ABUS embedded video recorder

HDCC900x1

Local user interface user guide
(basic instructions)

Date: 19/03/2018
Firmware: 3.5.20

This user guide contains important installation and operation information.

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.

Contents

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. … 2. …	Required action to be carried out in a set order
• … • …	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 (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 guide.

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.

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:
- HDCC90001
- HDCC90011
- HDCC90021

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), EMC Directive (2014/30/EU) and 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.

Read the entire user guide carefully before starting operation of the product, and pay attention to all operating instructions and safety information.

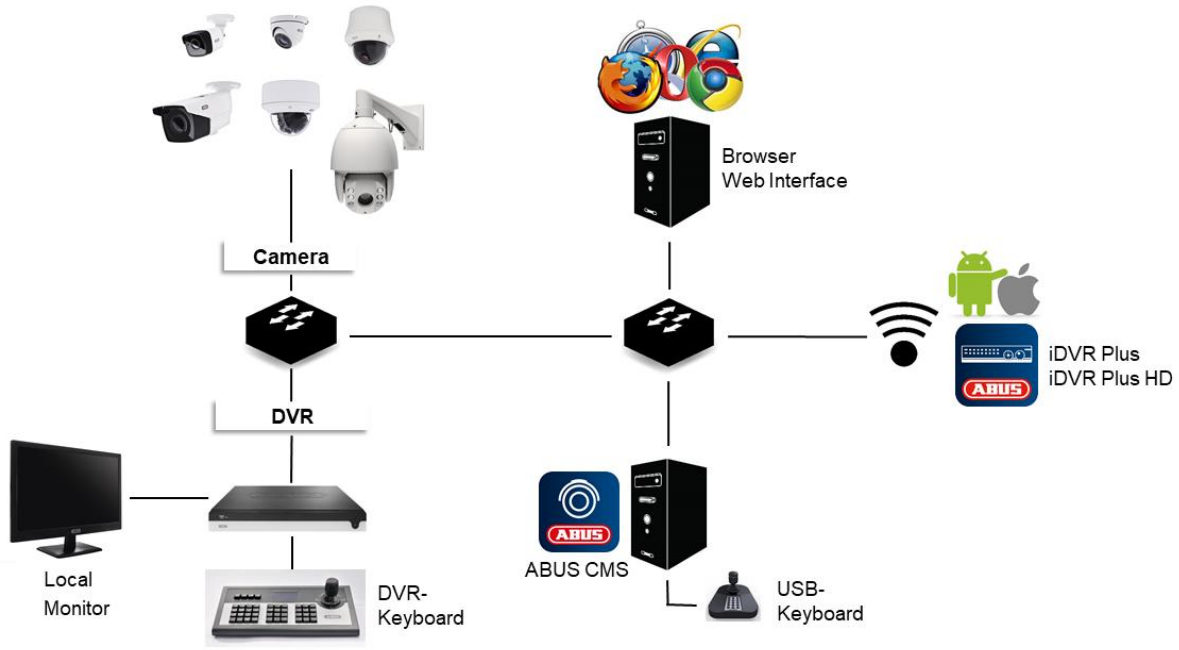
If you have any questions, please contact your specialist installation contractor or specialist dealer.

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 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. 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.

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 (Q1/2018).

Compatible recorders

Device type	Item number
DVR	HDCC90001, HDCC90011, HDCC90021

Compatible analogue HD cameras

Analogue HD camera type	Item number
Analogue HD camera	HDCC32500, HDCC42500, HDCC61510, HDCC71510, HDCC62510, HDCC72510, HDCC32501, HDCC42501, HDCC62550, HDCC72550, HDCC33500, HDCC43500, HDCC63550, HDCC73550, HDCC50000
Analogue HD PT/Z	HDCC81000, HDCC82500, HDCC82501

Compatible keyboards

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

Compatible software

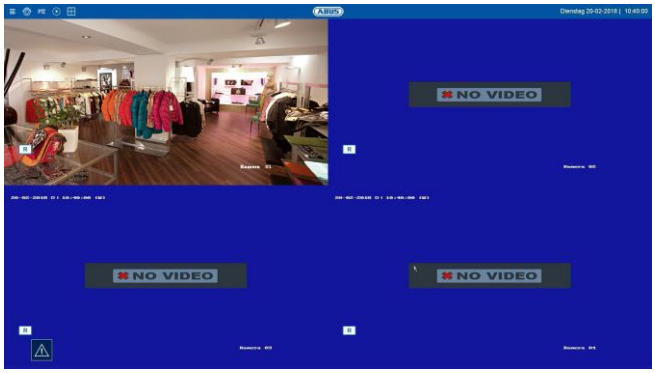
Device type	Item number
ABUS CMS	TVSW11000

iDVR Plus (Smartphone)	APP12300 (iOS) APP12500 (Android)
iDVR Plus HD (Tablet)	APP12400 (iOS) APP12600 (Android)
ABUS IP installer	TVSW12000

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.

Video Signal Loss



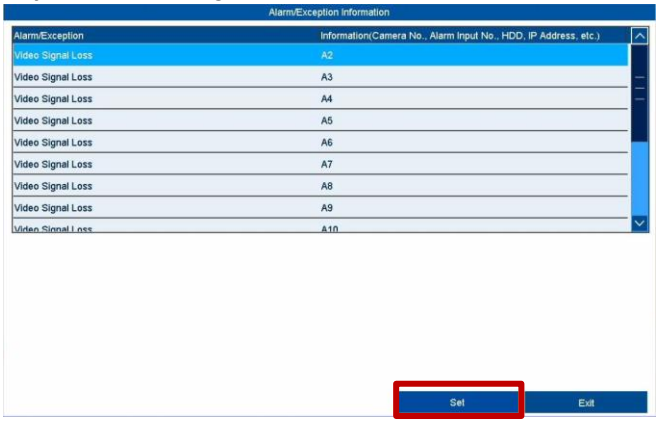
Please note that as your recorder searches continuously for video signals, the following applies to every channel.

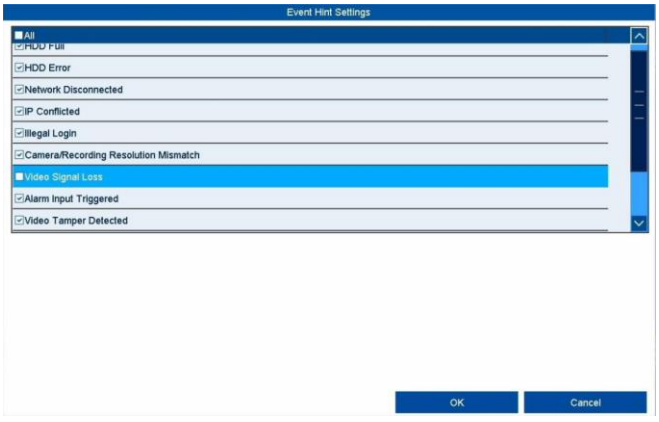
If no camera is connected, the following display will appear on the monitor:

This display does not mean there is a technical defect or fault on your recorder unless there is a camera connected to the channel.

It also causes a "video signal loss" error, which is displayed in the "Alarm/exception information" window. You will find this under the symbol below:

You can deactivate the display of "video signal loss" errors manually under "Alarm/exception information-> Adjust -> Video signal loss checkbox".





Warning

Bear this information in mind when problems/limitations occur in the local live image view, and troubleshooting is required, when the device is operating.

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.

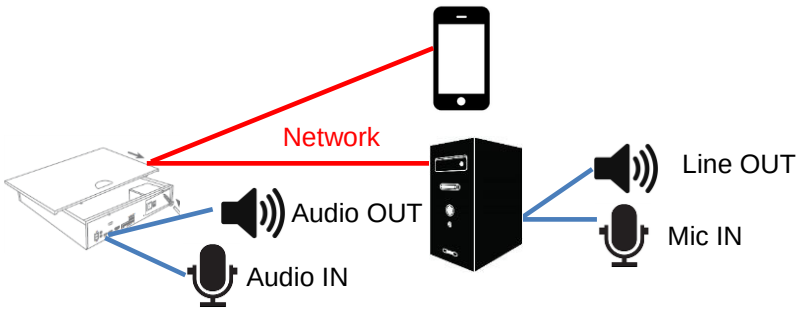
Note

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
AUDIO IN 	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.
 AUDIO OUT	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:

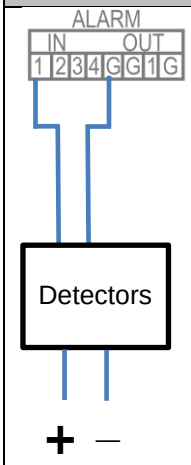


Note

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.

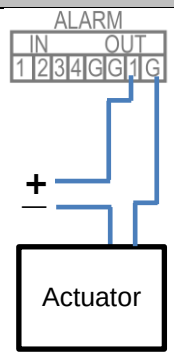
Connection	Description
	**Depending on the recorder model**, 1–16 inputs are available. First, plug the detector contact in an open input (IN1-16) and then connect the grounding contact (G). Connect more detectors in the same way: IN1 → G IN2 → G IN3 → G …. IN16 → G It does not matter whether you connect 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.

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
	**Depending on the recorder model,** 1–4 outputs are available. First, plug the actuator/device in an open output (OUT1–4) and then connect the grounding contact (G). Connect further actuators in the same way: OUT1 → G OUT2 → G OUT3 → G OUT4 → G 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.

Note

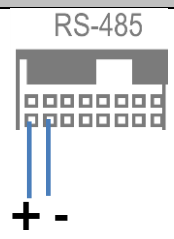
After the actuator has been connected to the alarm input of the recorder, the event reaction must be programmed in the settings menu.

RS-485 output

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

Analogue HD cameras with an integrated PTZ function are fully controlled via the BNC cable.

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

Connection	Description
	Connect the PTZ control by using the Transmit and Receive pins.

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.

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.

Starting the device

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.

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:

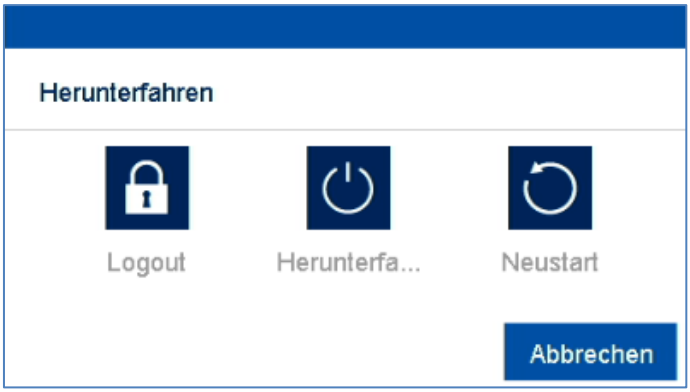
For simple figure input, the following on-screen keyboard appears:

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.

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.

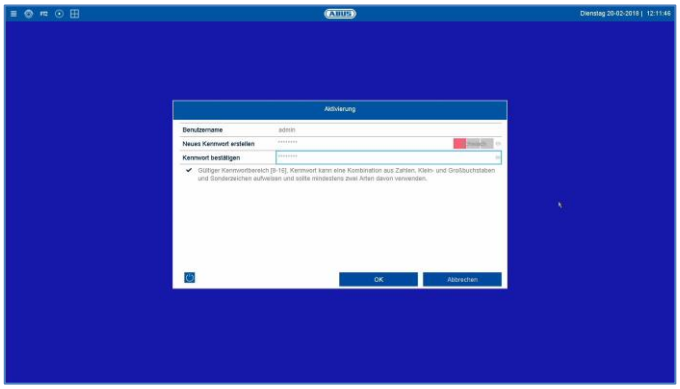
3. To lock the system, select the left hand symbol **Logout**. The user interface is locked. To reach the menu, a password must be entered.
4. To reboot, select the right hand symbol **Reboot**. The device carries out a reboot.

Setup wizard

Setting up the system

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

- Enter a password that is suitable for the Valid Password Range. For your own security, we recommend a password that falls into the "Strong" category.

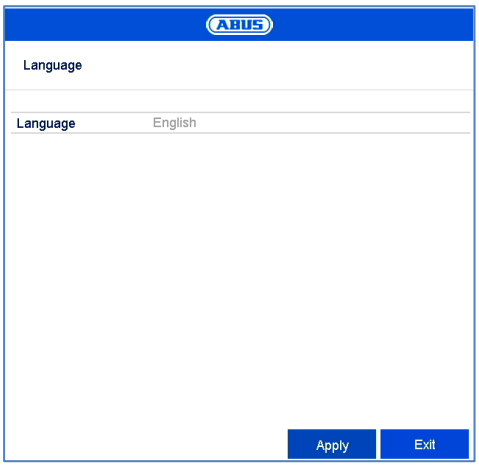


- User name: Standard specification: "admin"
- Create new password: Enter a password that takes the security guidelines into consideration.
- Confirm the password by entering it again and clicking OK.

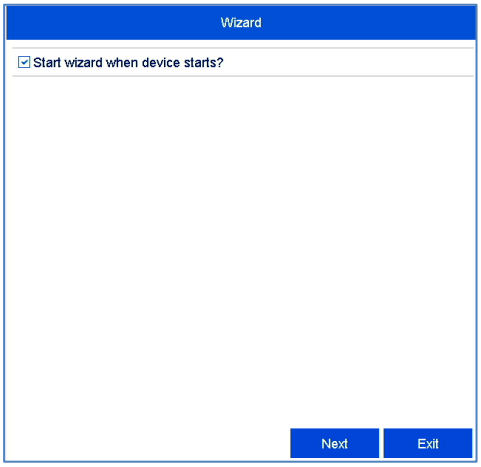
- You then receive a notification asking you to export the GUID file that resets the password.
- Please proceed and export the GUID file to a secure data carrier known to you that is not linked to your recorder.

Note

The GUID file is essential if you are resetting your password.
For this reason, you must export the file to a data carrier that is stored securely and protected.
If you forget your password without having the GUID file specifically for this on hand, please contact the service hotline immediately.



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

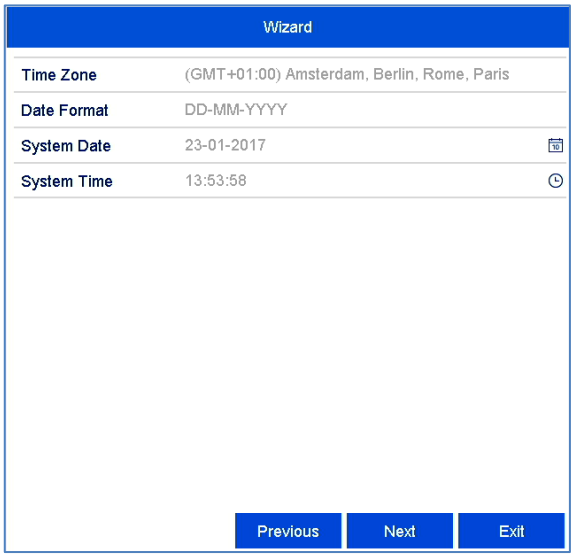


- Click on Next to start the wizard.

Note

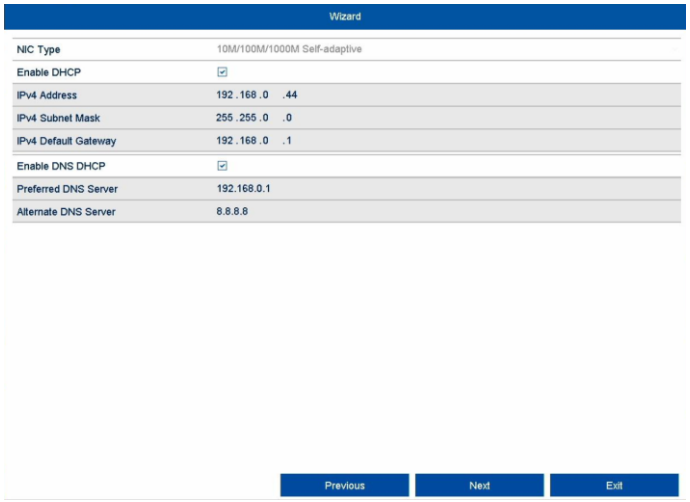
After the system has been set up the “checkbox” can be deactivated: the box will be hidden and the wizard no longer starts automatically.

System time and date



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

Network settings



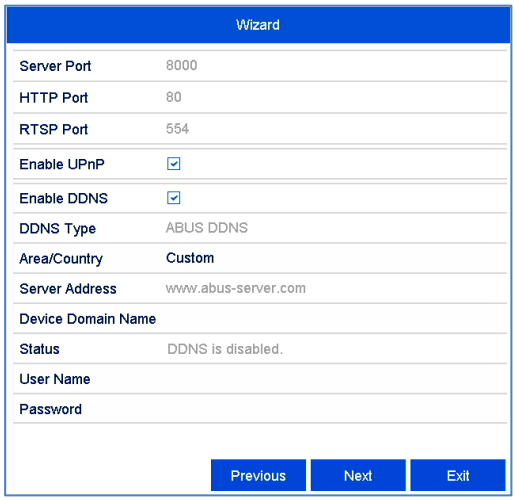
Note

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.



- 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

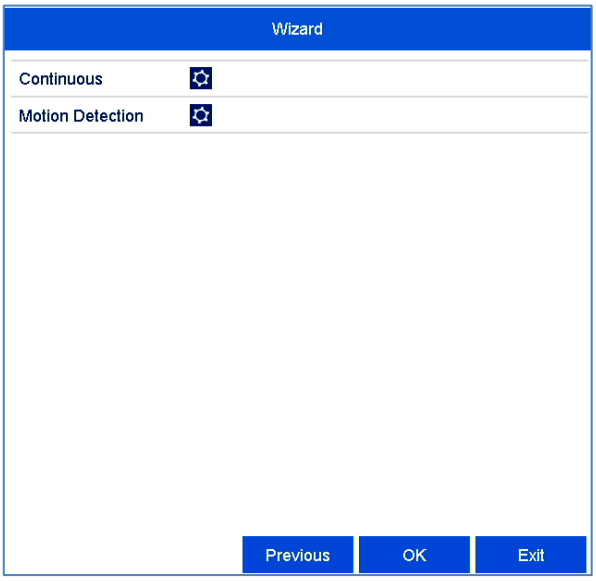
- To set up a hard disk drive, enable the “checkbox” with a left click and then click on **Init.**

Warning

This will delete all data found on the disc.

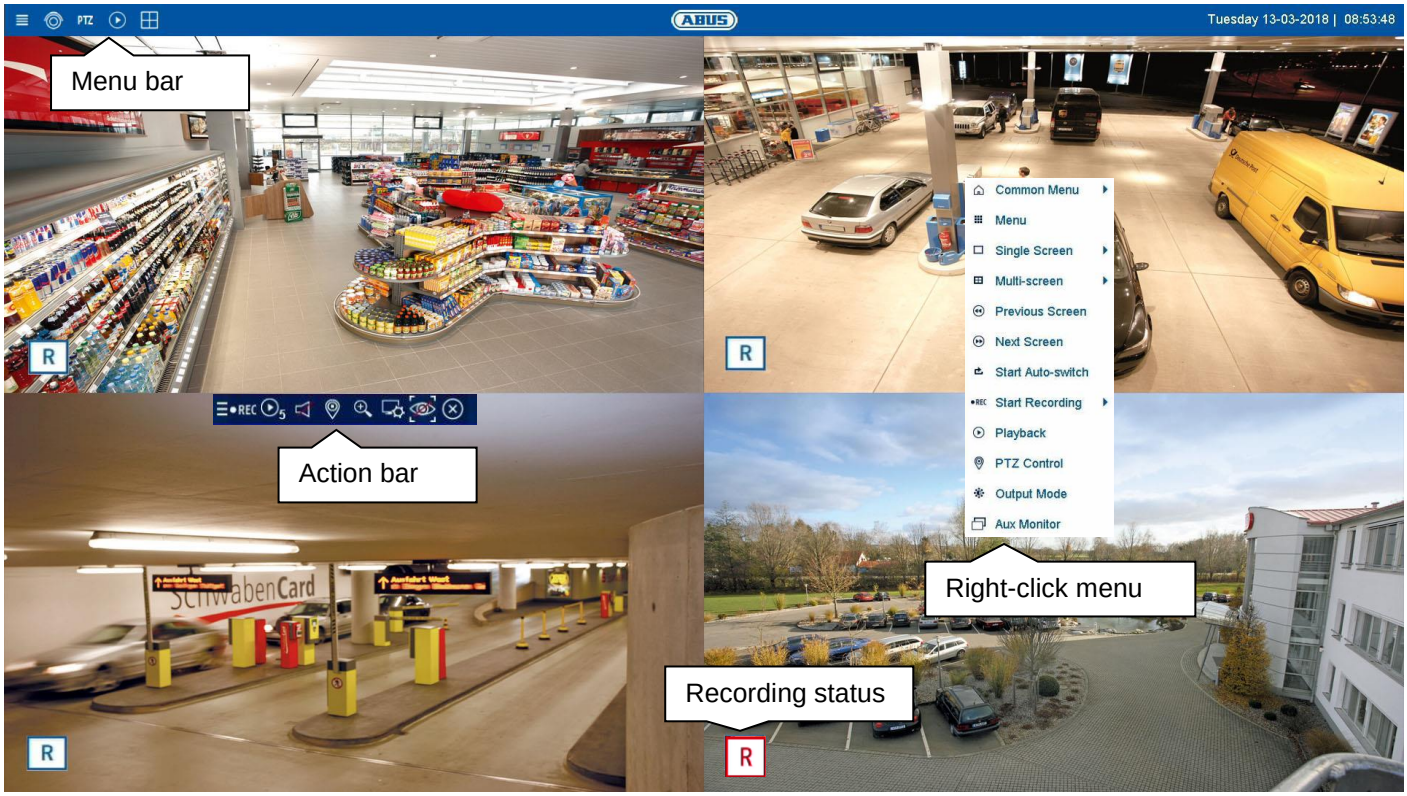
- Click on **OK** to acknowledge the security prompt. The hard disk drive is set up for use. Progress is shown on the status bar.
- Finish the setting with **OK** and then click on **Next**.

