the right hand symbol **Reboot**. The device carries out a reboot.

Setup wizard

Setting up the system

The setup wizard guides you through the required basic settings for the system. The network video recorder will then be ready for recording and monitoring.

After turning on for the first time, the language selection appears:

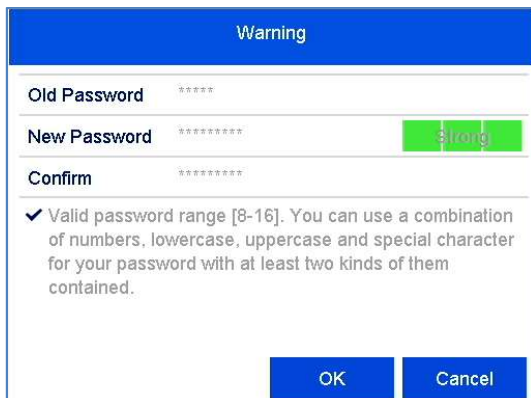


- The recorder's default password is "12345". This is a temporary password and **must** be changed for security reasons.

i Note

If the password is not changed, a warning notice will appear until the password has been changed in line with the security policy.

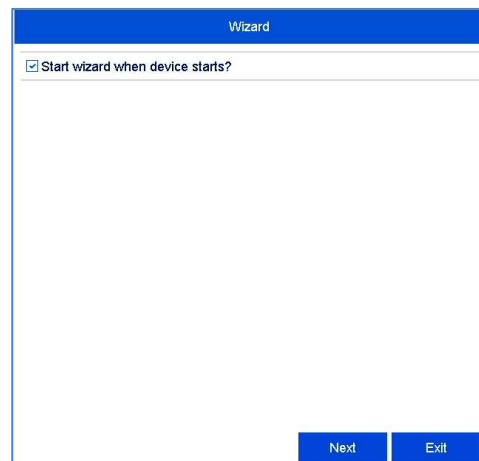
- Change the password immediately by clicking on "Yes".



- Old password: Enter the default password
- New password: Enter a new password, bearing the security policy in mind.
- Confirm the password by entering it again and clicking OK.



- Click on the input field and select your language from the list.



- Click on Next to start the wizard.

i Note

After the system has been set up the "checkbox" can be deactivated: the box will be hidden and the wizard no longer starts automatically.

System time and date

Wizard	
Time Zone	(GMT+01:00) Amsterdam, Berlin, Rome, Paris
Date Format	DD-MM-YYYY
System Date	23-01-2017
System Time	13:53:58

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- Enter the system time consisting of date and time.
- Finish the setting by clicking on **Next**.

Network settings

Wizard	
Working Mode	Net Fault-tolerance
Select NIC	bond0
NIC Type	10M/100M/1000M Self-adaptive
Enable DHCP	<input checked="" type="checkbox"/>
IPv4 Address	192.168.0.25
IPv4 Subnet Mask	255.255.0.0
IPv4 Default Gateway	192.168.0.1
Preferred DNS Serv...	192.168.0.1
Alternate DNS Server	8.8.8.8
Main NIC	LAN1

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Note

Ask the network administrator responsible whether the DHCP can be selected or the IP address and additional settings have to be done manually.

- DHCP active: if the DHCP has been set up in the network router, enable the DHCP “checkbox”. All network settings are then completed automatically.
- DHCP inactive: enter the data manually (IPv4 address, IPv4 subnet mask as well as the default set up for the IPv4 Gateway = IPv4 address of

the router, DNS server). A typical address assignment could appear as follows:

- IPv4 address: 192.168.0.50
- IPv4 subnet mask: 255.255.255.0
- IPv4 default gateway: 192.168.0.1
- Preferred DNS server: 192.168.0.1

Note

When the device is accessed remotely via the internet, it should be given a fixed network address.

Wizard	
Server Port	8000
HTTP Port	80
RTSP Port	554
Enable UPnP	<input checked="" type="checkbox"/>
Enable DDNS	<input checked="" type="checkbox"/>
DDNS Type	ABUS DDNS
Area/Country	Custom
Server Address	www.abus-server.com
Device Domain Name	
Status	DDNS is disabled.
User Name	
Password	

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- Adjust the network ports here.
- To set up remote access through the internet, activate DDNS using the “checkbox”.
- Click on the input field and select the DDNS type.
- When using public DDNS providers, save the server address and the Device Domain Name, user name and password.
- When using the ABUS server as the DDNS provider, no extra parameters are necessary.
- Click on **Next**.

Hard disk drive management

L...	Capacity	Status	Property	Type	Free Space
<input checked="" type="checkbox"/> 1	2794.52GB	Normal	R/W	Local	2794.00GB
<input type="checkbox"/> 2	931.52GB	Normal	R/W	Local	931.00GB
<input type="checkbox"/> 3	2794.52GB	Normal	R/W	Local	2794.00GB
<input type="checkbox"/> 5	5589.03GB	Normal	R/W	Local	5588.00GB
<input type="checkbox"/> 6	931.52GB	Uninitialized	R/W	Local	0MB
<input type="checkbox"/> 7	931.52GB	Normal	R/W	Local	931.00GB
<input type="checkbox"/> 8	5589.03GB	Normal	R/W	Local	5588.00GB

- To set up a hard disk drive, enable the “checkbox” with a left click and then click on **Init**.



Warning

This will delete all data found on the disc.

- Click on **OK** to acknowledge the security prompt. The hard disk drive is set up for use. Progress is shown on the status bar.
- Finish the setting with **OK** and then click on **Next**.

Camera recording

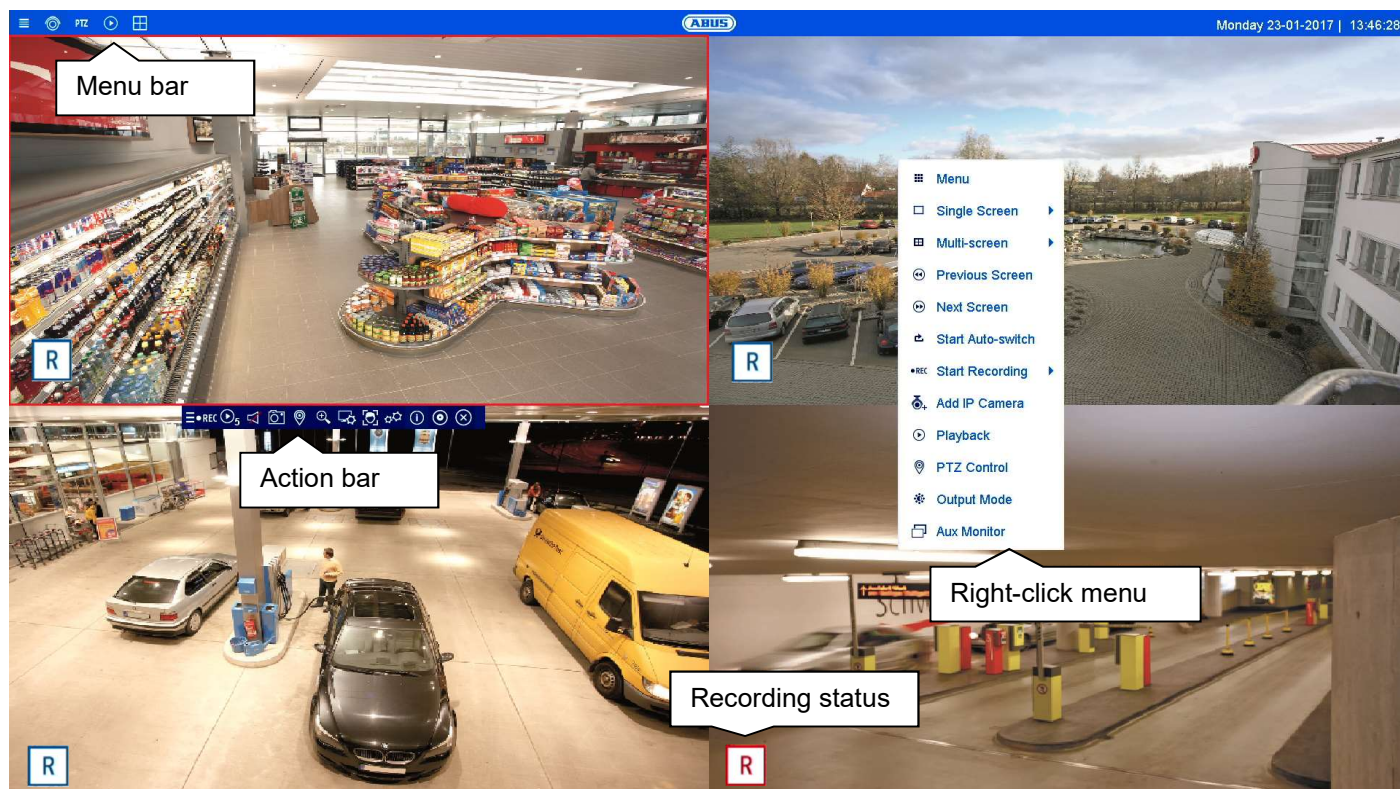
- Select the recording type. It is possible to select between "Continuous" and "Movement detection".
- Complete the setting and the setup wizard with **OK**.

Camera assistant

Nr.	IP Adresse	Anzahl de...	Gerät Mo...	Protokoll	Mana
<input checked="" type="checkbox"/> 1	192.168.0.15	1	IPC	ABUS	8000
<input type="checkbox"/> 2	192.168.0.19	1	IPC	ABUS	8000
<input type="checkbox"/> 3	192.168.0.20	1	IPC	ABUS	8000
<input type="checkbox"/> 4	192.168.0.22	1	IPC	ABUS	8000
<input type="checkbox"/> 5	192.168.0.23	1	IPC	ABUS	80
<input type="checkbox"/> 6	192.168.0.27	1	IPC	ABUS	80

- Click on **Search** to display the cameras on your network.
- To add network cameras, activate the desired cameras and click on **Add**.
- Click on **Next** to continue with the setup.

Live view



General information on live image

Live view starts automatically when the device is switched on. The live image function provides the option to display live images and execute camera commands from all cameras connected to the recorder. Alongside playback, this is one of the core functions of the recorder.

By double clicking with the left mouse button, you can display the selected camera image in full screen or switch back to the original view.






Live image function areas

The live view is divided into the following function areas:

Parameter	Description
Menu bar	Global display of the configuration and operating menus.
Action bar	Control of the camera commands and actions for the selected camera (red frame).
Right-click menu	Extended operating menu for operating the live view.

Menu bar operation

The following options are available:

Parameter	Description
	Opens the configuration menu
	Activates the live image view (deactivated in the live image)
	Switch to the PTZ control menu (only with PTZ cameras)
	Switch to the playback view
	Opens multiview

Multiview control

Click on the  symbol to open multiview.

Various layouts are available:



Select a suitable layout → the live view will be adjusted accordingly. The settings which define the camera positions can be individually programmed for each layout in the configuration menu.

Action bar operation

In single or multi-screen, click on a camera image. A selection bar will appear:



(0) (1) (2) (3) (4) (5) (6) (7) (8) (9) (10) (11) (12)

No.	Meaning of the symbol
(0)	Area for moving the action bar
(1)	Activate/deactivate manual recording
(2)	Instant playback of the last 5 minutes
(3)	Activate/deactivate the audio function
(4)	Create a snapshot from the current camera
(5)	Open the PTZ control menu (for PTZ cameras only)
(6)	Digital zoom
(7)	Image display settings
(8)	Face detection
(9)	Live view strategy (frame rate control for the live view)
(10)	Stream information (current frame rate, bit rate, resolution)
(11)	Activate hemispheric mode (only for hemispheric cameras)
(12)	Close the selection bar

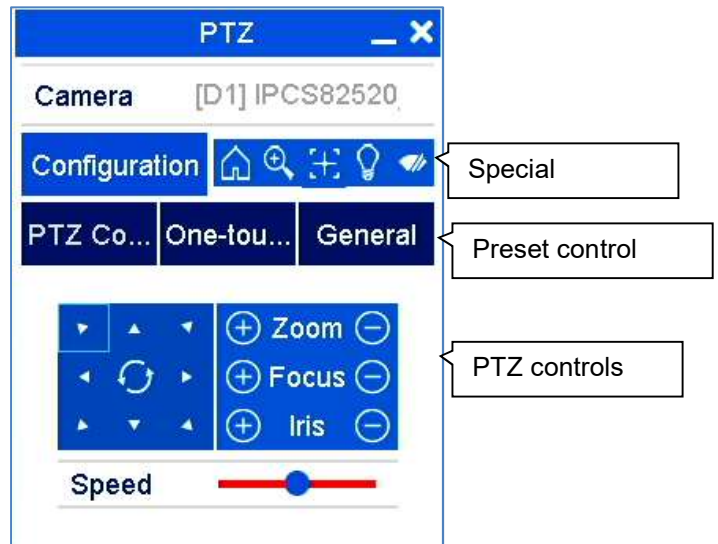
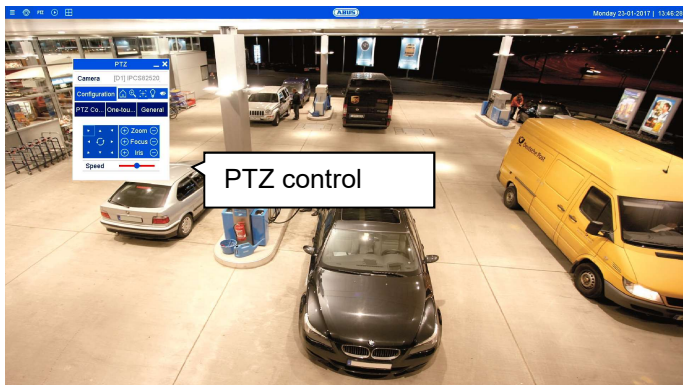
PTZ control menu

The PTZ control menu can be opened from the menu bar, the action bar or the right-click menu.



Note

The menu can only be opened for PTZ cameras or cameras with at least one PTZ feature (e.g.: cameras with a motorised zoom lens).





The following options are available:

Parameter	Description
Camera	Select the camera for PTZ control here.
Configuration	Set the PTZ settings and preset configuration.
Special commands	<ul style="list-style-type: none"> Open camera menu (if available) 3D zoom (zoom in/out of the selected mask) Centring mode Light on/off (if available) Wiper on/off (if available)
PTZ	PTZ control is displayed. Use the buttons to turn the camera in the desired direction and set the manual zoom, focus and iris.
Command	Execute special commands like parking position or linear scan.
Preset	Execute preset positions, patrols and patterns.
Speed	Speed at which positions will be manually started.

Live view

Recording Status

In live image, the current recording status will always be shown (below left) in the form of a colourful R (“record”). Every video channel can have one of the following three statuses:

Parameter	Description
No symbol	No recording programmed No HDD available No event
	Event recording enabled (for motion, alarm input or VCA)
	Continuous recording enabled

PTZ	Opens the PTZ control
Monitor mode	Sets the output mode for the screen display
Aux Monitor	Switches the mouse control to the AUX monitor

i Note
Start Auto-switch:
Specify the display sequence delay in the display settings.

i Note
Activation of “AUX monitor” without a connected spot monitor:
Mouse pointer function is disabled.

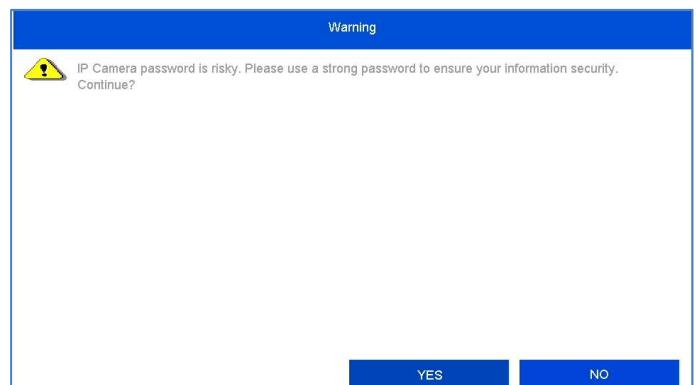
Right-click menu

i Note
Right click when the mouse pointer is positioned on a live image.

The following settings can be made. The arrow pointing to the right indicates that a sub-menu opens for selection:

☰ Menu	
☐ Single Screen	▶
☒ Multi-screen	▶
⌂ Previous Screen	
⌂ Next Screen	
⌂ Start Auto-switch	
•REC Start Recording	▶
📷 Add IP Camera	
⌂ Playback	
📍 PTZ Control	
⚙️ Output Mode	
🖥️ Aux Monitor	

Password note



After every reboot, the recorder displays a warning notice about the use of weak passwords for network cameras.

This notice appears as long as at least one camera is using a “weak” password (fewer than 8 characters, no special characters, no mix of uppercase and lowercase letters). Change the password of the administrator login for the network camera according to the security policy:

- Password length: 8–16 characters
- Combination of lowercase and uppercase letters
- Use of special characters

Menu	Opens the main menu
Full screen	Full-screen view of the selected camera.
Multi-screen	Various camera layouts
Previous Screen	Displays the previous screen
Next Screen	Displays the next screen
Start Auto-switch	Starts the camera sequence display
Start Recording	Starts continuous recording or motion detection
Add network camera	Adds additional network cameras
Playback	Switches to playback mode

Playback view



General information on playback

There are three different options for playback:

- Playback icon in the title bar
- Context menu in the live image
- Playback function in the overview menu

Playback allows recorded video data from cameras to be played on the recorder. The data will be played in the quality with which it was recorded according to the settings of the network camera.



Note

Adjust the quality settings of the camera accordingly in the menu under "Settings → Recording → Parameters". In general, the camera's "main stream" will be recorded on the recorder.

The playback view is divided into several functional areas (playback type) in order to enable a targeted data analysis (e.g.: event playback, VCA analysis, multi-timeshift, etc...). Depending on the selected "Playback Type", various operational elements are available in the playback view.

Action bar operation

The action bar is used to control running playback. The symbols are split into the following categories:






Playback control

The Playback Control is the core element of playback. The basic functions for the playback of recorded data are available here.

Action	Meaning of the symbol
	Reverse playback
	Stop playback
	Start/pause playback
	Go back 30 seconds
	Go forward 30 seconds
	Slow forward (8x → 1x)
	Fast forward (1x → 8x)
	Previous day
	Next day
	Hemispheric function: 180°/360°/zoom/full screen

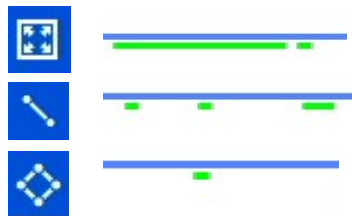
Smart Search

Smart Search makes a fast filter function for the analysis of recorded data available.

Action	Meaning of the symbol
	Full screen movement analysis
	Tripwire detection search (set 2 points in the image)
	Intrusion detection search (set 4 points in the image)

Select the desired function and the green filter on the playback time bar will change accordingly. The following example offers an overview of the results of the Smart Search.

Example: Smart Search, same camera, same time period, different filters.



The motion detection displays many results. If tripwire is set above the area, fewer events will be marked already. If intrusion detection is used, only one event is present in the time period.




Note

Smart Search is not supported by all cameras. Check the compatibility list at the beginning of these instructions.

Audio control

Adjust the audio output of the selected camera here. In the case of multiple selection (2 or more cameras play back simultaneously), the red tag (red frame around the camera image) indicates which camera the audio playback is from. Only one camera's audio playback can be played at a time.

Action	Meaning of the symbol
	Activates/deactivates the audio output. Set the volume using the regulator.



Warning

When using audio recording, make sure to consider the legal requirements for the premises.










Note

In order to enable the audio, the network camera must be configured accordingly. The following settings must be activated:
"Menu → Recording → Parameter → Audio & Video"

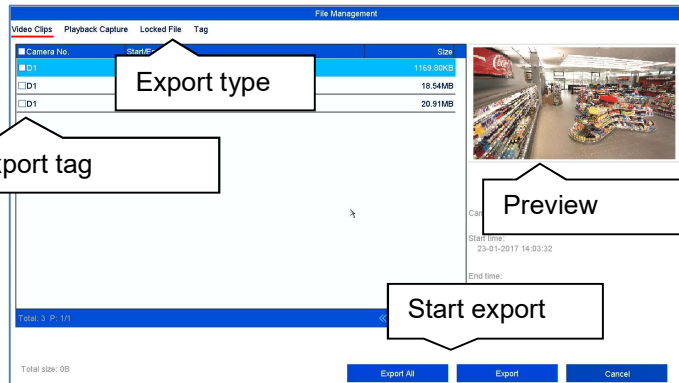
Export functions

The following functions describe the possible actions for the data export from a running playback:

Action	Meaning of the symbol
	Start/stop video clip By activating this function, the recorder notes the current time of the time tracker. If the tracker is moved by clicking the mouse and the clip icon is pressed again, the time segment will be marked for export.
	Save instant image Saves the currently displayed image internally on the recorder's hard disk drive.
	Lock data The recording data corresponding to the current scene (position of the time tracker) will be locked. A locked data file will not be overwritten by ring memory.
	Add tag Creates a tag depending on the position of the time tracker. Tags can be retrieved via the playback type "tag".
	Add custom tag Creates a tag with custom text, depending on the position of the time tracker. Tags can be retrieved via the playback type "tag".
	Open export management
	Enable digital zoom

Export management

In export management, tagged playback data can be exported and managed.

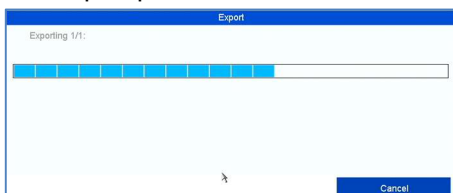


Export type	Description
Video Clips	Export prepared video clips
Playback Capture	Export instant images
Locked file	Export, manage and unlock locked files
Tag	Tag management

Select an appropriated type from the tab bar. A list with one or more entries of cameras with data for export (D1–D32) will appear. Select the desired data by clicking on the buttons D1. Select “Export All” to export all of the displayed list entries, or “Export” to only export the selected data.

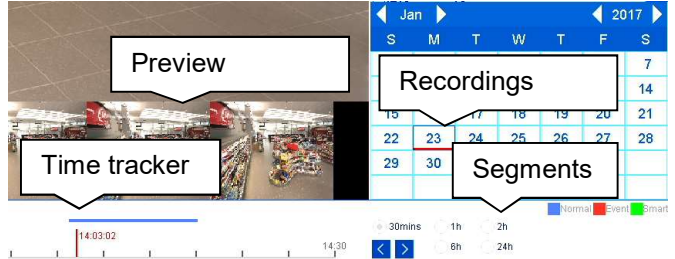
In order to continue the data export, proceed as follows:

1. The data can be exported via USB or the eSATA interface on the NVR
2. Connect a suitable storage device to the recorder
3. In the next step, select a directory on the storage device
4. Define whether the video player or the video data should be exported.
5. The export process is carried out:



Operation time bar and calendar

The most important operational element of the time bar is the **time tracker**. This displays the current time of the playback. First, move the mouse cursor along the time bar in order to see a **preview** of the scene. Then, click on the time bar to start the playback from the desired time.



Recordings are shown by coloured bars in the time bar. The colour coding is as follows:

Tag	Meaning
	Continuous recording
	Event recording (motion, alarm input, VCA)
	Smart Search (depending on the filter)

The standard setting of the display area on the time bar is 30 minutes. This means that the last 30 minutes of recording are displayed across the timeline. In the **Segment** section, the timeline can show recordings from the last hour, 2 hours, 6 hours or 24 hours of the selected day. You can connect to the camera’s recordings over the whole day in the increments defined in the segment settings by using the button.

The days are selected by using the **calendar**. The colour coding of the calendar days is as follows:

Tag	Meaning
	Currently selected day (red tag).
	Current day has at least one recording (dark blue tag).
	Day is not selected, but has recordings (dark blue tag).
	Day is not selected and has no recordings.

Playback view

Camera list operation

The camera list enables the selection of the recorded camera archive on the recorder. By clicking on the selection fields in the list, any number of cameras can be played back simultaneously.

Max. Camera for P...	Min. Camera for Pl...
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>

The recorder automatically activates the suitable view when numerous cameras are selected.

The playback of cameras which have been selected multiple times is always synchronous. All

cameras will be played back from the same time (position of the time tracker).

Button	Meaning
Max. cameras for playback	All available camera archives will be selected.
Min. cameras for playback	Only the first camera will be selected for playback.

i Note

The NVR manages the camera archives in the background over the IDs D1–D32. If one camera is replaced by another on the same channel ID, the data recorded up to that point remains unchanged on this channel.

Selecting playback type

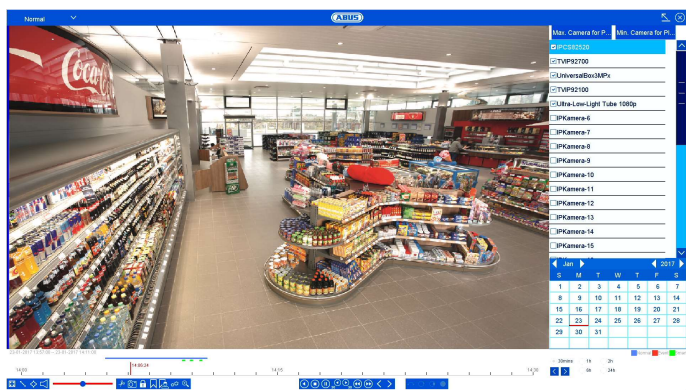
Selecting the playback type allows various types of recording and events to be displayed and filtered in the playback view.

The following menus are available:

Type	Description
Duration	Playback of recorded video data.
Event	Search and playback of video data recorded by means of motion detection, VCA or alarm input.
Tag	Search and playback of video data which has been provided with a tag.
Multi-Timeshift	Simultaneous playback of video data from one camera at different times.
External File	Search and playback of video data found on a connected external data storage device (USB).
Image	Playback of saved snapshots with date and camera filter.

Playback view

Playback: Normal

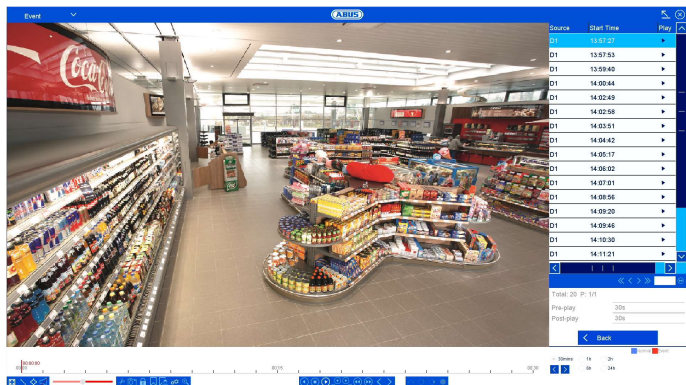


“Normal” playback is the default view always displayed when the playback function is opened.

Using this view, **all** recorded data can be quickly displayed and analysed. The time bar distinguishes between continuous recording and event recording (motion, alarm, VCA).

Filters	Description
Camera channels	Select one or more camera channels.
Calendar	Select a date for playback.
Time bar	Select a playback time on the timeline using the mouse.

Playback: Event

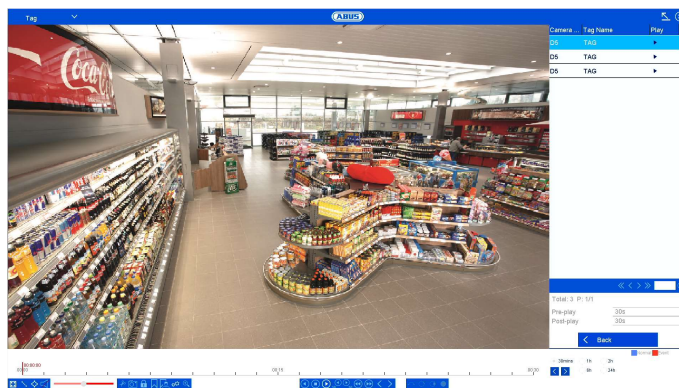


Using “Event” playback, event recordings can be searched in a targeted way. There are other filters available for the search:

Filters	Description
Filter1	Select an event type: motion, alarm, VCA
Filter2	Select a VCA type: all, Tripwire, Intrusion Detection, Face Detection.
Cameras	Select one or more camera channels.
Start time	Select the start date and start time.
End time	Select the end date and end time.
Search	Start the event search using the previously defined filters.

Select an entry from the list of results and start playback by clicking on the appropriate ► icon.

Playback: Tag



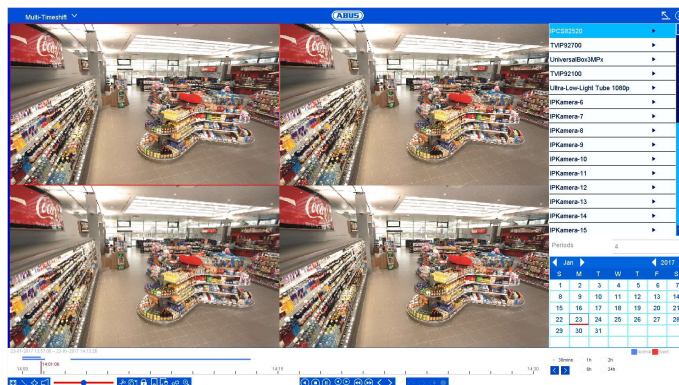
Using “Tag” playback, the recordings can be searched using pre-defined tags. This requires tags to have been created beforehand by the user.

There are other filters available for the search:

Filters	Description
Cameras	Select one or more camera channels.
Keyword	You have the option of entering a keyword as a full text filter for the search. If no keyword is specified, all tags are searched.
Start time	Select the start date and start time.
End time	Select the end date and end time.
Search	Start the tag search using the previously defined filters.

Select an entry from the list of results and start playback by clicking on the appropriate ► icon.

Playback: Multi-Timeshift



Using “Multi-Timeshift” playback, different points in time from one single camera channel can be simultaneously analysed in a targeted way. To do this, the channel is

Playback view

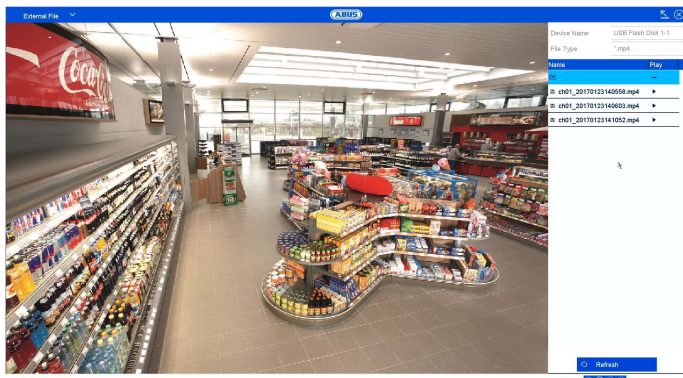
played back with a time delay of up to 16x, according to the setting.

There are other filters available for the search:

Filters	Description
Camera	Select a camera channel.
Segments	Select the number of segments for simultaneous playback. The more segments selected, the shorter the time interval from one segment to the next during playback. The division of the segment is as follows: Duration of recording per day/number of segments = time interval per segment.

Clicking on a segment displays the time range as the top line within the timeline.