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**.

Live view



General information on live image

Live view starts automatically when the device is switched on. 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.

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 operating menus.
Action bar	Control camera commands and carry out actions for the selected camera (red frame)
Right-click menu	Extended operating menu for operating the live view.

Using the menu bar

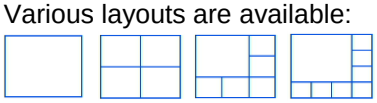
The following options are available:

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)
	Changes to 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.

Using the action bar

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

(0) (1) (2) (3) (4) (5) (6) (7) (8)

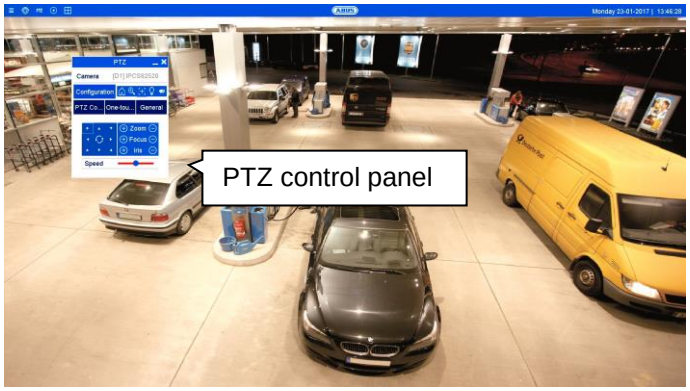
No.	Meaning of the symbol
(0)	Area for moving the action bar
(1)	Activate/deactivate manual recording
(2)	Instant playback of the last 5 minutes
(3)	Activate/deactivate the audio function
(4)	Open the PTZ control menu (for PTZ cameras only)
(5)	Digital zoom
(6)	Image settings
(7)	Display VCA info
(8)	Close the selection bar

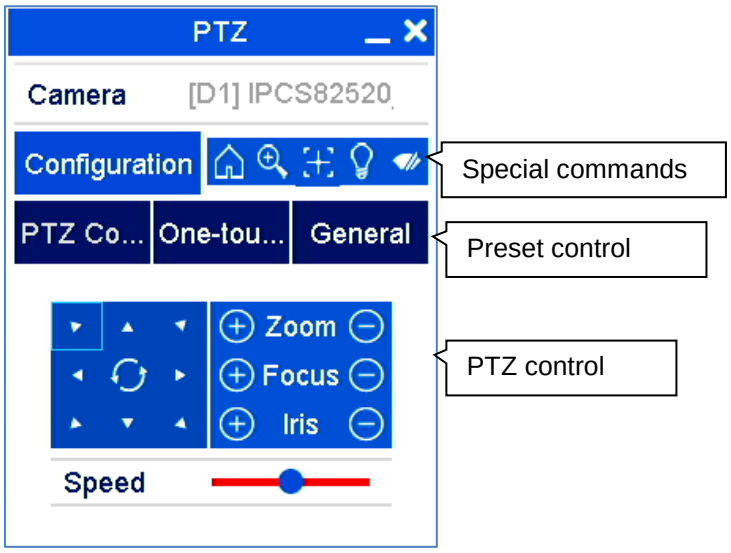
PTZ control menu

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	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 the cameras are manually moved to positions

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

Right-click menu

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

Note

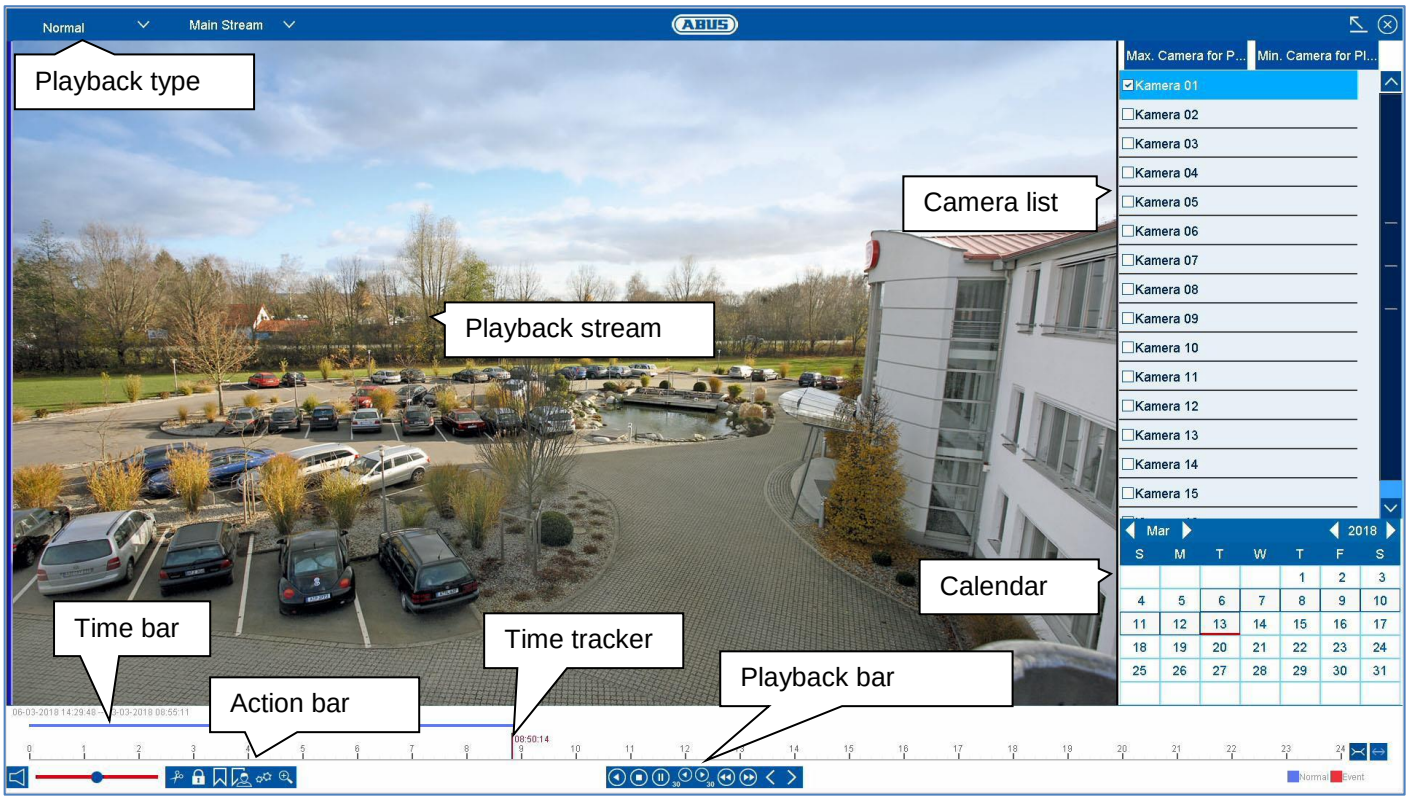
Start Auto-switch:
Specify the display sequence delay in the display settings.

Note

Activation of “AUX monitor” without a connected spot monitor:

Mouse pointer function is disabled.

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 on the recorder to be played. The data is played in the quality at which it was recorded as configured in the camera settings.

Note

Adjust the quality settings of the camera accordingly in the menu under “Settings → Recording → Parameters”. Generally the "main stream" of the camera on the recorder is recorded.

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.

Using the action bar

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
	Go forward in slow-motion (8x → 1x) Fast forward (1x → 8x)
	Previous day Next day

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

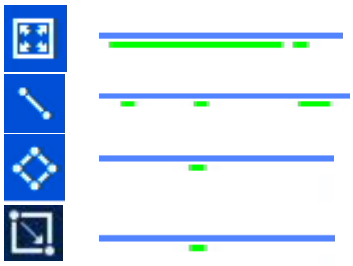
Smart Search

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)
	Motion Detection: Full Screen
	Clear All

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.

Warning

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

Note

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

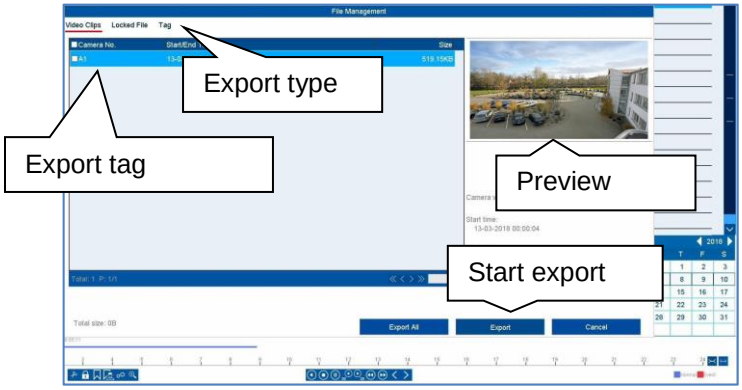
Export functions

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.
	**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
Locked file	Export, manage and unlock locked files
Colour	Tag management

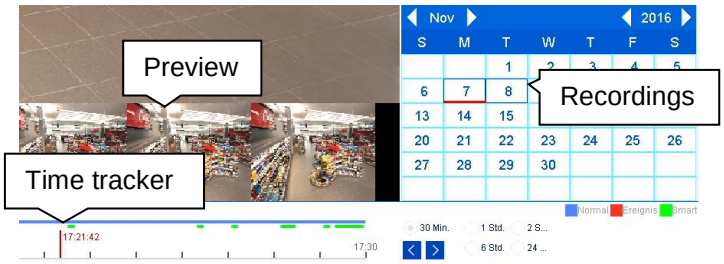
Select an appropriated type from the tab bar. A list with one or more entries of cameras with data for export (A1–A16) will appear. Select the desired data by clicking on the buttons D1. Select “Export All” to export all of the displayed list entries, or “Export” to only export the selected data.

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

1. The data can be exported via USB on the video recorder
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:

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. 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 explained below:

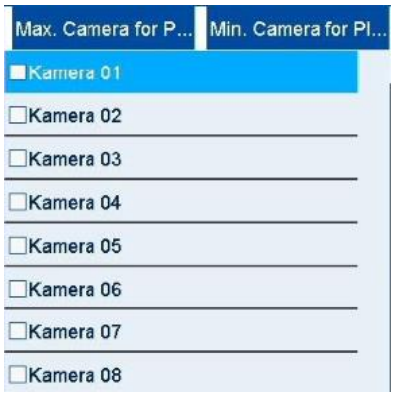
Colour	Meaning
	Continuous recording
	Event recording (motion, alarm input, VCA)
	Smart Search (depending on the filter)

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. You can connect to the camera’s recordings over the whole day in increments using the button.

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

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

Using the camera list



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.

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.

Note

The video recorder manages the camera archives in the background using the IDs A1–A16. 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.
Tagging	Search and playback of video data which has been provided with a tag.
SMART	Search and playback of specific video data narrowed down using filters
Subperiods	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).

Playback: Normal

“Continuous” 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
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.
Password	You have the option of entering a password as a full text filter for the search. If no password 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: Subperiods

Using "Subperiods" playback, different points in time from one single camera channel can be simultaneously analysed in a targeted way. To do this, the channel is 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.
Screen division	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: SMART

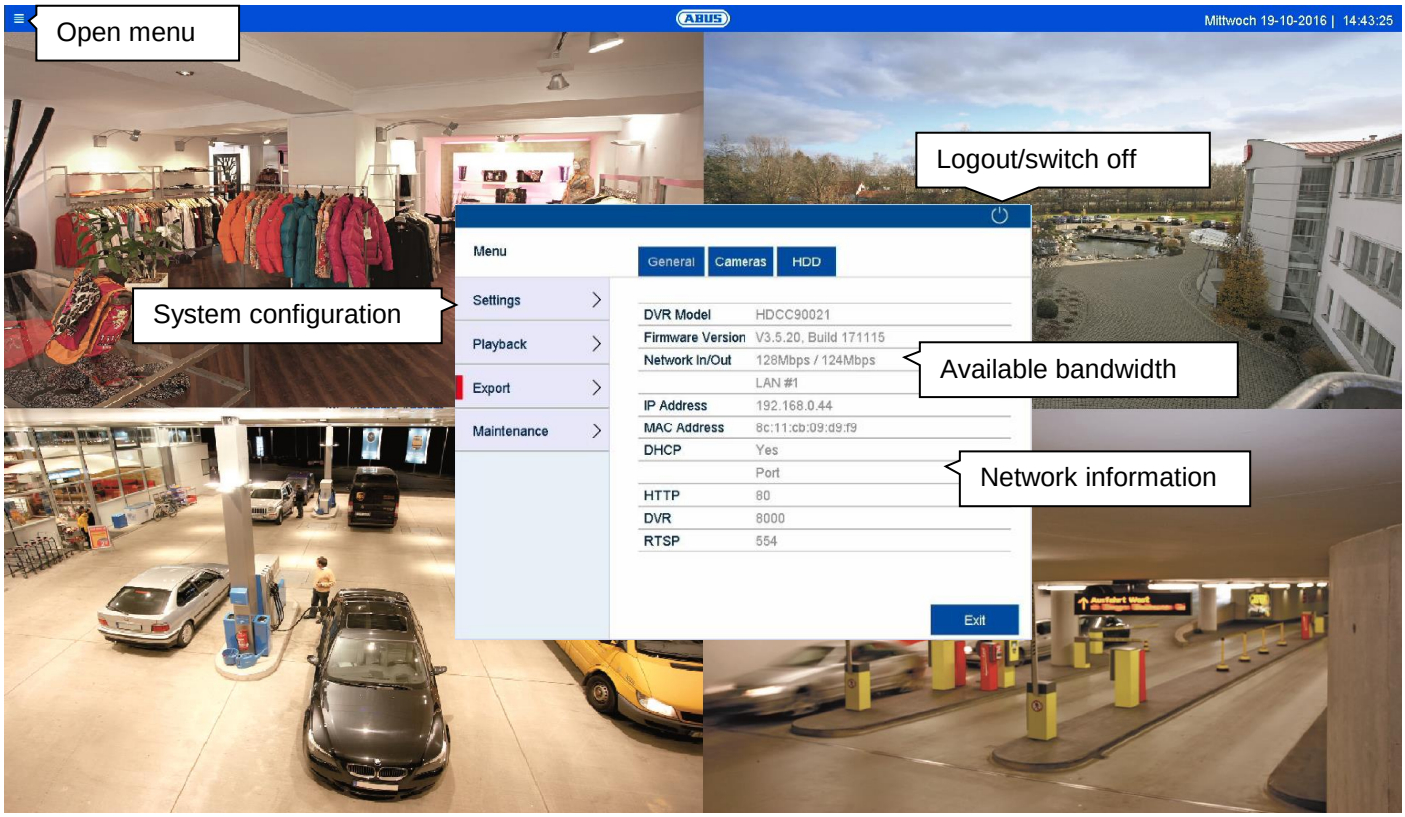
Using "SMART" playback, recordings saved on the video recorder can be analysed accurately using filters and highlighted in colour for the playback.

There are other filters available for the search:

Filters	Description
Draw line	Draw a line using two points
Draw Quadrilateral	Draw a square using four points
Motion detection: Draw a rectangle	Draw a rectangle in specific sections of the image
Motion Detection: Full Screen	Select specific sections of the image
Clear All	Reset selected filter

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

Info menu



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:

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).
Export	Export of video and image recordings to external data storage devices.
Maintenance	System information, searching logs, importing/exporting configurations,

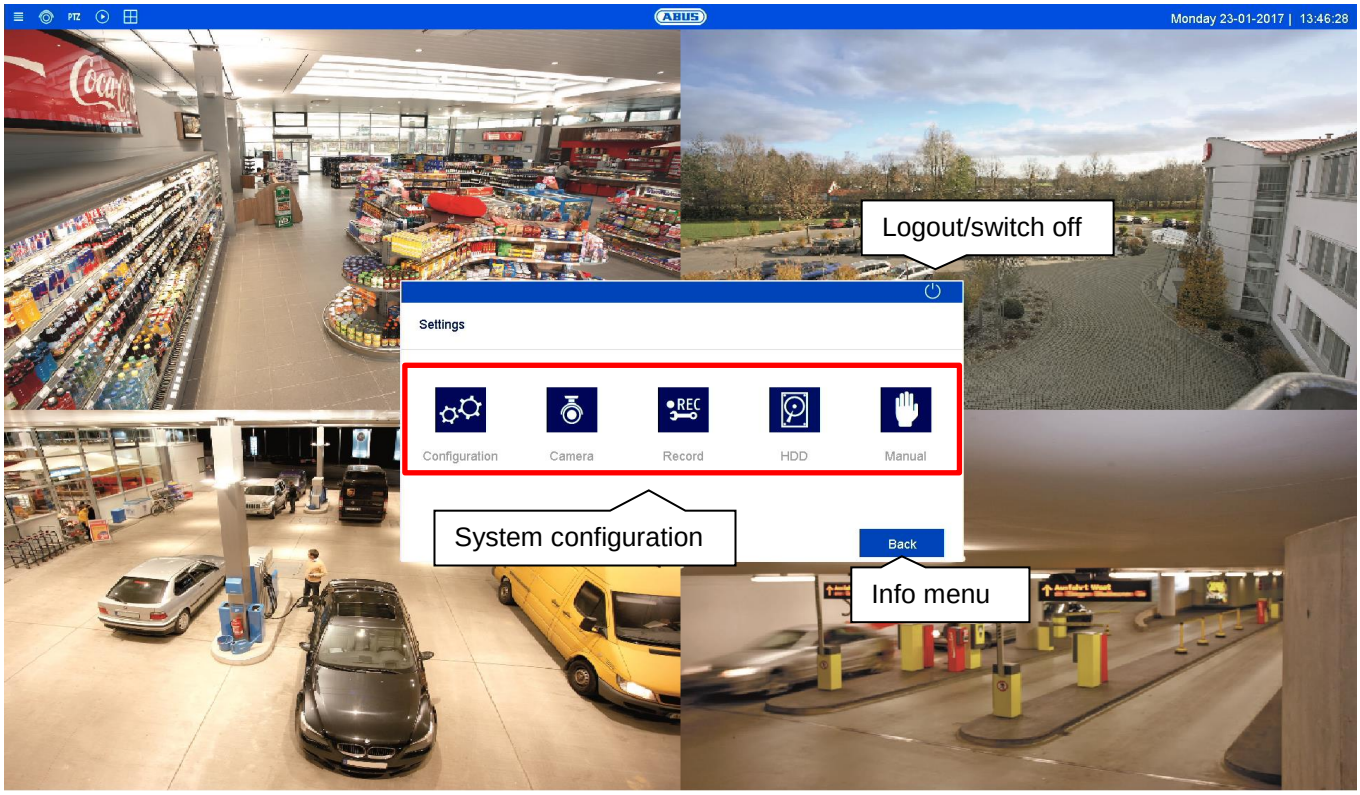
	device maintenance such as upgrading to new firmware, loading defaults, displaying traffic.
	User logout, system shutdown or system reboot.

Click on "Exit" to close the info menu.

The following chapter describes the following sections:

- Settings
- Export
- Maintenance

Settings



General settings

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

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.

Note

Depending on your recorder model and firmware version number, all of the functions described in the guide may not be available for your model.

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

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

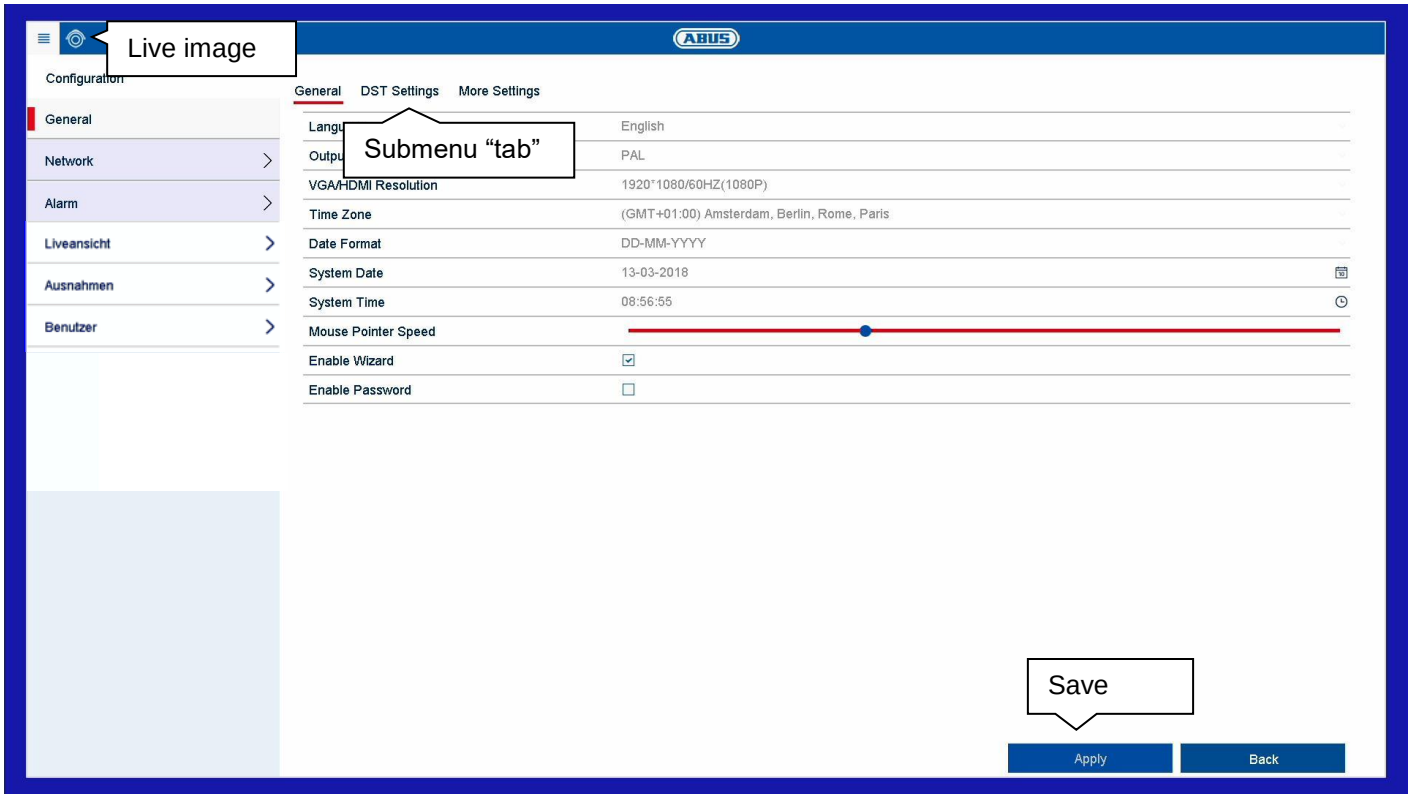
Note

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.

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.

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.
Alarm	Settings for the alarm I/Os
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.

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

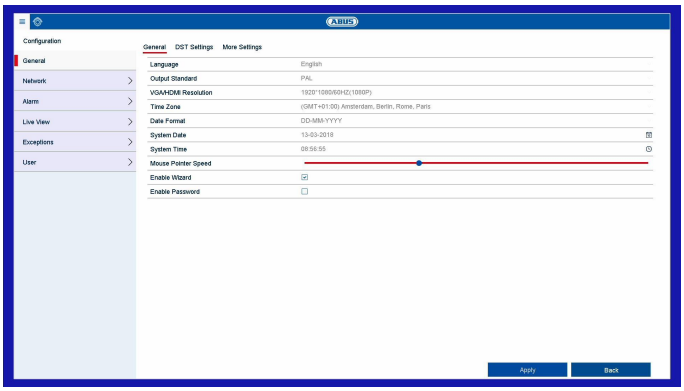
Confirm changes to settings in the detail settings of the tabs by pressing the “Apply” button.

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.

General

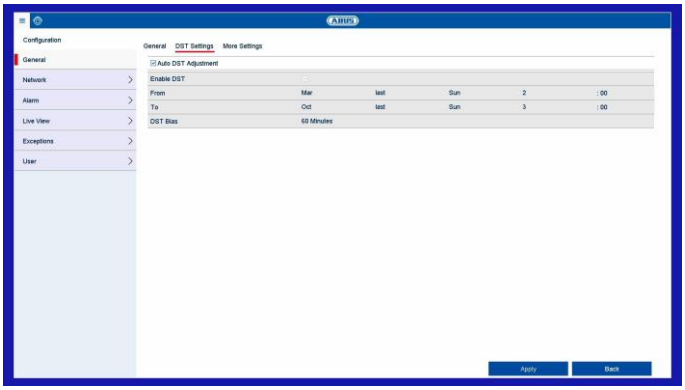
The general display configuration settings and date settings can be found here.

General tab



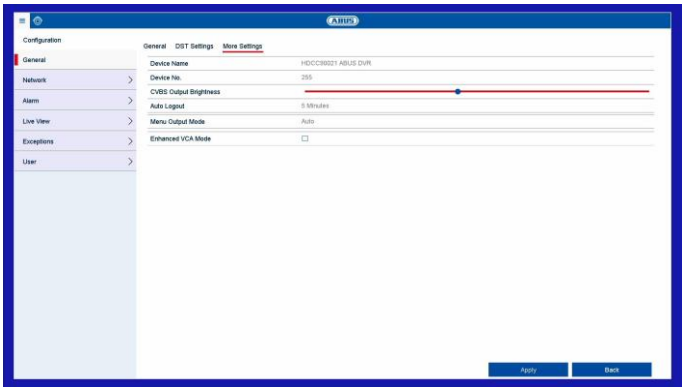
General	Setting
Language	On-screen display language
Output Standard	PAL or NTSC selection for the video BNC output
Resolution	Monitor resolution
Time zone	GMT (Greenwich Mean Time).
Date Format	MM-DD-YYYY, DD-MM-YYYY, YYYY-MM-DD
Date	Set date
Time	Set time
Mouse Pointer Speed	Slider (left = low speed, 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.
CVBS Output Brightness	If you move the slider, the brightness of the analogue video output will be adjusted.
Auto Logout	Never/1–30 minutes: controls how long the menu is displayed before it is hidden again
Menu display	Use to specify the monitor output for the menu display. If set to auto, the recorder will detect the output.

Extended VCA mode	Activates line crossing and intrusion detection across all channels and deactivates the 2K/4K output and the 4MP/5MP inputs

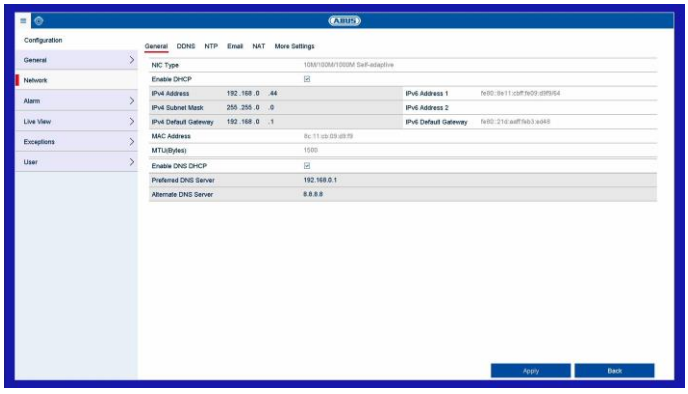
Network

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 and switch.

Note
Having the correct network settings is indispensable for 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

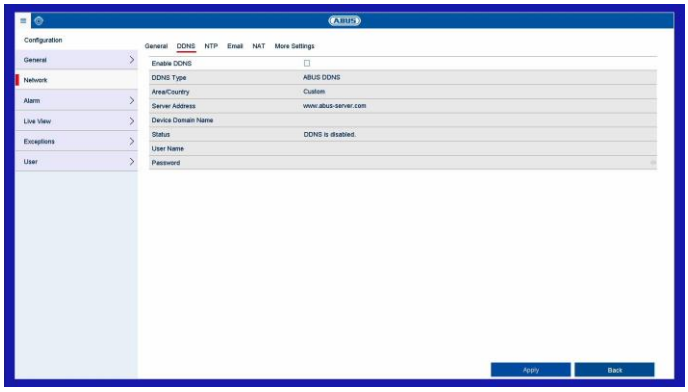


Settings for the local network and selecting the network mode are defined here.

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. Please note: If the IP addresses are assigned manually, ensure that DCHP 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 Standard 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.
Obtain DNS via DHCP	Obtain existing DNS via DHCP
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



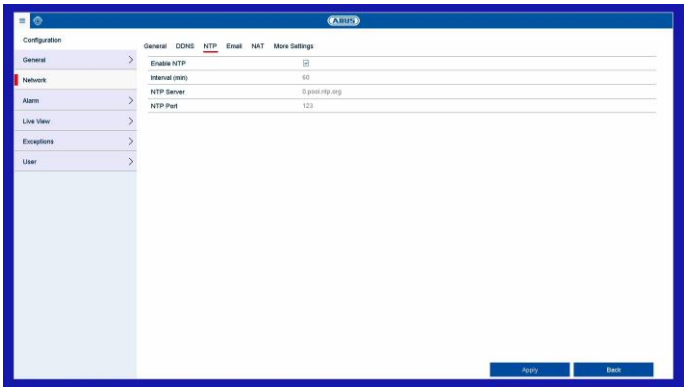
The DDNS function is used to update host names and DNS entries.

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.

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.

NTP tab



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

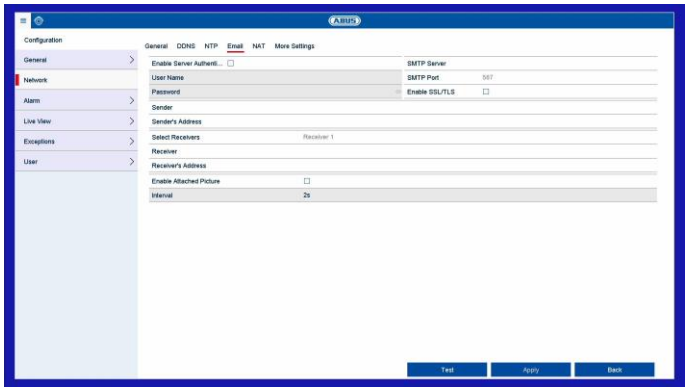
NTP	Setting
Enable NTP	Activates the NTP function on the recorder
Interval (min.)	Determines the interval for synchronisation.
NTP server	NTP server address
NPT port	NPT port

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**.

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 Server	SMTP server address of the provider
SMTP Port	Enter the SMTP port (default: 25)
Enable SSL/TSL	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**.

Note

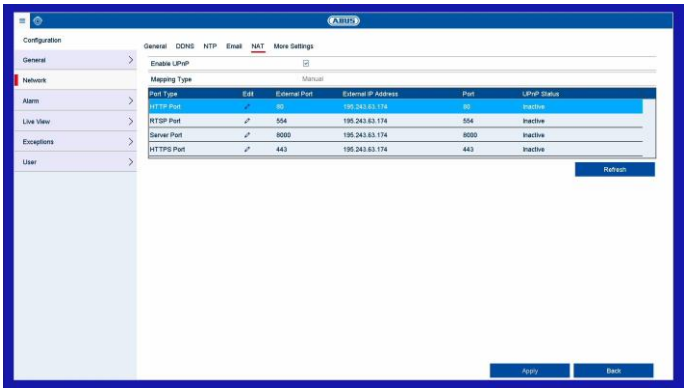
The device will send an email to the specified recipients.

If no email is received, check the settings and correct them where necessary. If necessary, check the junk mail settings of your email client.

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.

NAT TAB



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

NAT	Setting
Enable UPnP™	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). If UPnP is enabled, the network ports configured by UPnP are transferred to the ABUS server (provided that ABUS DDNS is enabled).

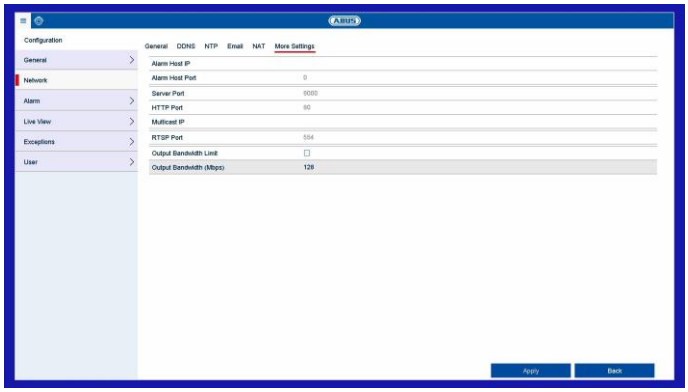
Mapping Type	For “manual” settings, the network ports can be manually defined using the “Edit” button. For “auto” settings, the recorder checks for free network ports on the router and defines the port numbers in a random pattern.

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



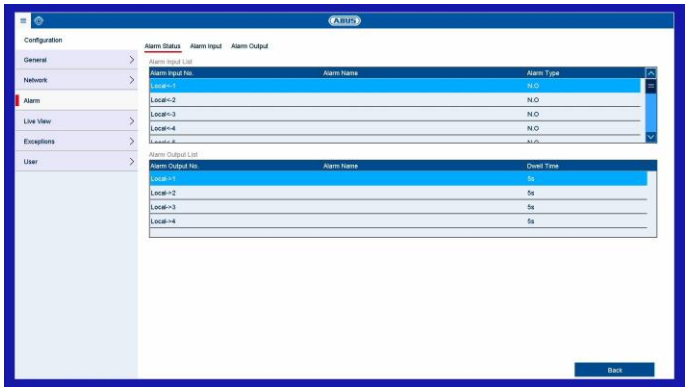
Used to configure the IP address of the PC where a notification should be displayed in the event of an alarm.

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)
Output bandwidth limit	Enable limitation on the output bandwidth
Output bandwidth (MB/s)	Limit output bandwidths in MB/s

Alarm

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

Alarm Status tab

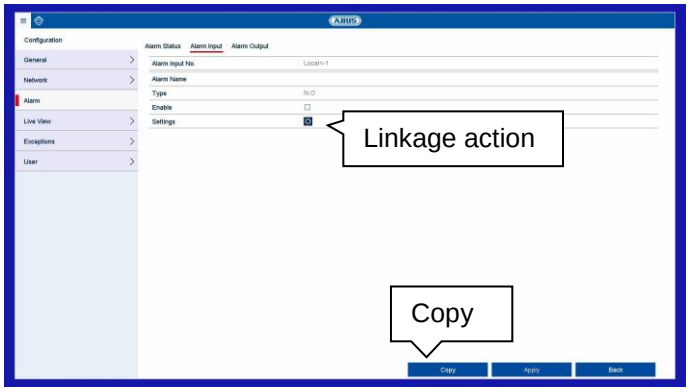


Here you can see a list of all the alarm inputs and outputs and their current status.

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).
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).
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



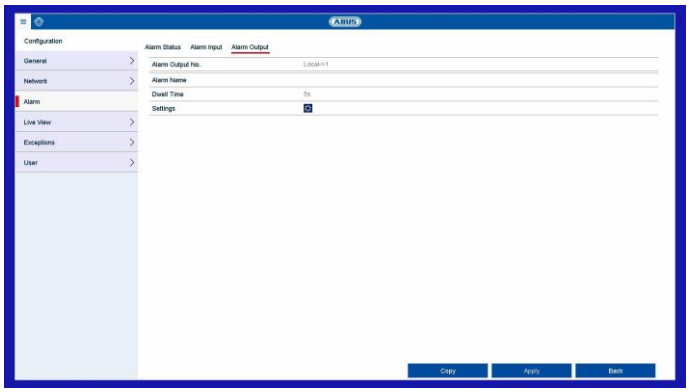
Configuration of individual alarm inputs

Parameter	Setting
Alarm input	Select the alarm input to adjust the settings.
Alarm name	Enter a clear description, e.g. warehouse door contact.
Type	N.O.: normally open circuit N.C.: normally closed circuit
Arm	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

Parameter	Setting
Alarm output	Select the alarm output to adjust the settings.
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

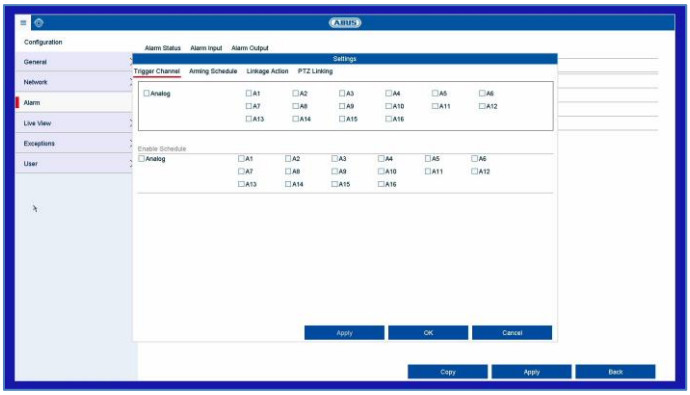
The “Linkage action” menu is the recorder’s central event control function. From here, event-based recording, time schedules, emails, acoustic warnings, CMS notifications and PTZ actions can be programmed.

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.

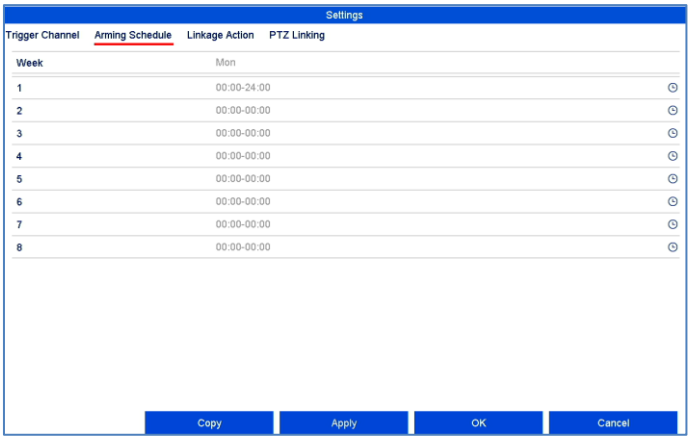
Trigger channel tab



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

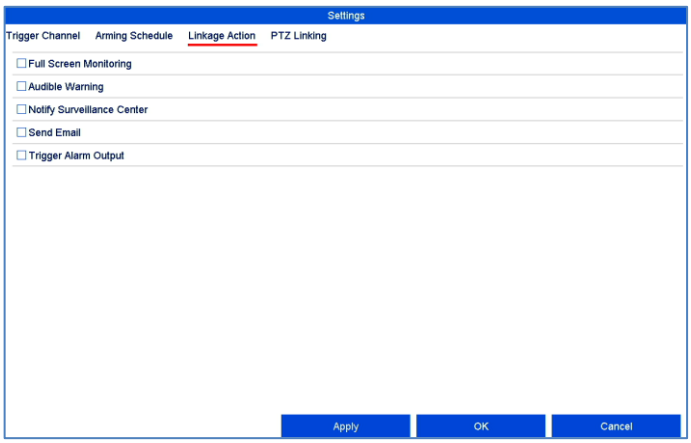
Parameter	Setting
Trigger channel	Select which camera should be triggered in case of an alarm/incident. A trigger signal normally causes an alarm recording.
Arming schedule	If you wish, you can decide whether the schedule of a camera should be activated in the event of an incident. This setting is only 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.
Linkage action	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.
PTZ action	Here you can control specific PTZ presets, patrols or patterns for a taught-in camera.

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.

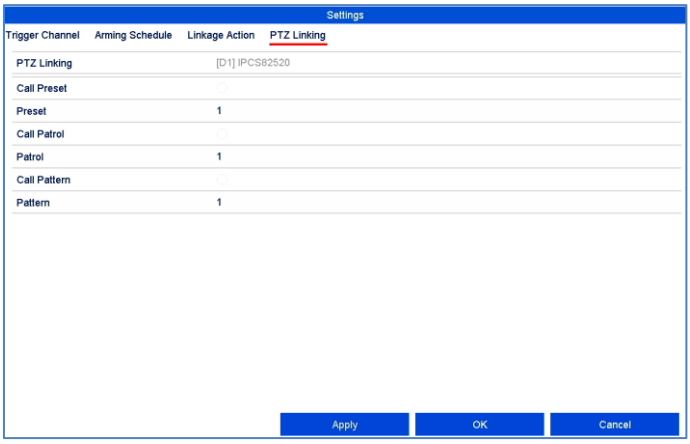
Linkage action tab



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.

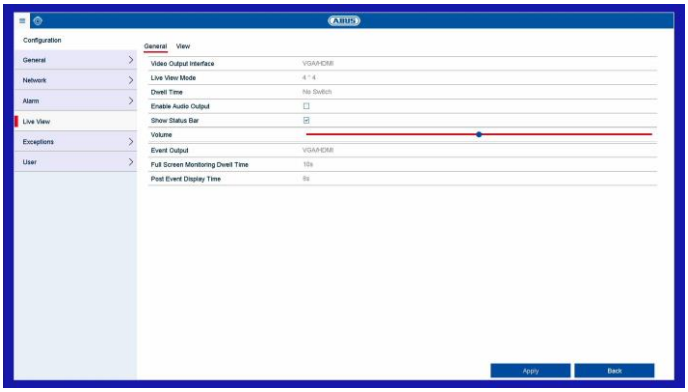
Parameter	Notifications
PTZ	Select the camera to be controlled using a PTZ command in the event of an alarm.
Call preset	Select the preset number.
Start patrol	Select the patrol number.
Start pattern	Select the pattern number.

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

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:

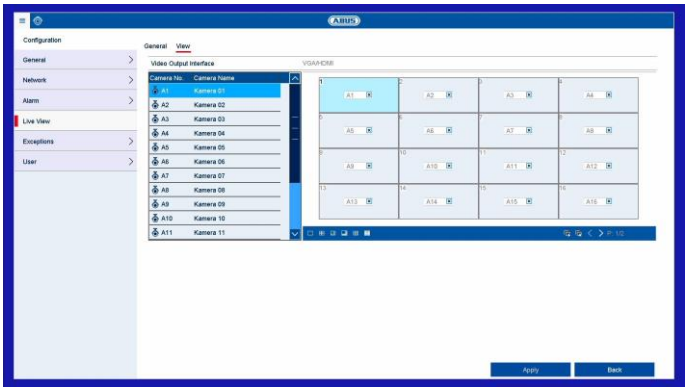
Video Output Interface	Main CVBS or VGA/HDMI Select the connection where the settings are changed.
Live View Mode	Various camera layouts 1x1, 2x2, 1+5, 1+7, 3x3 or 4x4
Dwell Time	Switching time between the individual cameras during auto-switch.
Enable Audio Output	Activates the audio output for the live view. VGA: if this option is selected, the audio output takes place via the cinch sockets on the back of the recorder 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 (Main CVBS or VGA/HDMI)
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.

View tab



You can display up to 16 cameras simultaneously in live view.

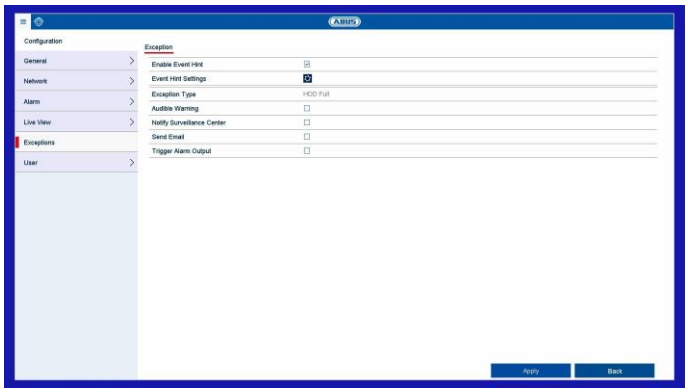
Note

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

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.