Playback: External File



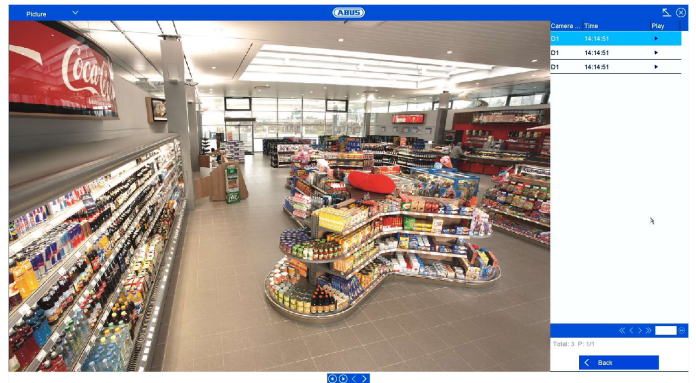
Using “External File” playback, previously exported video clips and images from external data storage devices can be played back.

There are other filters available for the search:

Filters	Description
Device Name	Select a USB data storage device from the list.
File Type	Select a file type from the list.

Select an entry from the list of results and start playback by clicking on the appropriate ► icon.

Playback: Image

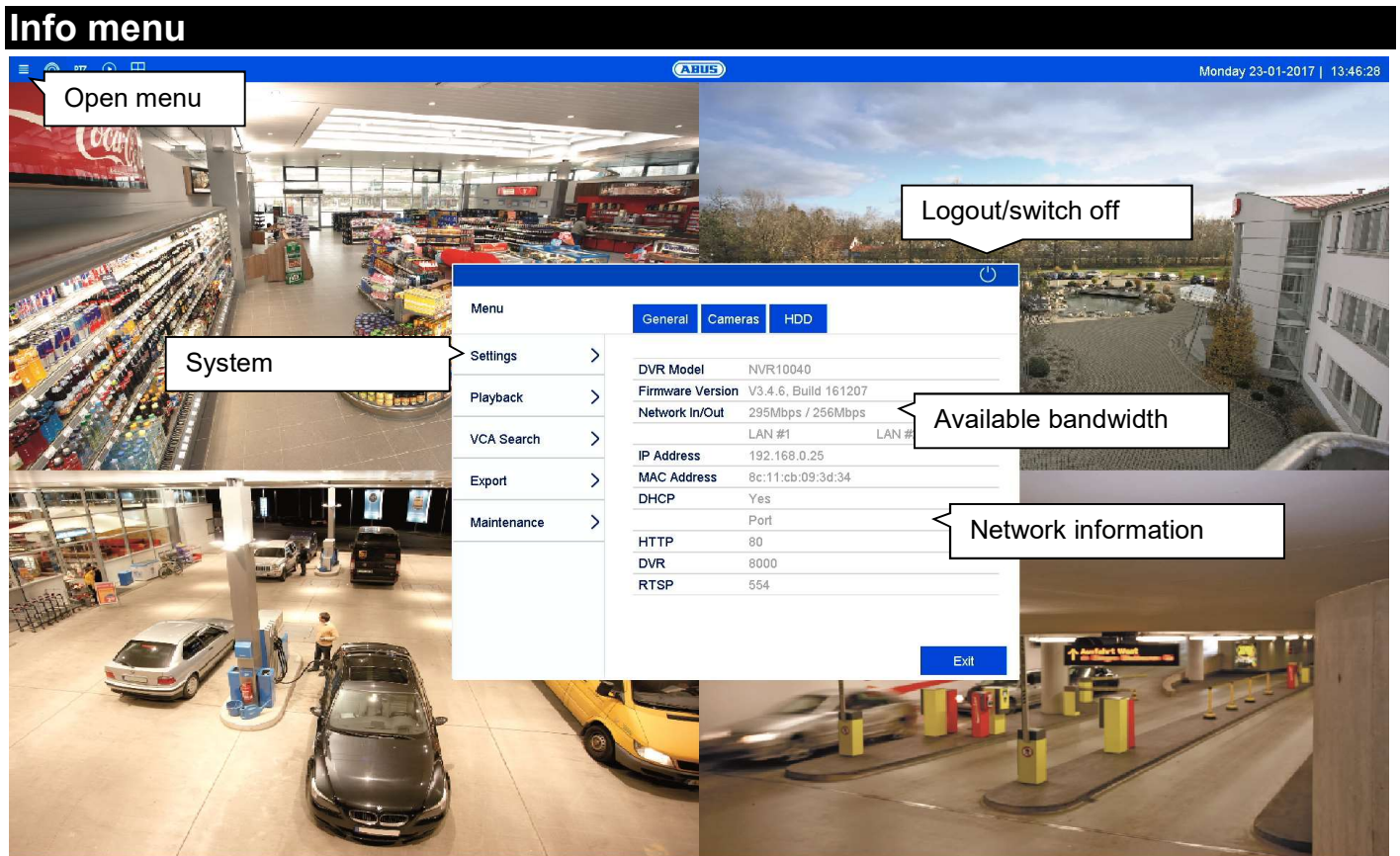


Using “Image” playback, images saved internally on the NVR (saved via the snapshot function from the live view, playback or via time schedule) can be played back.

There are other filters available for the search:


Filters	Description
Cameras	Select one or more camera channels.
Start time	Select the start date and start time.
End time	Select the end date and end time.
Search	Start the tag search using the previously defined filters.

Select an entry from the list of results and start playback by clicking on the appropriate ► icon.



General information menu

The info menu is an upstream status menu which provides a quick overview of the important system parameters and settings. From here, further actions can be carried out and the system configuration can be performed. The following options are available:

Export	Export of video and image recordings to external data storage devices.
Maintenance	System information, searching logs, importing/exporting configurations, device maintenance such as upgrading to new firmware, loading defaults, displaying traffic.
	User logout, system shutdown or system reboot.

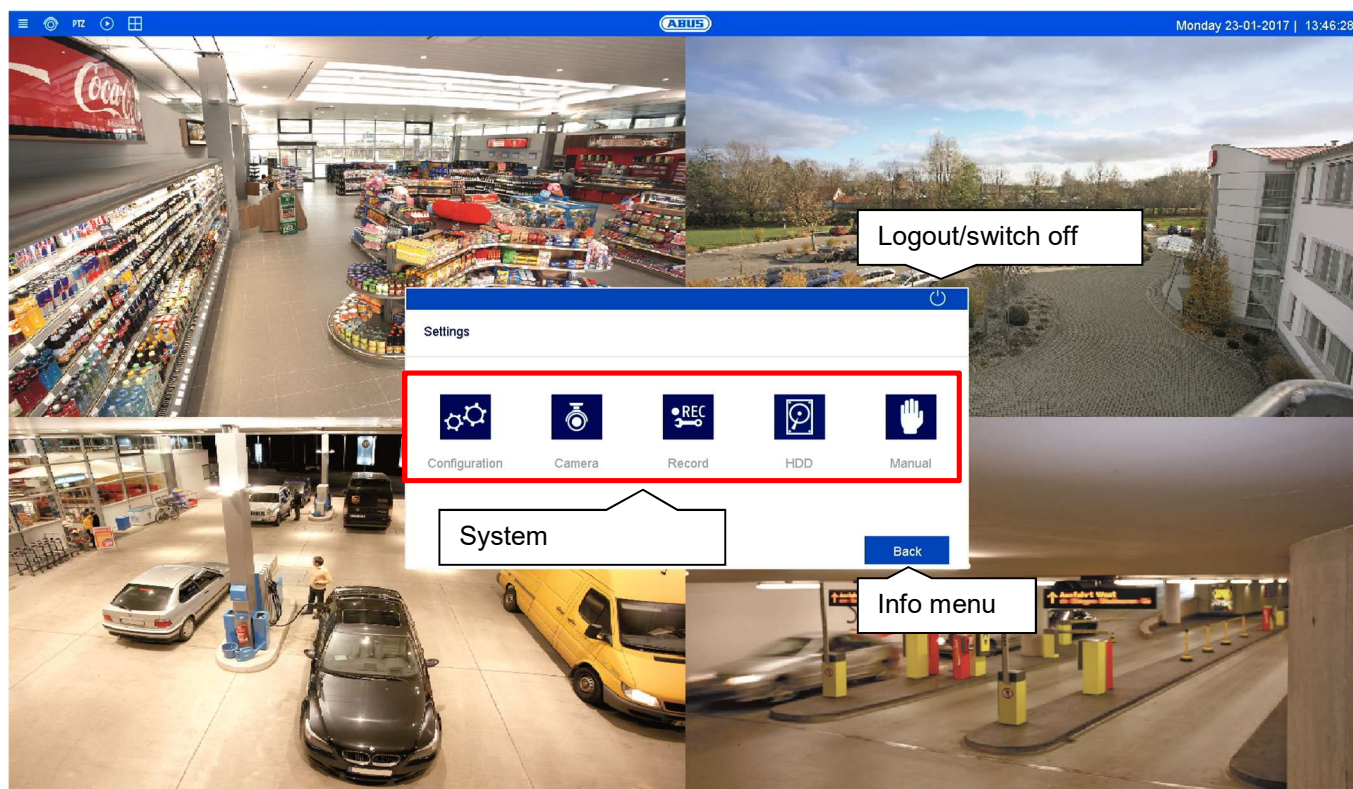
Menu	Description
General	Status overview of network capacity and network configuration.
Cameras	Status overview of cameras and recording.
HDD	Status overview of hard disk drives and memory capacity.
Settings	Leads to the Configuration, Camera, Recording, HDD and Manual menus.
Playback	Opens the playback view (see "Playback view" section).
VCA search	Parameter-controlled search for video and image recordings triggered by events such as tripwire detection, as well as analysis of face search and people counting.

Click on "Exit" to close the info menu.

The following chapter describes the following sections:

- Settings
- VCA search
- Export
- Maintenance

Settings



General information on settings

System configuration of the recorder can be carried out in the “Settings” menu. The settings dialogues are split into the following categories:

Menu	Description
Configuration	Used to manage all device settings (General, Network, Live View, Warning and User).
Camera	Menu for setting camera parameters (OSD configuration, image mode, motion detection, private zone, tamper monitoring and video loss).
Recording	Menu for setting recording parameters (schedule, camera resolution, holiday etc.)
HDD	Used to initialise and manage a built-in hard disk drive (assign read/write functionality, cameras, manage network drive etc.)
Panic Recording	Menu for setting manual recordings.

i Note

Depending on your recorder model, all of the functions described in the guide may not be available for your model (e.g.: RAID).

Later firmware updates may add new functions or expand settings to include further parameters.

The valid firmware version number to which this guide makes reference can be found on the cover page of the guide.

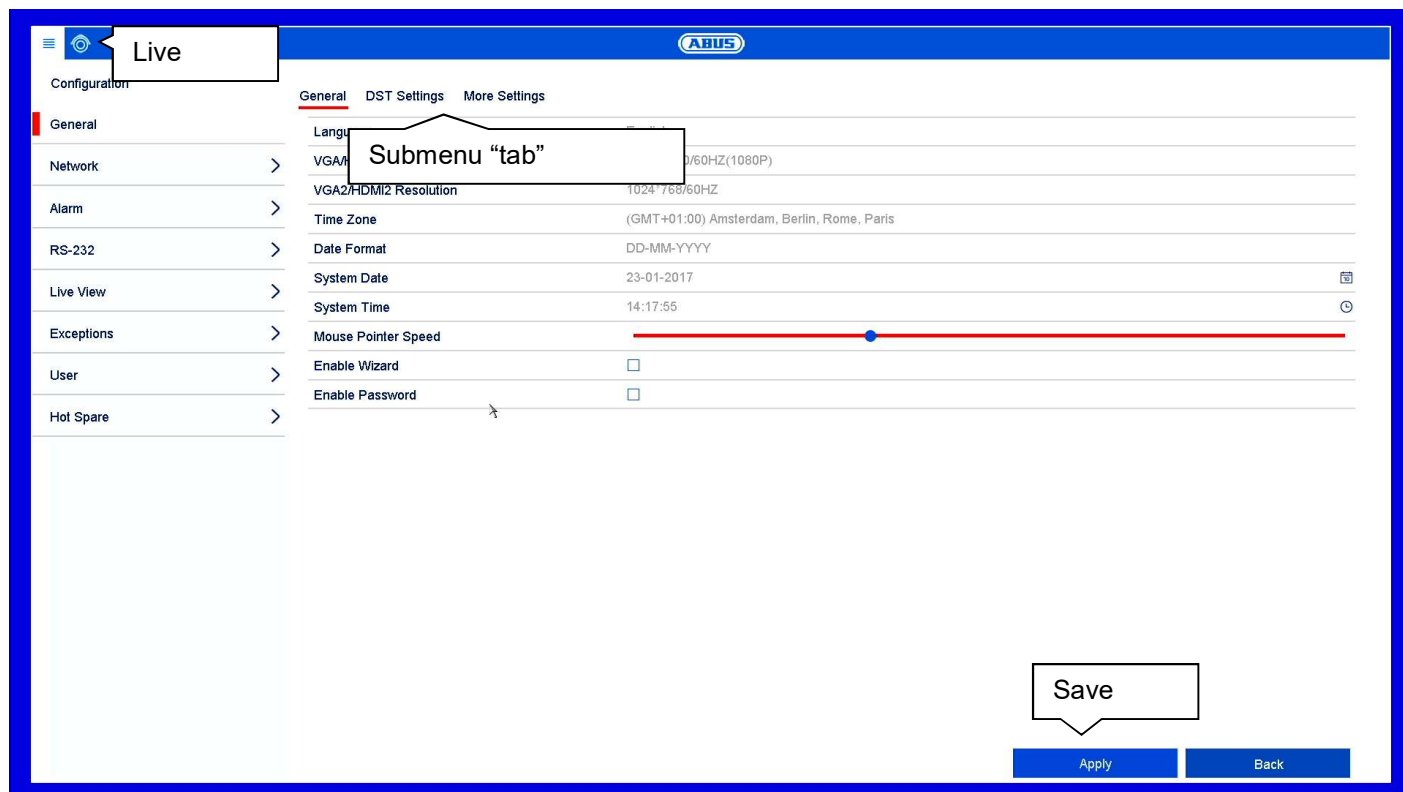
i Note

The system configuration can also be performed via remote applications (e.g.: web interface or CMS software). Normally, the same functions are available there. If not described further, then this guide may be used as a reference.

i Note

Camera-specific functions are only explained as examples within the scope of recorder-relevant setting options. Further details on these functions can be found in the camera user guide (e.g.: operating tripwire detection).

Setting: Configuration



General information on configuration

The configuration menu is used to manage all basic device settings. During the initial commissioning, complete the settings in this section first.



Warning

Ensure that the date and time are set correctly. **IMPORTANT:** Subsequent alterations may lead to loss of data. Ensure data is backed up beforehand.


The configuration menu is divided into the following sections:

Menu	Setting
General	Language, video, time, date, mouse, password, daylight saving time and other settings.
Network	Required network settings (manual IP, DHCP, PPPOE, DDNS etc.) and overview of network status.
RS-232	Settings for the serial interface (for servicing purposes only).
Alarm	Settings for the alarm I/Os for the IP cameras.
Live view	Display settings and assignment of the event output.

Exceptions	Response of the device in exceptional cases (hard disk drive full, network disconnected etc.)
User	Adding and changing users and assigning access rights.
Hot spare	Setting up the back-up function in the event of device failure.

Every menu item has further submenus (e.g.: DST settings) which are hereinafter referred to as “tabs”.

Confirm changes to settings in the detail settings of the tabs by pressing the “Apply” button.

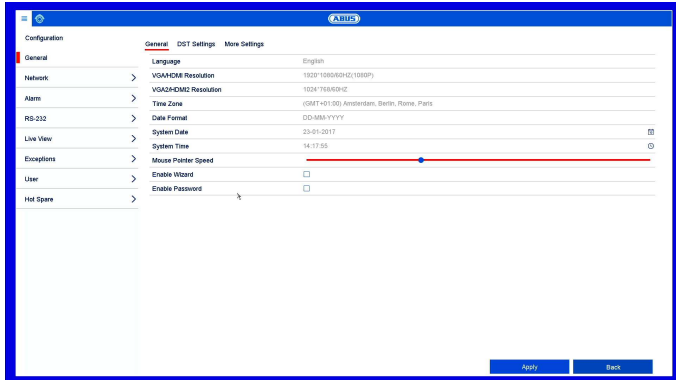
Use the  icon to switch directly to the live view in order to review settings which have a direct effect on the live image functions.

Setting: Configuration

General

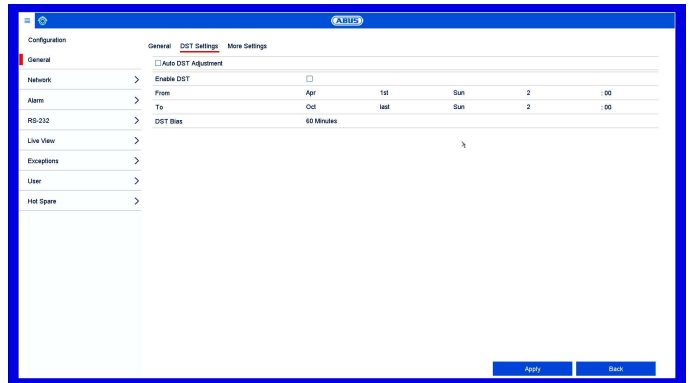
The general display configuration settings and date settings can be found here.

General tab



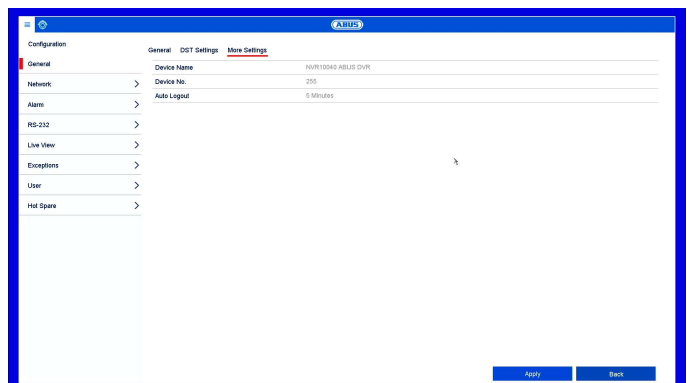
General	Setting
Language	On-screen display language
VGA Resolution	Monitor resolution of the VGA output
HDMI Resolution	Monitor resolution of the HDMI output
Time Zone	GMT (Greenwich Mean Time).
Date Format	MM-DD-YYYY, DD-MM-YYYY, YYYY-MM-DD
Date	Set date
Time	Set time
Mouse Pointer Speed	Slider (left = low speed, right = high speed)
Enable Wizard	Box ticked: The wizard will appear when the system is started up.
Enable Password	Box not ticked: A password does not need to be entered into the recorder itself. However, the password does need to be entered if accessing via the network. Box ticked: The password needs to be entered in order to use the menu.

DST Settings tab



DST settings	Setting
Auto DST Adjustment	If the box is ticked, the device switches automatically to daylight saving time.
Enable DST	If the box is ticked, a specific start/end date can be selected.
From/to	Start/end date for daylight saving time
DST Bias	Daylight Saving Time bias: correction of daylight saving time to reference time

More Settings tab



More settings	Settings
Device Name	Name of recorder
No.	Used for unique identification when using CMS software.
Auto Logout	Never/1–30 minutes: controls how long the menu is displayed before it is hidden again
Menu Output Mode	Use to specify the monitor output for the menu display. If set to auto, the recorder will detect the output.

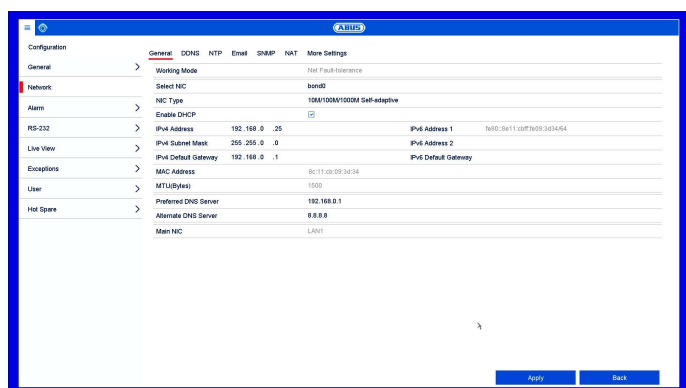
Network

The complete network configuration of the recorder can be carried out in the “Network” menu. The recorder must be physically connected to the network via at least a CAT5 cable. To allow for smooth network operation, we suggest using continuous gigabit cabling between the recorder, camera and switch.

Note
Having the correct network settings is indispensable for connecting network cameras and accessing the recorder via remote software (browser, CMS, app).

Warning
When using a router, the network clients, and therefore the recorder, are “connected” to the internet and vice versa. You should make sure that you take protective measures, such as using a firewall, changing your password and changing the port, to prevent unauthorised external access.

General tab

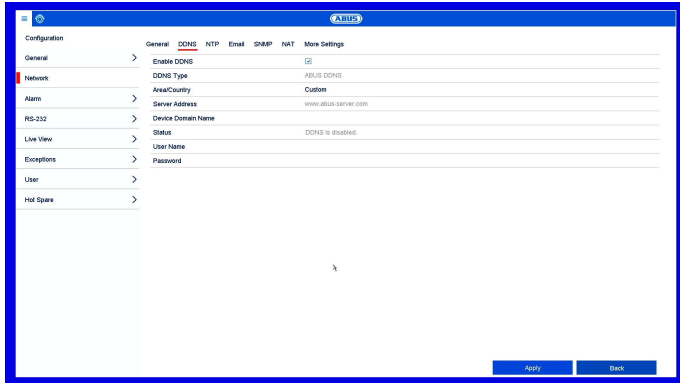


Settings for the local network and selecting the network mode are defined here.

General	Setting
NIC type	Set the transmission speed of the integrated network card here. Select “Self-adaptive” so that the recorder can automatically determine the best possible speed.
DHCP	Tick the box if the IP addresses on the network are assigned dynamically via DHCP. DHCP enabled: subsequent entry fields are set to disabled because parameters are obtained via DHCP. Note: If the IP addresses are assigned manually, ensure that DHCP is not enabled (do not tick the box).
IPv4 address	Address of the network device on the network when assigned manually
IPv4 Subnet Mask	Usually 255.255.255.0.
IPv4 Default Gateway	Gateway address for internet access
IPv6 Address 1	Local (link local) IPv6 address
IPv6 Address 2	Global (global unicast) IPv6 address
IPv6 Standard Gateway	IPv6 gateway address for internet access
MAC address	Hardware address of the integrated network card
MTU(Bytes)	Describes the maximum protocol packet size.
Preferred DNS server	Address of the domain name server, usually the IP address of the gateway.
Alternative DNS server	IP address of the alternative DNS server

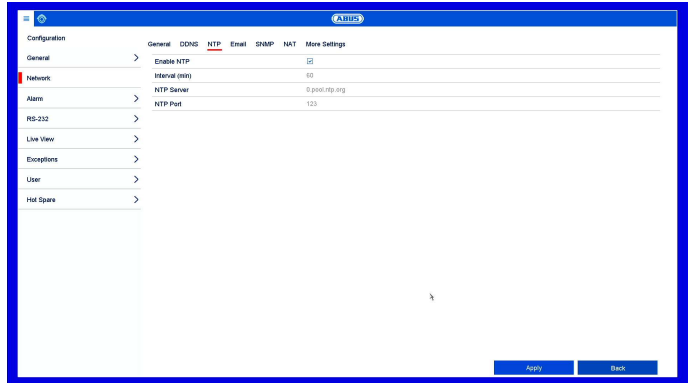
Note
In certain modes some of these settings cannot be selected.

DDNS tab



The DDNS function is used to update host names and DNS entries.

NTP tab



The Network Time Protocol automatically synchronises the time via the network.

DDNS	Setting
Enable DDNS	Activates the DDNS synchronisation.
DDNS type	Select the DDNS service provider.
Region/country	If necessary, select a region/country.
Server address	Enter the IP address or host name of the DDNS provider.
Device domain name	If necessary, enter the sub domain of the device.
Status	Display of the DDNS status
User name	Enter the user name of your DDNS account.
Password	Enter the password for your DDNS account.

NTP	Setting
Enable NTP	Activates the NTP function on the recorder
Interval (min.)	Determines the interval for synchronisation.
NTP server	NTP server address
NPT port	NPT port

Note

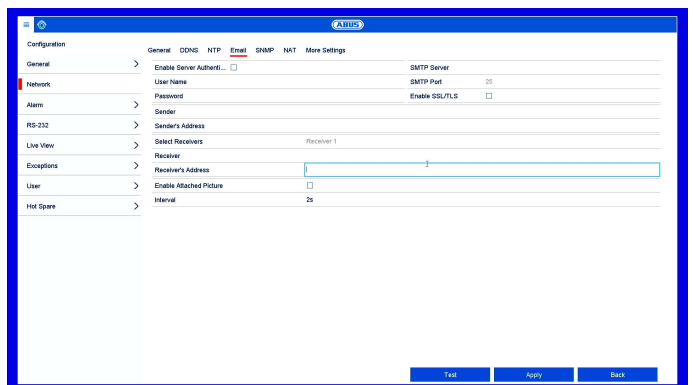
The recorder can synchronise the time with an external server. Several server addresses are available on the internet for this purpose.

1. Tick the “Enable NTP” box and enter the interval after which synchronisation should be repeated. Enter the IP address of the NTP server and the NTP port.
2. Apply the data by clicking on **Apply**.

If you want to use the ABUS server for remote access, proceed as follows:

1. To be able to use the ABUS DDNS function, you first need to set up an account at www.abus-server.com. Please read the FAQs on this topic on the website.
2. Tick the “Enable DDNS” box. Then select “ABUS DDNS” as the DDNS type and enter the www.abus-server.com host name in the “Server Address” field.
3. Apply the data by clicking on **Apply**. The IP address of your internet connection is now updated with the server.

Email tab



In the event of an alarm, the device can send a message by email. Enter the email configuration here.

Email	Setting
Enable Server Authentication	Tick the box when logged onto the internet provider's server
User name	Email account with the provider
Password	Password used to protect the email account
SMTP Server	SMTP server address of the provider
SMTP Port	Enter the SMTP port (default: 25)
Enable SSL	Tick the box to enable email encryption
Sender	Name of the sender
Sender's address	The email address linked to the email account
Select Receivers	Select three potential recipients for the email
Receiver	Enter the name of the recipient here
Receiver's address	Enter the email address of the recipient
Enable attached picture	Tick the box if camera recordings should also be sent with the email as photo files
Interval	Select a trigger time of between two and five seconds. The pictures will only be sent if motion is detected during the time frame defined.

1. Enter the parameters of the email notification.
2. Then click on **Test** to send a test email.
3. If you have entered everything correctly and have received a confirmation email, click on **Apply**.

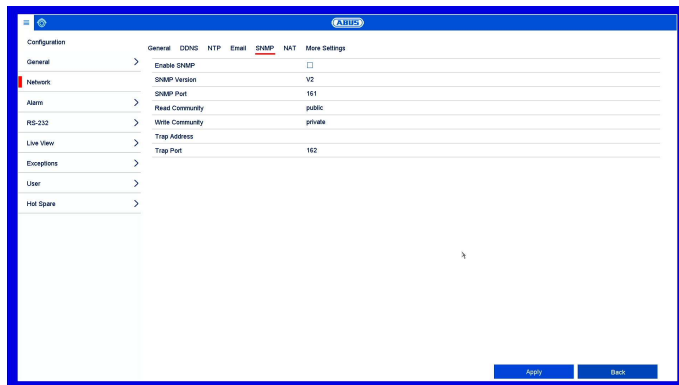
i Note

The device will send an email to the specified recipients.
If no email is received, check the settings and correct them where necessary. If necessary, check the junk mail settings of your email client.

i Note

You can obtain the access data and settings for sending SMTP from your email provider. Some email providers only provide SSL encryption for sending emails. This recorder has been tested for SSL compatibility with the following providers: GMX, Web.de and Gmail.

SNMP tab



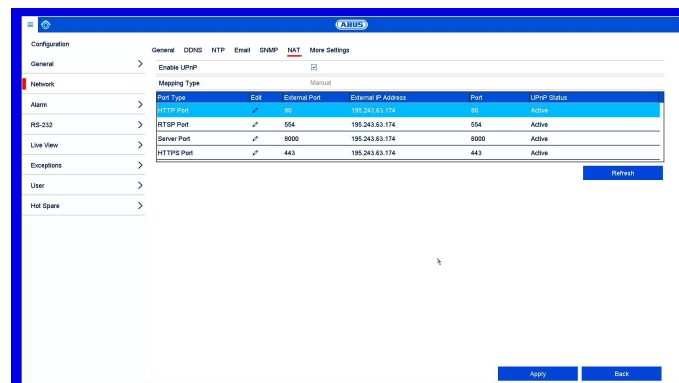
SNMP is a protocol for displaying the network status via corresponding SNMP software.

SNMP	Setting
Enable SNMP	Select the checkbox to create a connection to SNMP software
SNMP Version	The version of the SNMP system
SNMP Port	Enter the SNMP port (default: 161)
Read Community	Enter the "Key" according to the settings of your SNMP software.
Write Community	Enter the "Key" according to the settings of your SNMP software.
Trap Address	Enter the IP address for the SNMP manager
Trap Port	Enter the trap port (default: 162)

i Note

SNMP is used for monitoring the device status. For this you need suitable SNMP software.

NAT TAB



Network Address Translation is for the separation of internal and external networks.

Setting: Configuration

NAT	Setting
Enable UPnP™	<p>Tick the box to enable visibility on an IP network. When this function is enabled, port forwarding is automatically entered in the router for all network ports (provided that UPnP is enabled in the router).</p> <p>If UPnP is enabled, the network ports configured by UPnP are transferred to the ABUS server (provided that ABUS DDNS is enabled).</p>
Mapping Type	<p>For “manual” settings, the network ports can be manually defined using the “Edit” button.</p> <p>For “auto” settings, the recorder checks for free network ports on the router and defines the port numbers in a random pattern.</p>

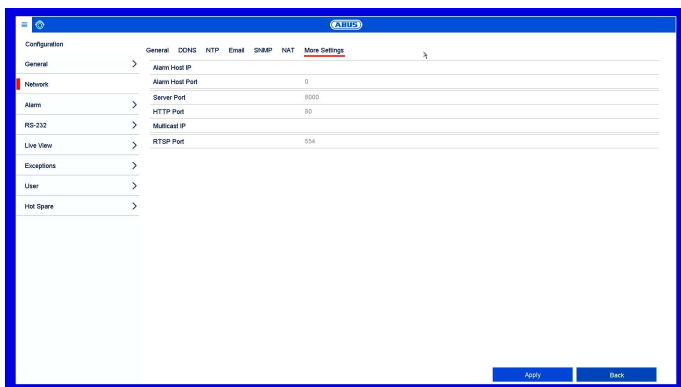


Note

Server port 8000 is used for remote communication via iDVR Plus/iDVR Plus HD and ABUS CMS.

HTTP port 80 and RTSP port 554 are used for remote access to the web interface.