Exceptions



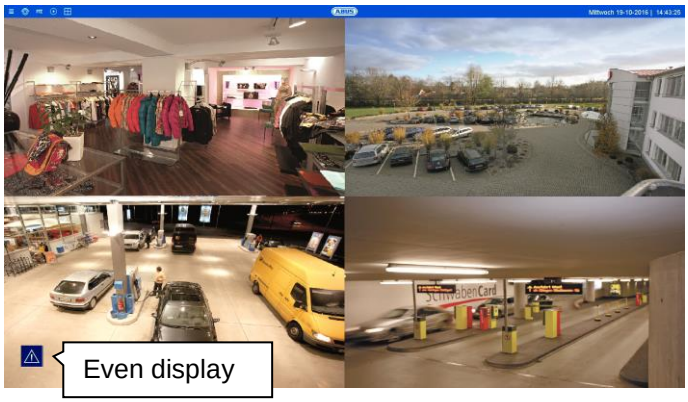
Set the response of the recorder for warning messages and system events here. To do this, activate the “Enable event hint” setting.

You can trigger a warning for the following error types:

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

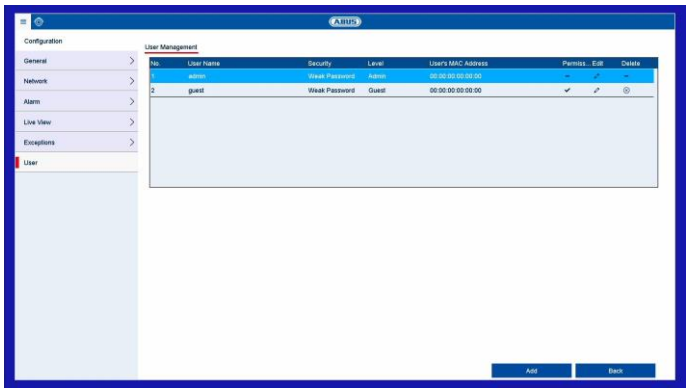
The event hints are either acoustic or sent by email and are additionally displayed in the live image view.

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

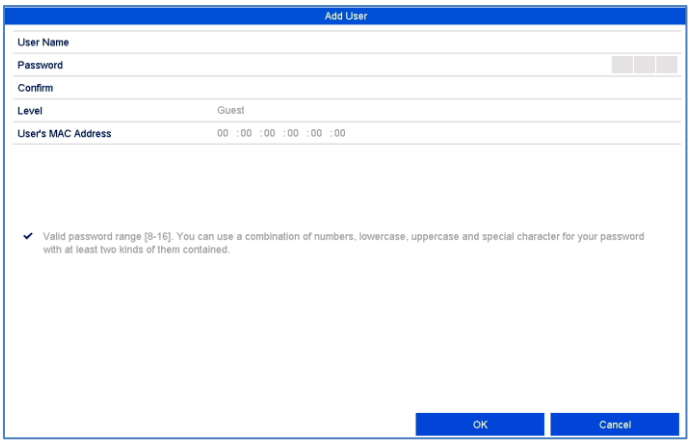


In user management, you can add new users, delete users, and amend existing settings.

Warning

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

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

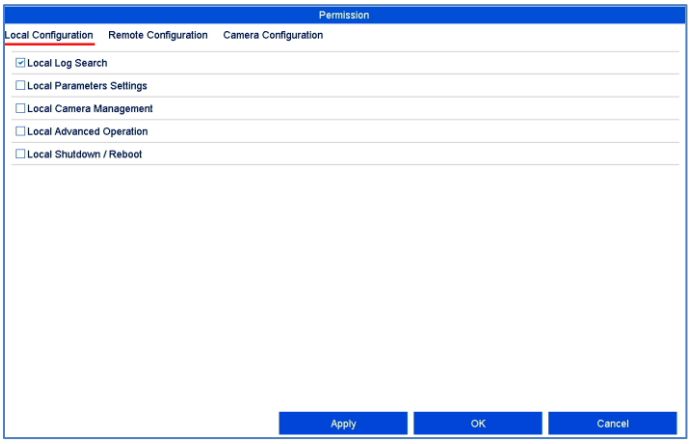


Parameter	Setting
User name	Unique identification
Password	Access code for the device, for the purpose of device management Note: change your passwords regularly, using a combination of letters and numbers etc. and note them down to be stored in a safe place.
Confirm	Enter the access code again for security
Level	Select the user’s authorisation level. IMPORTANT: More rights can be set on the **Operator** level than on the **Guest** level.

MAC address of the user	MAC address of the network adapter of the PC used by the corresponding user **Please note:** This limits access to the PC, for which the MAC address has been entered here.

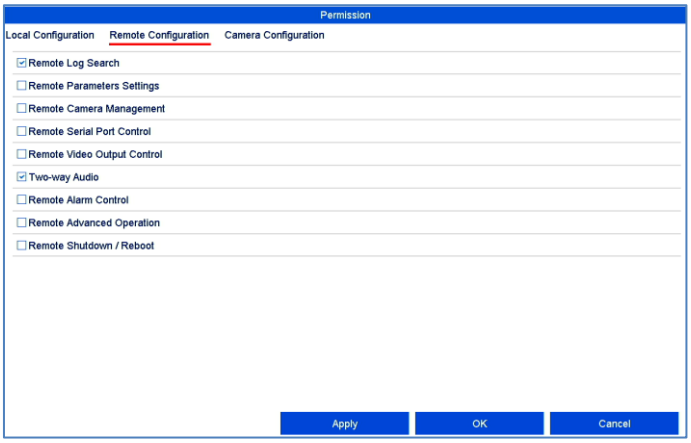
Control the access permission of the user by clicking on the "**Permission**" symbol. Only the access data of users added manually can be changed.

Local configuration tab



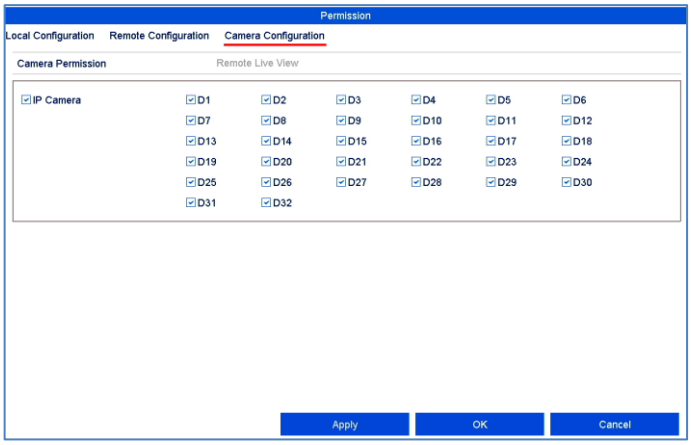
The permissions in the “Local configuration” tab are related exclusively to configuration settings which are accessible via the local user interface (access via local monitor).

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).

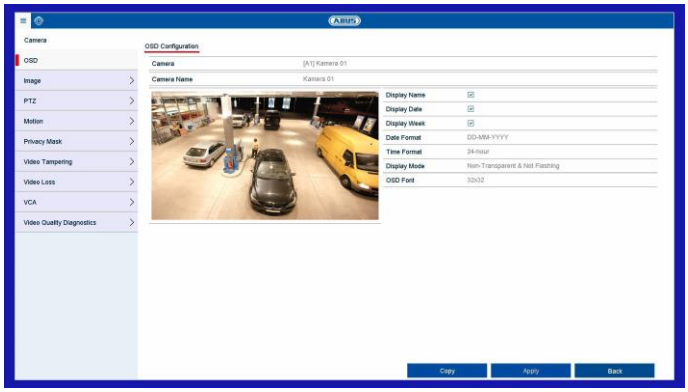
Camera configuration tab



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.

Setting: Camera

OSD



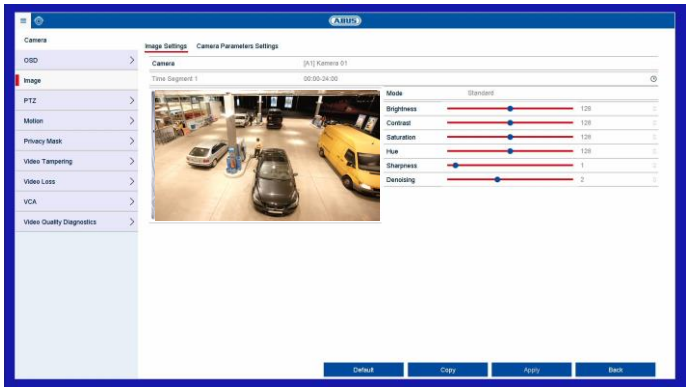
Set the On-Screen Display (OSD) of the camera here. The “Name” parameter is an important setting that has various implications:

- 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)

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
OSD font	Select the size of the OSD font on the camera image

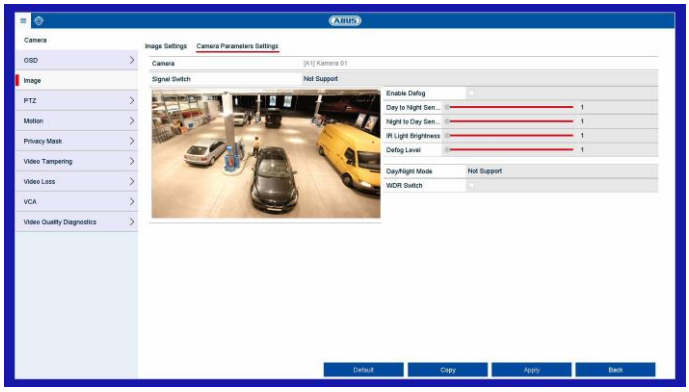
Image

Image settings tab



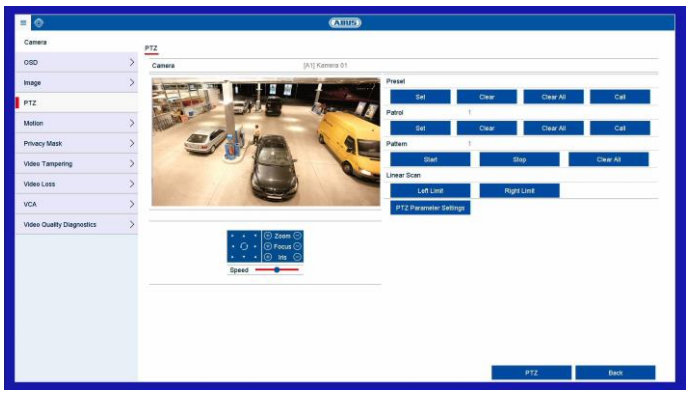
Select the camera channel to be processed under “Camera” and adjust the image settings based on the lighting conditions.

Camera parameter adjustment tab



Select the camera channel to be edited under "Camera" and adjust the specific settings to your ambient conditions.

PTZ



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

Presets	Save and retrieve individual preset positions.
Patrol	Save and retrieve patrols.
Pattern	Save and retrieve a motion pattern.
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”.

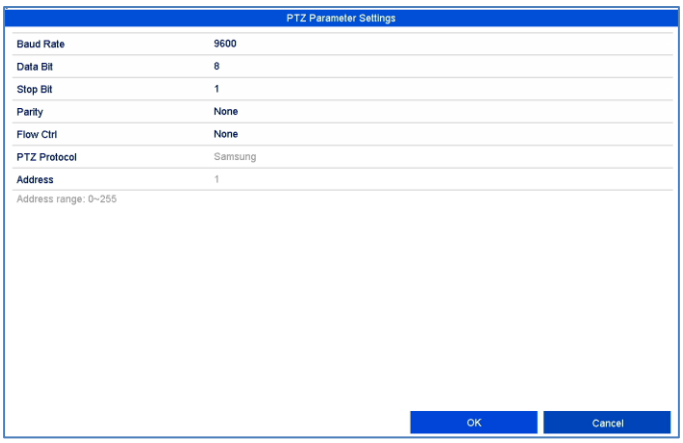
Saving and retrieving a pattern

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.

PTZ Settings

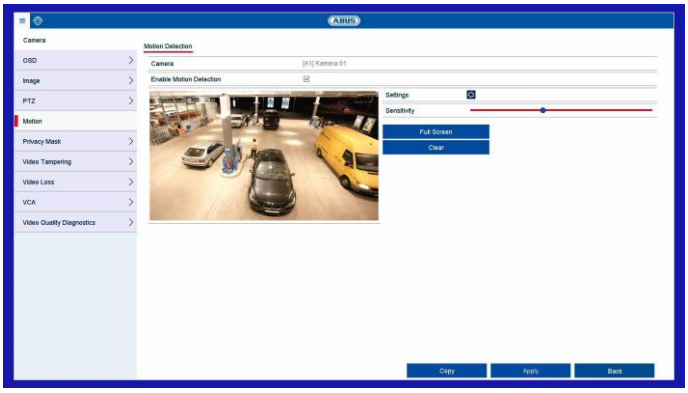


Parameter	Setting
Baud Rate	Define the transmission rate
Data Bit	Standard 8
Stop Bit	Default 1
Parity	No standard
Flow Ctrl	No standard
PTZ Protocol	Select the PTZ protocol
Address	Select the camera ID

Note

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

Motion



Procedure for setting up the motion detection:

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**”.
    a. **Trigger channel:** Select the relevant camera.

b. **Arming schedule:** Configure the schedule as required.
c. **Linkage action:** Link the selected actions.

3. Click on **Apply** to save the settings.
4. 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.
5. Click on **Apply** to save the settings.

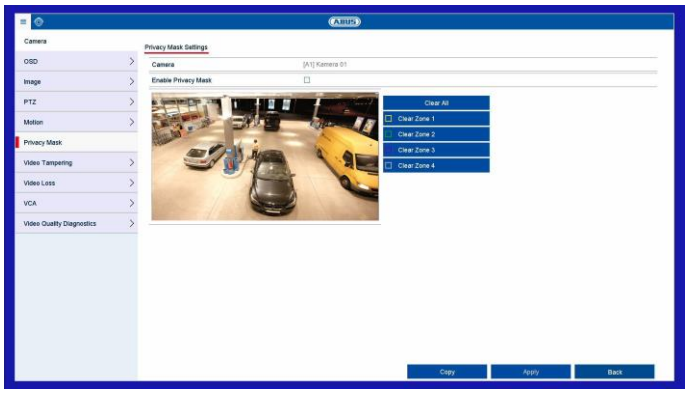
Note

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

Note

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

Private Zone



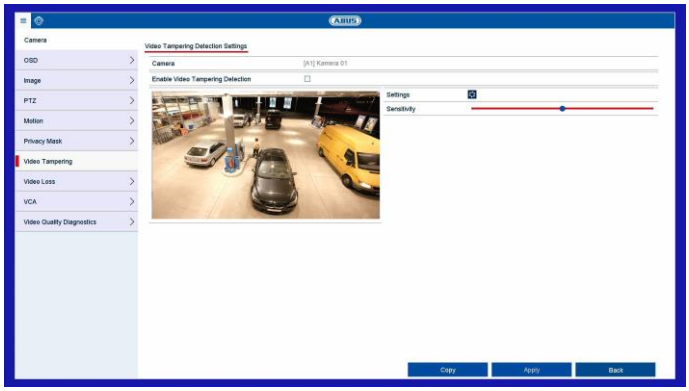
Select the camera channel to be processed under "Camera" and select the checkbox "Enable privacy mask".

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

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.

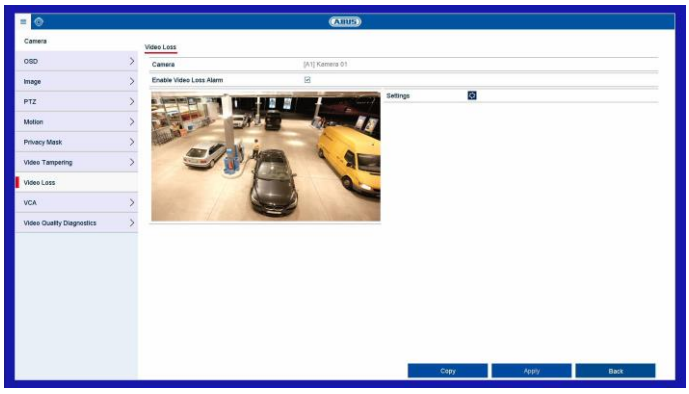
Tamper monitoring



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.
Settings	Set a linkage action.

Video Loss

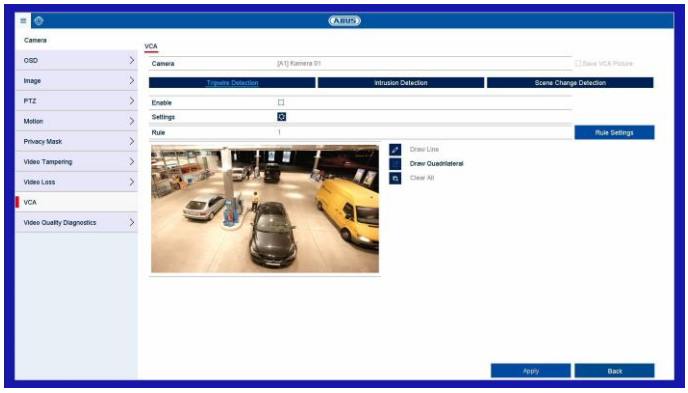


The Video Loss function monitors the selected camera channel for image loss.

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.

VCA	Role
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
Scene change detection	Triggers recording in the event of tampering through scene changes

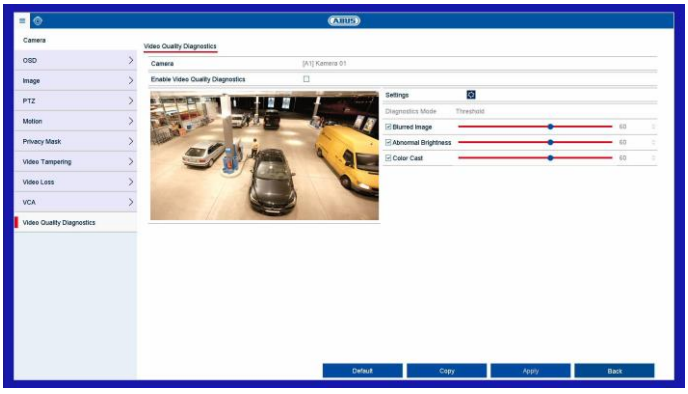
The VCA functions can be used in a similar way to motion detection or alarm inputs as triggers for further actions in the video recorder (e.g.: recording, email, alarm outputs etc...)

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
Arm	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**”.

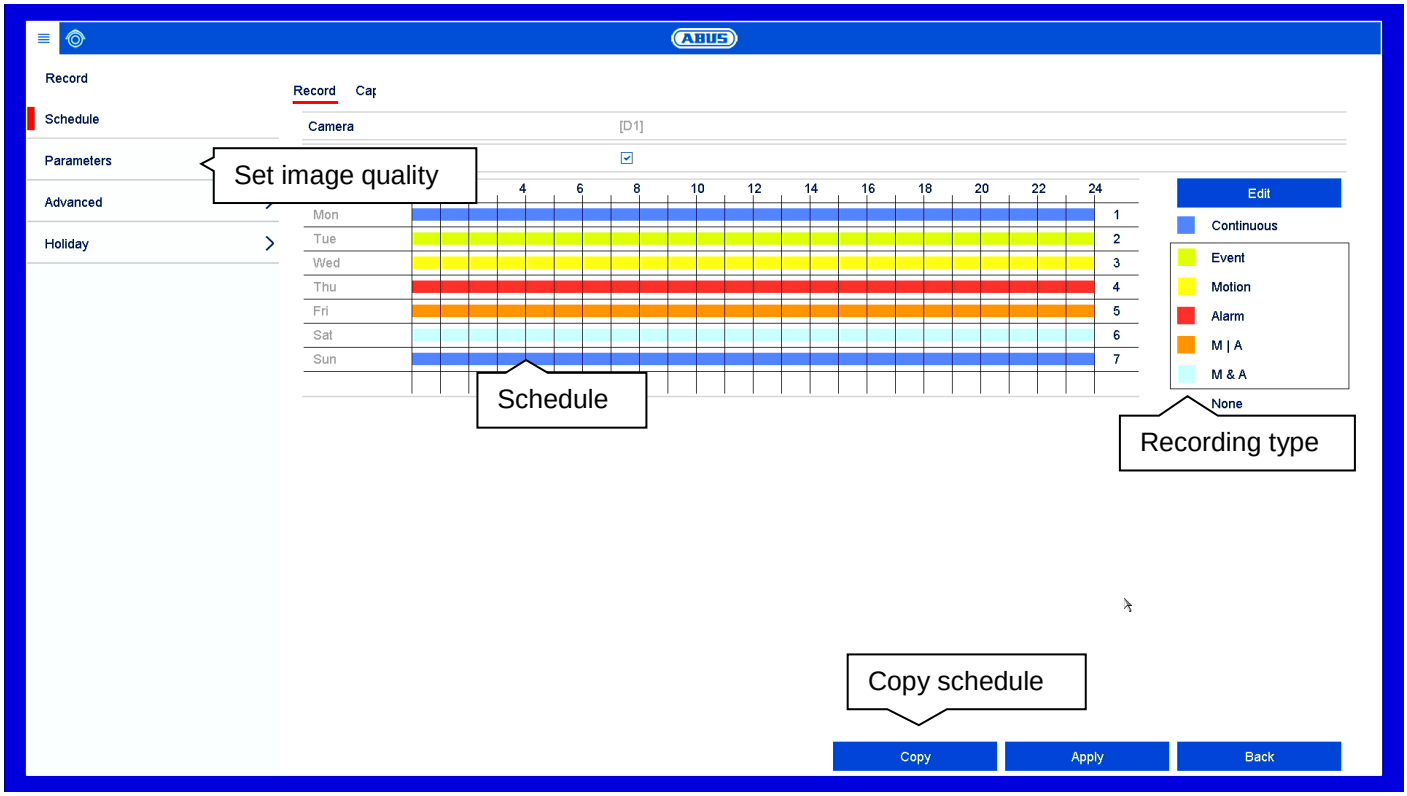
Video quality diagnostics



The video quality diagnostics function monitors the parameters in the selected image area for change. If the image is changed, a linkage action is carried out.

Parameter	Setting
Camera	Select a camera.
Activate video quality diagnostics	Activate/deactivate the function.
Settings	Select the linkage action and enable a time schedule.
Diagnosis mode	Select the mode
Image out of focus	Enable/disable the parameter and adjust the value
Abnormal brightness	Enable/disable the parameter and adjust the value
Colour level	Enable/disable the parameter and adjust the value

Setting: Recording



General information on recording

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

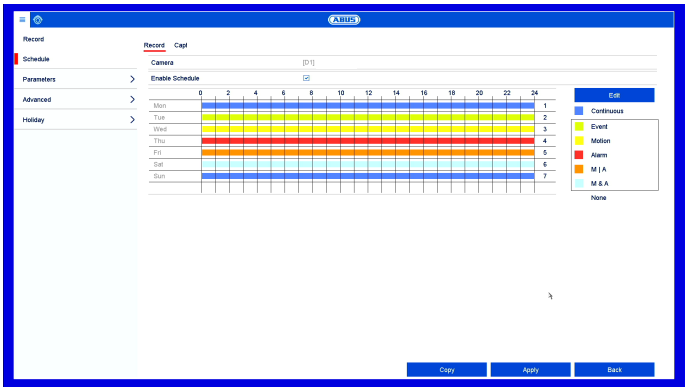
Along with the individual weekday settings, the camera's resolution settings, which are crucial in determining the quality of the recorded image materials, can be set in the "Parameter" submenu.

Schedule

There are two types of configuration and data recording available:

Recording	Programming the video stream recording from connected cameras. Continuous data streams are saved on the recorder.

Recording/instant image tab



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

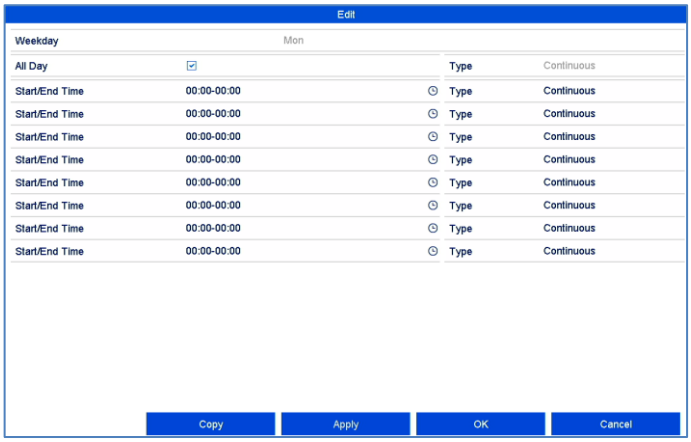
In the schedule, the hours for each day are listed from left to right, and the days are listed from top to bottom. On the right of the display, the colour key can be seen meaning that in the time schedule set up, the recording periods are displayed in the schedule in a different colour depending on the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



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
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**.

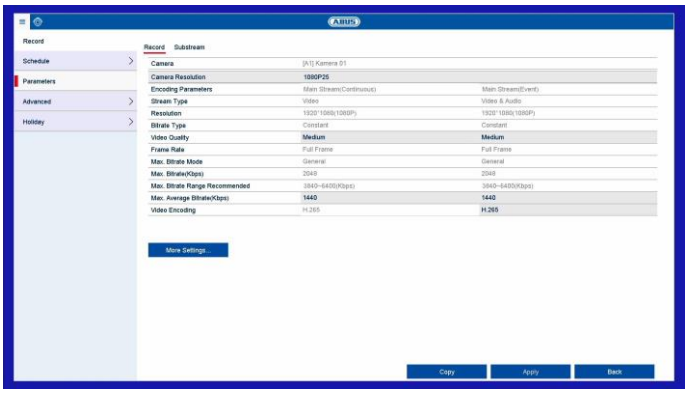
Parameter

“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
Sub-stream	Quality settings for the substream, which is used mainly for the live image display.

Record tab



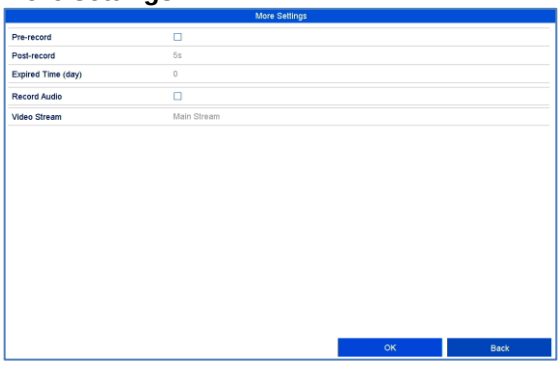
The following setting options are available in this submenu:

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.
Maximum average bit rate (Kbit/s)	Average bit rate in (Kbit/s)
Video Encoding	Select the video encoding

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

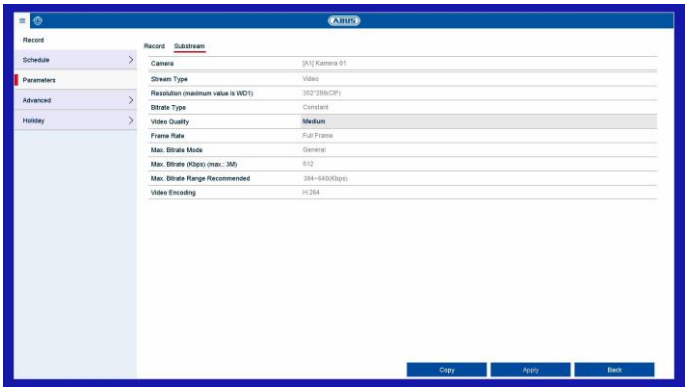
More settings:



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 in days (cycle recording)	Specify how long data should be held available for the respective camera archive (overwriting will be blocked). The oldest data is overwritten again after the time set.
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

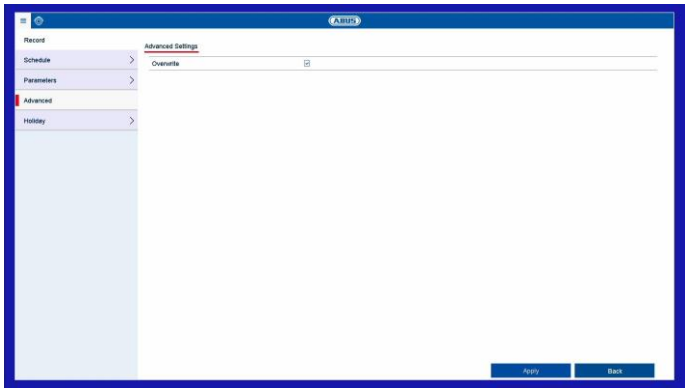


The following parameters can be set:

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)
Max. Bitrate (Kbps)	Display of the maximum bitrate
Max. Bitrate Range Recommended	192~320 (Kbps)
Video Encoding	Select the video encoding

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

Advanced settings

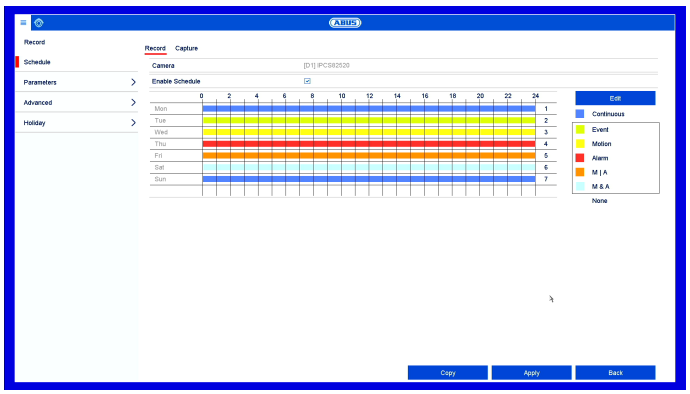


Overwrite	Specify whether older recordings should be overwritten when the hard disk drive is full.

Holiday

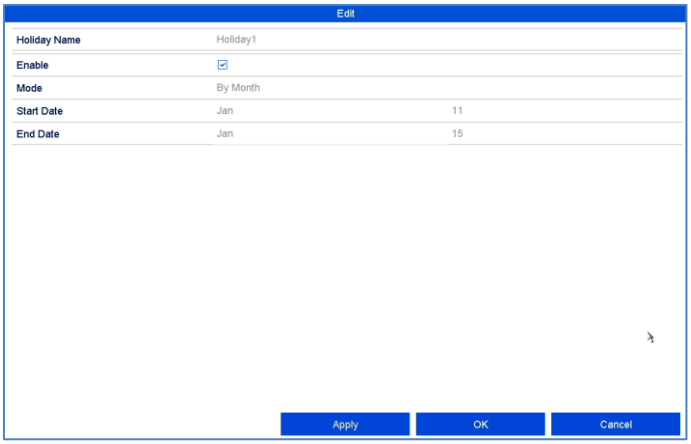
In this submenu, there are 32 different recording settings for holidays or bank holidays.

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



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.

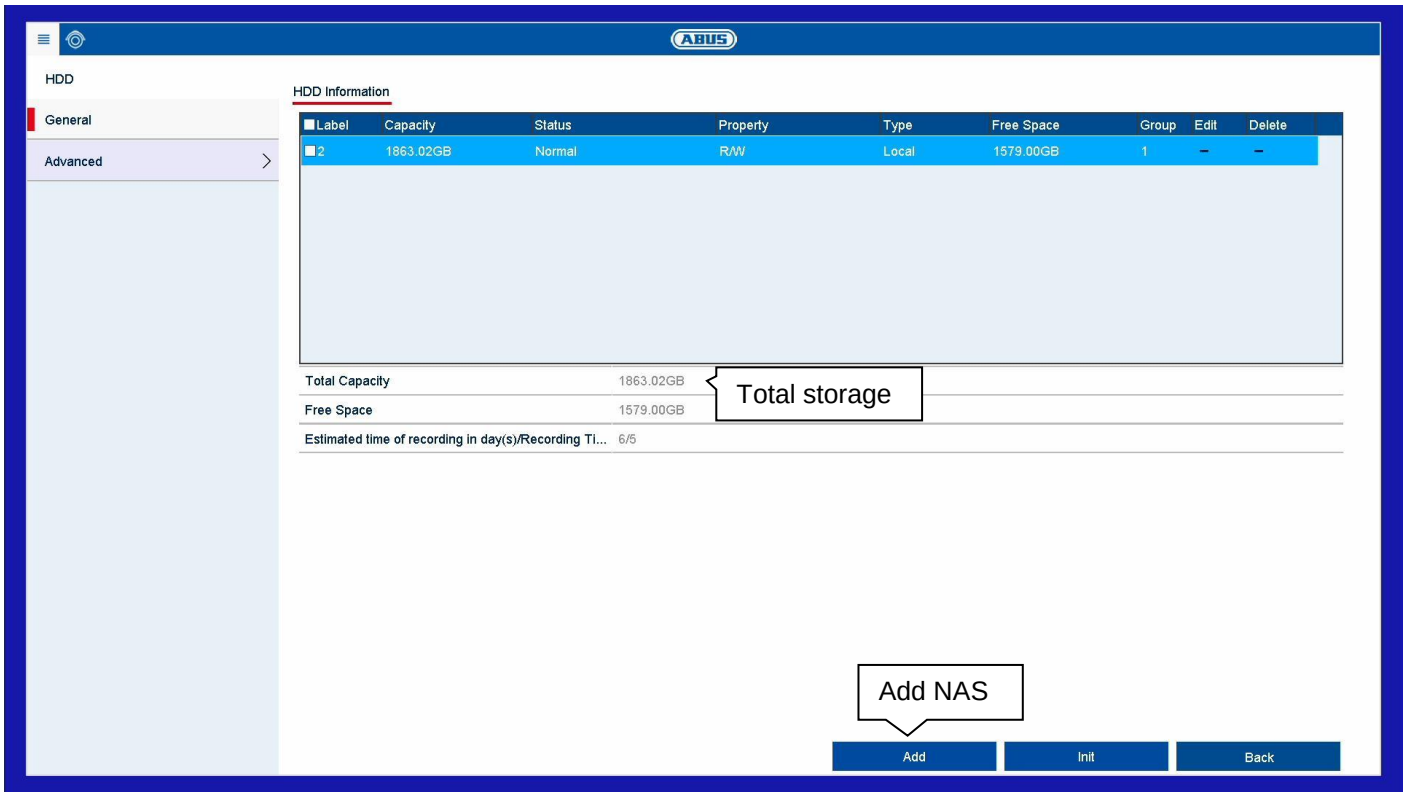
Click on the “Edit” icon to apply these settings.



Name	Manually enter the name of the holiday or bank holiday
Enable	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

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

Setting: HDD



General information on HDD

Manage local and external memory drives in the HDD section. Recorder models can manage two internal hard disk drives. In addition, the memory can be flexibly expanded by using network storage (NAS).

Note

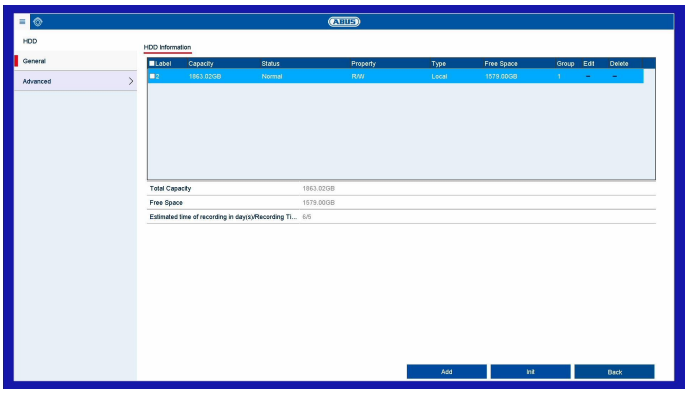
The installed hard disk drives have to be initialised before the device can be used for recording. It is only then that the device will recognise the hard disk drive.

Warning

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

Ensure data is backed up beforehand.

General



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	• 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

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.

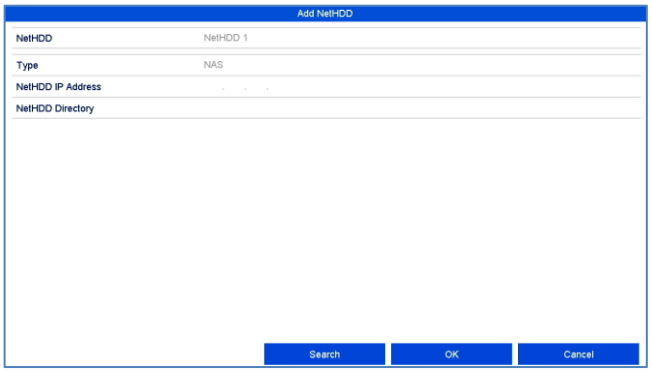
Warning

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.

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.

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.

Note

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

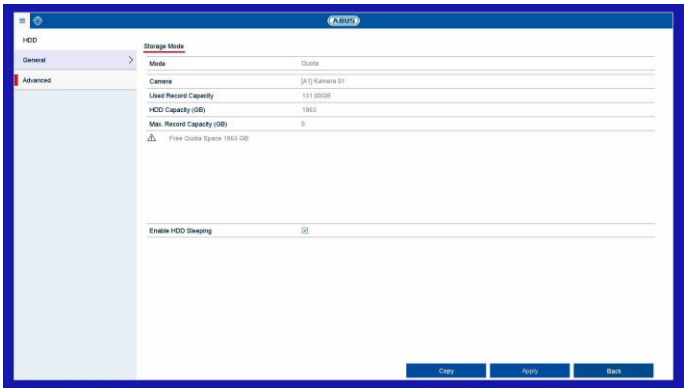
Generally, an iSCSI path is indicated as follows: “iqn.2010-10.Synology-iSCSI:VirtualDisk.01”

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

Advanced settings

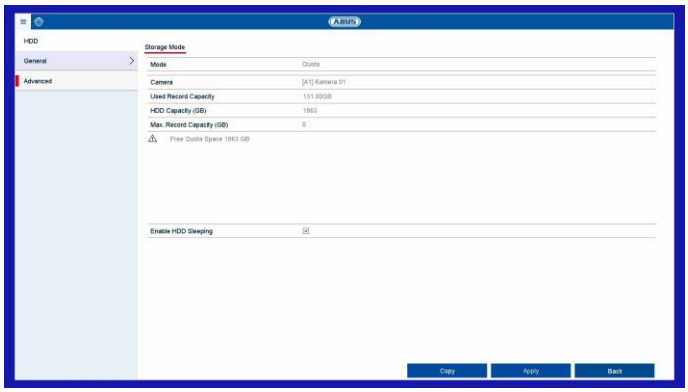
Here you can define the settings for the storage mode of individual cameras and hard disk drives.

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

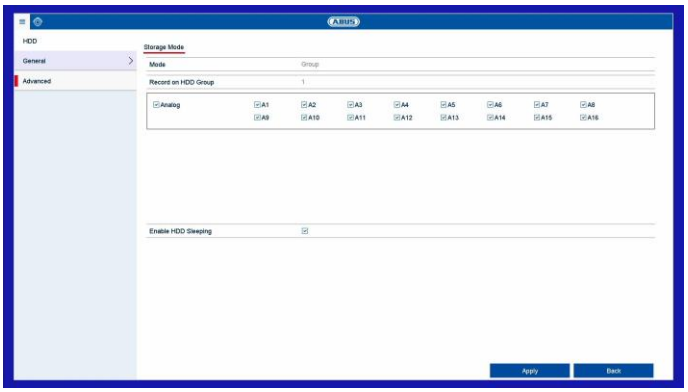


In this mode, video data is divided between the total number of data storage devices connected and written onto them.

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.
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

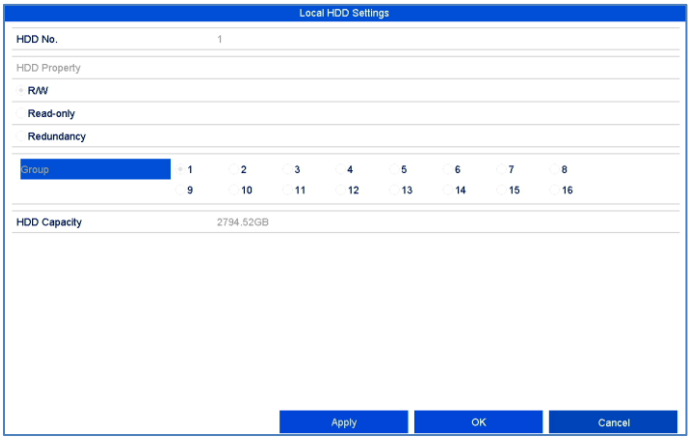


In this mode, video data can be specifically (and also redundantly) stored on selected data storage devices. Here, the storage devices are organised into “groups”. A group must include at least one HDD.

Parameter	Setting
Record on HDD Group	Select HDD group
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.

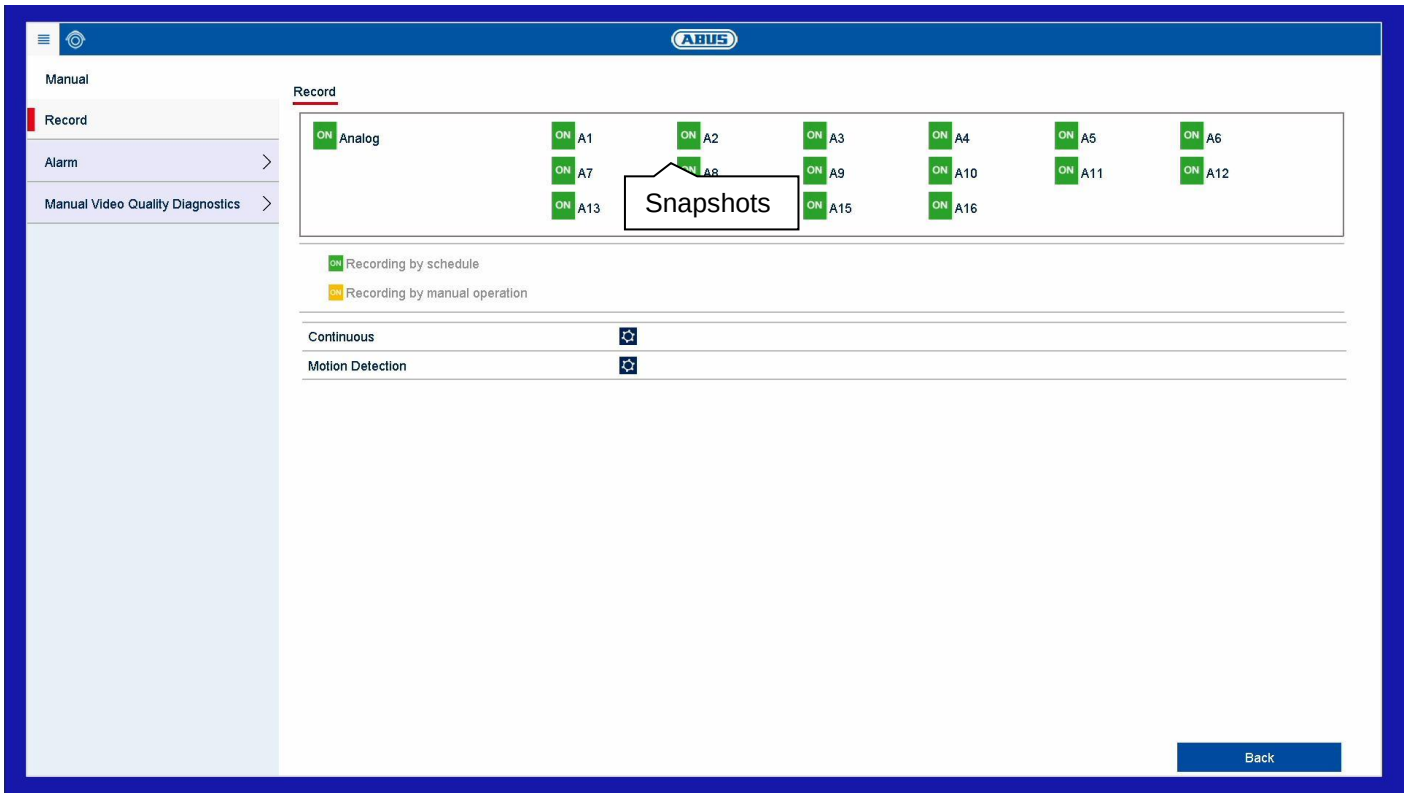


Parameter	Description
HDD No.	Internal hard disk drive number for the recorder.
R/W	In this mode, video data is written onto the data storage device and can also be read (default setting).