More Settings tab



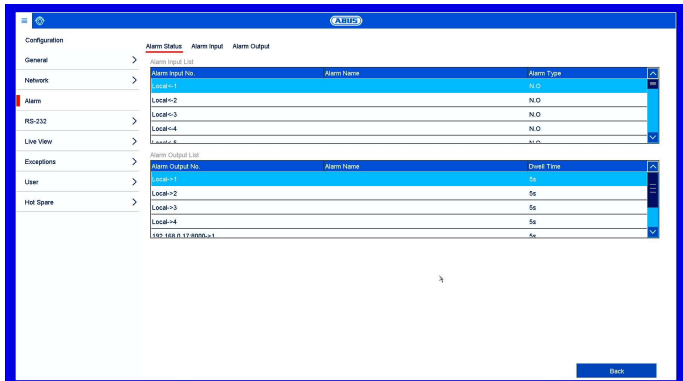
Used to configure the IP address of the PC where a notification should be displayed in the event of an alarm.

More settings	Setting
Alarm Host IP	Network address of the CMS station
Alarm host port	Port for your CMS station (default: 7200)
Server port	Port for data communication (default: 8000)
HTTP port	Port for the web server (default: 80)
Multicast IP	You can enter the multicast IP here too in order to minimise traffic. The IP address must correspond to the one in the video surveillance software.
RTSP port	Enter the RTSP port (default: 554)

Alarm

Configure the behaviour of the recorder's physical and virtual alarm inputs and outputs in the alarm menu.

Alarm Status tab

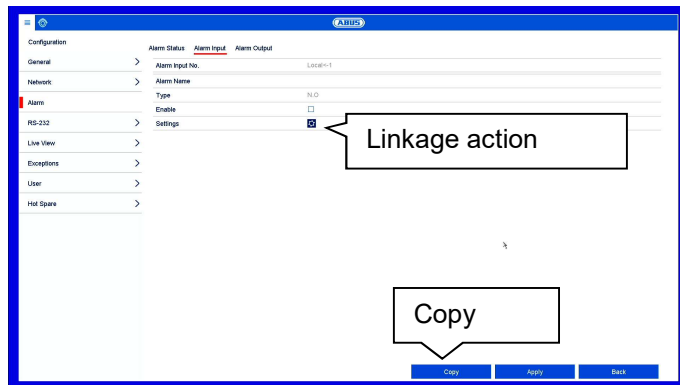


Here you can see a list of all the alarm inputs and outputs and their current status.

Alarm input	Setting
Local←xx	Shows the status of alarm input "xx". The numbering "xx" corresponds to the numbering of the physical alarm inputs (1–16).
192.168.1.5:8000 ← xx	Shows the status of the alarm input for IP address 192.168.1.5 "xx". The numbering "xx" corresponds to the numbering of the camera's physical alarm inputs (1–8).
Alarm name	Name (if assigned) of the alarm input.
Alarm type	N.O.: normally open circuit N.C.: normally closed circuit

Alarm output	Setting
Local →xx	Shows the status of alarm output "xx". The numbering "xx" corresponds to the numbering of the physical alarm outputs (1–8).
192.168.1.5:8000 → xx	Shows the status of the alarm output for IP address 192.168.1.5 "xx". The numbering "xx" corresponds to the numbering of the camera's physical alarm outputs (1–4).
Alarm name	Name (if assigned) of the alarm output.
Dwell Time	States how long (in seconds) the relay is closed when activated.

Alarm Input tab



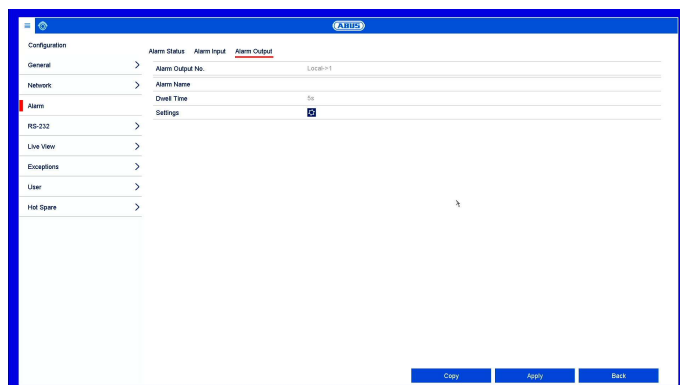
Configuration of individual alarm inputs

Parameter	Setting
Alarm input	Select the alarm input to adjust the settings. You can select the alarm input for an IP camera using the network address data.
Alarm Name	Enter a clear description, e.g. warehouse door contact.
Type	N.O.: normally open circuit N.C.: normally closed circuit
Arming	Activates/deactivates the selected alarm input.
Settings	Define the linkage action.

- Activate the alarm input by ticking the "Activate" box.
- Define the response of the recorder in the event of an alarm under "**Settings**".
- Click on **Copy** to apply these settings to other alarm inputs.
- Confirm the settings by clicking on **Apply** and exit the menu by clicking on **Back**.

Further settings for the programming of an action/time schedule for alarm inputs and outputs are described in the "**Linkage Action**" section.

Alarm output tab



Configuration of individual alarm outputs

Setting: Configuration

Parameter	Setting
Alarm output	Select the alarm output to adjust the settings. You can select the alarm output for a network camera using the network address data.
Alarm name	Enter a clear description, e.g. warehouse door contact
Dwell Time	Select the dwell time for switching the alarm output.
Settings	Define the linkage action.

- Activate the alarm output by ticking the "Settings" box.
- Define the schedule for the recorder alarm output in the event of an alarm under "**Settings**".

Linkage action

The "Linkage action" menu is the recorder's central event control function. From here, event-based recording, time schedules, emails, acoustic warnings, CMS notifications and PTZ actions can be programmed.

Linkage actions are available in various menus on the recorder (e.g.: alarm, motion detection, VCA).



Note

If not further defined, use this section as a reference for the configuration of Linkage Action and as a substitution for all relevant menus in the recorder.

Trigger channel tab

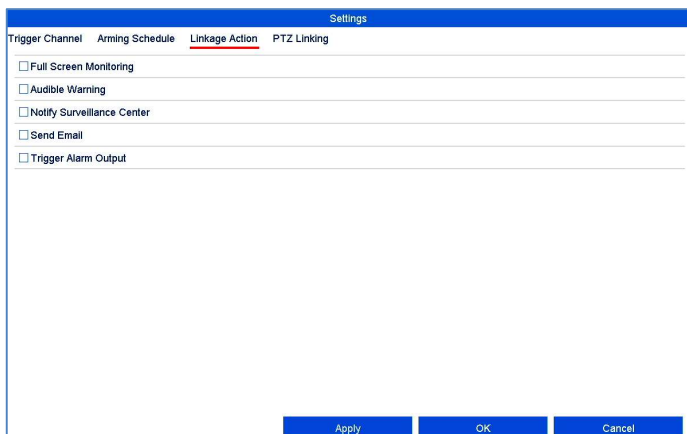
Tick the corresponding box to select which camera channel is triggered in the event of an alarm.

Parameter	Setting
Trigger channel	Select which camera should be triggered in case of an alarm/incident. A trigger signal normally causes an alarm recording.
Arming schedule	If you wish, you can decide whether the schedule of a camera should be activated in the event of an incident. This setting is only practical if the time schedule of a camera was explicitly deactivated beforehand (see "Recordings" menu). Normally, the time schedule of a camera is always enabled.

Arming Schedule tab

- Set the time at which the responses selected on the "Linkage Action" tab are activated when there is an alarm.
- Click on "Copy" to apply these settings to other days of the week or the entire week.

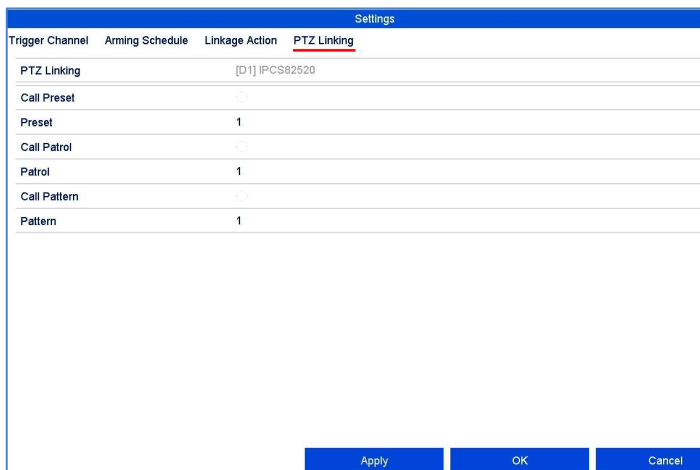
Linkage action tab



Select the **Linkage action** tab. Here, you can configure the response of the recorder in the event of an alarm by ticking the corresponding box. All actions can be enabled simultaneously.

Parameter	Notifications
Full Screen Monitoring	The camera is displayed in full screen in live view.
Audible Warning	The recorder emits a repeated signal tone.
Notify CMS	A notification will be sent by network command to the CMS software.
Send email	An email is sent to a specified email address.
Trigger alarm output	The selected alarm output is triggered in the event of an alarm.

PTZ linking tab



Here you can control specific PTZ presets, patrols or patterns for a taught-in camera.

Parameter	Notifications
PTZ	Select the camera to be controlled using a PTZ command in the event of an alarm.
Call preset	Select the preset number.
Start patrol	Select the patrol number.
Start pattern	Select the pattern number.

- Confirm the settings by clicking on **Apply** and exit the menu by clicking on **OK**.

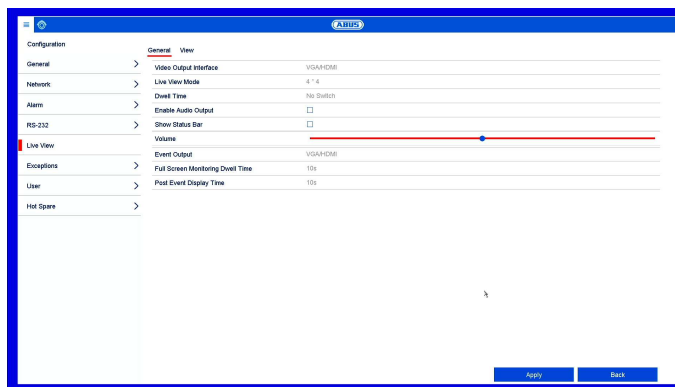
RS-232

The “RS-232” menu is only used by ABUS Security-Center for service purposes.

Live view

In the live view menu, define the behaviour of the local image output on the recorder. This includes the basic settings for the menu display and the configuration of the cameras' image distribution in multi-view.

General tab



The following settings are available in the General tab:

Video Output Interface	VGA/HDMI Select the connection where the settings are changed.
Live View Mode	Various camera layouts 1x1, 2x2, 1+5, 1+7, 3x3, etc.
Dwell Time	Switching time between the individual cameras during auto-switch.
Enable Audio Output	Activates the audio output for the live view. VGA: if this option is selected, the audio output takes place via the cinch sockets on the back of the recorder

Setting: Configuration

	HDMI: if this option is selected, the audio output takes place via the HDMI interface.
Display status bar	Activate/deactivate the status bar.
Volume	Adjust volume
Event output	Allocate monitor for the output of events.
Full Screen Monitoring Dwell Time	The number of seconds for which the event will be displayed on the allocated monitor.
Post-Event Display Time	The number of seconds for which the pop-up window should be displayed in the event of an alarm.


Note





VGA monitor connected:

If a VGA monitor is connected, it will be recognised automatically when the device is started up. The main video signal will be displayed on the monitor.

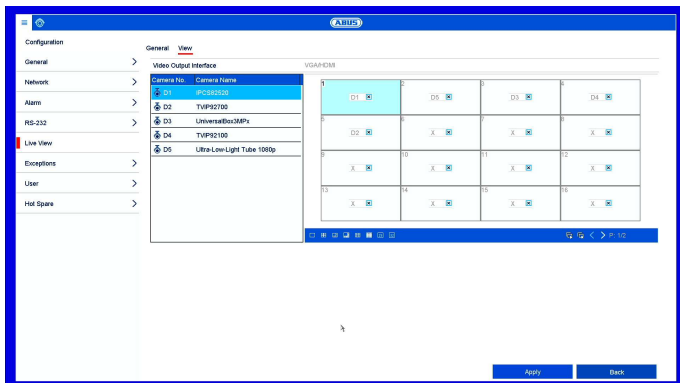
No HDMI monitor connected:

If no HDMI cable is connected to the monitor when the device is started up, the main video signal will be emitted at the VGA connection. Connect the VGA cable and restart the recorder to perform automatic detection.

1. Click on the View tab
2. Select a view mode from 
3. Use the navigation keys to allocate the required camera signal to the corresponding screen section.
4. Click on **Apply** to apply the setting.

Symbol	Meaning
	Select multi-view: 1x1, 2x2, 5+1, 7+1, 3x3,..
	Assign all available cameras to the current view in sequence (D1, D2, ...).
	Remove all cameras from the current view.
	Next/previous page. If more cameras are assigned than the amount of available spaces in the view, an additional page will be created. The mouse scroll wheel can be used to move between pages in the live view.

View tab

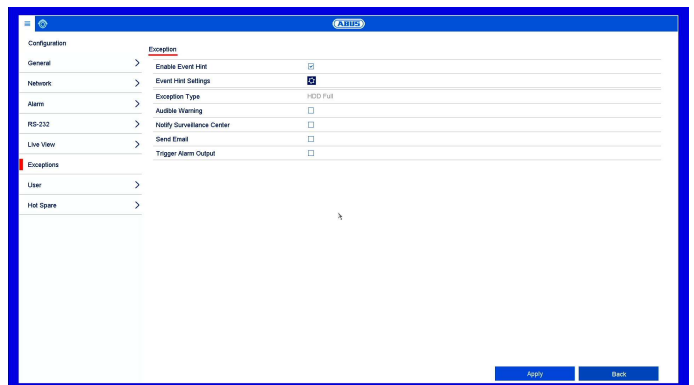


You can display up to 36 cameras simultaneously in live view.

Note

Watch out for possible limitations in the live view with regards to the local decoding power of the recorder.

Exceptions



Set the response of the recorder for warning messages and system events here. To do this, activate the “Enable event hint” setting.

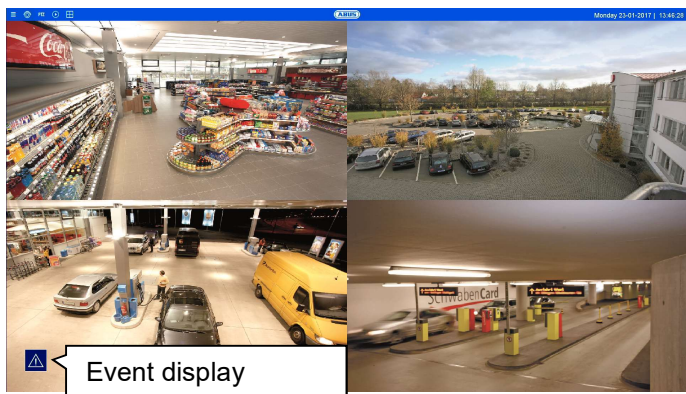
You can trigger a warning for the following error types:

- HDD Full
- HDD Error
- Network Disconnected
- IP Conflicted
- Illegal Login
- Exception Error

The event hints are either acoustic or sent by email and are additionally displayed in the live image view.

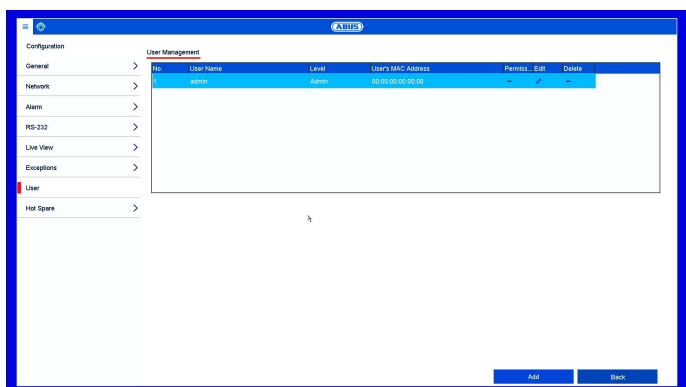
To add a new user, select **Add**. To edit an existing user, select the pen icon.

Parameter	Notifications
Audible Warning	The device emits a repeated signal tone.
Notify CMS	A notification is sent to the CMS software event log.
Send email	An email is sent to a specified email address.
Trigger alarm output	The selected alarm output is switched in the event of a fault.



In the menu item “Event hint settings”, enable the events for display in the live image view. In the default settings, all events are displayed in the live image view.

User



In user management, you can add new users, delete users, and amend existing settings.



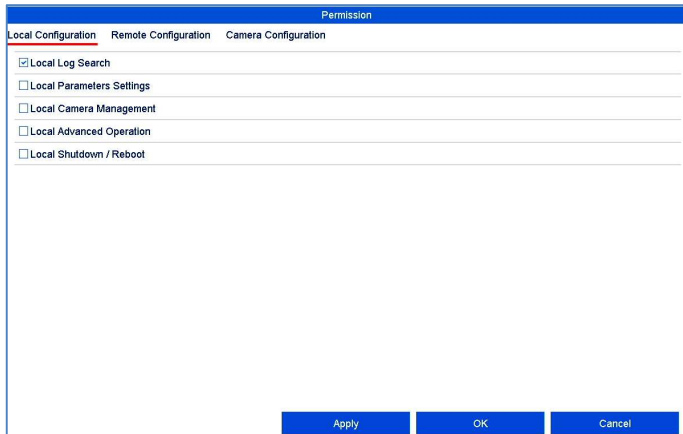
Warning

Change the default password during the initial commissioning to ensure secure operation.

Parameter	Setting
User name	Unique identification
Password	Access code for the device, for the purpose of device management Note: change your passwords regularly, using a combination of letters and numbers etc. and note them down to be stored in a safe place.
Confirm	Enter the access code again for security
Level	Select the user's authorisation level. IMPORTANT: More rights can be set on the Operator level than on the Guest level.
User's MAC Address	MAC address of the network adapter of the PC used by the corresponding user Note: This limits access to the PC, for which the MAC address has been entered here.

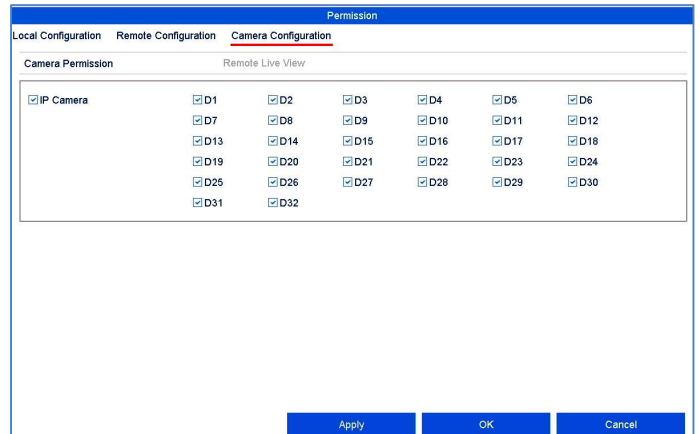
Control the access permission of the user by clicking on the “**Permission**” icon. Only the access data of users added manually can be changed.

Local configuration tab



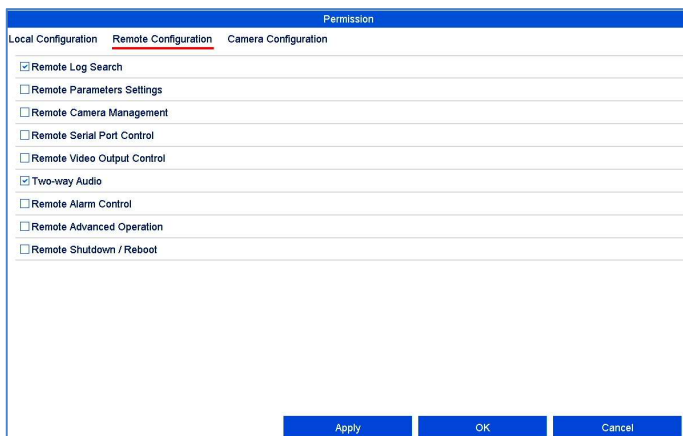
The permissions in the “Local configuration” tab are related exclusively to configuration settings which are accessible via the local user interface (access via local monitor).

Camera configuration tab



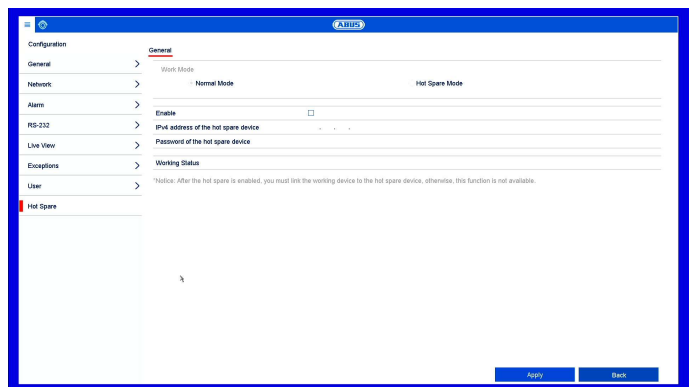
The permissions in the “Camera configuration” tab are related exclusively to cameras. Here, the access and operation of cameras (live/playback/export) are controlled remotely and locally.

Remote configuration tab



The permissions in the “Remote Configuration” tab are related exclusively to configuration settings which are made accessible/blocked via remote applications (browser, app, CMS software). If a permission is withdrawn, this generates a corresponding error notification in the remote application (e.g.: changes to camera settings via CMS).

Hot spare



Hot spare mode offers an additional safeguard against the failure of your recording system. At least one additional recorder is needed for this.

Note

When hot spare mode is enabled, the usability of the recorder is limited. Only basic configurations are available in the Settings menu.

The primary recorder performs the “master” function for recording, camera configuration and live image display. If the primary recorder stops working (power failure, network failure), the hot spare recorder automatically takes over (live display and recording).

Once the primary recorder is back in operation, the hot spare recorder transfers all the data back to the primary recorder and goes into standby mode.



Note

The hot spare recorder permanently synchronises its camera and recording settings with the primary recorder in order to operate with identical settings in the event that the primary recorder stops working.

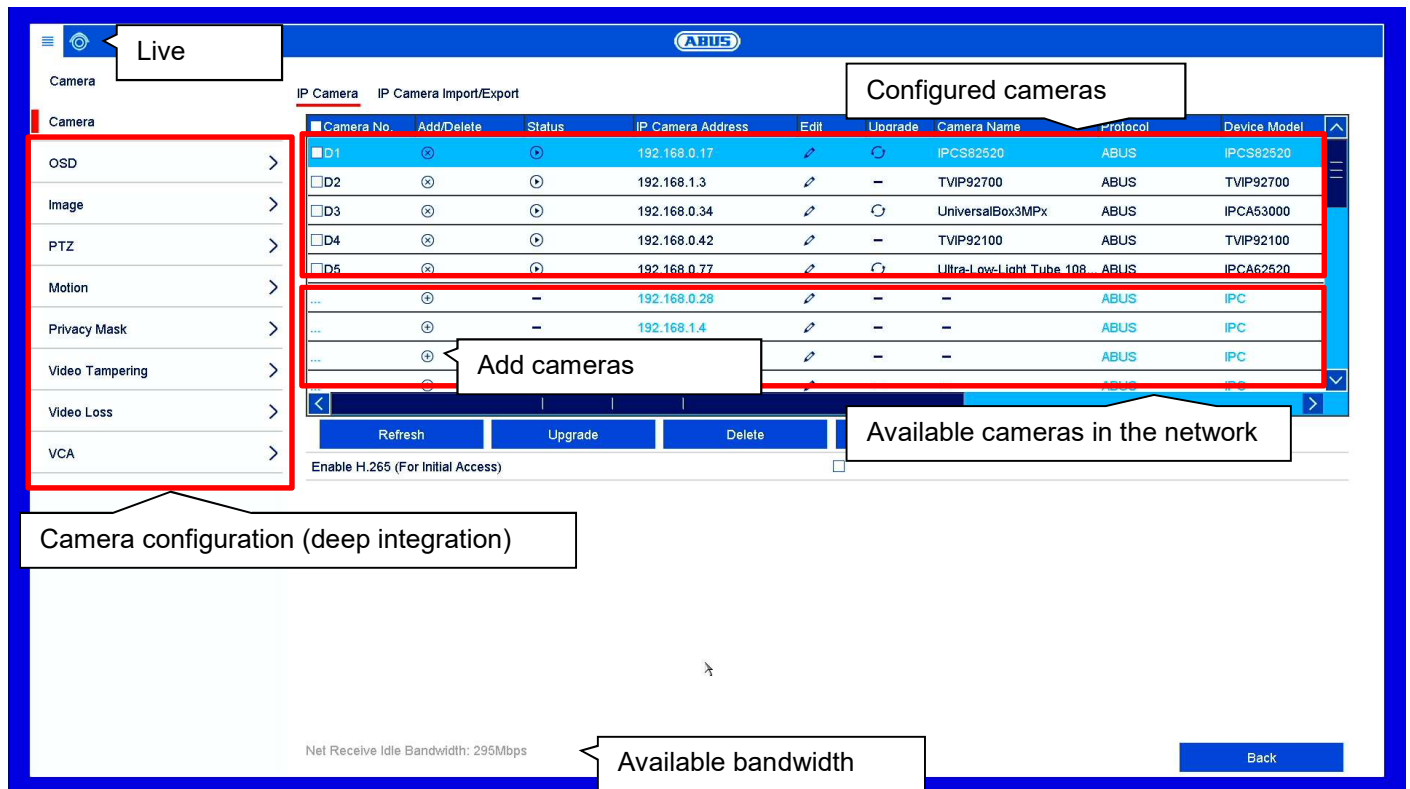
Please ensure that both devices are connected to your network. If this is not the case, please set them up as described in the chapter “Network Configuration”.

Setting up hot spare mode

1. First, set up the second device on the network and configure all basic functions (date, memory drives etc.).
2. In the “Hot spare” menu, select the hot spare mode for this device. You will need to restart the recorder in order to do this. Follow the instructions.
3. Make a note of the IP address for the hot spare device.
4. Switch to the “Hot spare” menu in your primary recorder as well, select the “Normal mode” option and enable the function.
5. Enter the IP address and password for the hot spare device.
6. A permanent connection is now established between the primary device and the hot spare device.
7. Setup is now complete.

To apply the settings, confirm your selections by clicking on **Apply**.

Setting: Camera



General information on managing cameras

The menu contains an overview of all cameras currently found on the network and a status display of cameras already integrated.

From here, new cameras can be added, the network configuration can be adjusted and advanced settings (deep integration) for the camera functions like motion detection, image settings and VCA can be set.

Note

Please note the possible limitations of some camera models in the “Compatibility” section at the beginning of the guide.

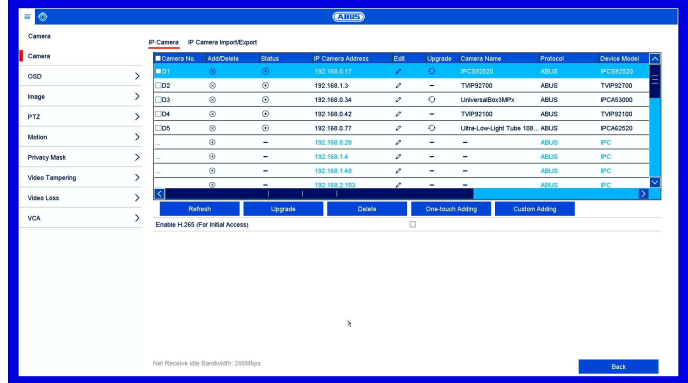
If the desired parameter (e.g.: setting the motion screen) is not adjustable via the recorder, complete this adjustment using your camera’s web interface.

Even if a camera function cannot be configured via the recorder, the trigger signal of all compatible cameras is always supported.

Camera

Add new cameras or edit the network configuration of already programmed cameras here.

IP Camera tab



Parameter	Setting
Camera No.	Channel port starting with D1...D32.
Add/Delete	X : manually delete the camera + : quickly add the camera. To do this, the camera must be set to the standard user and port settings.
Status	> : camera is online, click to view a preview

	! : there is a camera fault or the camera is offline.
IP Camera Address	Displays the IP address.
Edit	Manually change the settings for the IP address, protocol, port and user name.
Update	Updates the network camera firmware via USB.
Name	Displays the camera name (see OSD menu item).
Protocol	Displays the manufacturer device protocol.
Device Model	Displays the camera model number.
Management Port	Saved management port
Firmware	IP camera firmware version
Advanced Settings	If available: Access to the advanced settings

Click on **Refresh** to display the cameras on your network.

i Note

The update function via USB is not available for all cameras. Alternatively, you can use the ABUS IP Installer for the IP camera firmware update.

Click on **Delete** to delete the cameras you have already added.

Click on **Add All** to add all the cameras displayed.

Select **Custom Adding** to manually add a camera.

Custom Adding

Here you can manually add network cameras by entering the IP address and protocol and specifying the port and user ID.

You can also use this menu to add network cameras from other manufacturers, ONVIF-compatible cameras and RTSP profiles.

Click on **Search** to refresh the device list.

Select a camera from the list and add to/change the corresponding parameters when necessary:

Parameter	Setting
Address	IP address of the network camera.
Protocol	Manufacturer communication protocol. Check the compatibility list for this for third-party manufacturers at www.abus.com .
Port	Communication port of the network camera (usually port 80 or 8000)
User name	User name for the admin account of the network camera
Admin password	Password for the admin account of the network camera.

i Note

If you are using a third-party manufacturer's camera, please check in advance that it is on the compatibility list at www.abus.com. The camera functionality supported by the recorder may be restricted if using certain models of cameras or cameras from certain manufacturers.

Click on **Add** to transfer all manual settings for adding a camera to the recorder.

Click on **Protocol** to create a custom RSTP profile for the selected camera.

i Note

If your camera model is not included in the compatibility list, you also have the option of setting up the camera on the recorder using an RTSP streaming profile. To do this, you will need the RTSP URL for the camera live stream, which you can find in the user guide for your camera or request from the manufacturer.

Protocol

Here you can create a custom RTSP profile, which can then be assigned to a camera in the "Custom Adding" menu.

i Note

If you integrate a camera using RTSP, only the video image from the camera will be available on the recorder. Camera control functions (e.g. PTZ) and motion detection are not supported.

Setting: Camera

Parameter	Setting
User Protocol	Select a value between 1 and 16. The settings will be saved here.
Protocol Name	Select any name.
Stream Type	All values below "Main Stream" will be used for the main stream (live+recording). All values below "Substream" will be used for the substream (multi view live).
Substream	Enables the substream.
Type	RTSP
Transfer Protocol	Use the auto setting, provided that there are no special requirements.
Port	RTSP port entered
Path	Specifies the RTSP streaming path on the network camera.

i Note

You can usually find information on the RTSP streaming path in the camera manual or on the manufacturer's website. Ask the manufacturer directly when required if there is not enough information on the path.