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.

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

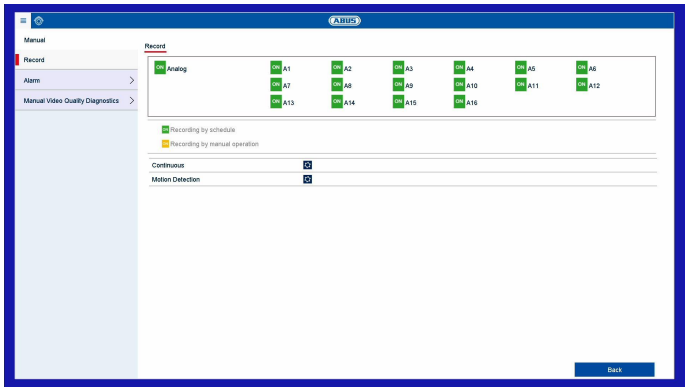
Panic recording



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.

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.

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

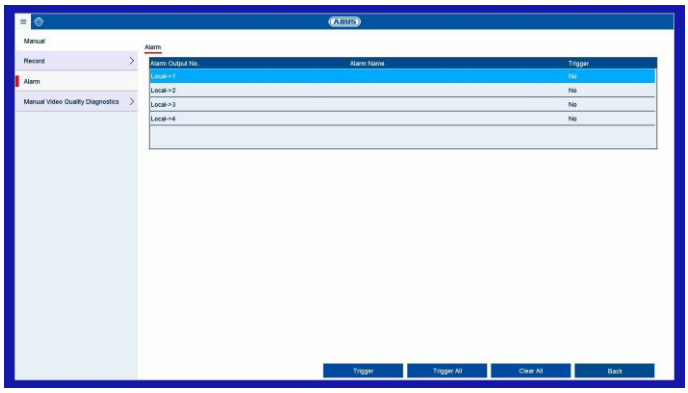
"On (yellow)" → "Off (red)"

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.

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

Alarm

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



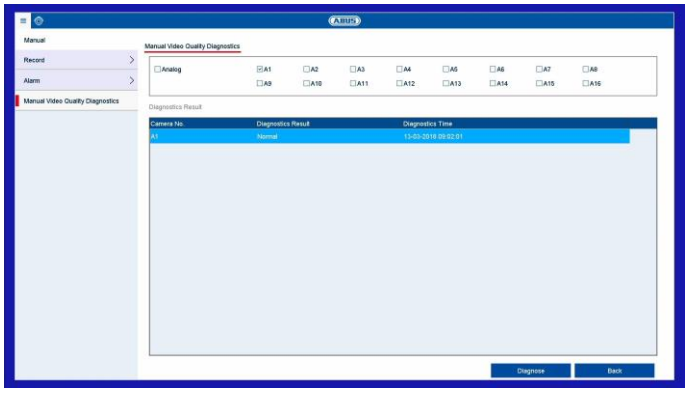
You can switch several alarm outputs in the event of a manual response.

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

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

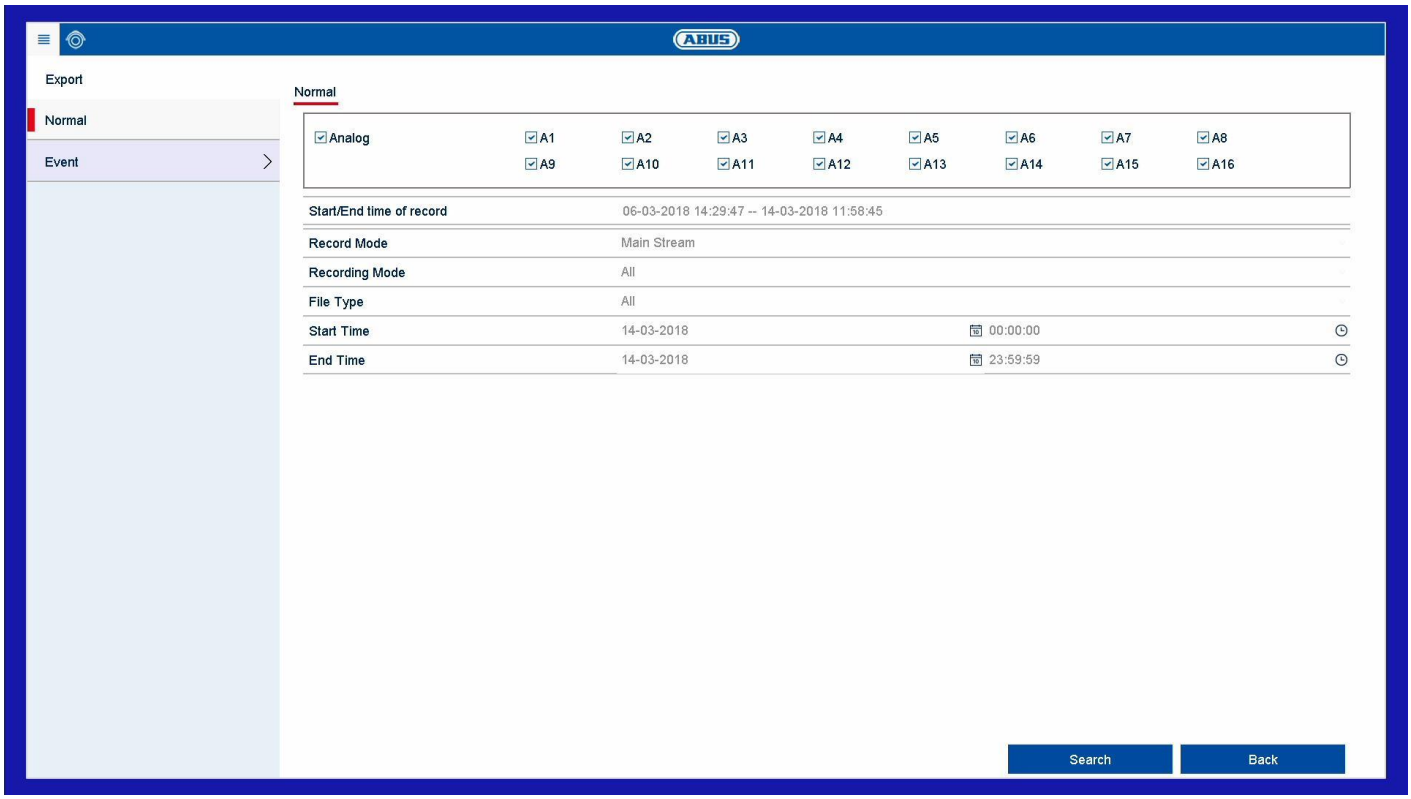
Manual Video Quality Diagnostics

Here, select the camera for which video quality diagnostics are to be run.



You can select multiple cameras.

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.

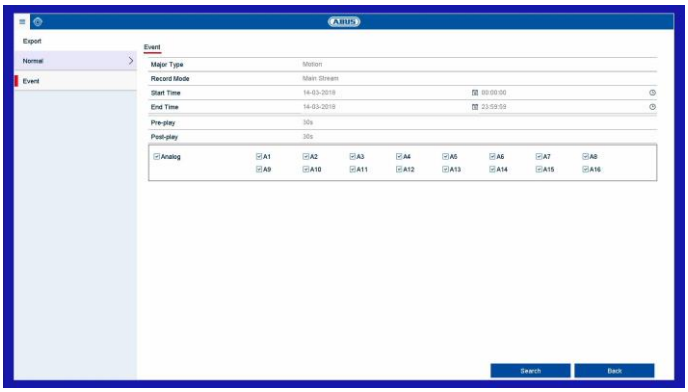
Note

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

- USB media
- USB hard disk drives
- DVD writers

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

Duration / Event

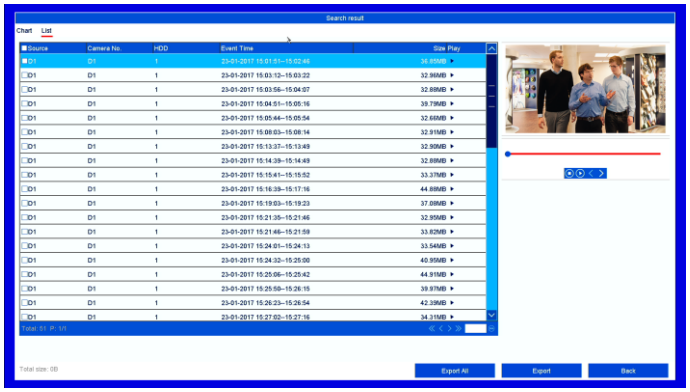


Start the export of the recorder’s video data from here.

Parameter	Description
Analogue camera	Select one or more recorded camera channels.
Recording mode	Select the Main or Substream.
Recording type	Select the recording 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.

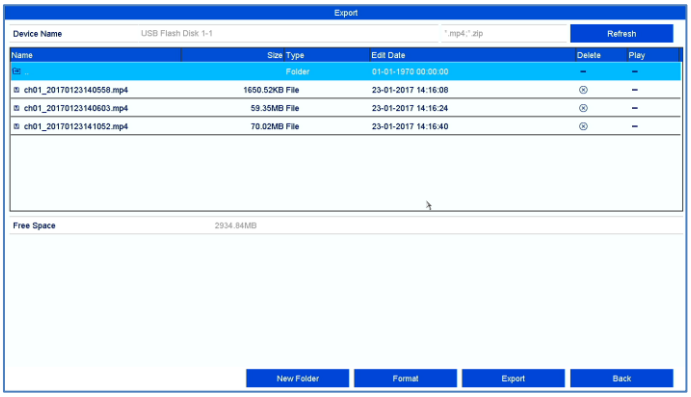
Note
The "Duration" and "Event" sub-menus are similar in structure and will therefore not be described separately.

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.



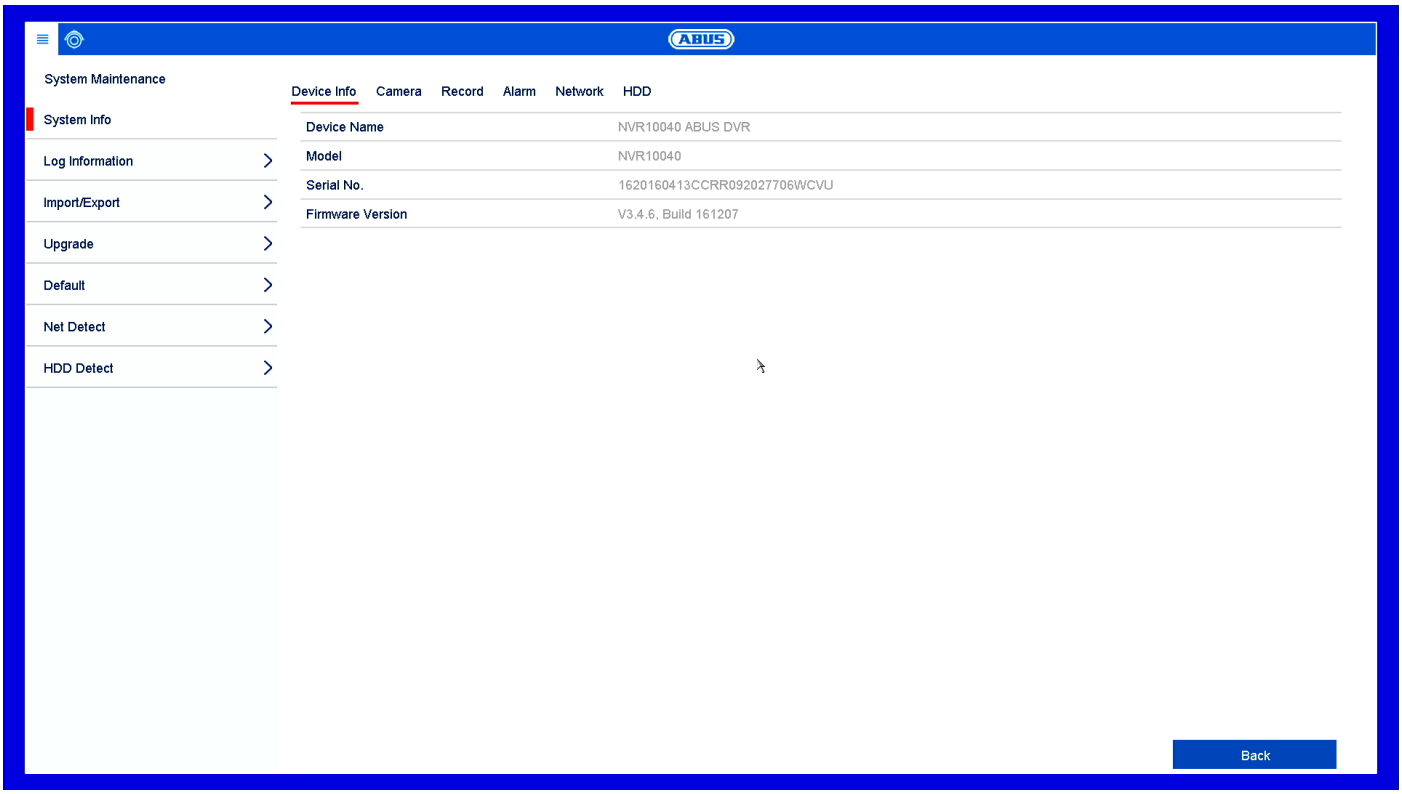
4. Select the connected medium to be used for storage from the drop-down menu.
5. If the medium is not displayed in the list, click on **Refresh**.

- 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



General information on maintenance

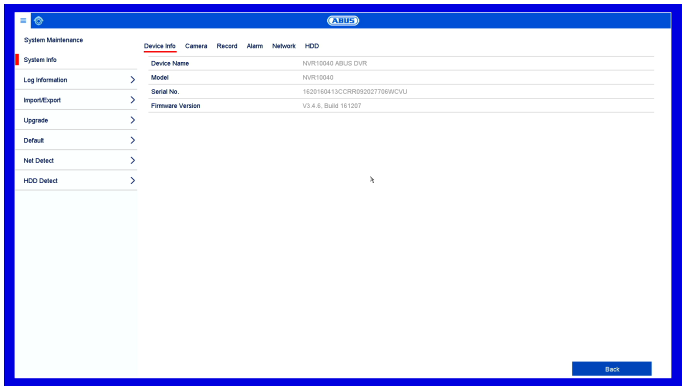
Select the “Maintenance” item in the overview menu to carry out system maintenance if problems arise.

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.

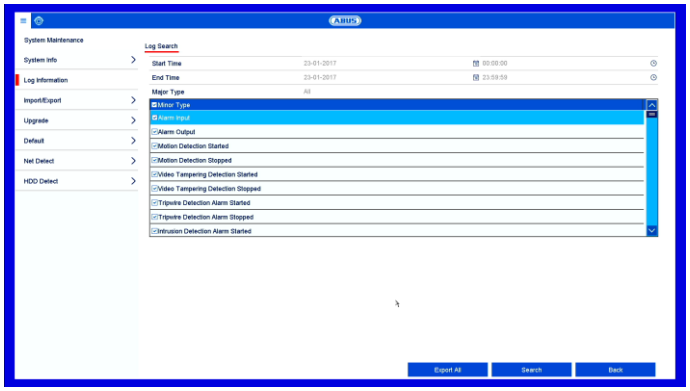
Menu	Setting
System Info	Device information (Serial No., Firmware Status etc.)
Log information	In Log Information (=log file), you can search for recordings or information (S.M.A.R.T. hard disk drive status) by certain criteria, such as alarm, exception, operation or information.
Import/Export	Import and export settings
Update	Performs a firmware upgrade
Standard	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 information

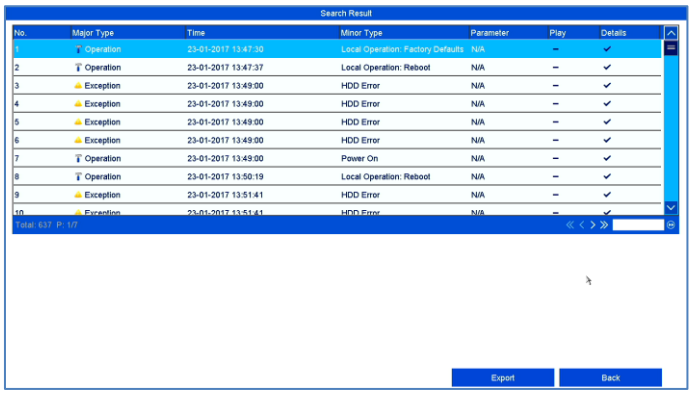


Note

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

- All
- Alarm
- Exception
- Process
- Information

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:

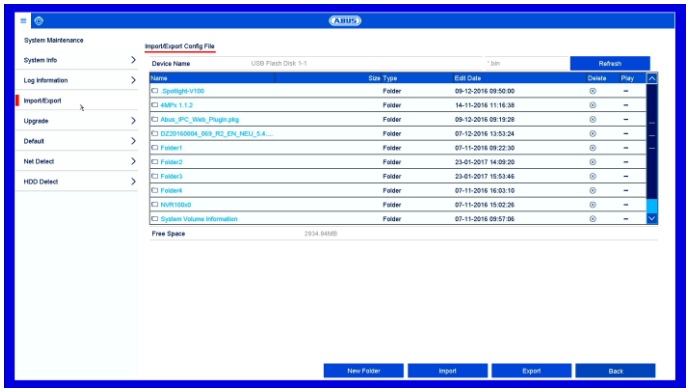
(1) (2)(3) (4) (5) (6)

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.

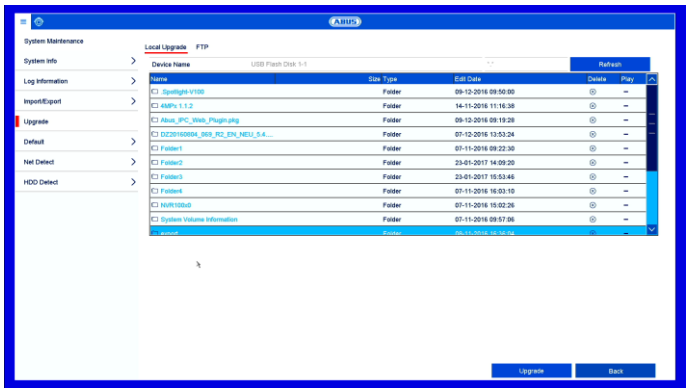
Import/Export



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

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

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 .

Standard

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

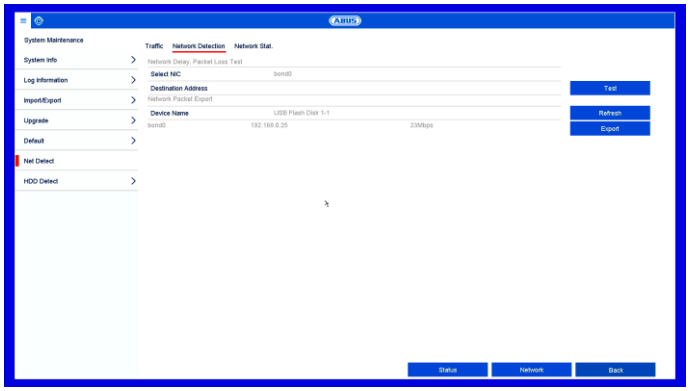
Information regarding the network traffic and network interfaces is shown here.

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.

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.

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

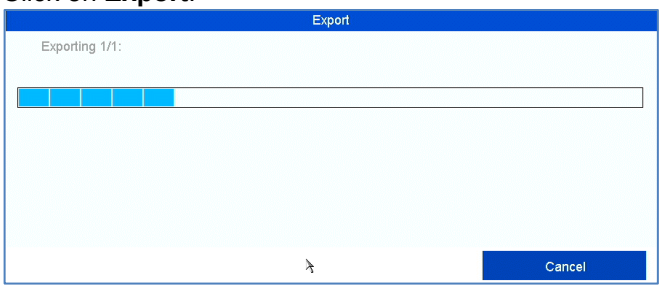
If the packet loss rate is high, we recommend that the “Network Delay, Packet Loss Test” is repeated.

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.

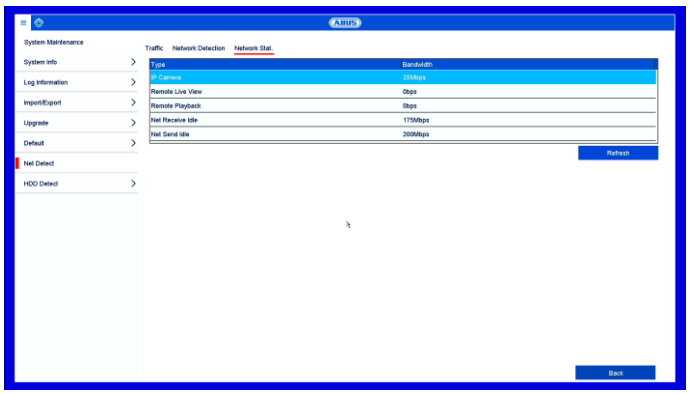
1. For “Device Name”, select a storage medium to save the settings to.
2. Click on **Export**.



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.