Typical layout of an RTSP streaming path:

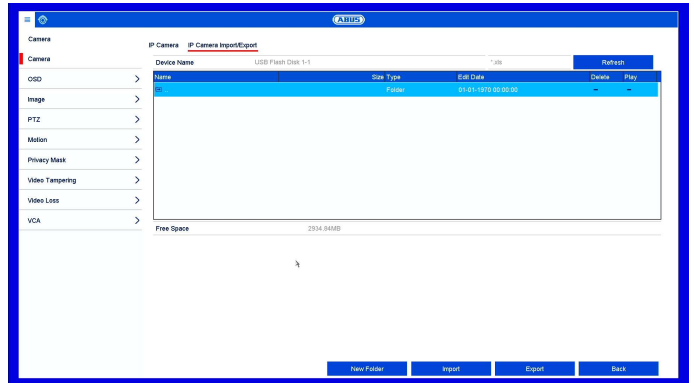
rtsp://192.168.0.1:554/video.h264

Parameter	Setting
Rtsp://	The protocol followed by "/"
192.168.0.1	IP address of the camera, separated by dots
:554	Colon followed by the RTSP port for the network camera
/video.h264	"/" followed by the path and streaming parameter

i Note

If your camera supports several streams, we recommend using the high-quality stream for the "Main Stream" setting and an alternative stream of a lower quality for the "Substream" setting.

IP camera import/export tab

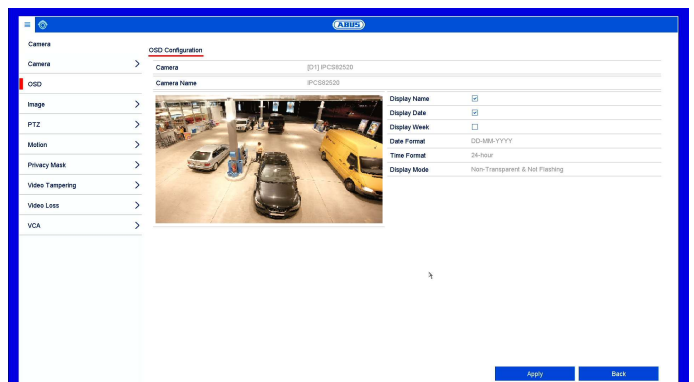


You can export or import all camera settings and programmed camera lists to/from an external data storage device here.

Click on **Import** to import a camera list from a data storage device.

Click on **Export** to export a list of all saved cameras to an external data storage device.

OSD



Set the On-Screen Display (OSD) of the camera here. The "Name" parameter is an important setting that has various implications:

- Embedding of the text string in the camera's live image (OSD)
- The camera's archive name will be managed using this identifier (playback)
- Selection of the camera name in live image (local/remote)
- Selection of the camera in the system configuration (local/remote)

i Note

Even if the OSD function of the camera is not fully supported, the "Name" setting is always available and should be set so that it has an unambiguous name for the camera selection in live image and playback.

Parameter	Setting
Camera	Selection of the camera channel to be processed
Name	Allocation of camera name
Display Name	Activate/deactivate display of camera name in the live view
Display Date	Activate/deactivate display of date in the live view
Display Week	Display the calendar week for the playback search
Date Format	Select the display format for the date of the playback search
Time Format	Select the display format for the time of the playback search
Display Mode	Settings for displaying the camera name and date

Presets	Save and retrieve individual preset positions.
Pattern	Save and retrieve a motion pattern.
Patrol	Save and retrieve patrols.
Linear scan.	Horizontal panning of the camera within the set limits.

Saving and retrieving presets

1. Use the arrow keys to navigate the camera to the desired image section.
2. Save the preset position by assigning a code (e.g. 1, 2...10) and then selecting the "Set" button.
3. To retrieve the preset, enter your code and click on "Retrieve".

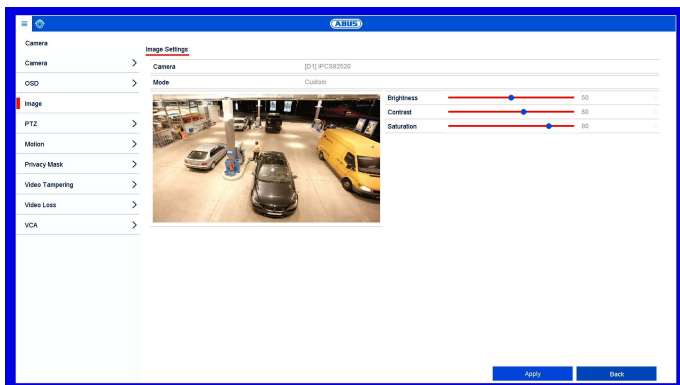
Saving and retrieving a pattern

1. Click on "Start" to start recording
2. Use the arrow keys to navigate the camera to the desired image sections and positions.
3. Click on "Stop" to save the recording

Setting up and calling up patrols

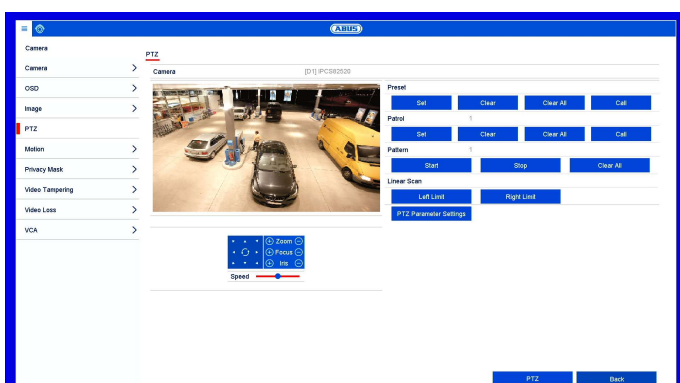
1. Create several presets to use for the patrol
2. Click on "Set" to select a preset and set the dwell time and speed
3. Add more presets to set up the required patrol
4. Click on "Retrieve" to start the patrol.

Image



Select the camera channel to be processed under "Camera" and adjust the image settings based on the lighting conditions.

PTZ



Select the camera channel to be processed under "Camera". To use these settings, the camera must have a PTZ feature.

PTZ Settings

PTZ Parameter Settings	
Baud Rate	9600
Data Bit	8
Stop Bit	1
Parity	None
Flow Ctrl	None
PTZ Protocol	Samsung
Address	1
Address range: 0-255	
<input type="button" value="OK"/> <input type="button" value="Cancel"/>	

Parameter	Setting
Baud Rate	Define the transmission rate
Data Bit	Standard 8
Stop Bit	Default 1

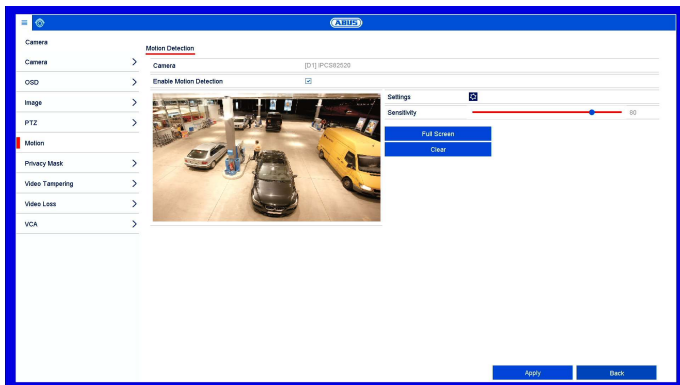
Setting: Camera

Parity	No standard
Flow Ctrl	No standard
PTZ Protocol	Select the PTZ protocol
Address	Select the camera ID

i Note

These settings are only relevant for cameras with external PTZ control.

Motion



Motion detection is controlled solely using the motion information on the recorder, which has been detected by the camera.

If a live image from the camera is displayed in this dialogue, you can configure the camera's motion screens directly.

i Note

The displayed settings for motion detection are basic settings. In the camera's web interface, detailed settings may be available.

If no live image from the camera is displayed in this dialogue, all settings for motion screens and sensitivity must be set directly in the camera's web interface. To set up motion detection, proceed as follows:

1. Select the camera channel to be processed under "Camera".
2. Tick the "Enable Motion Detection" box and define any other optional parameters under "Settings".
3. On a PC, open the web interface for the camera you have selected and adjust the advanced settings for the motion mask, threshold and sensitivity.
4. Repeat the process for any additional cameras.
5. Click on **Apply** to save the settings.

6. If you wish to record based on motion detection, switch to the "Record" menu item and select the relevant cameras under "Schedule". Here you can configure the schedule using the "Motion" event in order to set up motion-detection-based recording.
7. Click on **Apply** to save the settings.

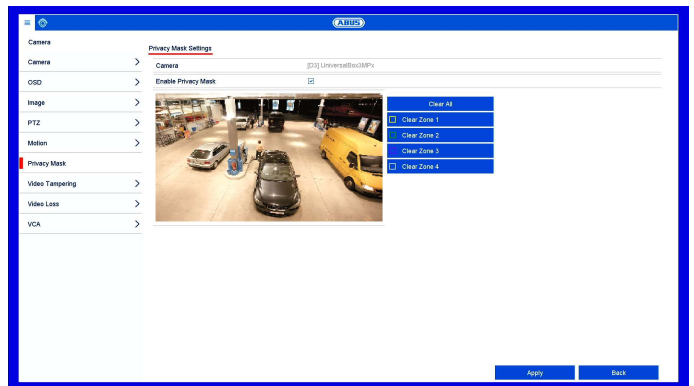
i Note

To record with the aid of motion detection, you must set up the schedule under **Record**.

i Note

For help in programming a **Linkage Action** via the Settings button, see the "Linkage action" section.

Private Zone



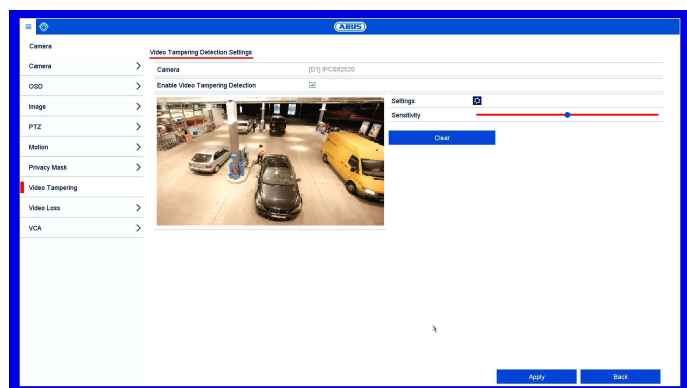
Select the camera channel to be processed under "Camera" and select the checkbox "Enable privacy mask".

Use the mouse pointer to drag the desired privacy masks across the preview.

i Note

You can set a maximum of four privacy masks. To delete them, select either "Clear all" or the desired mask on the right-hand side next to the preview.

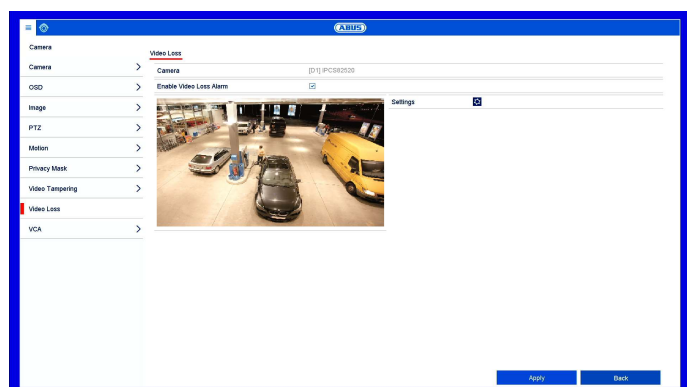
Tamper Surveillance



The tamper surveillance function monitors the brightness in the selected image area for darkening. If the lens is covered, the tamper trigger will be set off.

Parameter	Setting
Camera	Select a camera.
Enable tamper surveillance	Activate/deactivate the function.
Sensitivity	Define the sensitivity level. The further to the right the slider is shifted, the more sensitive the detection is.
Live image	Draw a screen in the displayed live image using the mouse.
Delete	Deletes the current screen.
Settings	Set a linkage action.

Video Loss

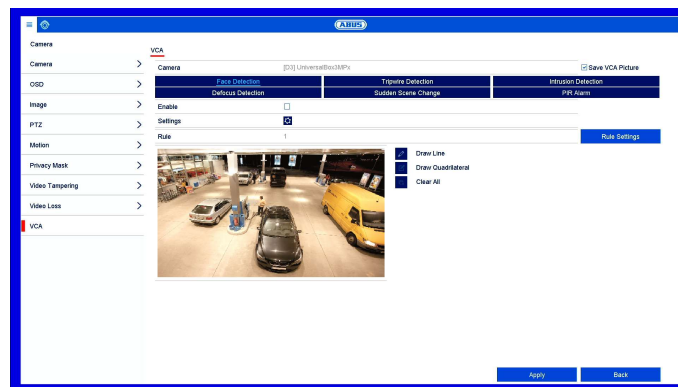


The Video Loss function monitors the selected camera channel for image loss.

Select the camera channel to be processed under "Camera".

Tick the **Enable Video Loss Alarm** box and define any Linkage Actions under **Settings** as required.

VCA



The Video Content Analysis (VCA) function enables event control through video analysis.

Then, if your camera model supports the functions, you can configure one of the following VCA (video content analysis) functions.



Note

Further information on the descriptions and uses of the VCA functions can be found in the camera user guide.

Some VCA functions may not be available, depending on the camera model used. You can find an overview in the "Compatibility" section.

VCA	Role
Face detection	Face detection
Tripwire detection	Triggers recording when a drawn line is crossed
Intrusion detection	Triggers recording when an object is present in a drawn area for longer than a certain amount of time
Defocus detection	Triggers recording in the event of defocus detection
Scene change detection	Triggers recording in the event of tampering through scene changes
PIR Alarm	Triggers recording when a PIR sensor is detected

The VCA functions can be used in a similar way to motion detection or alarm inputs as triggers for further actions in the NVR (e.g.: recording, email, alarm outputs etc...)

Setting: Camera

Select the required VCA function to start configuration. Different settings options are available for different VCA functions. Here is a summary of the parameters:

Option	Description
Arming	Enables the VCA function in the camera.
Settings	Define settings for responses in the event that an alarm is triggered (email, notification of Surveillance Centre etc.)
Rule	Select the number of rules. Depending on the function, several rules can be configured simultaneously.
Rule Settings	Select the sensitivity settings for the function (e.g.: object size, direction, dwell time).
Draw Line	Draw line for tripwire. The line is created by positioning two points on the live image.

Draw Quadrilateral	Draw area (quadrilateral) for intrusion detection. The area is created by positioning four points.
Clear All	Deletes all lines/areas of the currently selected rule.

To fully enable the VCA function, confirm all settings by clicking on **“Apply”**.



Note

Not all VCA functions have freely configurable “rules” (lines, areas). After all the VCA functions have been set, this data is transferred to the IP camera. Analysis of the VCA data takes place in the camera only. The camera then transfers the VCA results only as “meta-data” to the NVR.

Setting: Recording

General information on recording

In the Recordings menu, establish the basic settings for the recording of the camera stream.

Along with the individual weekday settings, the camera's resolution settings, which are crucial in determining the quality of the recorded image materials, can be set in the "Parameter" submenu.

Schedule

There are two types of configuration and data recording available:

Recording	Configuration of video stream recording from connected network cameras. Continuous data streams are saved on the recorder.
Instant image	Configuration of the single frame recording from connected network cameras. Only single images are saved on the recorder.

Note

Both types of recording can be configured in parallel for each camera.

Recording/instant image tab







The schedule is used to specify the recording times and triggers (recording type) for the cameras.

Note

As there is no difference between the settings for the Record and Capture tabs, they are only listed once.

Setting: Recording

In the schedule, the hours for each day are listed from left to right, and the days are listed from top to bottom. On the right of the display, the colour key can be seen meaning that in the time schedule set up, the recording periods are displayed in the schedule in a different colour depending on the 'trigger' (recording type) in question.

Coloured icon	Key
	Continuous recording: uninterrupted recording
	Event: a recording is made whenever any type of event (motion, alarm input or VCA) occurs.
	Recording takes place only upon motion detection.
	Recording takes place only upon alarm input (local/remote).
	Recording takes place upon motion detection or alarm input (local/remote).
	Recording takes place upon simultaneous motion detection and alarm input.
None	No recording takes place.

- Select the camera and tick the **Enable Schedule** box.
- Click on a **trigger** and use your mouse to highlight the time period within the schedule.

Alternatively, click on **Edit** to configure the type and duration of the schedule down to the minute.

Edit			
Weekday	Mon		
All Day	<input checked="" type="checkbox"/>	Type	Continuous
Start/End Time	00:00-00:00	Type	Continuous
Start/End Time	00:00-00:00	Type	Continuous
Start/End Time	00:00-00:00	Type	Continuous
Start/End Time	00:00-00:00	Type	Continuous
Start/End Time	00:00-00:00	Type	Continuous
Start/End Time	00:00-00:00	Type	Continuous
Start/End Time	00:00-00:00	Type	Continuous
Start/End Time	00:00-00:00	Type	Continuous
Start/End Time	00:00-00:00	Type	Continuous

1. In the drop-down menu for "Schedule", select the day to be set.
2. Activate/deactivate "All Day". If "All Day" is activated, you cannot enter specific times as the setting now applies to the whole day.
3. If you wish to enter specific time settings, deactivate "All Day".
4. Specify the recording type in the drop-down menu for "Type":
 - Duration
 - Event
 - Motion
 - Alarm
 - Motion or alarm
 - Motion and alarm
 - Event
5. If you are entering time-dependent settings, you can define up to eight time slots, between 00:00 and 00:00 in each case, but the individual time slots must not overlap.
 - Click on **Copy** to apply these settings to other days or the entire week.

Finalise your settings on the record screen by clicking on **Apply** and then **OK**.

Parameter

"Parameters" is where the quality settings for the individual video streams are set up on the recorder.

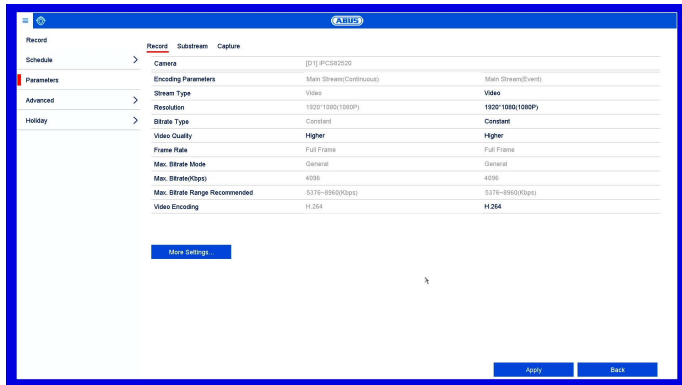
There are three types of configuration available:

Recording	Quality settings for continuous and event-based recording
Substream	Quality settings for the substream, which is used mainly for the live image display.
Instant image	Quality settings for capturing single images

i Note

If it is not possible to change the advanced settings for resolution and bit-rate, this means that the current recorder firmware does not support this function.

Record tab

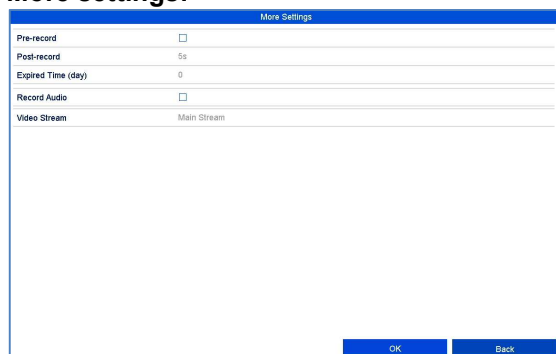


The following setting options are available in this submenu:

Parameter	Setting
Camera	Camera to be set
Encoding Parameters	Stream to be set
Stream Type	Predefined video stream
Resolution	Resolution of the camera
Bit rate	Select a variable or constant bitrate
Video Quality	There are various quality levels: +++ : medium quality +++++ : high quality
Frame rate	Settings for the stream frame rate
Max. Bitrate Mode	Select the mode for setting the bitrate Custom (32–3072)
Max. Bitrate(Kbps)	Settings for the maximum bitrate
Max. Bitrate Range Recommended	Recommended bit rate depending on the set resolution, frame rate etc.

Confirm the settings by clicking on **Apply** and exit the menu by clicking on **Back**.

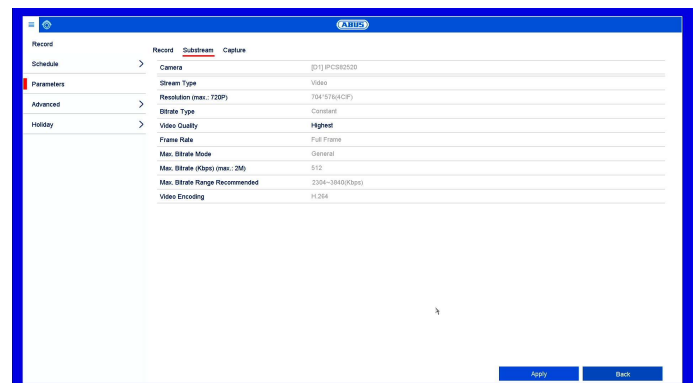
More settings:



The following detailed settings can be set individually for each camera:

Parameter	Setting
Pre-play	Enables the pre-play storage for individual stills. An attempt will be made to save a time of up to 10 seconds.
Post-play	Enables the post-play storage for individual stills.
Expired time	Specify how long data should be held available for the respective camera archive (overwriting will be blocked).
Recording/instant image redundancy	Enables storage for the HDD group “redundant” (not available when the HDD group mode is activated).
Record Audio	Enables the audio recording (provided that the camera delivers a signal).
Video stream	Select the stream source for the recording.

Substream tab



The following parameters can be set:

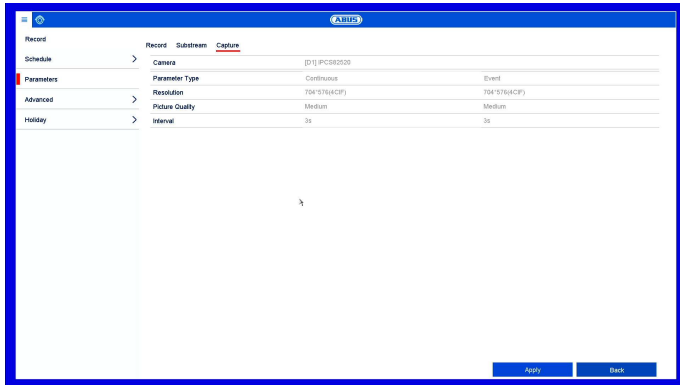
Parameter	Setting
Camera	Camera to be set
Stream Type	Predefined video stream
Resolution	Auto, 4CIF(704x576), CIF(352x288), QCIF(176x144)
Bitrate Type	Select a variable or constant bitrate
Video Quality	There are various quality levels: +++ : medium quality +++++ : high quality
Frame rate	Settings for the stream frame rate
Max. Bitrate Mode	General, custom (32–3072)

Setting: Recording

Max. Bitrate(Kbps)	Display of the maximum bitrate
Max. Bitrate Range Recommended	192~320 (Kbps)

Confirm the settings by clicking on **Apply** and exit the menu by clicking on **Back**.

Instant image tab

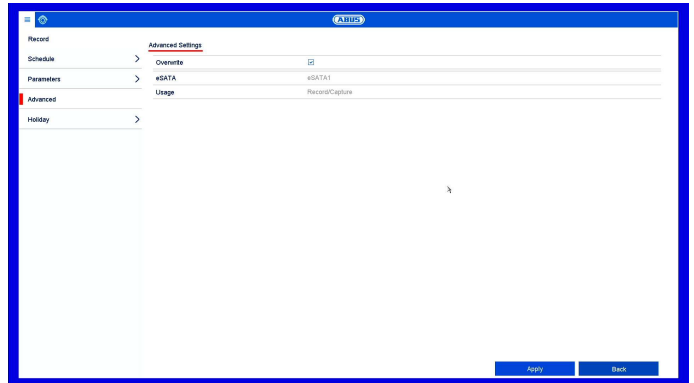


The following parameters can be set:

Parameter	Setting
Camera	Camera to be set
Parameter type	Individual settings for continuous and event recording
Resolution	Auto, 4CIF(704x576), CIF(352x288), QCIF(176x144)
Picture Quality	There are various quality levels: +++ : medium quality +++++ : high quality
Interval	Period after which single images are saved (between 1 second and 24 hours)

Confirm the settings by clicking on **Apply** and exit the menu by clicking on **Back**.

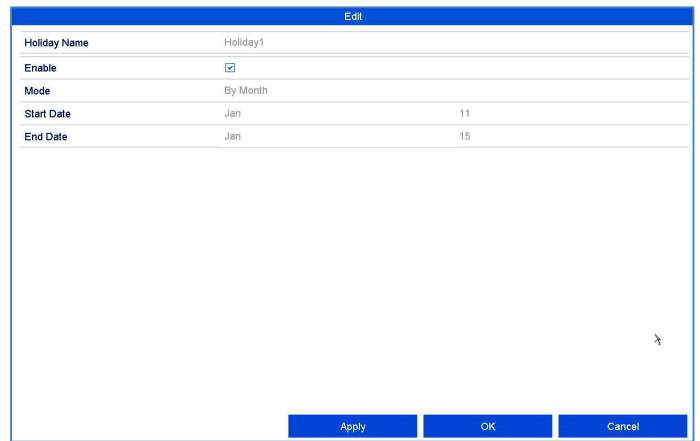
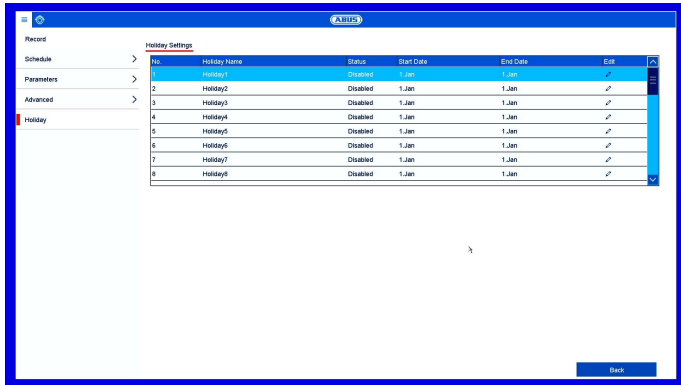
Advanced settings



Overwrite

Specify whether older recordings should be overwritten when the hard disk drive is full.

Holiday

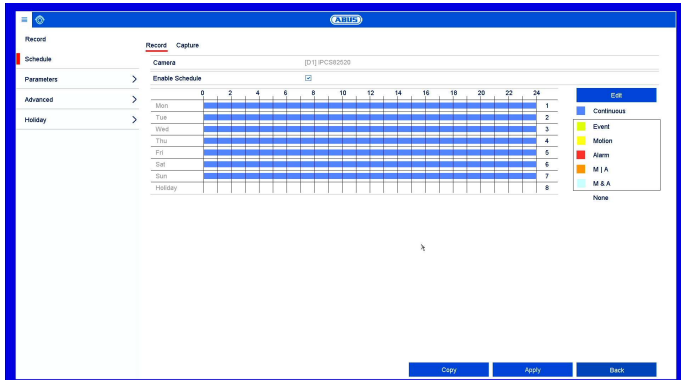


In this submenu, there are 32 different recording settings for holidays or bank holidays.

Confirm your settings by clicking on **Apply** and then **OK**.

The holiday schedule has a higher priority than the normal recording schedule and, when enabled, overrides it.

Name	Manually enter the name of the holiday or bank holiday
Armed	Enable or disable the holiday set
Model	By Date/By Week/By Month
Start time	Select the start date/start time
End time	Select the end date/end time



If the holiday mode setting is enabled, a “Holiday” entry for the configuration of the recording schedule for the holiday period will appear in the “Schedule” menu.

Click on the “Edit” icon to apply these settings.

Setting: HDD

HDD Information

Label	Capacity	Status	Property	Type	Free Space	Group	Edit	Delete
1	2794.52GB	Normal	R/W	Local	2792.00GB	1	—	—
2	931.52GB	Sleeping	R/W	Local	931.00GB	1	—	—
3	2794.52GB	Sleeping	R/W	Local	2794.00GB	1	—	—
5	5589.03GB	Normal	R/W	Local	5588.00GB	1	—	—
6	931.52GB	Uninitialized	R/W	Local	0MB	1	—	—
7	931.52GB	Sleeping	R/W	Local	931.00GB	1	—	—
8	5589.03GB	Sleeping	R/W	Local	5588.00GB	1	—	—

Total Capacity: 19.11TB
Free Space: 18.18TB

Add NAS

Add Init Back

General information on HDD

Manage local and external memory drives in the HDD section. Depending on the recorder model, 2–8 internal hard disk drives can be managed. In addition, the memory can be flexibly expanded by using network hard disk drives.

Note

The installed hard disk drives have to be initialised before the device can be used for recording. It is only then that the device will recognise the hard disk drive.



Warning

All data will be deleted from the hard disk drive during initialisation.

Ensure data is backed up beforehand.

General

Add NAS

Add Init Back

Set the configuration of the individual hard disk drives and initialise new hard disk drives here.

HDD Information	Description
Label	Shows the internal connection number
Capacity	Hard disk drive capacity (in GB).
Status	Shows the current status of the hard disk drives: Not initialised Normal Error Standby
Attributes	<ul style="list-style-type: none"> Read-only: write protection R/W: read and write

Type	Local: Hard disk drive NAS: Network hard disc drive IP SAN: iSCSI volume
Free Space	Shows the approximate amount of free memory for recordings
Group	Group ID
Edit	HDD Settings
Delete	Remove the hard disk drive

Parameter	Description
NetHDD	Choose from eight NetHDDs.
Type	NAS: For this setting, your network storage must support the NFS file system. IP SAN: For this setting, your network storage must support the iSCSI protocol.
IP address	Enter the network storage IP address.
NetHDD Directory	Enter the storage path or iSCSI target.

Initialising the hard disk drive

1. Select the hard disk drive by ticking the box.
2. Click on **Init** to start the process.
3. The status bar will show the progress of the initialisation.
4. Once the process has finished, the hard disk drive will appear.

Add NetHDD

Additional data storage devices can be added to enable storage across the network.



Warning

When using NetHDDs, ensure that your network is of a sufficient size.



Note

The playback of recorded data may be slower if you use NetHDDs than if you are using the internal hard disk drives.



Note

Generally, a NFS path is indicated as follows: “/volume1/ABUS-Recorder”.

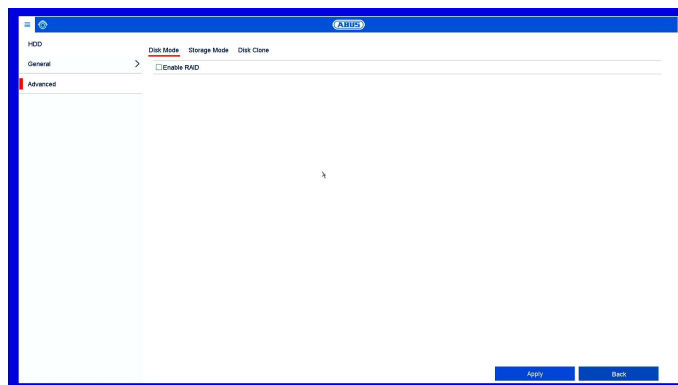
Generally, an iSCSI path is indicated as follows: “iqn.2010-10.Synology-iSCSI:VirtualDisk.01”

Always pay attention to upper and lowercase letters when using a path description for network storage.

Advanced settings

Here you can define the settings for the storage mode of individual cameras and hard disk drives.

Disk mode tab



By clicking on the “Enable RAID” button, the integrated RAID function will be enabled.