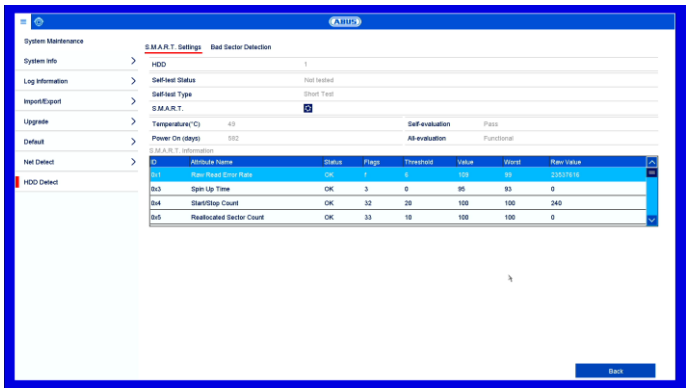
Network Stat. tab



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

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

HDD Detect



Click on the "S.M.A.R.T settings" submenu.

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

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 self test type. Short Test/Expanded Test/ Conveyance Test
S.M.A.R.T	Click on the icon to start the self-test
Temperature (°C)	Shows the hard disk drive temperature
Operation duration (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.**

Note

If the S.M.A.R.T test fails, you can also use the hard disk drive by selecting the checkbox.
It cannot be guaranteed that the function will run without errors.

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.

Fault rectification

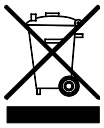
Before contacting the Service department, read the following information to determine the possible cause of any fault.

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 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 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:

a) 0.1 % lead (by weight)
b) Mercury
c) Hexavalent chromium
d) Polybrominated biphenyl (PBB) and polybrominated diphenyl ether
e) 0.01 % cadmium (by weight).

ABUS
Embedded video recorder

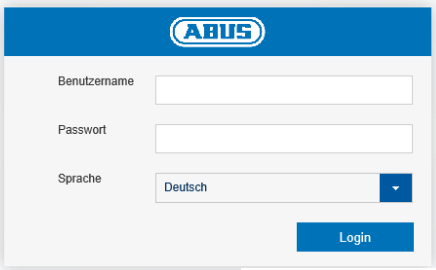
Local user interface user guide

HDCC900x1

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

ABUS Security Tech Germany

ABUS embedded video recorder
HDCC900x1



Web interface user manual

Date: 19/03/2018
Firmware: 3.5.2

CE

ABUS

www.abus.com

This user guide contains important installation and operation information.

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.

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. … 2. …	Required action to be carried out in a set order
• … • …	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 guide.

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.

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:
- HDCC90001
- HDCC90011
- HDCC90021

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), EMC Directive (2014/30/EU) and 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 maintain this status and to guarantee safe operation, it is your obligation to observe these operating instructions.

Read the entire user guide carefully before starting operation of the product, and pay attention to all operating instructions and safety information.

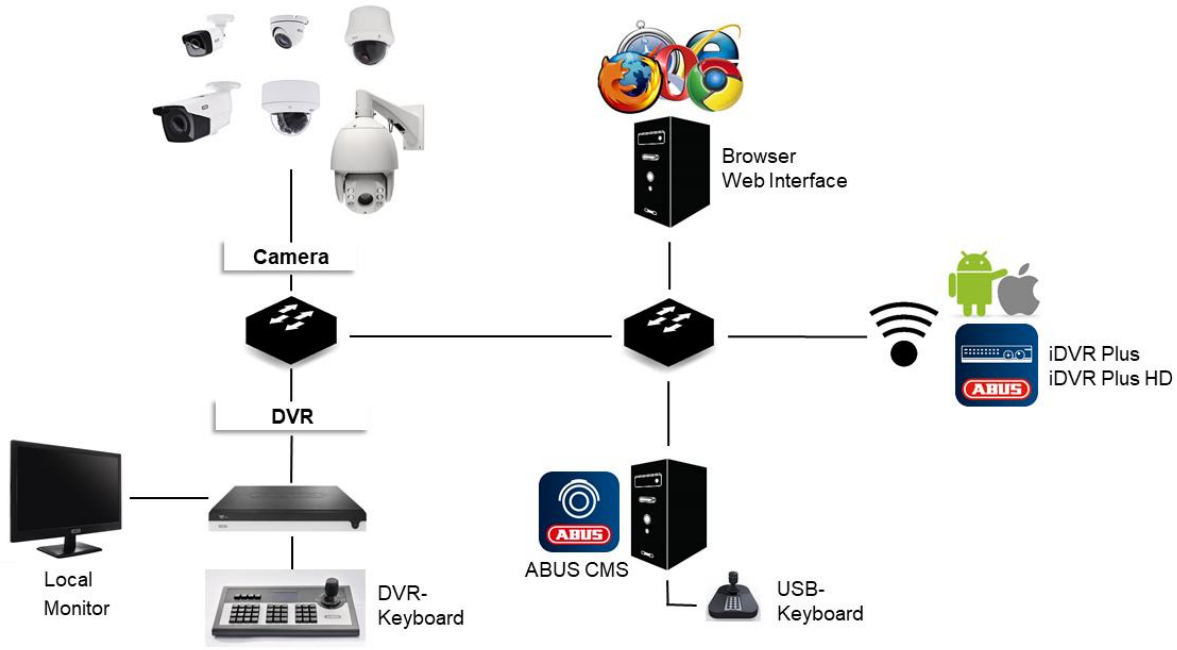
If you have any questions, please contact your specialist installation contractor or specialist dealer.

Disclaimer

This user guide has been produced with the greatest of care. Should you discover any missing information or inaccuracies, please contact us under 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. Do not leave children 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
DVR	HDCC90001, HDCC90011, HDCC90021

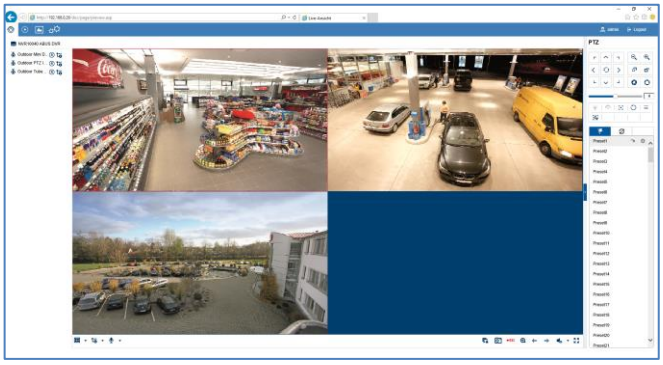
Compatible browsers

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)

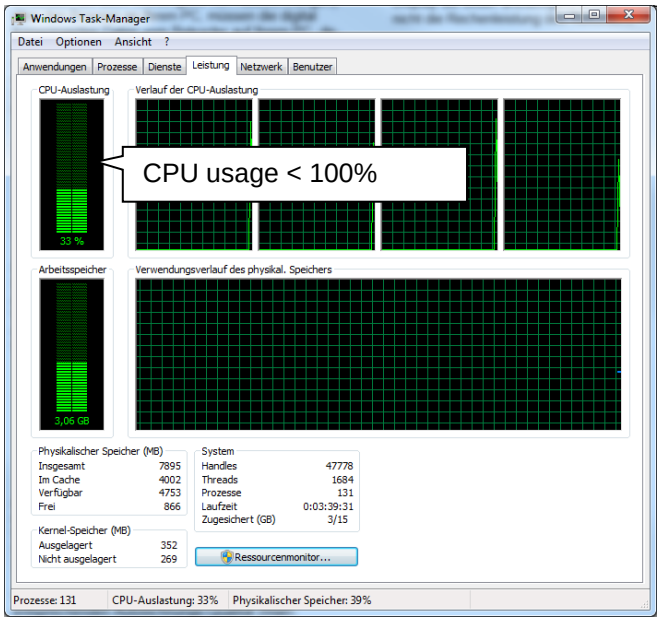
Image display performance



To display 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.

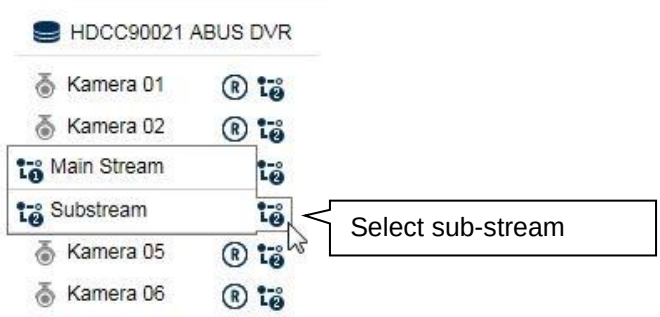
Warning

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 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

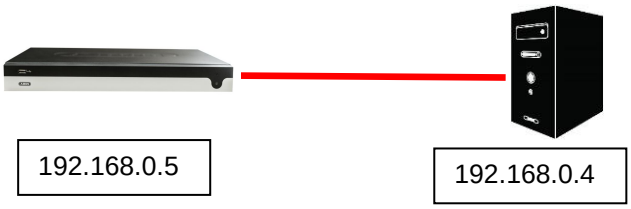
Use a 64-bit operating system with 4 GB or higher, if possible, in order to achieve optimal performance. The following table provides the performance data for using and selecting a suitable CPU.

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 by 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)

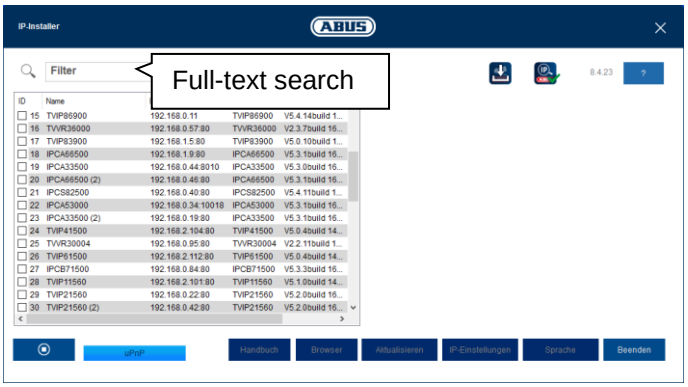
The recorder is accessed by typing the IP address in the navigation bar of the browser.

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.

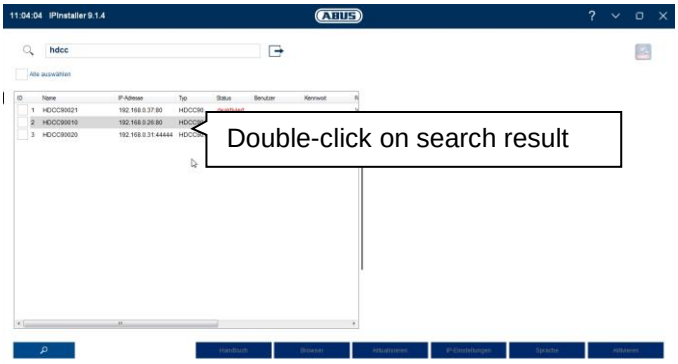
Local interface

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

ABUS IP installer

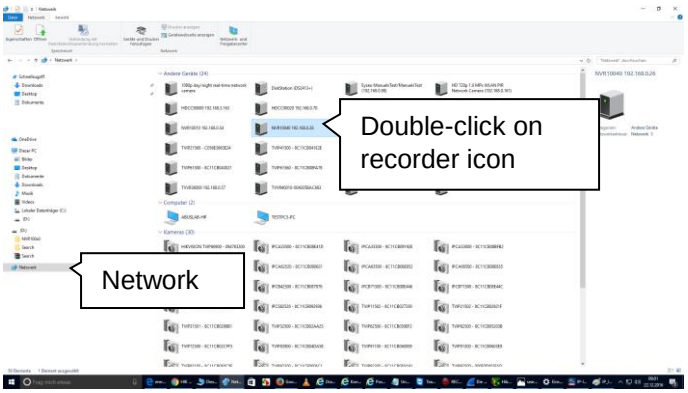


Install the ABUS IP installer (Windows) on your PC and start the program. The program searches your local network for ABUS network products.



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



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. HDCC90021).

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. As such, you have to enter the router IP address in the address field for access 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

2018 status update: IPv6 is currently undergoing global "roll-out". This means that increasingly more providers are allowing for IPv6 access to the internet (status update Q1 2018: 35% of all German connections). 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.

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)

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:

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

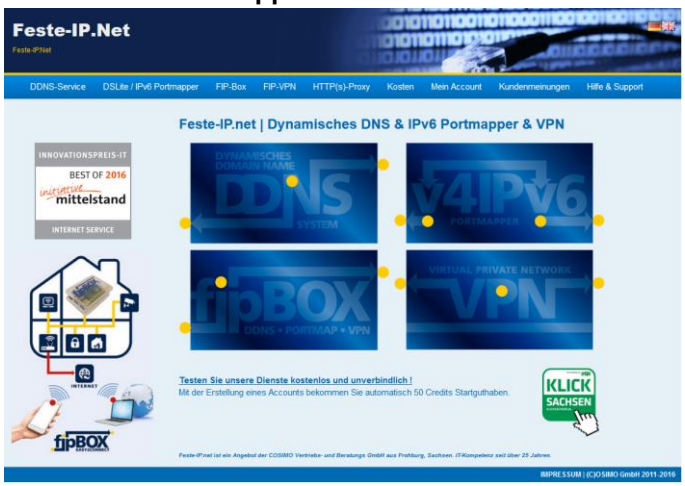
Network service ports (HTTP(S) and RTSP) must be opened to use the web interface on the recorder with IPv6 as well.

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 Grate 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.

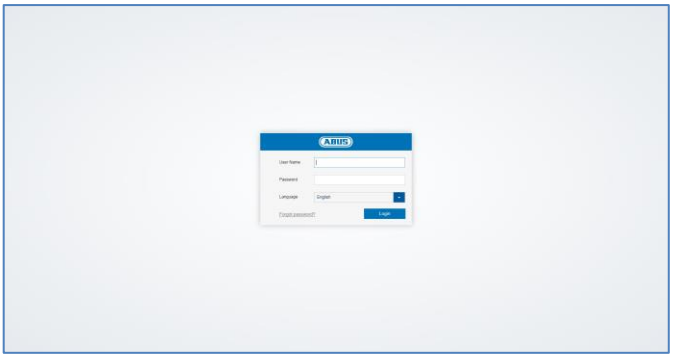
Its is highly likely, however, that remote access to your recorder's web interface will take place on an IPv4 network (receiving point). Additional services must be used to allow external access in such cases.

Feste-IP.net/Portmapper/FIP-Box recommendation:

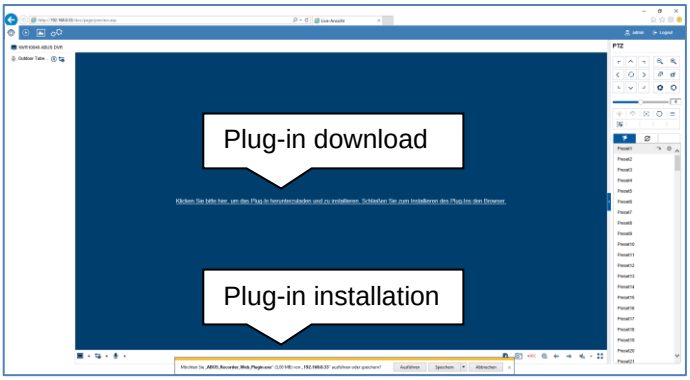


The "Feste-IP.net" service makes it possible to convert IPv4 data packets from an IPv4 network (receiving point) into IPv6 packets. These IPv6 packets can then be provided to the recorder via normal port transfers on the router. Further details on this can be found at http://www.feste-ip.net.

Logging in for the first time



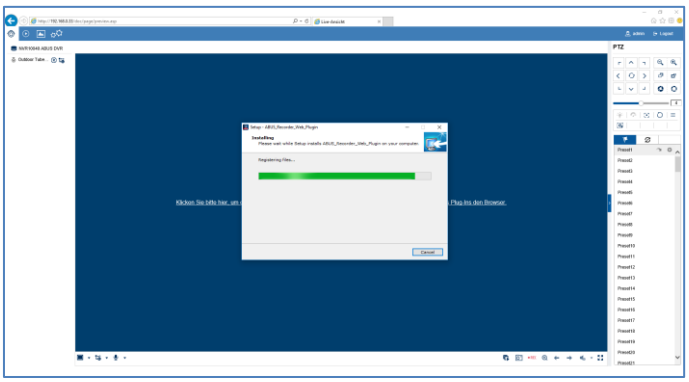
Once access to the recorder web interface has been established, you will see the login screen on the browser. Log in for the first time by entering your user name and password and indicating your desired system language.



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

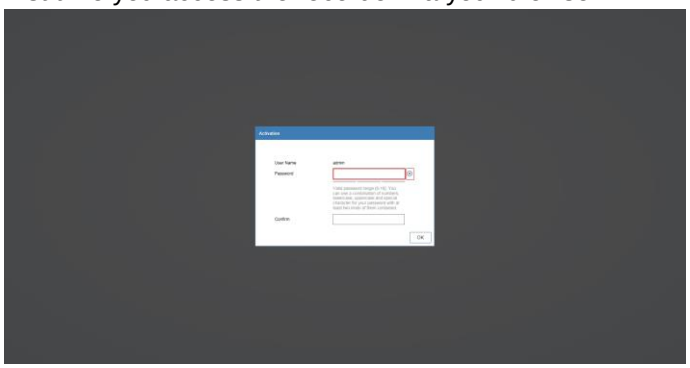
Note

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.

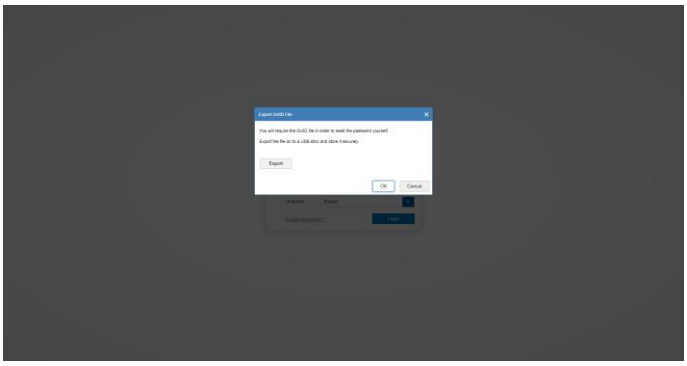
Please contact the service hotline immediately if this happens.

Activate recorder

If you haven't already activated your recorder using local access, the following login screen will appear the first time you access the recorder via your browser:



- User name: Standard value "admin"
- Password: Select a password that is suitable for the valid password range. We recommend a password that falls into the "Strong" category.
- Confirm your password.

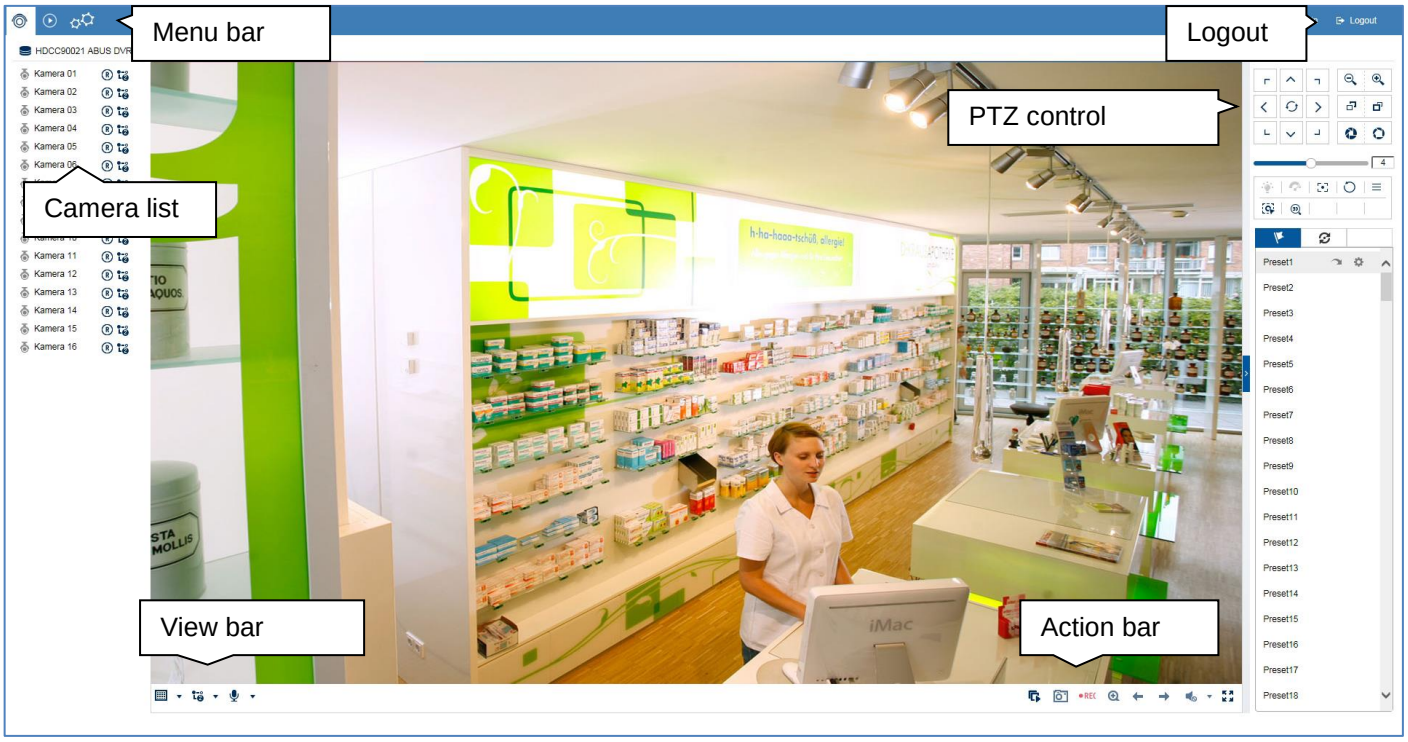


During the next step, you are asked to export the GUID file that resets your password independently.
Please export this file to a USB stick that you are storing in a secure, protected location.