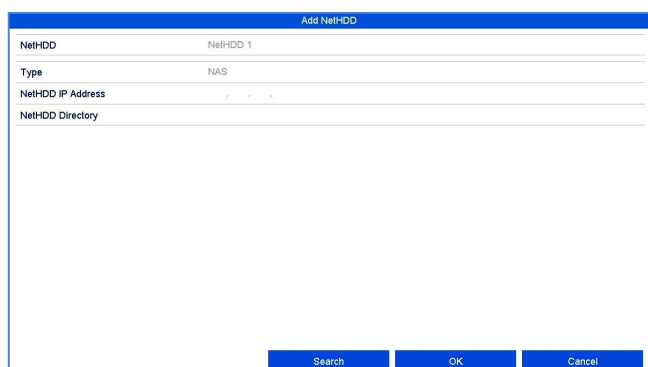
You will need to restart the recorder for this procedure.



Note

The “RAID” option is only available for select recorder models. Please check the technical data of the recorder.

Click on **Add** to add a NetHDD.

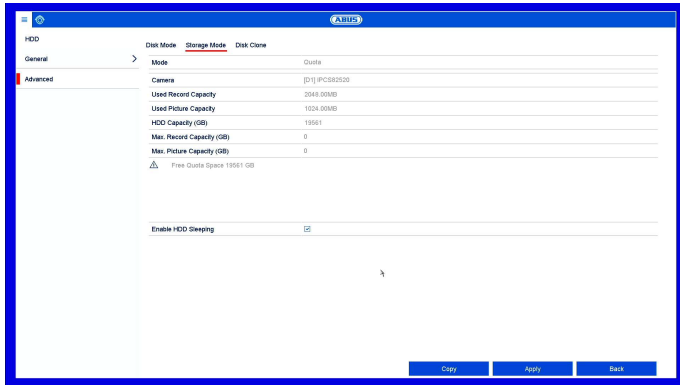


Click on **Search** to identify the network storage and then click on **OK** to add the NetHDD.

The NetHDD must be initialised before use.

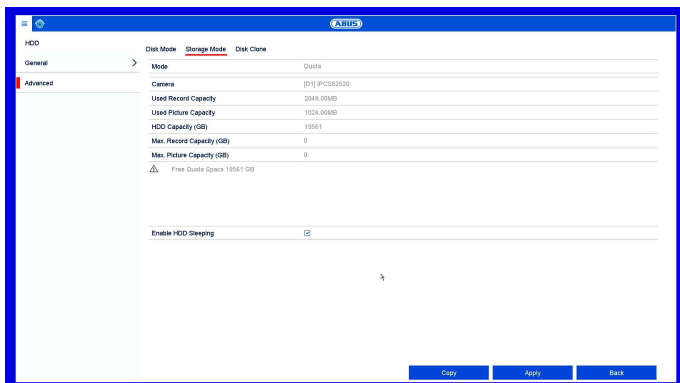
Setting: HDD

Storage mode tab



Set the recorder's storage mode in this menu. Two different storage modes are available in order to either divide video data among all the hard disk drives or to allow for targeted write operations for individual storage devices.

Mode: Quota



In this mode, video data is divided between the total number of data storage devices connected and written onto them.

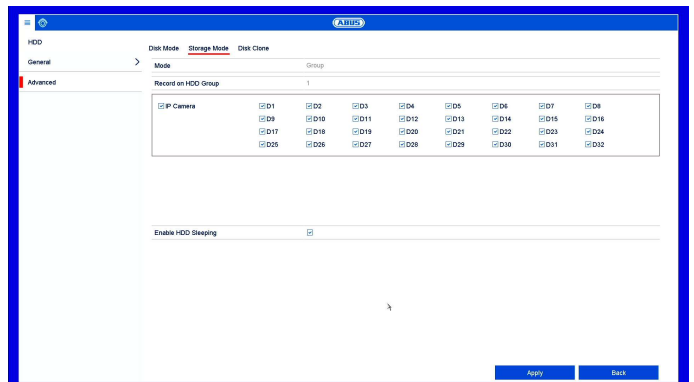
Camera	Selection of the camera channel to be processed
Used Video Capacity	Video storage space currently in use on the linked data storage devices.
Used Picture Capacity	Picture storage space currently in use on the linked data storage devices.
HDD Capacity (GB)	Total available hard disk drive capacity (in GB).
Max. Record Capacity (GB)	Specify the maximum video recording size on the linked data storage devices for each camera.
Max. Picture Capacity (GB)	Specify the maximum picture recording size on the linked data storage devices for each camera.

Enable HDD Sleeping

When this function is activated, idle hard disk drives go into standby mode.


1. Use **Copy** to specify if the setting is to be applied to all cameras.
2. Confirm the settings by clicking on **Apply** and exit the menu by clicking on **OK**.
3. Click on **Apply** and confirm the reboot in the next window by clicking on **OK**.

Mode: Group



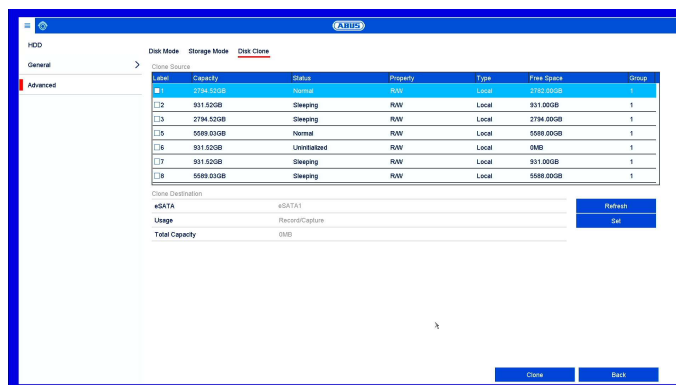
In this mode, video data can be specifically (and also redundantly) stored on selected data storage devices. Here, the storage devices are organised into "groups". A group must include at least one HDD.

Parameter	Setting
Record on HDD Group	Select HDD group
Network Camera	Select which cameras should be stored in the group currently selected.
Enable HDD Sleeping	When this function is activated, idle hard disk drives go into standby mode.

The HDD groups are configured in the General menu. To do this, click on  to open the HDD group settings.



Clone drive tab



Hard disk drives can be cloned onto eSATA storage devices via the submenu in the case of an impending HDD failure or a critical incident.

Parameter	Description
HDD No.	Internal hard disk drive number for the recorder.
R/W	In this mode, video data is written onto the data storage device and can also be read (default setting).
Read-only	In this mode, no video data is written onto the data storage device. This setting is useful if you want to stop data from being overwritten after an event.
Redundancy	In this mode, video data will be redundantly stored on all data storage devices with the "Redundancy" setting. For this purpose, the "Redundancy" button in the "Recording → Parameter → More Settings" menu must be pressed.
Group	Allocate the data storage device to an HDD group.

Clone	Setting
eSATA	Here you can select the eSATA interface
Use	Current intended use of the eSATA interface. The setting must be on Export for the clone procedure.
Total capacity	Capacity of the eSATA storage device. In a clone procedure, the eSATA storage device must at least be as large as the storage device that will be cloned.
Set	Configure the intended use of the eSATA interface.
Cloning	Starting the cloning procedure

Note

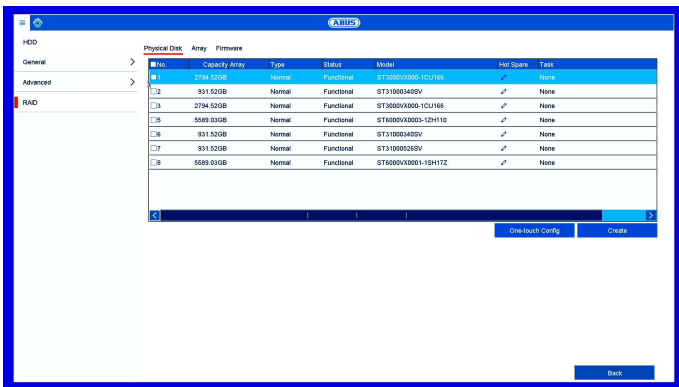
The "Cloning" option is only available on select recorder models with an eSATA interface. Please check the technical data of the recorder.



Important:

If only one hard disk drive is installed and this is set to "Read-only", the device cannot be used for recording.

RAID



In this menu you can create a RAID array for recording video data on the recorder.



Important:

RAID is a software RAID function. This means that RAID data is managed via the recorder's integrated CPU. If the function is enabled, the INPUT bitrate of the NVR is reduced by around 40%.

Hot spare

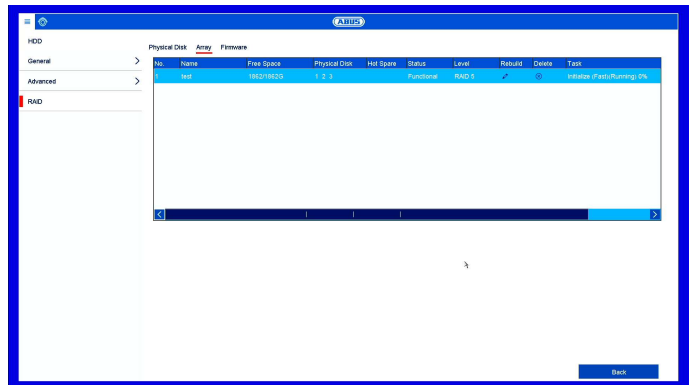
Free data storage devices which are not assigned to a RAID array can be defined as "hot spares". These data storage devices are not used by the system initially. If there is an error in a disk which is part of a RAID array, the hot spare data storage device is immediately activated for use.



Note

If you would like to learn more about using RAID, we advise you to consult specialist literature on the subject.

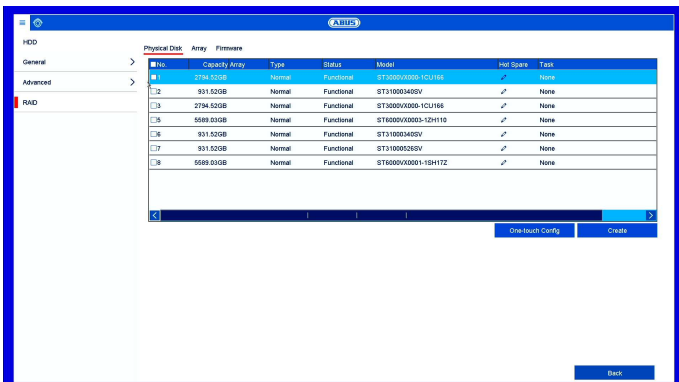
Array tab



This view shows the current status of the RAID array. The following actions can be performed:

Parameter	Setting
Rebuild	Carry out a manual rebuild of the array. This rebuilds the data structure of the RAID array.
Delete	Delete the RAID array. This renders the data storage devices "free" again, such that they can be used for RAID configurations again.

Physical disk tab



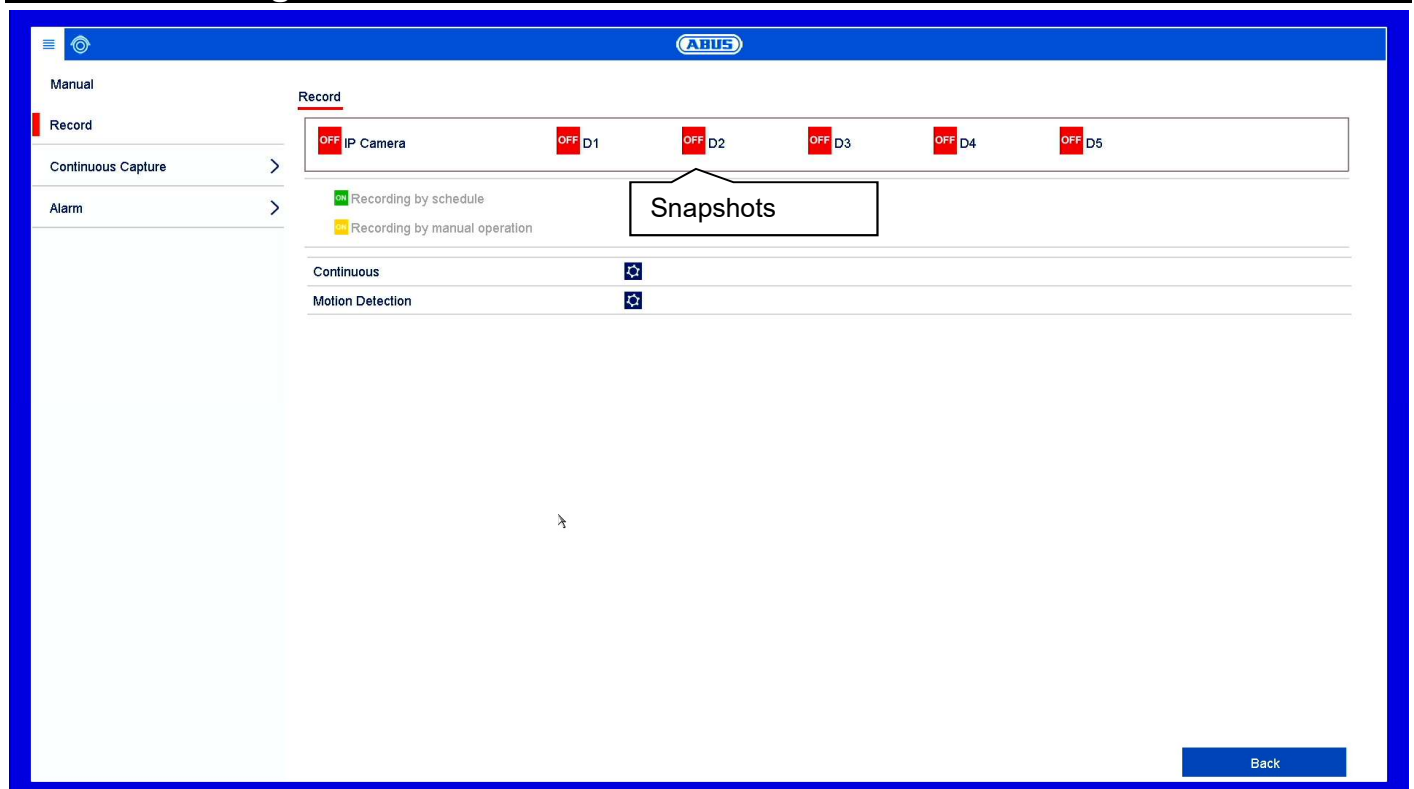
This view shows a list of all the data storage devices connected to the NVR. The following options are available for further configuration:

Parameter	Setting
One-touch configuration	Automatically creates a RAID array from all the free data storage devices.
Create	Create a RAID array manually. The following RAID types can be used: RAID0, RAID1, RAID5, RAID10.

Firmware tab

Displays the firmware features of the RAID controller.

Panic recording



General information on panic recording

The Panic recording menu enables instant actions to be triggered for recordings and switching outputs on the recorder. All actions in the Panic recording menu have a higher priority than the configured schedules in order to be able to trigger a fast reaction.

Select the settings for all cameras. Click on “Off” or “On” to change the settings.

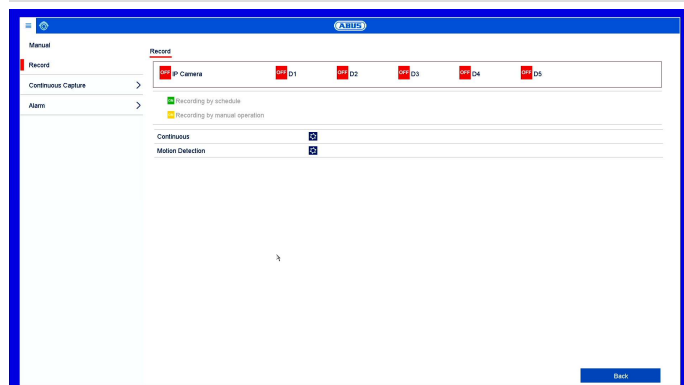
“On (green)” → “Off (red)”
Manually stop recording

“Off (red)” → “On (yellow)”
Manual continuous recording

“On (yellow)” → “Off (red)”

Manual continuous recording is stopped and if a schedule has been configured for the camera, it will be activated automatically (green).

Recording

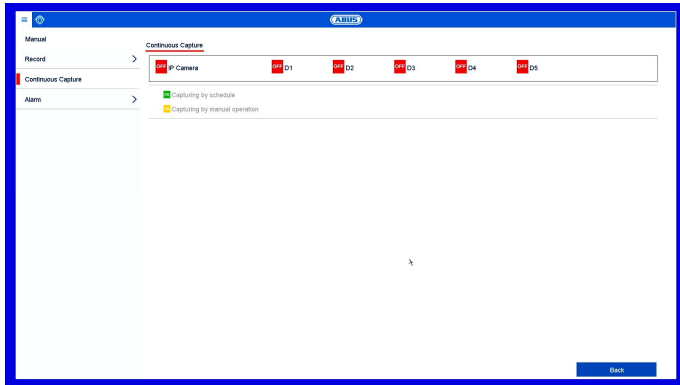


Press the **REC button** in the live image or navigate to “**Continuous recording**” or “**Motion Recording**” under Panic Recording in the main menu to start manual picture/video recording. The settings are identical for snapshots and so they will only be described once.

If a recording is started manually, it also has to be stopped manually. All manual recordings will be deactivated and the schedule activated when the recorder is rebooted.

Parameter	Description
Continuous recording	Click on the icon to activate continuous recording for all channels for the whole day. Click on “Yes” to confirm your selection.
Motion detection	Click on the icon to activate motion detection for all channels for the whole day. Click on “Yes” to confirm your selection.

Continuous Capture



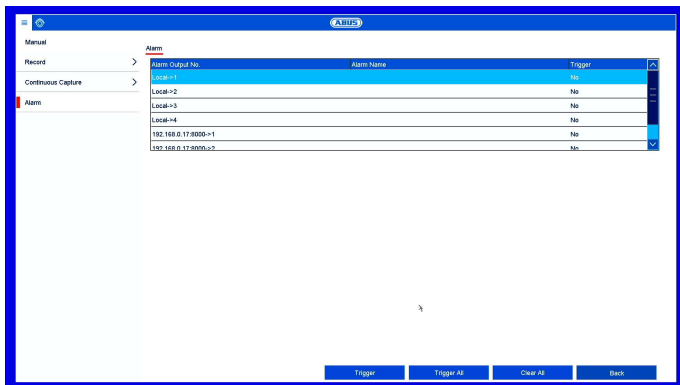
Click on the camera channel to activate the function.

ON green = snapshots according to time schedule

ON yellow = snapshots captured by manual operation

Alarm

Here you can select the alarm output which should be switched in the event of manual management.



You can switch several alarm outputs in the event of a manual response.

Select **Trigger** to activate the selected alarm output.

Click on **Trigger All** to activate all of the alarm outputs.

Click on **Clear All** to remove the settings.

VCA search

The screenshot shows the 'Behavior Search' interface. At the top, there are tabs for 'Chart' and 'List'. Below this is a grid of five video thumbnails, each with a timestamp: '03-29-01-2017 15:03:06'. A callout box labeled 'VCA event list' points to this grid. To the right, a larger video player shows an 'Event playback' of the same scene. Below the thumbnails, a status bar indicates 'Total: 5 P: 1/31'. A callout box labeled 'Data export' points to a 'Data export' button in the bottom right. At the very bottom, there are checkboxes for 'Picture' and 'Record', and buttons for 'Export All', 'Export', and 'Back'.

General information on VCA search

In the info menu, select the “VCA Search” item to analyse video data recorded using VCA functions.

VCA events can also be analysed via the playback view of individual cameras. The VCA Search menu, however, allows you to search through the VCA events of all connected cameras and to perform a data export directly.



Note

In the “Compatibility” section, check whether VCA is supported by the selected camera.

Behaviour Search

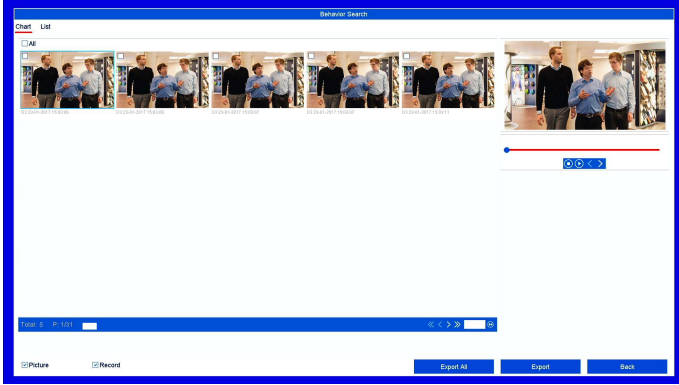
The screenshot shows the 'Behaviour Search' configuration window. It has a sidebar with 'VCA Search', 'Behavior Search', 'Face Search', and 'Counting'. The main area is titled 'Behavior Search' and contains a grid of camera selection checkboxes labeled 'IP Camera' with IDs from 'D01' to 'D32'. Below this grid, there are fields for 'Start Time' (set to 29-01-2017 00:00:00), 'End Time' (set to 29-01-2017 23:59:59), and 'Type' (set to 'All'). 'Search' and 'Back' buttons are at the bottom right.

In the menu item Behaviour Search, all “Tripwire” and “Intrusion Detection” recordings can be analysed in a targeted way. The following parameters can be set for the search:

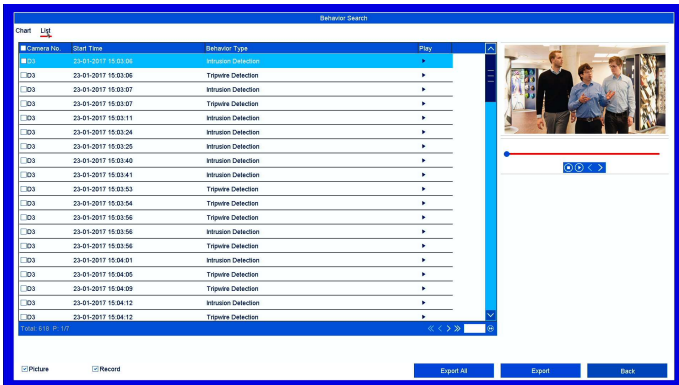
Parameter	Description
IP Camera	Select one or more recorded camera channels.
Start time	Select the start time.
End time	Select the end time.
Type	Select the recording type.

The search result is displayed in a new window. Select from a table or a list view.

Behaviour Search: Table view



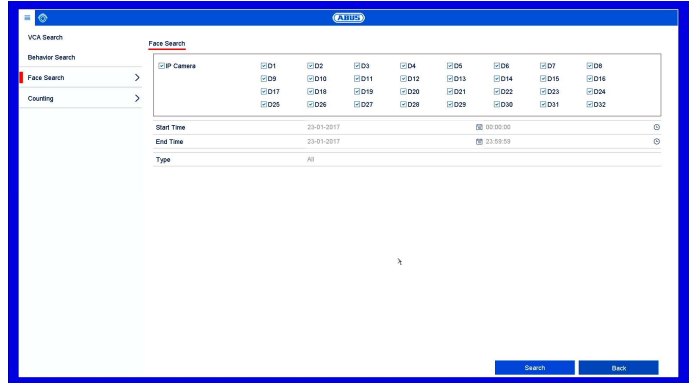
Behaviour Search: List view



The following options are available in the results search:

Parameter	Description
Playback	Select a line by clicking on the Play icon ►. The recording is shown in the preview window. Using the playback controls displayed below the image, the recording can be played back.
Browse	When several pages of results have been found, navigate through the search results using the icons << < > >>.
Select	Select one or more recordings by clicking on the checkboxes in the results list.
Export	Export all selected data to an external data storage device using the button "Export"/"Export All".

Face Search

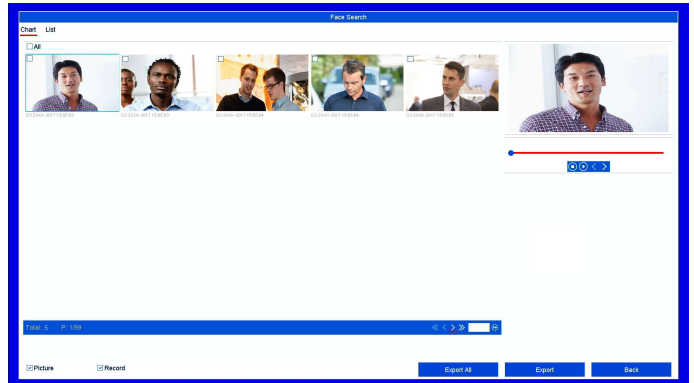


In the Face Search menu item, "Face Detection" recordings can be analysed in a targeted way. The following parameters can be set for the search:

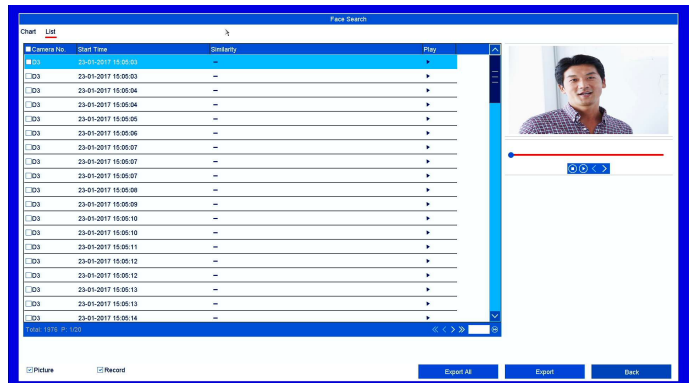
Parameter	Description
IP Camera	Select one or more recorded camera channels.
Start time	Select the start time.
End time	Select the end time.

The search result is displayed in a new window. Select from a table or a list view.

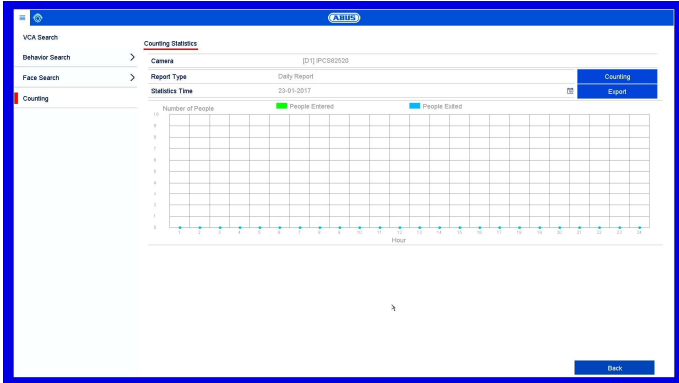
Face Search: Table view



Face Search: List view



People Counting



In the “People Counting” menu item, people counting statistics can be analysed by IP cameras using “Object Counting”.



Note

Make sure that “Object Counting” recording inside the IP camera has been set up beforehand. Recording in the IP camera requires an SD card.

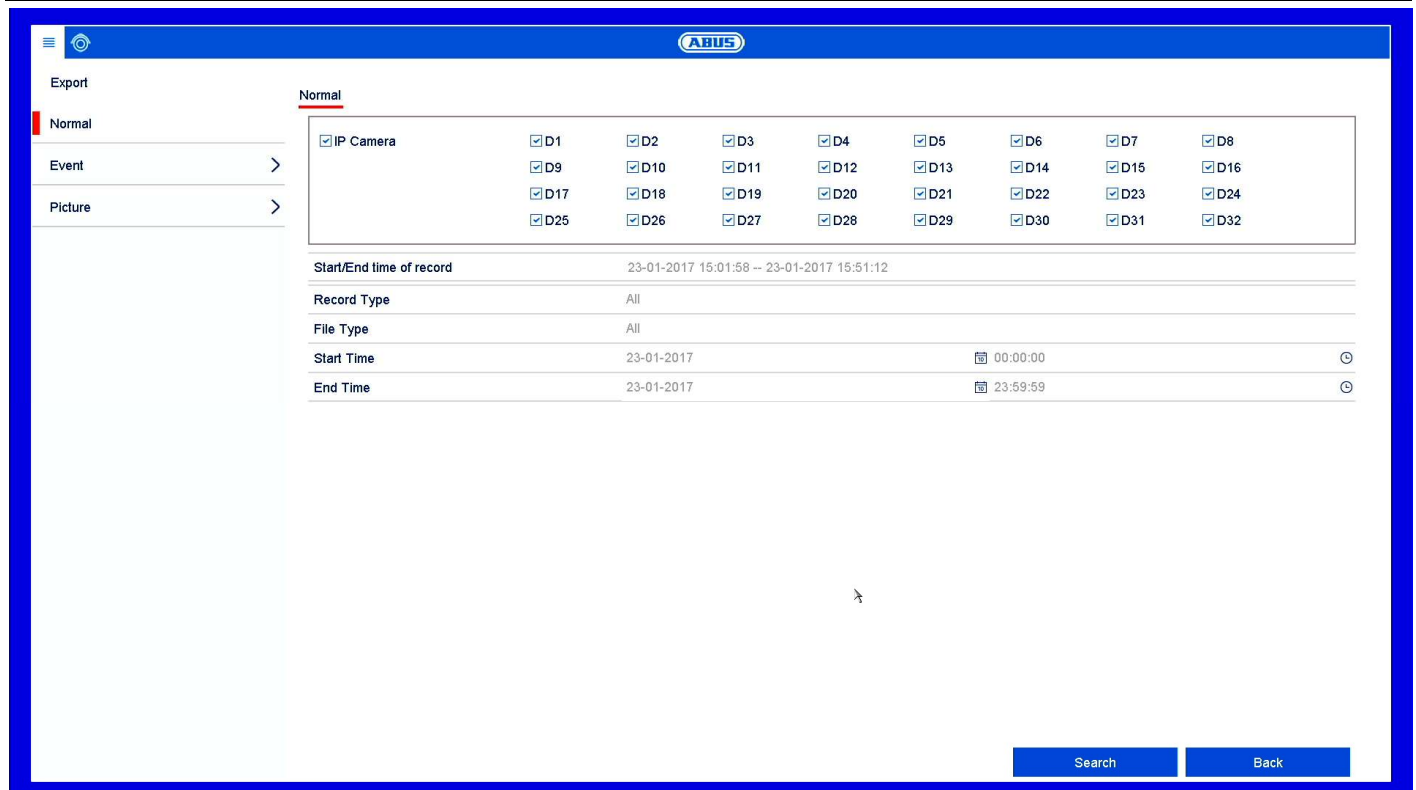
The following parameters can be set for the search:

Parameter	Description
Camera	Select a camera with the “Object Counting” function enabled.
Report Type	Select the report type here. The following filters can be set: daily report, weekly report, monthly report or annual report. The arrangement of the X and Y axes on the graph changes according to the selection.
Statistics Time	Select the point in time at which counting should begin.
Counting	Using the button, the counter data from the camera is read and the results displayed.
Export	Export the counter data to an external data storage device.

In the results graph, the counters for “**People Entered**” and “**People Exited**” are displayed in accordance with the pre-set parameters.

Parameter	Description
People Entered	Number of objects which have crossed the counter line in the direction of the entrance.
People Exited	Number of objects which have crossed the counter line in the direction of the exit.

Video Export



General information on video export

To open the video export menu, select the “Export” item in the info menu. From here, data can be exported to external storage devices from all cameras at once.

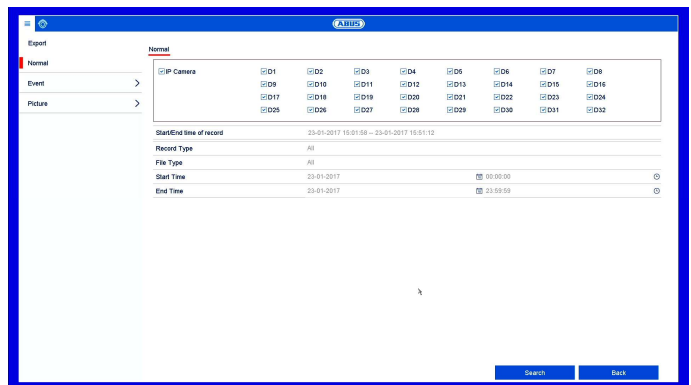


Note

The export function is used to store important recordings on connected external media, such as:

- USB media
- USB hard disk drives
- DVD writers

Duration/Event/Image



Start the export of the recorder’s video data from here.

Selection	Explanation
Duration	Export video data which was recorded with continuous record.
Event	Export video data which was recorded with event record.
Image	Export snapshots.

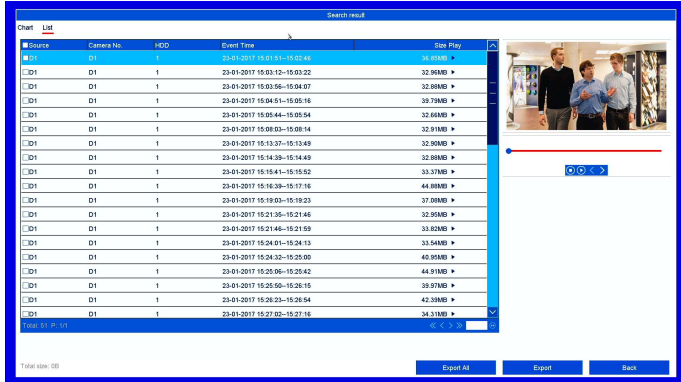
Parameter	Description
IP Camera	Select one or more recorded camera channels.
Recording Type	Select the recording type.
Filters	Select the event type.
Image Type	Select the event type.
File Type	Select whether all data or only locked/unlocked data should be exported.
Start time	Set the start time.
End time	Set the end time.



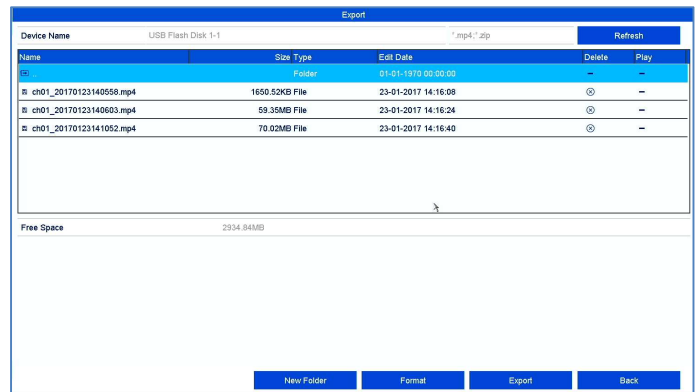
Note

The “Duration”, “Event” and “Picture” sub-menus are similar in structure and will therefore not be described separately.

1. Enter the parameters.
2. Click on **Search** to start the search and the events screen will appear.



- Select the view using the available tabs “Table” or “List”
 - The file size of each of the recordings and the total size of all recordings found are displayed.
 - Click on to view the corresponding recording.
 - Click on to lock and unlock a file. Locked files can no longer be overwritten by the system.
3. Click on Export to go to the Export screen.



4. Select the connected medium to be used for storage from the drop-down menu.
5. If the medium is not displayed in the list, click on **Refresh**.
 - If the medium is still not displayed in the list, disconnect it from the device and then reconnect it. See also the manufacturer's specifications.
6. Click on **Export** to start exporting. The progress of the storage process will then be displayed.



Note

Once the storage process is completed, you can select the data on the medium and play it back on the player (which has to be exported separately). This way you can check that the export was successful.

Maintenance

The screenshot shows the 'System Maintenance' page for an ABUS device. The top navigation bar includes 'Device Info', 'Camera', 'Record', 'Alarm', 'Network', and 'HDD'. The 'Device Info' tab is active, showing the following details:

Device Name	NVR10040 ABUS DVR
Model	NVR10040
Serial No.	1620160413CCRR092027706WCVU
Firmware Version	V3.4.6, Build 161207

On the left side, there is a sidebar menu with the following items:

- System Info
- Log Information
- Import/Export
- Upgrade
- Default
- Net Detect
- HDD Detect

A 'Back' button is located at the bottom right of the main content area.

General information on maintenance

Select the "Maintenance" item in the overview menu to carry out system maintenance if problems arise.



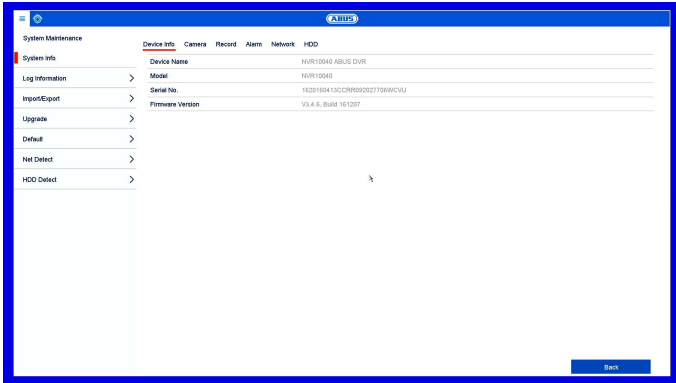
Note

This menu is used for device maintenance and should only be used by experienced users.

In this menu you can check important status information such as network capacity, you can import and export configuration data and also reset the recorder to the default settings.

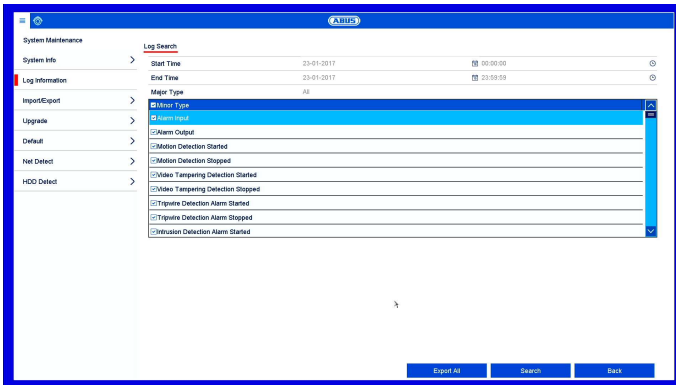
Menu	Setting
System Info	Device information (Serial No., Firmware Status etc.)
Log information	In Log Information (=log file), you can search for recordings or information (S.M.A.R.T. hard disk drive status) by certain criteria, such as alarm, exception, operation or information.
Import/Export	Import and export settings
Update	Performs a firmware upgrade
Default	Resets the system
Net Detect	Displays the transmission and reception rate of the recorder
HDD Detect	Checks the hard disk drive for errors

System Info



The information menu shows the technical data for the device and information on the various settings of the cameras, recording, alarm, network and HDD. This can be useful for support queries, for example.

Log search



Note

You can search for “events” according to the following main types/events/parameters:

- All
- Alarm
- Warning
- Operation
- Information

	<ul style="list-style-type: none"> • IP Conflicted • Network Disconnected • Exception Recording • Video input/output signals not equal • Recording Buffer
Operation	<ul style="list-style-type: none"> • All • Power On • Local: Unscheduled Shutdown • Local: Shutdown, Reboot, Login, Logout • Local: Change Settings • Local: Update • Local: Start Recording
Information	<ul style="list-style-type: none"> • All • HDD Information • HDD S.M.A.R.T. • Start Recording • Stop Recording • Delete Expired Record

1. Select the event you wish to search for in the log and then select a sub-parameter.
2. Enter the date and time under Start Time and End Time, then click on **Search**.
3. The results will then be displayed in a pop-up window:



- You can change the page using the navigation bar:



(1) (2)(3) (4) (5) (6)

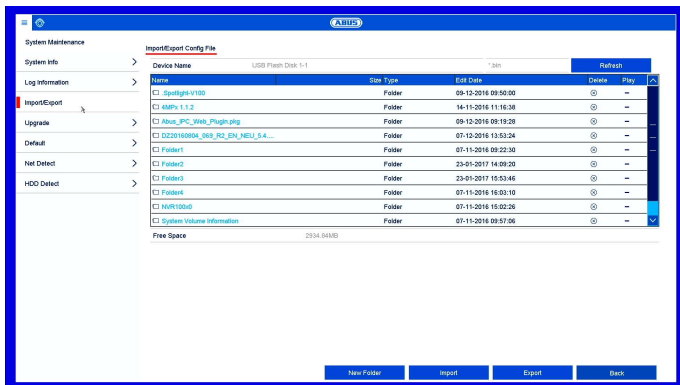
Filter1	Filter2
All	-
Alarm	<ul style="list-style-type: none"> • All • Motion detection Start/stop • Start/stop video tampering surveillance
Exception	<ul style="list-style-type: none"> • All • Video Signal Loss • Illegal Login • HDD Full • HDD Error

Note

To scroll forwards or backwards press (3) or (2).
To jump to the first or last page press (4) or (1).
To go to a specific page number enter it in field (5) and confirm by clicking on (6).

- Click on the “Details” icon for more information.
- Click on the “Play” icon to start the recording for the event as required.
- Click on **Export** to save the log file on a USB medium.

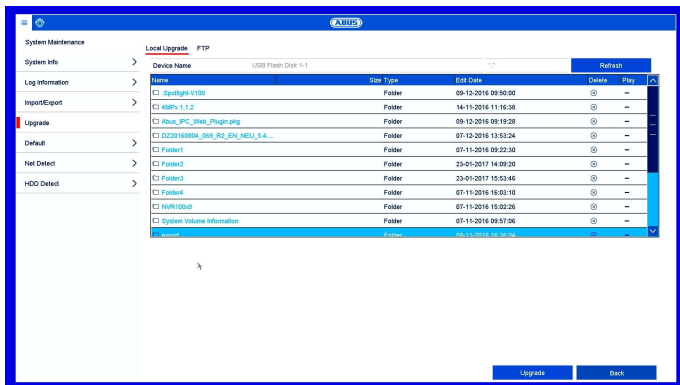
Import/Export



Note

The configuration data contains all of the settings for the device that have been adjusted since it was started up. This data can be saved on a USB medium and then used to configure another device in exactly the same way, for example.

Update



Note

A device can be upgraded from a USB medium or via the network via FTP.

- Copy the upgrade file with the *.mav file extension onto the main directory of a USB stick.

- Insert the USB stick into one of the device's USB ports.

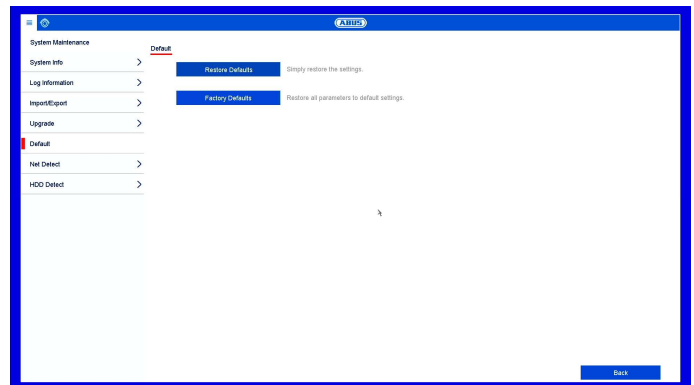
1. Select the USB port, clicking on Refresh, if necessary.
2. Select the update file and click on Update.
3. Wait until the device reboots.
4. If necessary, check the firmware status under Information in the Maintenance menu. Performing a system reset

Note

Upgrades via FTP are carried out in the same way as detailed above.

- The PC must be on the same local network.
- Set up a PC as an FTP server.
- Enter the IP address of the FTP server .

Default



Note

This process involves the device being reset to the default factory settings.



Warning

All settings adjusted since the device was started up will be deleted (cameras, recording settings, PTZ, alarms etc.)

Avoid loss of data by saving the settings beforehand. It can be re-imported once the system has been reset.

Net Detect

Information regarding the network traffic and network interfaces is shown here.

Traffic tab

The network graphs can be used to measure continuous traffic on the recorder. The amount of data sent and received is shown in graph form. Depending on the network settings, the status and information for one or two network connections is shown in the field underneath the graph.



Note

This view allows for the analysis of network and performance problems with the recorder.



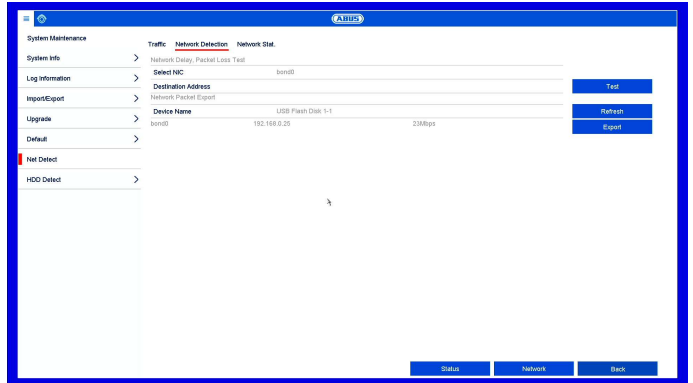
Sending

Shows the amount of data (in Mbit/s) currently being sent out by the recorder. The value increases as more users access video streams from the recorder over the network (web, app, PC application and network storage). Once the recorder limit value has been reached or exceeded, it will no longer be possible for all requested streams to be displayed.

Receiving

Shows the amount of data (in Mbit/s) currently being received by the recorder. The value increases as more IP cameras are added and as the bitrate of the camera stream is set to be higher. Once the recorder limit value has been reached or exceeded, the recorder will switch off camera channels.

Network Detection tab



Under “Network Delay, Packet Loss Test”, you can check the connection to another device, such as a computer (‘pinging’). Enter the network address of the device to be checked (e.g. 192.168.0.25) and click on **Test**.

Information on two parameters will appear:

Parameter	Setting
Average delay	The time the pinged device needs to reply.
Packet loss rate:	Displays the percentage of packets that were not transmitted.



Note

If the packet loss rate is high, we recommend that the “Network Delay, Packet Loss Test” is repeated.



Note

If the packet loss rate is still high, you should check that the network cables are correct and not damaged. The higher the packet loss rate, the poorer the connection between the pinged device and the recorder.

Under “Network Packet Export”, you can export the settings of the individual connections or, depending on the setting, the connection.

1. For “Device Name”, select a storage medium to save the settings to.
2. Click on **Export**.

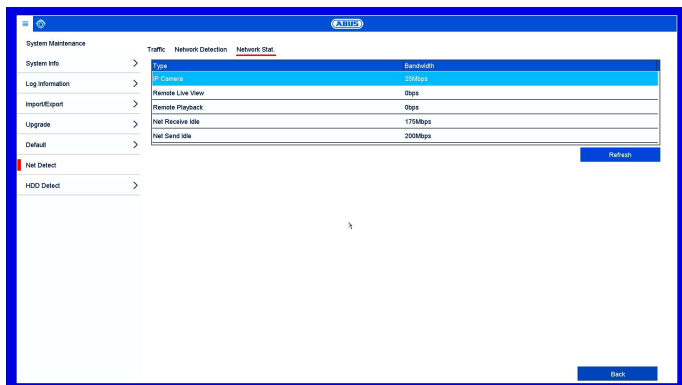


Maintenance

After the progress display finishes and initialisation is successful, an information window will appear. Close it by clicking on **OK**.

- Click on **Status** to display the status of the LAN connections (connected/not connected).
- Click on **Net Detect** to change your network settings.

Network Stat. tab



The bandwidth used by the device is displayed under this tab.

You can refresh the data by clicking on **Refresh**.

Temperature (°C)	Shows the hard disk drive temperature
Power On (days)	Shows the operating days of the hard disk drive
Self-evaluation	Shows the status of the self-evaluation
Complete evaluation	Shows the status of the evaluation

Confirm the settings by clicking on **Apply** and exit the menu by clicking on **OK**.

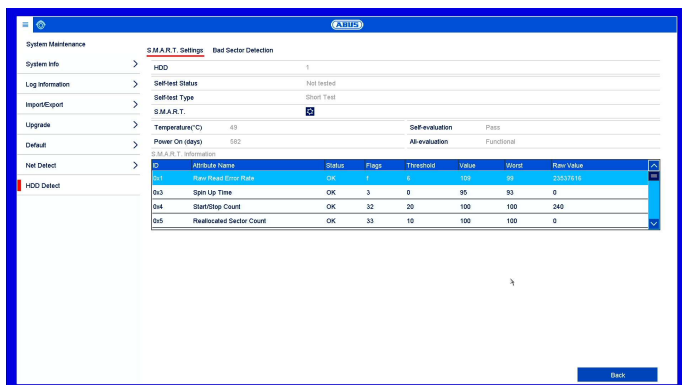
Checking the hard disk drive status

You can check the status of each hard disk drive in the “System Maintenance” menu. The S.M.A.R.T (Self-Monitoring, Analysis and Reporting Technology) information is stored in the log data.

- Open the log file and search by information/S.M.A.R.T. Hard disk drive. Setting up the hard disk drive alarms
- You can specify which alarms will inform you of hard disk drive errors.

To do this, open “Exception” in the “Settings” menu.

HDD Detect



Click on the “S.M.A.R.T” submenu.

This submenu gives you the option to check the hard disk drive for errors.

Note

- Select **Lock** to lock the operating menu.
- Select **Shutdown** to switch the device off.
- Select **Reboot** to reboot the system (switch off and back on).

HDD	Selection of the hard disk drive to be processed
Self-test Status	Shows the status of the current self-test
Self-test Type	Select the type of self-test Short Test/Expanded Test/Conveyance Test
S.M.A.R.T	Click on the icon to start the self-test

Fault rectification

Fault rectification

Before contacting the Service department, read the following information to determine the possible cause of any fault.

Fault	Cause	Solution
No power	Power cable not connected	Connect the power cable properly to the socket
	Power switch at OFF	Set power switch to ON
	No power supplied from socket	If necessary, use another device at the socket
No picture	The screen is not set to receive	Set correct video input mode, until an image is received from the recorder
	Video cable is not connected properly	Connect the video cable properly
	The connected monitor is switched off	Switch on monitor
No sound	Audio cable is not connected properly	Connect the audio cable properly
	Devices connected via audio cable are not switched on	Check the power supply and power switch of the connected audio device
	Audio connecting cable is damaged	Replace cable
Hard disk drive not functioning	Connection cable is not connected properly	Connect the cable properly
	Hard disk drive faulty or incompatible with the system	Replace the hard disk drive with a recommended hard disk drive
USB connection not functioning	Device is not supported	Connect correct USB medium, USB 2.0
	USB Hub was used	Connect USB medium directly
Network access not possible	Network cable connection loose	Insert network cable.
	Network settings (DCHP, IP address etc.) incorrect	Check and if necessary correct network configuration, see page 27.
Recording is not possible	No HDD, or HDD not initialised	Install and initialise hard disk drive
Sudden switch-off	The internal temperature of the device is too high	Clean the device and/or remove any objects impeding the ventilation

Disposal

Notes on EC directives for waste electrical and electronic equipment

For the protection of the environment, at the end of its useful lifespan, the device may not be disposed of in household waste. Disposal can be carried out at suitable national collection points. Obey local regulations when disposing of material.



Dispose of the device in accordance with EU Directive 2011/65/EU - WEEE (Waste Electrical and Electronic Equipment). If you have any questions, please contact the municipal authority responsible for disposal. Information on collection points for waste equipment can be obtained from the local or district authorities, local waste disposal companies or the dealer.

Notes on RoHS EU Directive

The device complies with the RoHS directive.

Compliance with the RoHS directive means that the product or component contains none of the following substances in higher concentrations than the highest concentrations in homogeneous materials, unless the substance is part of an application that is excluded from the RoHS Directive:

- 0.1 % lead (by weight)
- Mercury
- Hexavalent chromium
- Polybrominated biphenyl (PBB) and polybrominated diphenyl ether
- 0.01 % cadmium (by weight).

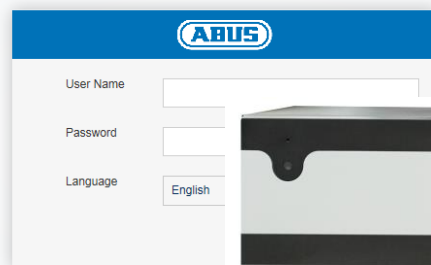
ABUS

Embedded NVR Recorder

Local user interface user guide

Manufacturer
ABUS Security-Center GmbH & Co. KG
Linker Kreuthweg 5
86444 Affing (Germany)

ABUS embedded NVR



The screenshot shows a web interface with a blue header containing the ABUS logo. Below the header, there are three input fields: 'User Name', 'Password', and 'Language'. The 'Language' field is a dropdown menu with 'English' selected.



Web interface user manual

Date: 16.01.2017
Firmware: 3.4.6



This user manual contains important information on starting operation and using the device.

Make sure that this user manual is handed over when the product is given to other persons.

Keep this user manual to consult later.

You will find a list of contents with the corresponding page numbers in the contents.

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Important safety information

Explanation of symbols

The following symbols are used in this manual and on the device:

Symbol	Signal word	Meaning
	Warning	Indicates a risk of injury or health hazards.
	Warning	Indicates a risk of injury or health hazards caused by electrical voltage.
	Important	Indicates possible damage to the device/accessories.
	Note	Indicates important information.

The following annotations are used in the text:

	Meaning
1. ...	Required action to be carried out in a set order
2. ...	
• ...	List without a set order, given either in the text or warning notice
• ...	

Intended use

Only use the recorder for the purpose for which it was built and designed. Any other use is considered unintended!

This device may only be used for the following purpose(s):

- This recorder is used in combination with video signal sources (network cameras) and video output devices (TFT monitors) for property surveillance.

Note

Data storage is subject to national data privacy guidelines.

When carrying out the installation advise your customers of the existence of these guidelines.

General

Before using this recorder for the first time, please read the following instructions carefully and observe all warning information, even if you are familiar with the use of such recorders.



Warning

All guarantee claims are invalid in the event of damage caused by non-compliance with this user manual.

We cannot be held liable for resulting damage.



Warning

In the event of personal or material damage caused by improper operation or non-compliance with the safety information, we cannot be held liable.

All guarantee claims are void in such cases.

Retain this manual for future reference.

If you sell or pass on the recorder to third parties, you must include these instructions with the device.

Power supply



Warning

Prevent data loss:

The recorder should only ever be used with a device that is constantly connected to an uninterruptible power supply (UPS) with surge protection.



Warning

Modifications to the device invalidate the guarantee.

Important safety information

Installation

- Observe all safety and operating instructions before installing the device for the first time.
- Only open the housing to install the hard disk drive.
- Only install the software on devices that are expressly suitable for the intended purpose. Otherwise, damage to the device can occur.



Note

Compatible devices:

- NVR10010
- NVR10020
- NVR10030
- NVR10040



Warning

If in doubt, have the device installed by a specialist technician rather than carrying it out yourself.

Children

- Keep electrical devices out of reach of children. Never allow children to use electrical devices unsupervised. Children may not always properly identify possible hazards. Small parts may be fatal if swallowed.
- Keep packaging film away from children. There is a risk of suffocation.
- This device is not intended for children. If used incorrectly, parts under spring tension may fly out and cause injury to children (e.g. to eyes).

EU Directives

This device complies with the requirements of the EU Low Voltage Directive (2014/35/EU), the EMC Directive (2014/30/EU) and the RoHS Directive (2011/65/EU). The declaration of conformity can be obtained from:

ABUS Security-Center GmbH & Co. KG
Linker Kreuthweg 5
86444 Affing
GERMANY

To ensure this condition is maintained and that safe operation is guaranteed, it is your obligation to observe this user manual.

Please read the entire user manual carefully before putting the product into operation, and pay attention to all operating instructions and safety information.

All company names and product descriptions are trademarks of the corresponding owner. All rights reserved.

If you have any questions, please contact your specialist installation contractor or specialist dealer.

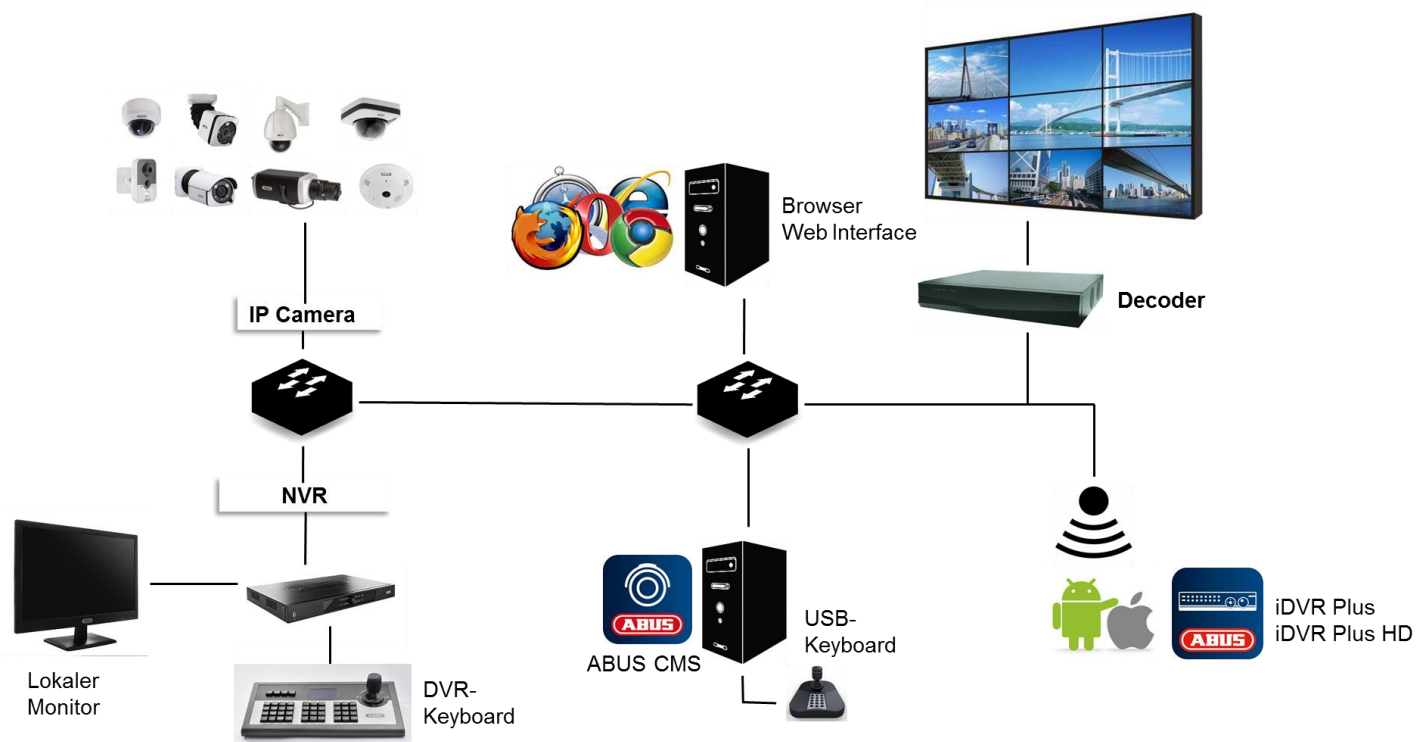


Disclaimer

This user manual has been produced with the greatest of care. Should you identify any omissions or inaccuracies, please contact us at the address shown on the back of the manual. ABUS Security-Center GmbH does not accept any liability for technical and typographical errors, and reserves the right to make changes to the product and user manuals at any time and without prior warning. ABUS Security-Center GmbH is not liable or responsible for direct or indirect damage resulting from the equipment, performance and use of this product. No guarantee is made for the contents of this document.

Keep electrical devices out of reach of children. Never allow children to use electrical devices unsupervised.

Compatibility



General

This manual describes the use of the ABUS embedded recorder via the integrated web server. Information on compatible cameras and other components can be found either in the basic manual (local interface) or on the ABUS website.

When you first try to access the server on your browser (on Windows), you will be prompted to install a plug-in in order to use the web server. You will need administrator rights on your PC to do this. Access to the live images and recordings is only possible with the plug-in installed.



Note

If you access the recorder web server using Safari on MacOS, you will need to obtain the required plug-in from the ABUS homepage (<http://www.abus.com>). Search for the recorder item number on the homepage and download the plug-in from the item card in the "Downloads" area.

Compatible recorders

Device type	Item number
NVR	NVR10010, NVR10020, NVR10030, NVR10040

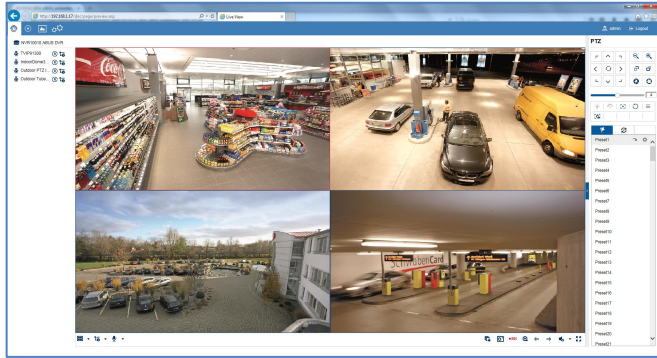
Compatible browsers

OS	Browser	Version
Windows	Internet Explorer	11 or higher
Windows	Firefox	49 or higher
MacOS	Safari	10 or higher

Due to strict guidelines, the following browsers do not support the plug-in and are therefore not compatible:

- Chrome (Google)
- Edge (Microsoft)

Image display performance

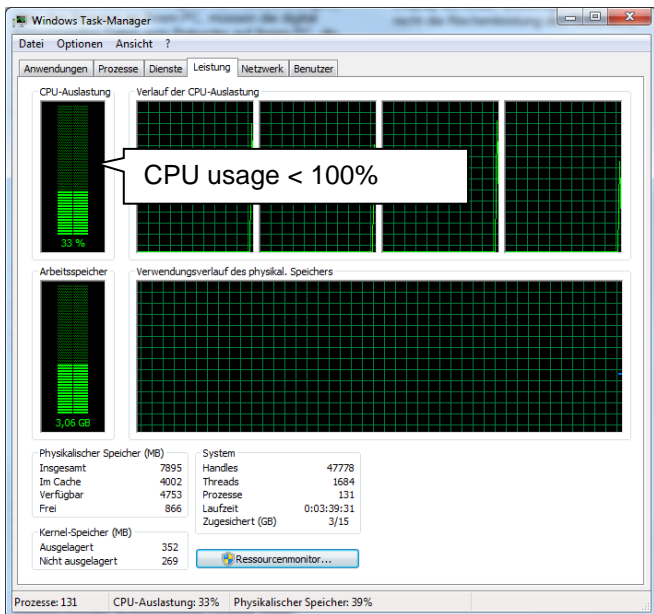


To display network camera video streams (both live images and playback of recordings) on your PC via the browser, the digitally compressed data must be transmitted from the recorder to your PC and then "decrypted". This process will take up a different amount of processing power on your PC depending on the camera resolution. The higher the resolution and bit rate of the individual camera stream, the greater the required processing power for the decryption process.



Warning

Check your PC's CPU usage when displaying live streams or playing back recorded data using the Task Manager (on Windows).



If the number of camera streams to be displayed exceeds the decoding power of the PC, the CPU usage will reach 100% and operation will be slow. Should this occur, reduce the number of cameras to be displayed at the same time in live cast or playback view.