Note

This GUID file is required so that you can reset your password independently if you forget it.
If you do not export the GUID file or lose it, it will no longer be possible to reset your password.

Live view



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.

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 menu bar

The following options are available:

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

Using the camera list

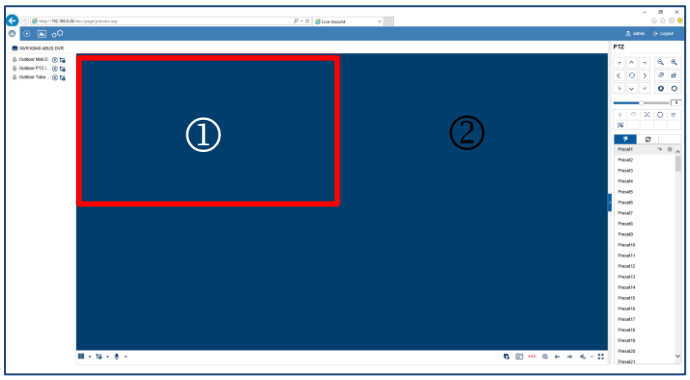
Parameter	Description
	Displays the recorder name
	Live cast display for camera is active (blue) or deactivated (grey)
	Create a manual data export (video clip)
	Manually select the video stream of the desired camera. Hover the mouse cursor over the symbol to select the desired stream. The configuration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

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

- 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

(1) (2) (3) (4) (5) (6) (7) (8)



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:

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".

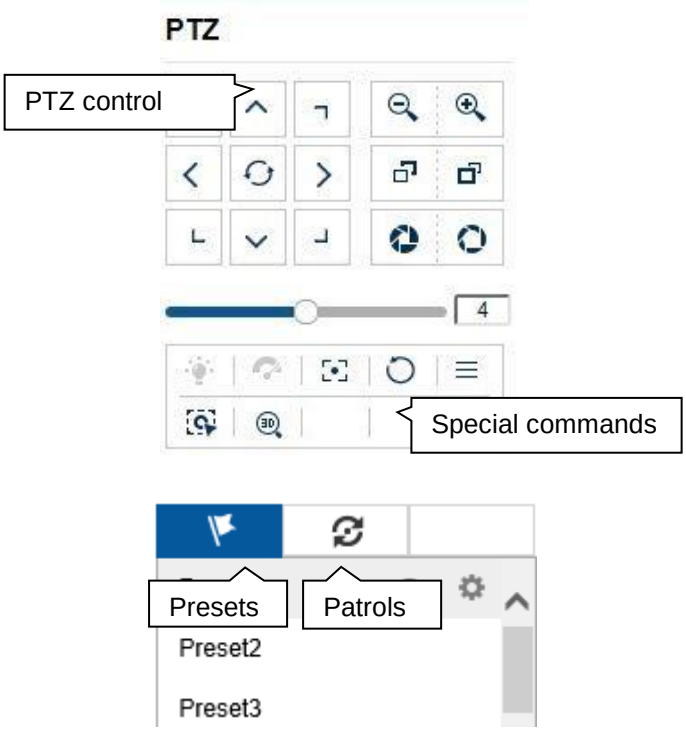
No.	Meaning of the symbol
(1)	Stop all active camera live streams. Start all camera live streams at the same time.
(2)	Create a snapshot of the selected camera (red frame)
(3)	Create a manual data export (video clip)
(4)	Activate the e-PTZ function (depends on camera)
(5)	Previous live cast view (function 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

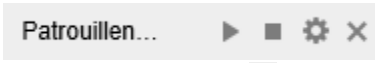
(1) (2) (3)

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

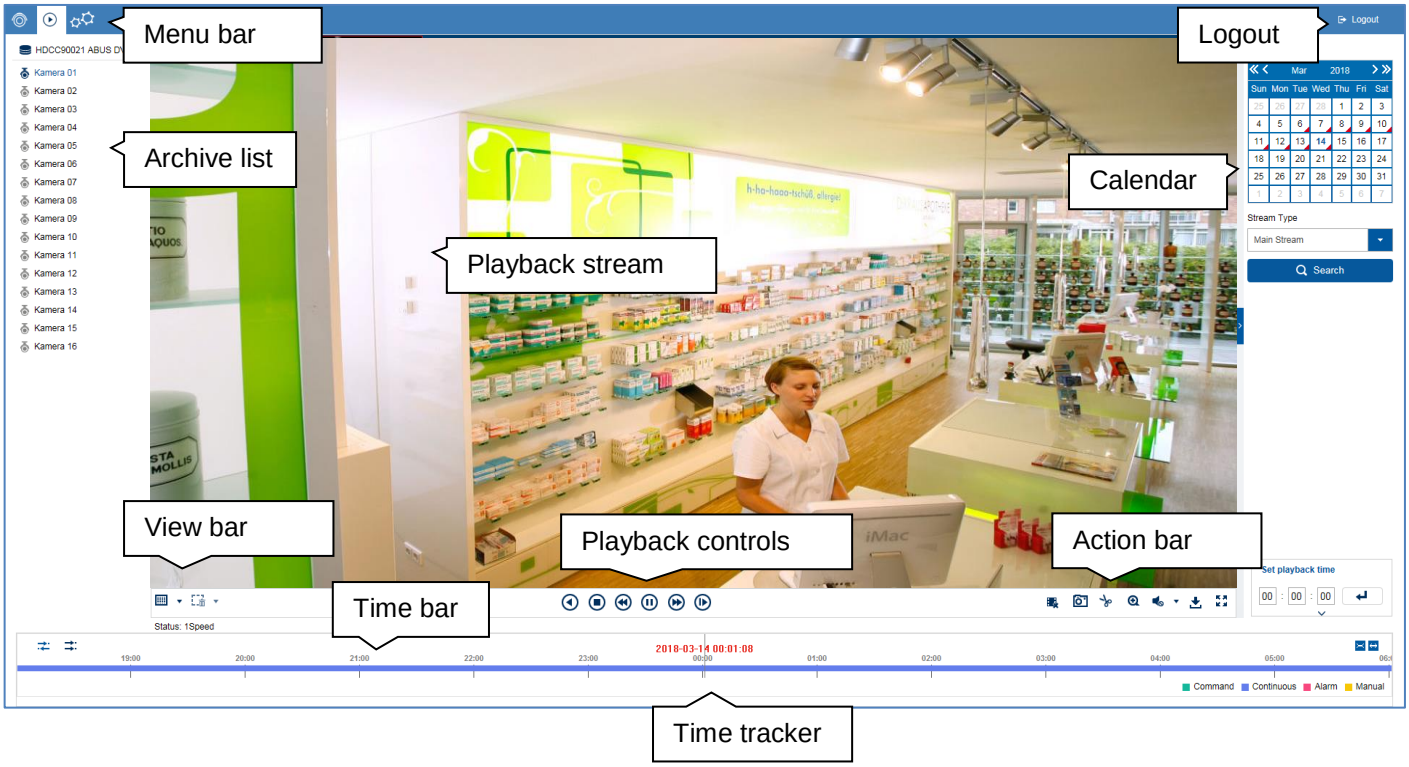
PTZ control menu



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. Set the zoom , , focus , and iris , manually. The button activates the horizontal scan.
Special commands	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	Navigate to tab to carry out preset positions. Up to 256 present positions can be accessed/stored from here (depending on the camera model).  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	Navigate to tab to carry out patrols. Up to four patrols can be accessed/stored from here.  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 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
Time bar	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

Using the archive list

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 displayed at the same time).

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

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.
(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

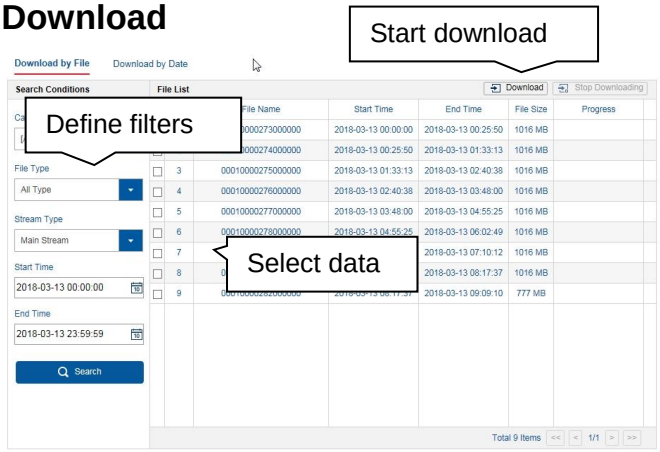
If snapshots or video clips are created from running playback, this data is stored in the user-specified directory on your PC. You can manually change this path in the web interface settings.

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

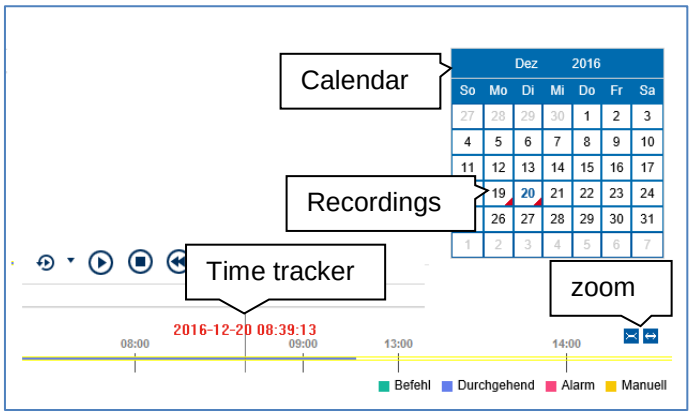


A new window opens when the download function is activated on the action bar. You can download the stored video data from the recorder hard disk drive directly to your PC from here. Select one or more files and click the "Download" button to start the data transfer.

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 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

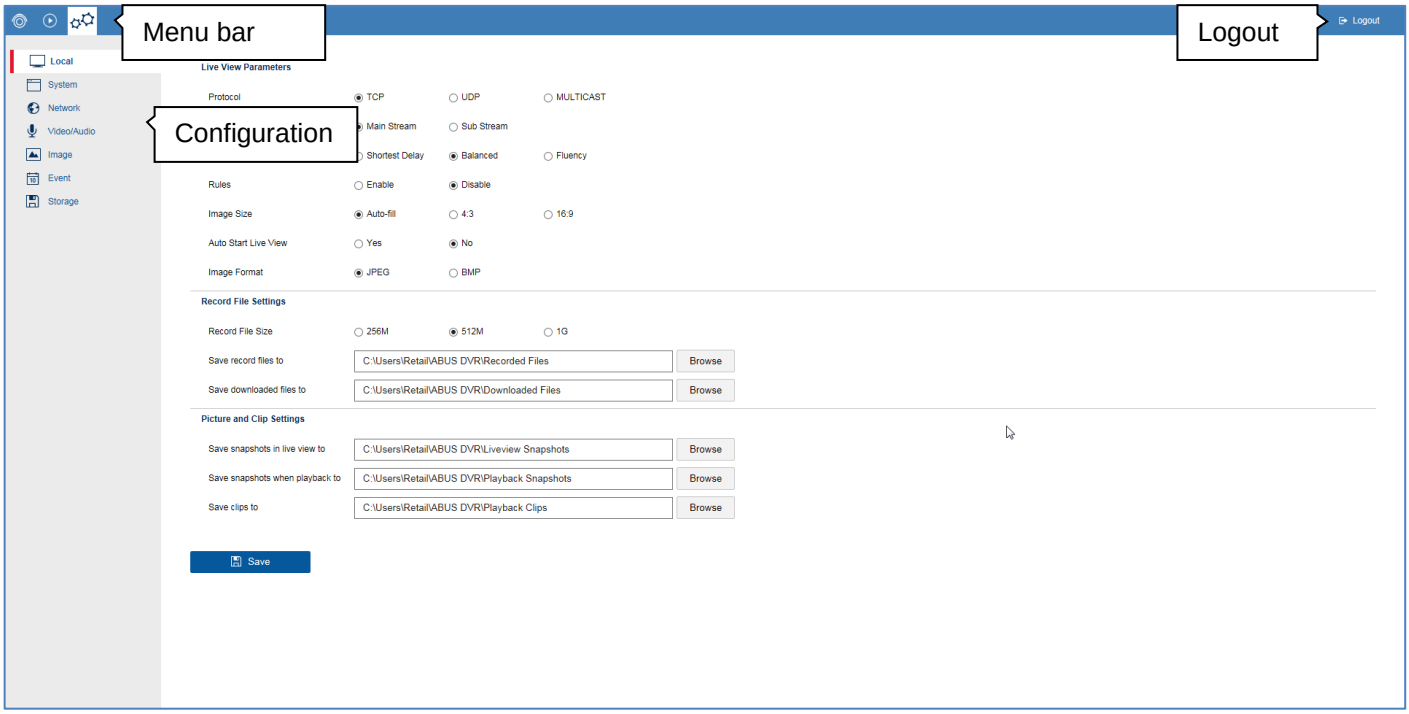
The default setting for the timeline display is 24 hours. This means that recordings for the entire day are displayed. The timeline can be made smaller or larger using the button, in order to play back targeted time ranges in the current day.

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

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

You can also use "Set playback time" to search for and immediately play the recording from a certain time (to the second exactly).

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
Video & audio	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)

Note

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

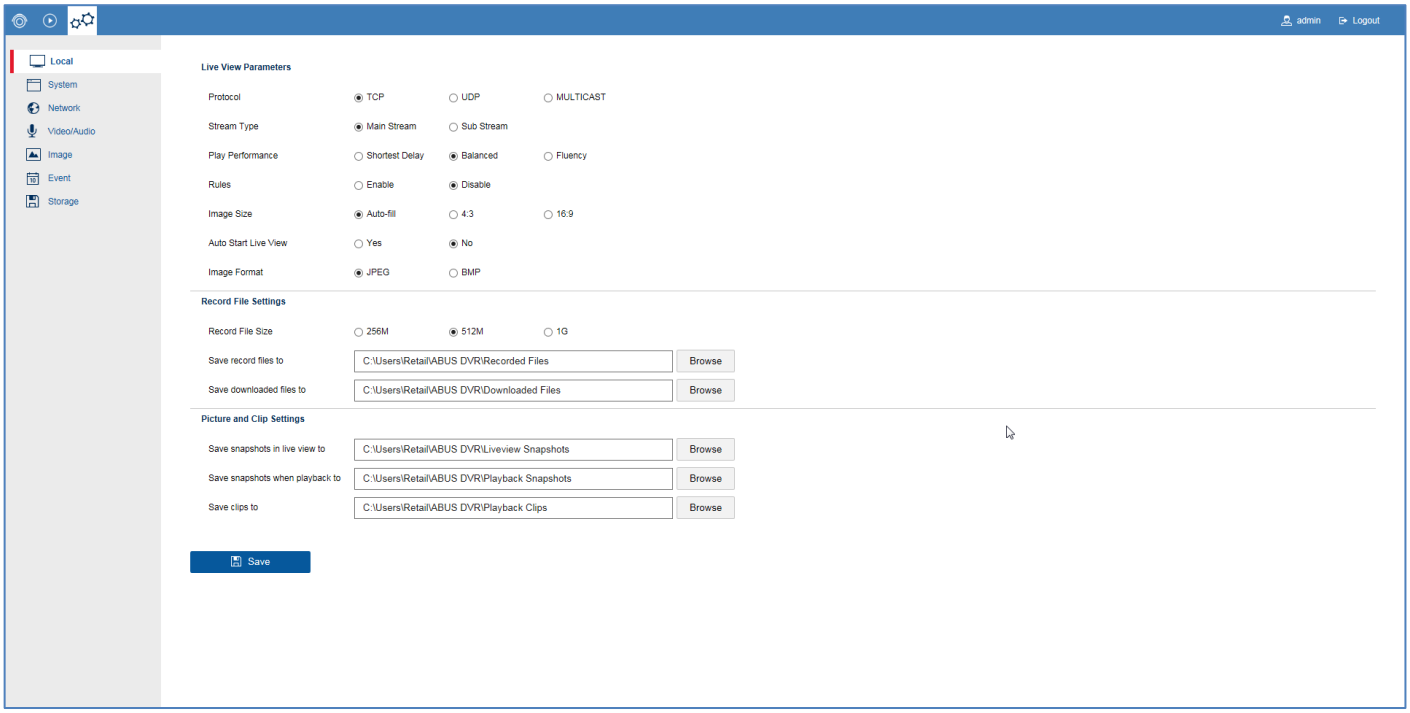
New functions may be added or additional parameters may be added to settings through subsequent firmware updates.

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

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.

	(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.)
Auto live cast Start	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.
Image size	The setting can force a specific image format for the live cast. Fixed formats

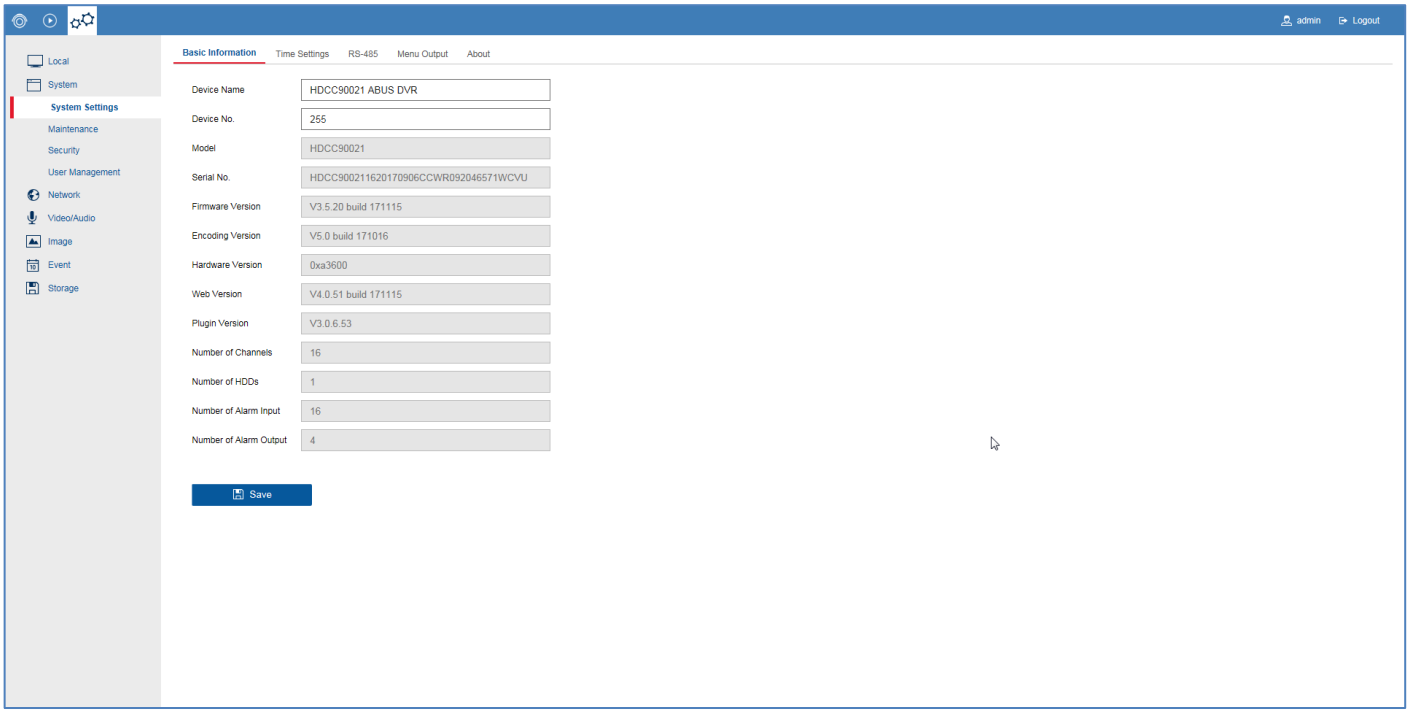
Record file settings

Parameter	Description
Record file size	Maximum file size for recordings **Action:** ●REC
Save record files to	Path for storing recordings **Action:** ●REC
Save downloaded file under	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

Basic information

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 gain	Relative deviation between the start and end time. Europe: 60 minutes

RS-485

Note

Please refer to the user guide for a detailed description of the local user interface.

Output menu

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

Maintenance

Upgrade and maintenance

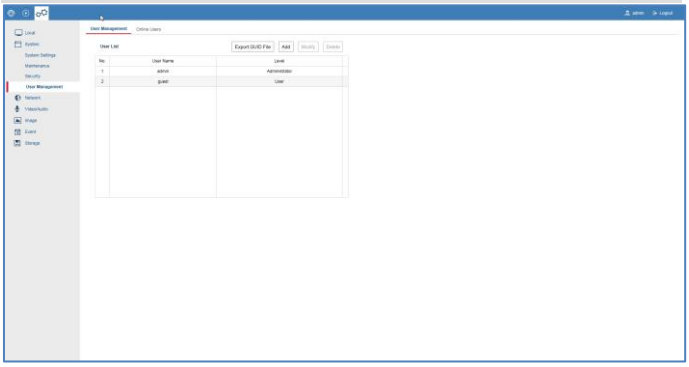
Parameter	Description
Reboot	Carry out a manual restart.
Restore	Reset the recorder back to its default factory settings. Excluded IP parameter
Standard	Reset the entire recorder back to its default factory settings.
Export	Export the device configuration and network camera lists (programmed cameras).
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
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.

Managing users



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

Warning

Please export the GUID file to reset your password if this does not take place during the initial installation.

Fault rectification

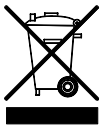
Before contacting the Service department, read the following information to determine the possible cause of any fault.

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:

a) 0.1 % lead (by weight)
b) Mercury
c) Hexavalent chromium
d) Polybrominated biphenyl (PBB) and polybrominated diphenyl ether
e) 0.01 % cadmium (by weight).

ABUS
Embedded video recorder

Web interface user manual

HDCC900x1

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