The recorder web interface provides the option of displaying a sub-stream (generally 720p or smaller) for

individual cameras in the live image to facilitate this. This approach reduces the bandwidth and requires less processing power for decryption on the PC.



In playback view, the cameras are played back in the corresponding quality of the recording (main stream).

Depending on the application and camera type, this may mean that not all cameras can be displayed at once. Split the cameras into different views to work around this limitation.

System requirements

Use up-to-date PC hardware (no older than two years) in order to ensure the smooth operation of the software in combination with cameras and the recorder. The requirements for your PC system increase with the number of camera channels, as well as with the related video resolution and bit rate of the cameras. The camera display (resolution, bit rate and number of channels) strongly depends on the software functions used (live image display, playback, time of analysis). The following table provides a starting point and reference for the PC configuration actually required:

Minimum requirement:

Operating system (32-bit/64-bit)	Windows 7, Windows 8, Windows 8.1, Windows 10
CPU	Intel Pentium 4 3 Ghz or higher
RAM	1 GB or higher
VGA	256 MB or higher



Note

Use a 64-bit operating system with 4 GB or higher, if possible, in order to achieve optimal performance. The following table provides the performance data for using and selecting a suitable CPU.

Performance table

CPU	i7-4470k 3.5 Ghz	E3-1230 3.3 Ghz	I5-4590 3.0 Ghz	FX-8350 4.0 Ghz	I3-2100 3.1 Ghz
OS	Win7	Win7	Win7	Win7	Win8
CIF@512Kbit	64	64	64	64	47
VGA@1.25MBit	51	44	30	27	18
4CIF@1.5Mbit	59	55	37	33	23
WD1@2Mbit	41	33	24	20	16
720p@2Mbit	28	24	17	15	11
1080p@2Mbit	13	10	8	7	5
QXGA@4Mbit	11	8	7	6	4

The figures indicate the maximum amount of live camera images which can be displayed simultaneously in the web browser. The live images are transmitted via the network as video streams. For this reason, ensure that your network is sufficiently equipped to handle this.



Note

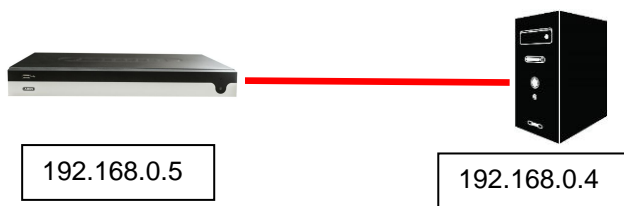
The values given here were calculated under optimal conditions (no background processes, virus scans, etc.) Performance on your PC system may vary depending on additional software installed and background applications.

Introduction

General information

This manual describes the use of the ABUS embedded recorder via the web interface using a web browser on a remote PC on the network.

For this purpose the recorder must already be integrated in your network in order to facilitate access via a PC. In simple cases, both the PC and the recorder are located on the same local network.



Note
 Ensure that the recorder is connected directly to your CCTV network (switch) via a network cable. For optimal performance do not use a Wi-Fi connection between the recorder and the CCTV network.

Internal access (LAN)

The recorder is accessed by typing the IP address in the navigation bar of the browser.

The following describes several different options for how to determine the current IP address of your recorder in order to access it via the local network.

Local interface

Menu	General	Cameras	HDD
Settings	DVR Model	NVR10040	
	Firmware Version	V3.4.6, Build 161207	
	Network In/Out	295Mbps / 256Mbps	
		LAN #1	LAN #2
	IP Address	192.168.0.25	
	MAC Address	8c:11:cb:09:3d:34	
	DHCP	Yes	
	Port		
	HTTP	80	
	DVR	8000	
	RTSP	554	

Exit

Open the overview menu on the recorder's local interface and note the IP address.

ABUS IP installer

Full-text search

ID	Name	IP-Adresse	Typ	Firmware
15	TVR96900	192.168.0.11	TVR96900	V5.4.14build 1...
16	TVR936000	192.168.0.57.80	TVR936000	V2.3.7build 15...
17	TVR93900	192.168.1.5.80	TVR93900	V5.0.10build 1...
18	IPC466500	192.168.1.9.80	IPC466500	V5.3.10build 15...
19	IPC43500	192.168.0.44.80.10	IPC43500	V5.3.0build 15...
20	IPC466500 (2)	192.168.0.46.80	IPC466500	V5.3.10build 15...
21	IPC82500	192.168.0.40.80	IPC82500	V5.4.11build 1...
22	IPC453000	192.168.0.34.190.18	IPC453000	V5.3.10build 15...
23	IPC43500 (2)	192.168.0.19.80	IPC43500	V5.3.10build 15...
24	TVR41500	192.168.2.104.80	TVR41500	V5.0.0build 14...
25	TVR30004	192.168.0.95.80	TVR30004	V2.2.11build 1...
26	TVR91500	192.168.2.112.80	TVR91500	V5.0.0build 14...
27	IPC81500	192.168.0.84.80	IPC81500	V5.3.30build 15...
28	TVR11500	192.168.2.101.80	TVR11500	V5.1.0build 14...
29	TVR21560	192.168.0.22.80	TVR21560	V5.2.0build 15...
30	TVR21560 (2)	192.168.0.42.80	TVR21560	V5.2.0build 15...

Install the ABUS IP installer (Windows) on your PC and start the program. The program searches your local network for ABUS network products.

Double-click on search result

ID	Name	IP-Adresse	Typ	Firmware
1	NVR10010	192.168.0.45.80		
2	NVR10010 (2)	192.168.0.45.80		
3	NVR10040	192.168.0.26.80		

Use the full-text search to filter result lists with lots of entries by specific item numbers. Then double-click on the list entry for your product to directly open the recorder web interface.

Windows UPnP search

Double-click on recorder icon

Network

Open the network search using the "network" icon in the Windows File Explorer. All devices on your network that were detected via UPnP are displayed here. Since the recorder supports this network service, you can open the web interface directly by double-clicking on the icon with the item number in the label field (e.g. NVR10040).

External access (internet)

The recorder can also be accessed externally by typing the IP address in the browser's navigation bar. Since the recorder is generally not accessible directly from the internet, you must set up port forwarding on your router. Accordingly, the router IP address must be entered as the IP address in the navigation bar when accessing the recorder via the internet (IPv4). Additional settings are required for IPv6, which are described in detail below.

The network services on the recorder do not have to be adapted for access to the web interface on the local network. For external access, you may have to adjust the default settings of the ports in order to enable access.

The following points are important for remote access:

- Notes on using IPv6
- Setting up port forwarding on your router
- Required ports for remote access to the web interface: HTTP(S) and RTSP
- Free DDNS service from ABUS: ABUS server
- Access to DS Lite connections

Using IPv6

Modern internet providers switch what is known as "Dual-Stack" internet access to the customer's landline connection. This means that the router provides access to the internet via both the IPv4 protocol and IPv6. The ABUS embedded recorder supports both protocols as standard. Since IP communication for remote connections takes place between two end points, both subscribers (recorder and receiving point) must use the same communication protocol in order to successfully establish a connection. The IPv6 protocol is not currently widely available, so pure IPv6 communication is not practical for the moment, especially if the receiving point (e.g. the web browser on a laptop) is mobile and may switch between IPv4 and IPv6 networks.



Note

As of 2016/2017: IPv6 is currently undergoing global "roll-out". This means that increasingly more providers are allowing for IPv6 access to the internet. Check your internet connection, both on the recorder and on the intended receiving points, to take potential limitations and instructions for the operation of the recorder into account ahead of time.

We provide the following tips and instructions for setting up external access to the ABUS embedded recorder, which take both protocols into account.

Dual-Stack and Dual-Stack Lite (DS Lite)

As part of the global roll-out of IPv6, the IANA stipulated that internet providers which use IPv6 must also allow their customers to access the internet via IPv4, in order to be able to access internet servers/services that are only available on the IPv4 network. Since the global IPv4 address pool has already been used up, internet providers that do not have enough IPv4 addresses use an alternative technology known as "Dual-Stack Lite".



Note

Internet connections with "Dual-Stack Lite" have significant limitations when using IPv4. If possible, use a provider that employs actual Dual-Stack technology or ask your provider whether your Dual-Stack Lite access can be changed to a real Dual-Stack connection.

Based on the fact that IPv6 is not available everywhere, we recommend establishing your remote connection via IPv4 (even with Dual-Stack connections). This particularly applies to mobile networks, which are still in the process of completely switching to IPv6 on end devices, with a few exceptions (as of 2016/2017).

Setting up port forwarding (IPv4)

In order for the recorder (web interface) to be accessible via the internet, the network service ports of the recorder must be able to be accessed externally using port forwarding on the router. Set up 1:1 port forwarding on the router, which opens the HTTP(S) port of the recorder as well as the RTSP port on the WAN connection of the router.

Setup differs depending on your router's model. Refer to the router manufacturer's instructions to find out how to set up port forwarding on your router.

The rule should be structured according to the following scheme (example):

External HTTP port (on the router): 80
 External HTTPS port (on the router): 443
 External RTSP port (on the router): 554

Forward to target address:
 192.168.0.5 (local IP address of your recorder)

Introduction


Internal HTTP port (on the recorder): 80
Internal HTTPS port (on the recorder): 443
Internal RTSP port (on the recorder): 554

Your router's IP address, which is displayed on the WAN interface, is used as the external IP address.

To open the recorder's web interface via remote connection, enter the following URL in the navigation bar of the browser:

<http://external-router-IP:80>
<https://external-router-IP:443>

The externally forwarded RTSP port is automatically used by the web interface and does not have to be specified again.

 **Note**
We recommend changing the default ports for port forwarding in order to avoid an overlap with other services (for example, port 443 is likely to be the same port used by the web interface of the router for external access). This also makes it easier to set up forwarding for other devices later.

Setting up the ABUS server (IPv4)

Internet providers generally disconnect the internet connection of the router for a few seconds every day. During this process, the router is assigned a new IP address. This means that for remote access to the web interface of the recorder, the new valid IP address of the router (WAN interface) has to be used.

In order to avoid having to check this address on a daily basis, ABUS offers a free DDNS service: the ABUS server. With this service, the router's external IP address is assigned a host name on the server, which is matched with the current IP and port information on a regular basis.

Access to the recorder web interface then takes place via the ABUS server host name:

<http://meinrekorder.u21783.abus-server.com:1500>

Go to <https://www.abus-server.com> to register for free and set up your recorder.

The ABUS server only supports IPv4 addresses.

Instructions on how to set up your recorder for the ABUS server are stored in the downloads area for the recorder on <http://www.abus.com>.

DDNS for IPv6 (IPv6)

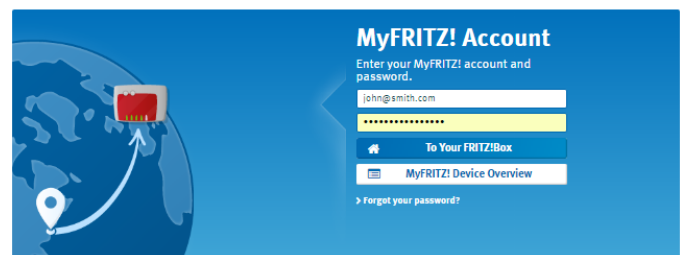
The supported DDNS providers for the ABUS embedded recorder currently only allow for IPv4 DDNS synchronisation. Another service is currently required to run DDNS synchronisation for IPv6. Because, unlike with IPv4, every device (recorder) with IPv6 receives a unique global IP address, the current IPv6 address of the recorder must be transmitted to the DDNS provider when using DDNS for IPv6.

You can do this via your router, for example, if your router supports this type of service.


AVM/Fritzbox/MyFritz recommendation:

MyFRITZ! – Access to Your FRITZ!Box at All Times

With MyFRITZ! you can reach your FRITZ!Box from the Internet securely at any time. This lets you access private data like images, music and documents easily and securely from anywhere in the world. MyFRITZ! also notifies you about calls and voice messages, and lets you use all of your other FRITZ!Box functions when you're on the go.



The "MyFritz" service can detect all global IPv6 addresses of connected devices and provide them via the MyFritz service as a DDNS host name.

 **Note**
Network service ports (HTTP(S) and RTSP) must be opened to use the web interface on the recorder with IPv6 as well.

Access to DS Lite connections (IPv6)

Many internet providers use DS Lite to switch their customers' connections to IPv6 access. With DS Lite your router does not have full IPv4 access to the internet. The IPv4 address that is assigned to the router is segmented by what is known as a "CGN" (Carrier Grade NAT). This means that an additional NAT is directly connected by the provider for IPv4. As a result, NAT configuration (port forwarding) for IPv4 is no longer possible on the local router and therefore incoming IPv4 queries are discarded directly at the provider end (CGN). It is then no longer possible to access your local devices externally via IPv4.

It is highly likely, however, that remote access to your recorder's web interface will take place on an IPv4 network (receiving point). Additional services must be used to allow external access in such cases.

Static-Access.NET/Portmapper/FIP-Box recommendation:



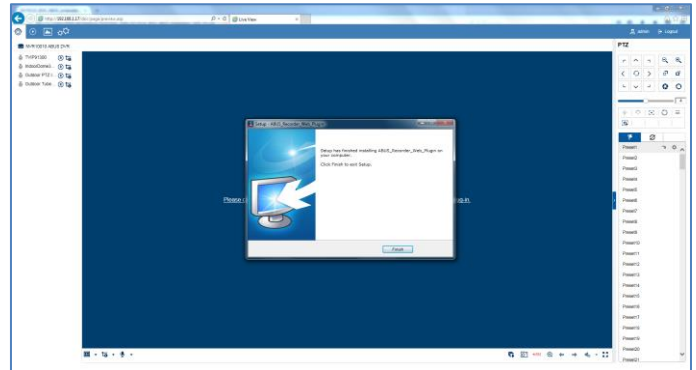
The "Static-Access.NET" service makes it possible to convert IPv4 data packets from an IPv4 network (receiving point) into IPv6 packets. These IPv6 packets can then be provided to the recorder via normal port transfers on the router. Further details on this can be found at <http://www.static-access.net/>.

your PC and must first be downloaded and installed before you can proceed.



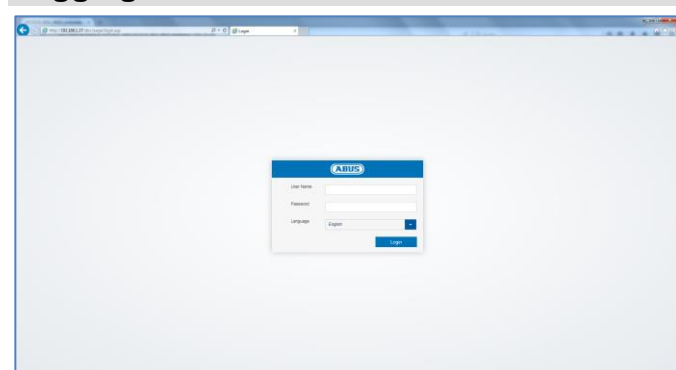
Note

You must have local administrator rights on your PC to install the plug-in. Ensure that you have these before starting the installation.



Open file "ABUS Rekorder Web-Plugin.exe" to start the installation. Once the plug-in is installed, the web interface and all of its functions can be used.

Logging in for the first time

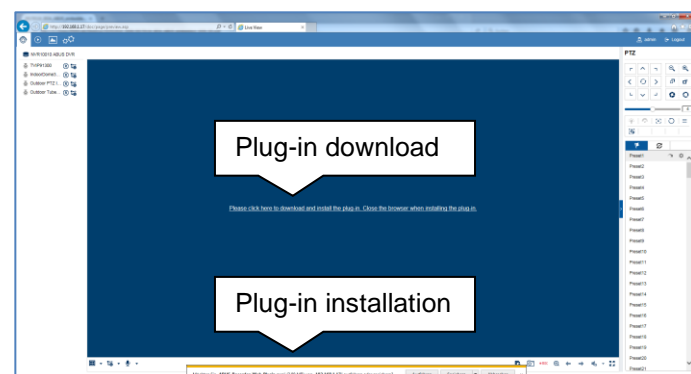


Once access to the recorder web interface has been established, you will see the login screen on the browser. Log in for the first time by entering your user name and password and indicating your desired system language.



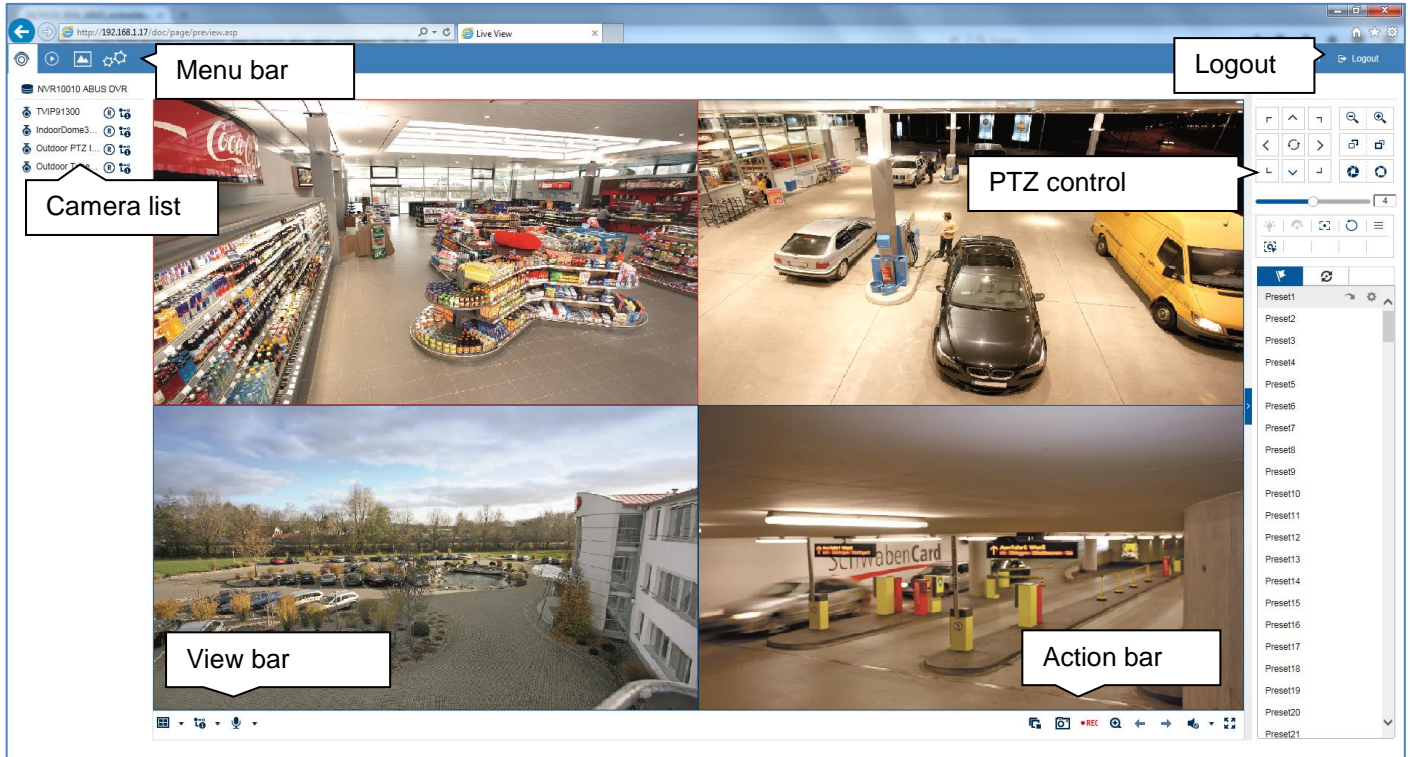
Note

The plug-in contains the video decryption software for displaying live streams on your web browser. Subsequent firmware updates may mean that the plug-in also needs to be updated on your PC in future. The web interface may then prompt you to re-install the plug-in.



If a notification for the plug-in download appears, this means that the recorder plug-in is not yet installed on

Live cast



General information on live image

Live cast starts automatically once you have logged into the web interface. The live image function provides the option of displaying live images and executing camera commands for all cameras connected to the recorder. This is the core function of the recorder, in addition to playback.

Double-clicking an image displays the selected camera image in full screen or switches back to the original view.

Using the menu bar

The following options are available:

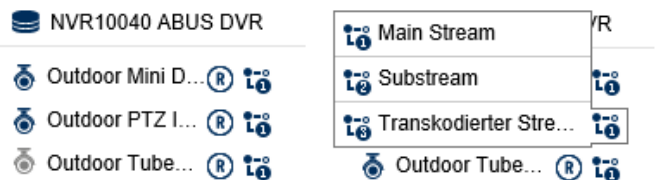
Parameter	Description
	Activates the live image view (live cast)
	Changes to playback view
	Changes to snapshot view
	Changes to system settings

Live image function areas

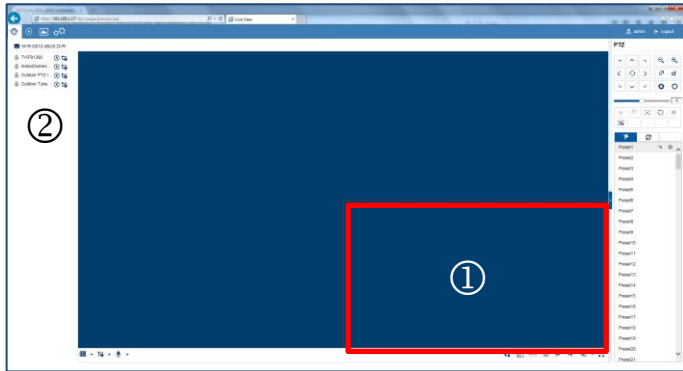
The live cast view is divided into the following function areas:

Parameter	Description
Menu bar	Global display of the configuration and control menus
Camera list	Select from the connected cameras for live cast
Action bar	Control camera commands and carry out actions for the selected camera (red frame)
View bar	Configure multi-view and streaming options
PTZ control	Control menu for PT(Z) cameras

Using the camera list



The camera list contains all cameras connected to the recorder. Double-clicking a camera name displays the corresponding camera in the live image.



To display the camera at a specific position in the live image (multi-view), proceed as follows:

1. Select the position in the live cast (red frame).
2. Double-click the desired camera in the camera list.
3. The camera is displayed at the desired position.

The following functions/status displays are available in the camera list:

Parameter	Description
	Displays the recorder name
	Live cast display for camera is active (blue) or deactivated (grey)
	Create a manual data export (video clip)
	Manually select the video stream of the desired camera. Hover the mouse cursor over the symbol to select the desired stream. The configuration for main/sub/transcoded streams can be adjusted in the settings under "Audio & video" in the "Stream type" section.

The default setting for manual stream selection is "1". This means that the high-resolution "main stream" of the camera is displayed. This is the best option in most cases. It is only practical to adjust the manual stream selection if there is a risk of a performance bottleneck during transmission:

- If you wish to display lots of cameras at the same time (nine or more), the processing power of your PC may not be sufficient to decode all video streams. Change the setting to sub-stream "2".
- If you are accessing the web interface via the internet and wish to display multiple cameras at the same time, the upload of the receiving point must be of a sufficient size. At the same time, the download on the receiver side must also provide sufficient bandwidth. Change the setting to sub-

stream "2" if one of the two sides does not have enough bandwidth.

- If you are intentionally accessing the recorder via the internet with very low bandwidth, you can activate transcoded stream "3" to request an image transfer with very low resolution and bit rate (e.g. QCIF/64 Kbit). The selected video stream is then scaled down by the recorder.

Using the action bar




No.	Meaning of the symbol
(1)	Stop all active camera live streams. Start all camera live streams at the same time.
(2)	Create a snapshot of the selected camera (red frame)
(3)	Create a manual data export (video clip)
(4)	Activate the e-PTZ function (depends on camera)
(5)	Previous live cast view (function depends on selected view 1x1, 2x2, 3x3, etc.)
(6)	Next live cast view (function depends on selected view 1x1, 2x2, 3x3, etc.)
(7)	Activate audio for selected camera (red frame) and adjust the volume
(8)	Activate full-screen mode (exit with ESC)

Using the view bar



No.	Meaning of the symbol
(1)	<p>Configure the live cast panel distribution (number of cameras which can be displayed at the same time).</p>
(2)	<p>Select the live cast stream type to be used for all cameras simultaneously.</p>

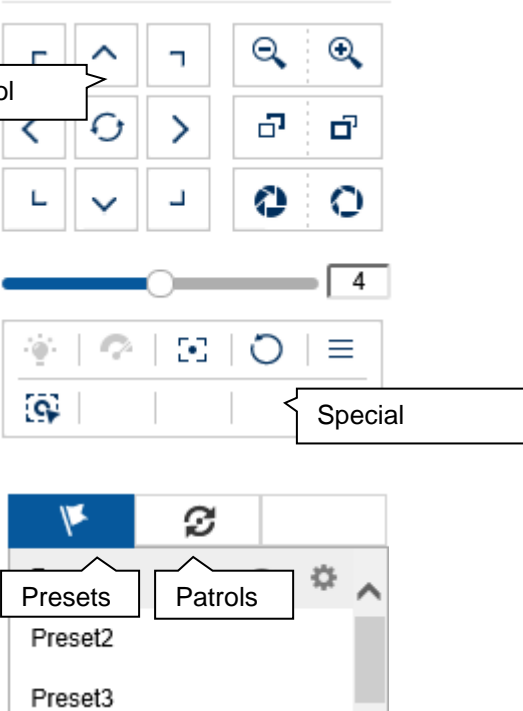
(3) 

Select the audio output of the recorder for two-way audio control via the web interface.

This function is only available if a microphone and speaker are connected to your PC while you have the live cast open.

1 = RCA audio output 1
2 = RCA audio output 2

PTZ control menu














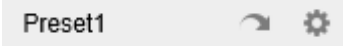



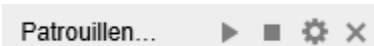




PTZ control

Special

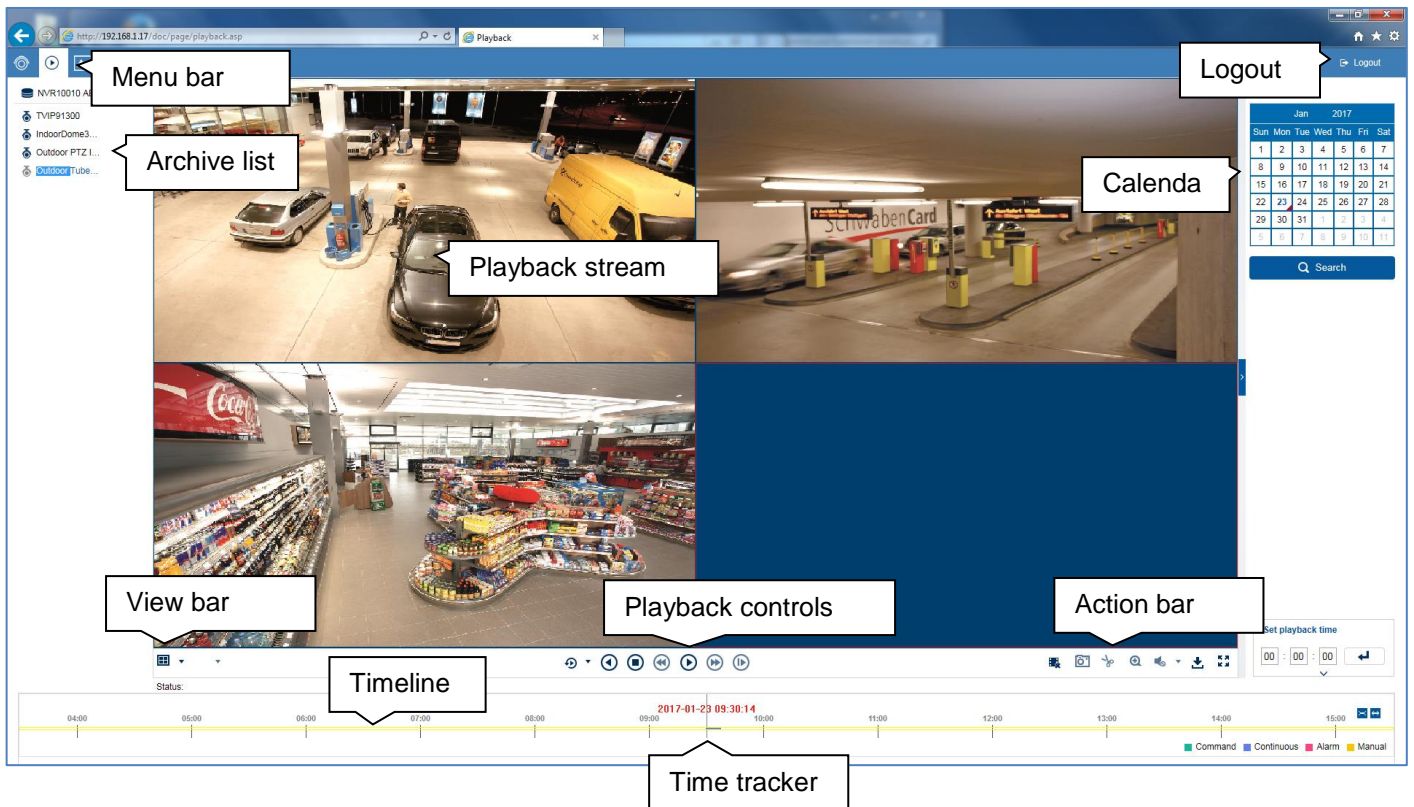
Presets Patrols

Preset2
Preset3

The actions of all buttons in the PTZ control menu, plus presets/patrols, are always applied to the camera currently selected (red frame). Depending on the camera model, not all functions may be available.

Parameter	Description
PTZ control	Move the camera in the desired direction using the buttons. Manually adjust the zoom   , focus   and iris   . The  button activates the horizontal scan.
Special commands	<ul style="list-style-type: none">  Open the camera menu (if available)  3D zoom (zoom in/out to a drawn screen)  Centring mode
Speed	Speed at which the cameras are manually moved to positions
Preset	<p>Navigate to tab  to carry out preset positions. Up to 256 present positions can be accessed/stored from here (depending on the camera model).</p> <p></p> <ul style="list-style-type: none"> a) Move the camera to the desired position. b) Select a list entry and press . The current camera position is assigned to the selected preset. c) Press  to access a stored preset. The camera then moves to the previously stored position.
Patrol	<p>Navigate to tab  to carry out patrols. Up to four patrols can be accessed/stored from here.</p> <p></p> <ul style="list-style-type: none"> a) Start a patrol with . The patrol remains active until another PTZ command is sent to the camera or the patrol is stopped manually with . b) Program a patrol with . Enter the preset positions, speed and hold time. c) Delete the content of a patrol with .

Playback view



General information on playback

Playback allows recorded video data from cameras on the recorder to be played. The data is played in the quality at which it was recorded as configured in the network camera settings.



Note

Adjust the camera quality settings in the menu under "Settings → Audio & video" accordingly. Generally the "main stream" of the camera on the recorder is recorded.

Double-clicking an image displays the selected camera image in full screen or switches back to the original view.


Playback function areas

The playback view is divided into the following function areas:

Parameter	Description
Menu bar	Global display of the configuration and control menus
Archive list	Select from the recorded cameras for playback on the web interface
View bar	Configure multi-view options
Timeline	Display the recorded data in the time stream and select the playback time (time tracker)
Playback controls	Control playback for the selected camera archive
Action bar	Control camera commands and carry out actions for the selected camera (red frame)
Calendar	Select the playback date

Playback view

Using the archive list

 NVR10040 ABUS DVR

 Outdoor Mini D...

 Outdoor PTZ I...

 Outdoor Tube...

The archive list contains the recordings of all cameras connected to the recorder. Double-clicking an archive name displays the corresponding camera archive in the playback view and plays it directly.

To display the camera archive at a specific position on the screen (multi-view), proceed as follows:

1. Select the position in the playback view (red frame).
2. Double-click the desired camera archive in the archive list.
3. The image is displayed at the desired position.

Using the view bar



Configure the playback panel distribution (number of camera archives which can be displayed at the same time).









i Note

The more camera archives playing at the same time, the more data that is transferred via the network. Since the data is generally always recorded in the best possible quality, this may result in a large upload for a remote connection.

Using the playback controls



The playback controls are the core element of playback. The basic functions for playing recorded data are provided here.

Action	Meaning of the symbol
	Reverse play
	Forward play
	Stop
	Go forward in slow-motion (8x → 1x)
	Fast forward (1x → 8x)
	Pause
	Single frame play
	Activate transcoded playback. Set the resolution, bit rate and frame rate here. Resolution <input type="text" value="Auto"/> Bitrate <input type="text" value="2048K"/> Frame Rate <input type="text" value="Full Frame Rate"/> When this function is activated, the recorder scales down the recorded video material in real time to suit a lower resolution/bit rate/frame rate. Click the icon again to stop transcoded playback for the selected camera.

Using the action bar



(1) (2) (3) (4) (5) (6) (7)

No.	Meaning of the symbol
(1)	Stop all active playback
(2)	Create a snapshot of the selected camera (red frame)
(3)	Create a manual data export (video clip) First, click the symbol to set the start time for the export. Click again to set the end time. A video clip file is then exported to your PC. The length of the clip is based on the duration of the played data.

Playback view

(4)	Activate the e-PTZ function (depends on camera)
(5)	Activate audio for selected camera (red frame) and adjust the volume
(6)	Download the recorded data from the recorder
(7)	Activate full-screen mode for the active camera (red frame – exit with ESC)

Export functions

If snapshots or video clips are created from running playback, this data is stored in the user-specified directory on your PC. You can manually change this path in the web interface settings.

The default path for exported files is:

C:\Users\[USERNAME]\Web

[USERNAME] is the name of the Windows user under which the web interface is run.



Note

You can freely change the settings for the export path under "Settings → Local".

Download

The screenshot shows a web interface window titled "Download - Websitendialog". It features a table with columns for Channel No., No., File Name, Start Time, End Time, File Size, and Progress. A "Define filters" section on the left allows selection of Channel No. (IP Camera2), File Type (All Type), Start Time, and End Time. A "Start download" button is visible at the top right of the dialog. A callout box labeled "Select data" points to the table.

A new window opens when the download function is activated on the action bar. You can download the stored video data from the recorder hard disk drive directly to your PC from here. Select one or more files and click the "Download" button to start the data transfer.

Under the default setting, continuous recordings are stored in 1 GB blocks on the recorder. If the scene you wish to access is in one of these blocks, the entire file must be downloaded. Event recordings are stored in smaller blocks (corresponding to the duration of the event in question).

Using the timeline and calendar

The most important control element on the timeline is the **time tracker**. The time tracker indicates the current time of playback. Move the timeline with the mouse using the drag and drop function to change the playback time.

The screenshot shows a playback interface. At the top right is a calendar for January 2017. Below it is a timeline showing recordings as colored bars. A "Time tracker" is positioned on the timeline at 09:30:14 on 2017-01-23. A "Zoom" button is located on the right side of the timeline. A legend at the bottom identifies recording types: Command (green), Continuous (blue), Alarm (red), and Manual (yellow).

The recordings are displayed as coloured bars on the timeline. The colour coding is explained below:

Colour	Meaning
	Continuous recording
	Event recording (motion, alarm input, VCA)
	Command (not currently in use)
	Manual recording

The default setting for the timeline display is 24 hours. This means that recordings for the entire day are displayed. The timeline can be made smaller or larger using the button, in order to play back targeted time ranges in the current day.

The days are selected using the **calendar**. The colour coding for calendar days is explained below:

Colour	Meaning
	Currently selected day (blue text). The current day has at least one recording (red corner).
	Day is not selected (black text), but does have at least one recording (red corner).
	Day is not selected and has no recordings.

Image export

The screenshot shows a web browser window with the URL `http://192.168.1.17/doc/page/download.asp`. The page title is "Download by File". On the left, there is a "Search Conditions" panel with filters for Channel No. (IP Camera1), File Type (All Types), Start Time (2017-01-23 00:00:00), and End Time (2017-01-23 23:59:59). A search button is located below these filters. The main area is a table with the following columns: No., File Name, Start Time, End Time, File Size, and Live View. The table contains 16 rows of data. Callout boxes highlight the "Menu bar" at the top, the "Logout" button in the top right, the "Start download" button in the top right, the "Select data" checkboxes in the first column, and the "Define filters" search bar on the left.

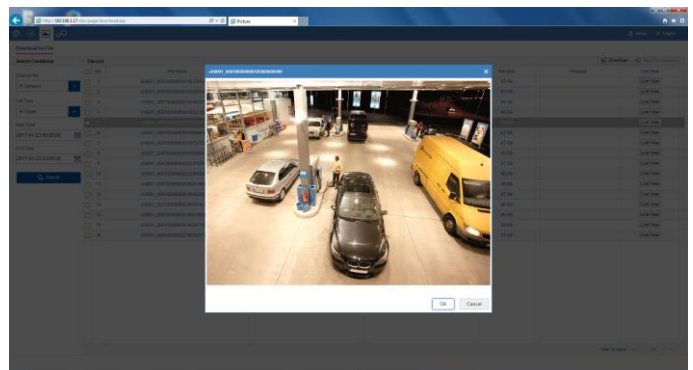
No.	File Name	Start Time	End Time	File Size	Live View
1	ch0001_000100000000185324032000	2017-01-23 09:47:23	2017-01-23 09:47:23	67 KB	Live View
2	ch0001_000100000000185393152000	2017-01-23 09:47:27	2017-01-23 09:47:27	67 KB	Live View
3		2017-01-23 09:47:31	2017-01-23 09:47:31	67 KB	Live View
4		2017-01-23 09:47:35	2017-01-23 09:47:35	66 KB	Live View
5		2017-01-23 09:47:39	2017-01-23 09:47:39	66 KB	Live View
6	ch0001_0001000000001856680000	2017-01-23 09:47:43	2017-01-23 09:47:43	67 KB	Live View
7	ch0001_000100000000185737728000	2017-01-23 09:47:47	2017-01-23 09:47:47	67 KB	Live View
8	ch0001_000100000000185806848000	2017-01-23 09:47:51	2017-01-23 09:47:51	67 KB	Live View
9	ch0001_000100000000185875968000	2017-01-23 09:47:55	2017-01-23 09:47:55	67 KB	Live View
10	ch0001_000100000000185945088000	2017-01-23 09:47:59	2017-01-23 09:47:59	66 KB	Live View
11	ch0001_000100000000186013696000	2017-01-23 09:48:03	2017-01-23 09:48:03	66 KB	Live View
12	ch0001_000100000000186082304000	2017-01-23 09:48:07	2017-01-23 09:48:07	67 KB	Live View
13	ch0001_000100000000186151424000	2017-01-23 09:48:11	2017-01-23 09:48:11	66 KB	Live View
14	ch0001_000100000000186219520000	2017-01-23 09:48:15	2017-01-23 09:48:15	65 KB	Live View
15	ch0001_000100000000186287104000	2017-01-23 09:48:19	2017-01-23 09:48:19	66 KB	Live View
16	ch0001_000100000000186355712000	2017-01-23 09:48:23	2017-01-23 09:48:23	67 KB	Live View

Image export

You can download the stored snapshot data from the recorder hard disk drive directly to your PC from here. Select one or more files and click the "Download" button to start the data transfer.

There are several filter options available to narrow down the result list of image files:

- Channel number (camera selection)
- File type (event selection)
- Start time
- End time



Click on the "Live cast" button to display a preview of the snapshot file.

The default path for exported files is:

`C:\Users\[USERNAME]\Web\`

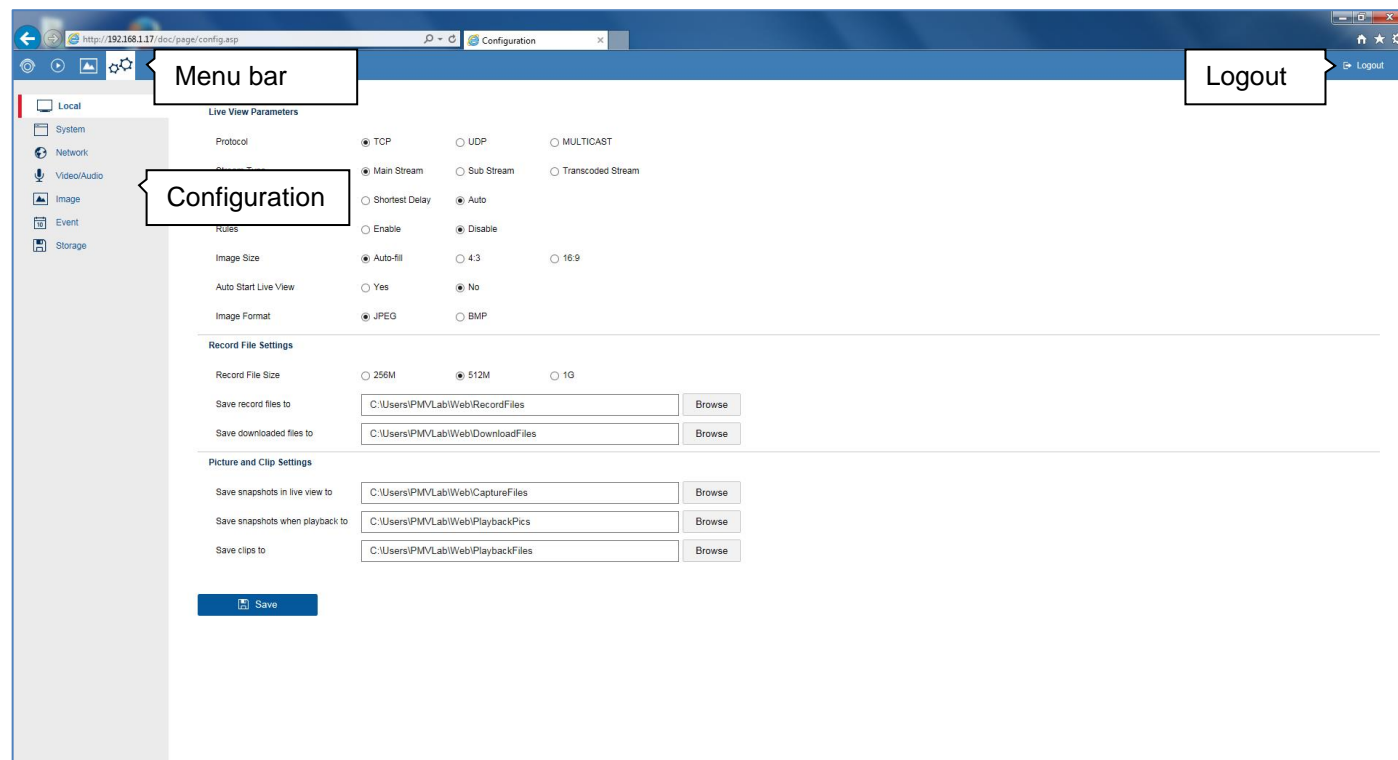
[USERNAME] is the name of the Windows user under which the web interface is run.



Note

You can freely change the settings for the export path under "Settings → Local".

Settings



General settings

The recorder system is configured in the "Settings" menu. The settings dialogues are divided into the following areas:

Menu	Description
Local	Configure local (PC-linked) browser settings
System	Display system information, firmware update, camera and user management
Network	Configure TCP/IP and email settings
Audio & video	Configure camera stream for resolution, bit rate and audio
Image	Menu for configuring OSD parameters and basic image settings (brightness etc.)
Event	Configure camera event settings (motion, VCA, I/O, etc.)
Storage	Menu for configuring recording parameters (time schedules)

i Note

Some of the functions described in this manual may not be available for your recorder (e.g. monitor outputs), depending on the model.

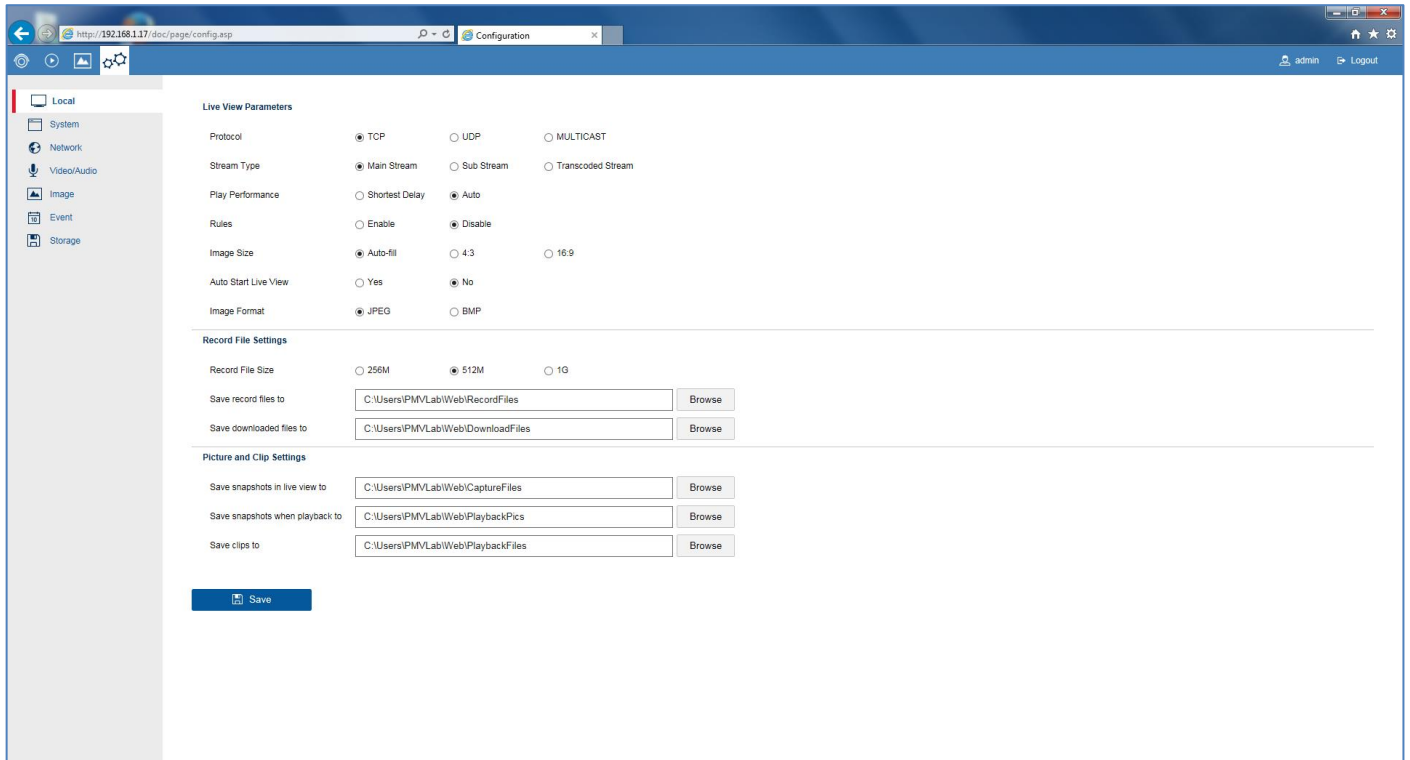
New functions may be added or additional parameters may be added to settings through subsequent firmware updates.

You can find the valid firmware version number to which these instructions refer on the cover sheet of the manual.

i Note

The settings for network, audio & video, image, event and storage are already described in the basic manual (for the local interface) and are therefore not explained here.

Setting: Local



General information on local settings

You can configure the local settings for the browser plug-in on your PC in this menu.

Note

The settings provided under "Local" are defined separately for each PC user. If you access the web interface from multiple PC systems, the settings must be defined here for each PC user.

Image size	The setting can force a specific image format for the live cast. Fixed formats (4:3/16:9) may generate horizontal or vertical edges in the image depending on the signal source and on how the live cast display is split (2x2, 3x3, etc.)
Remember live cast	When existing live cast, the current display (image panel distribution and positioning of the cameras) is saved. When live cast is opened again, the saved display is restored.
Image format	Export format for snapshots




Live cast parameters

Parameter	Description
Protocol	Select the transfer protocol. TCP offers the fastest transfer.
Stream type	Define the preset for live stream configuration here. The preset is always used as the default setting for live image display.
Play performance	Define the play performance. Auto is the recommended setting.
Rules	Activates/deactivates the display of visual VCA rules in the live image and playback.

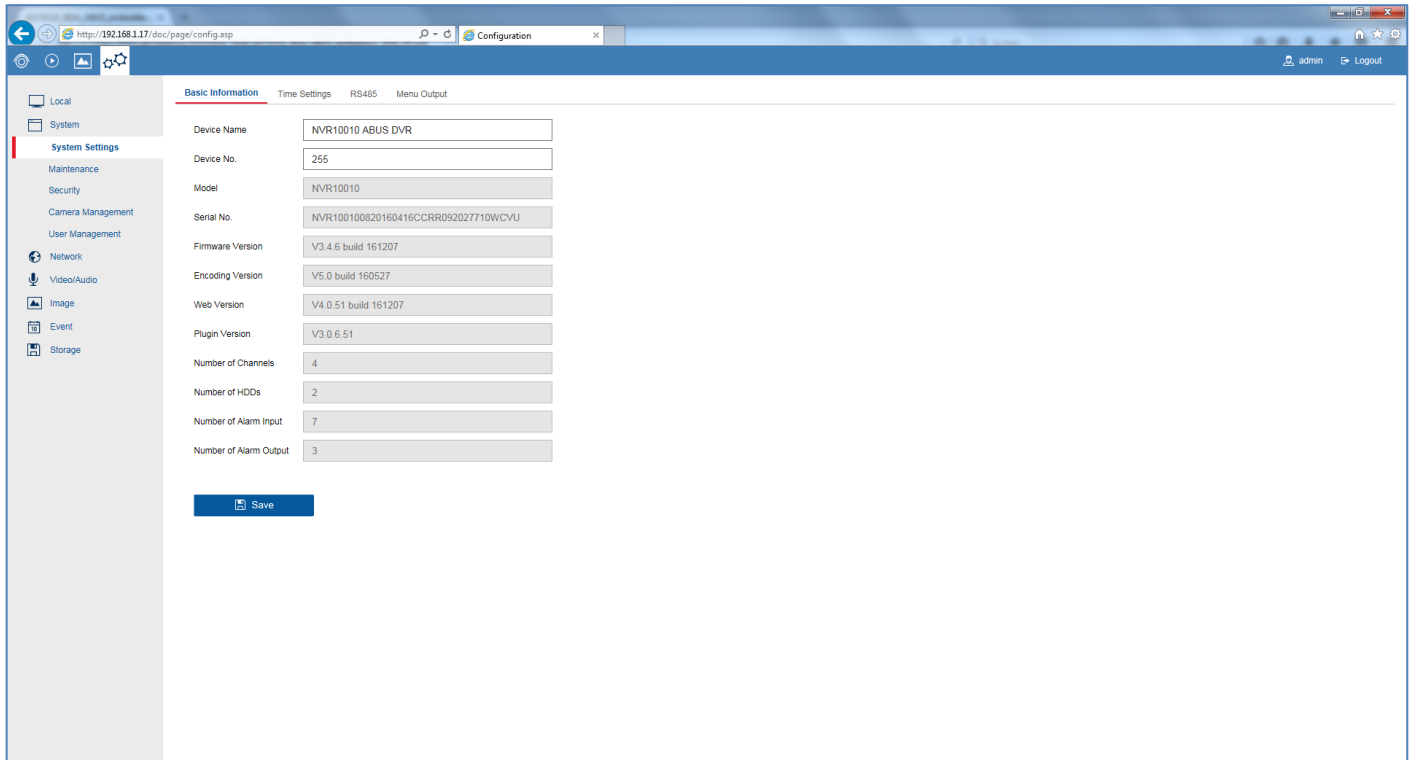
Record file settings

Parameter	Description
File size	Maximum file size for recordings Action: ● REC
Save recordings to	Path for storing recordings to Action: ● REC
Save downloaded files to	Path for storing file downloads Action: ↓

Image/clip settings

Parameter	Description
Save snapshots in live cast to	Path for storing snapshots from live cast Action: 
Save snapshots during playback to	Path for storing recordings Action: 
Save clips to	Path for storing file downloads Action: 

Setting: System



General information on system

General system information can be displayed in this menu, and firmware updates can be carried out. The system management also contains the camera and user management.

System settings

Overview

Parameter	Description
Device name	Change the device name here.
No.	Change the device ID here. This ID is used for control via the TVAC26000 keypad.
Further information	Display the model IDs and firmware versions.

Time settings

Parameter	Description
Time zone	Select the time zone in which the recorder is installed here. The time is

	changed by the GMT zone based on your selection.
NTP	Time synchronisation via the network using the NTP server. Important: The NTP time does not recognise time zones, so the time zone must be adjusted every time.
Server address	URL/host name of the NTP server
NTP port	Service port of the NTP server
Interval	Update interval for time synchronisation.
Manual time synchronisation	Manual time setting
Device time	Current time set on the recorder
Set time	Enter the desired time manually here.
Synchronisation with computer time	Synchronise the time with your PC time (set time of the operation system).
DST	Activate DST (Daylight Saving Time). DST is required for programming the summer/winter time setting. The setting is the same for all regions within Europe.

Start time	Enter the start time. Europe: last Sunday of March at 02:00
End time	Enter the end time. Europe: last Sunday of October at 03:00
DST bias	Relative deviation between the start and end time. Europe: 60 minutes

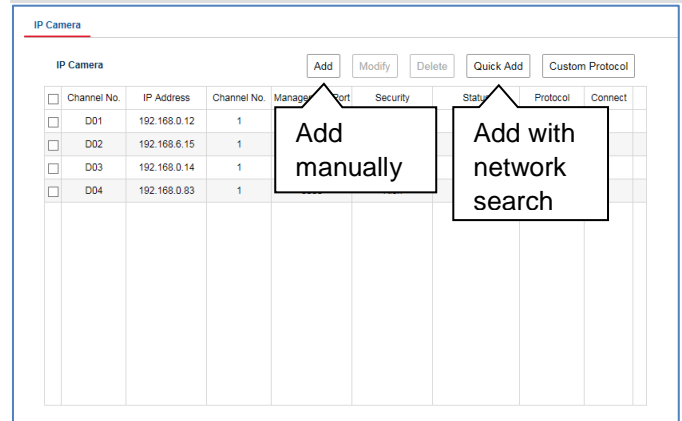
Start time	Set the start time
End time	Set the end time
Export	Export event report

Use the report function to get more information about the system if problems occur.

Output menu

Parameter	Description
VGA/HDMI resolution	Configure the resolution of the local video VGA/HDMI 1 output on the recorder here.
VGA2/HDMI2 resolution	Configure the resolution of the local video VGA/HDMI 2 output on the recorder here.

Camera management



New network cameras can be added to the recorder in camera management, and the network configuration of existing cameras can be edited.

Add manually

Press the "Add" button to add a camera manually. You must know the required network parameters of the camera you wish to add.



Note

Use the ABUS IP installer to search for cameras on your network. You can determine the necessary parameters with this tool.

Describe the required parameters to successfully program a camera on the recorder.

Maintenance

Upgrade and maintenance

Parameter	Description
Reboot	Carry out a manual restart.
Default	Reset the recorder back to its default factory settings.
Export	Export the device configuration and network camera lists (programmed cameras).
Import	Import the device configuration and network camera lists (programmed cameras).
Update	Perform a firmware update.

Protocol

Parameter	Description
Filter1	Select "All" or choose a targeted filter type. Different parameters for Filter2 are available depending on the selection.
Filter2	Detailed filter depending on the Filter1 selection

Setting: System

IP Camera
✕

IP Camera Address

Protocol ABUS ▼

Management Port

User Name

Password

Confirm

Transfer Protocol Auto ▼

OK
Cancel

Quick add

The "quick add" function prompts the recorder to first attempt to detect all available cameras on the network, before automatically adding them.

i Note

In order to add cameras with the "quick add" function, the selected cameras must use the factory settings for the network port and user name/password. If these parameters have already been changed on the camera, the camera can still be added, but the changed settings must be adapted later in the "Camera management" menu using the "Edit" button.

Parameter	Description
Address	Enter the IP address of the network camera here. Example: 192.168.0.5
Management protocol	Select the device-specific camera protocol used to establish communication between the recorder and the camera. Here, you can select the software interface (API), which may differ depending on the manufacturer. For ABUS cameras, choose "ABUS".
Port	Specify the management port which is used to establish the connection between the camera and recorder. For ABUS cameras, use port 8000 or 80.
User name	Enter the user name for the administrator account for the camera.
Password	Enter the password for the administrator account for the camera.
Confirm	Re-enter the password.
Transfer protocol	Select the transfer protocol.

Quick Add
✕

<input type="checkbox"/>	IP Address	Number of Channels	Protocol	Management Port	IPv4 Subnet Mask	Mac Address	Serial No.	Firmware Version
<input type="checkbox"/>	192.168.0.17	1	ABUS	8000		00:00:00:00:00:00		
<input type="checkbox"/>	192.168.0.28	1	ABUS	8000		00:00:00:00:00:00		
<input type="checkbox"/>	192.168.0.34	1	ABUS	8000		00:00:00:00:00:00		
<input type="checkbox"/>	192.168.0.42	1	ABUS	80		00:00:00:00:00:00		
<input type="checkbox"/>	192.168.0.77	1	ABUS	8000		00:00:00:00:00:00		
<input type="checkbox"/>	192.168.1.3	1	ABUS	80		00:00:00:00:00:00		
<input type="checkbox"/>	192.168.1.4	1	ABUS	80		00:00:00:00:00:00		
<input type="checkbox"/>	192.168.1.48	1	ABUS	8000		00:00:00:00:00:00		
<input type="checkbox"/>	192.168.2.103	1	ABUS	8000		00:00:00:00:00:00		
<input type="checkbox"/>	192.168.2.105	1	ABUS	8000		00:00:00:00:00:00		
<input type="checkbox"/>	192.168.2.112	1	ABUS	8000		00:00:00:00:00:00		
<input type="checkbox"/>	192.168.2.114	1	ABUS	8000		00:00:00:00:00:00		
<input type="checkbox"/>	192.168.2.115	1	ABUS	8000		00:00:00:00:00:00		

OK
Cancel

Select one or more cameras in the "Quick add" dialogue using the button in the first column. When you confirm with "OK", the recorder attempts to add these cameras as described above.

Custom protocol

Custom Protocol
✕

Custom Protocol Custom Protocol 1 ▼

Protocol Name

Main Stream
Sub Stream

Enable Stream

Protocol RTSP ▼

Transfer Protocol Automatic ▼

Port

Stream Path

OK
Cancel

You can create a custom RTSP profile here, which can then be assigned to a camera in the "Edit" menu.

i Note

If you integrate a camera using RTSP, only the video image from the camera will be available on the recorder. Camera control functions (e.g. PTZ) and motion detection are not supported.

i Note

If your camera supports several streams, we recommend using the high-quality stream for the "Main stream" setting and an alternative stream of a lower quality for the "Sub-stream" setting.

Parameter	Setting
Custom protocol	Select a value between 1 and 16. The settings will be saved here.
Protocol name	Select any name.
Stream type	All values below "Main stream" will be used for the main stream (live+recording). All values below "Sub-stream" will be used for the sub-stream (multi-view live).
Sub-stream	Enables the sub-stream.
Type	RTSP
Transfer protocol	Use the auto setting, provided that there are no special requirements.
Port	Enter the RTSP port
Path	Specify the RTSP streaming path on the network camera

i Note

You can usually find information on the RTSP streaming path in the camera manual or on the manufacturer's website. Ask the manufacturer directly when required if there is not enough information on the path.

Managing users

The screenshot shows a 'User Management' interface. At the top, there are three buttons: 'Add', 'Modify', and 'Delete'. Below them is a table titled 'User List' with the following data:

No.	User Name	Level
1	admin	Administrator

In user management, you can add new users, delete users, and amend existing settings.



Warning

Change the default password when you first start working with the system to ensure safe operation.

Typical layout of an RTSP streaming path:

rtsp://192.168.0.1:554/video.h264

Parameter	Setting
Rtsp://	The protocol followed by "/"
192.168.0.1	IP address of the camera, separated by full stops
:554	Colon followed by the RTSP port for the network camera
/video.h264	"/" followed by the path and streaming parameter

Fault rectification

Before contacting the Service department, read the following information to determine the possible cause of any fault.

Fault	Cause	Solution
No power	Power cable not connected	Connect the power cable properly to the socket
	Power switch set to OFF	Set power switch to ON
	No power supplied from socket	If necessary, use another device at the socket
No picture	The screen is not set to receive	Set correct video input mode, until an image is received from the recorder
	Video cable is not connected properly	Connect the video cable properly
	The connected monitor is switched off	Switch on monitor
No sound	Audio cable is not connected properly	Connect the audio cable properly
	Devices connected via audio cable are not switched on	Check the power supply and power switch for the connected audio devices
	Audio connection cable is damaged	Replace cable
Hard disk drive not functioning	Connection cable is not connected properly	Connect the cable properly
	Hard disk drive faulty or incompatible with the system	Replace the hard disk drive with a recommended hard disk drive
USB connection not functioning	Device is not supported	Connect correct USB medium, USB 2.0
	USB Hub was used	Connect USB medium directly
Network access not possible.	Network cable connection loose	Insert network cable
	Network settings (DCHP, IP address, etc.) incorrect	Check and, if necessary, correct the network configuration
Recording is not possible	No HDD, or HDD not initialised	Install and initialise hard disk drive
Sudden switch-off	The internal temperature of the device is too high	Clean the device and/or remove any objects impeding ventilation

Disposal

Notes on EC directives for waste electrical and electronic equipment

For the protection of the environment, at the end of its useful lifespan, the device may not be disposed of in household waste. Disposal can be carried out at suitable national collection points. Obey local regulations when disposing of material.



Dispose of the device in accordance with EU Directive 2011/65/EU - WEEE (Waste Electrical and Electronic Equipment). If you have any questions, please contact the municipal authority responsible for disposal. Information on collection points for waste equipment can be obtained from the local or district authorities, local waste disposal companies or the dealer.

Notes on RoHS EU Directive

The device complies with the RoHS directive.

Compliance with the RoHS directive means that the product or component contains none of the following substances in higher concentrations than the highest concentrations in homogeneous materials, unless the substance is part of an application that is excluded from the RoHS Directive:

- 0.1% lead (by weight)
- Mercury
- Hexavalent chromium
- Polybrominated biphenyl (PBB) and polybrominated diphenyl ether
- 0.01% cadmium (by weight).

ABUS **Embedded NVR Recorder**

Web interface user manual

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