

ABUS NVR



User manual local user interface

Original user manual in English. Keep for future use.

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1) Declaration of conformity

ABUS Security Center hereby declares that the enclosed product complies with the requirements of the following directives:

EMC Directive 2014/30/EU
Low-Voltage Directive 2014/35/EU
RoHS Directive 2011/65/EU

The full EU declaration of conformity can be obtained from the following address:

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

www.abus.com/product/itemnumber
("Item number" in the link to be replaced with the item number
of the enclosed product)

2) Setup wizard

Wizard

1 2 3 4 5 6

Date and Time Setup Network Setup Hard Disk Camera Setup ABUS Link Station Change Password

Date and Time Setup

Time Zone (GMT+01:00) Amsterdam, Br

Date Format DD-MM-YYYY

System Date 18-12-2019

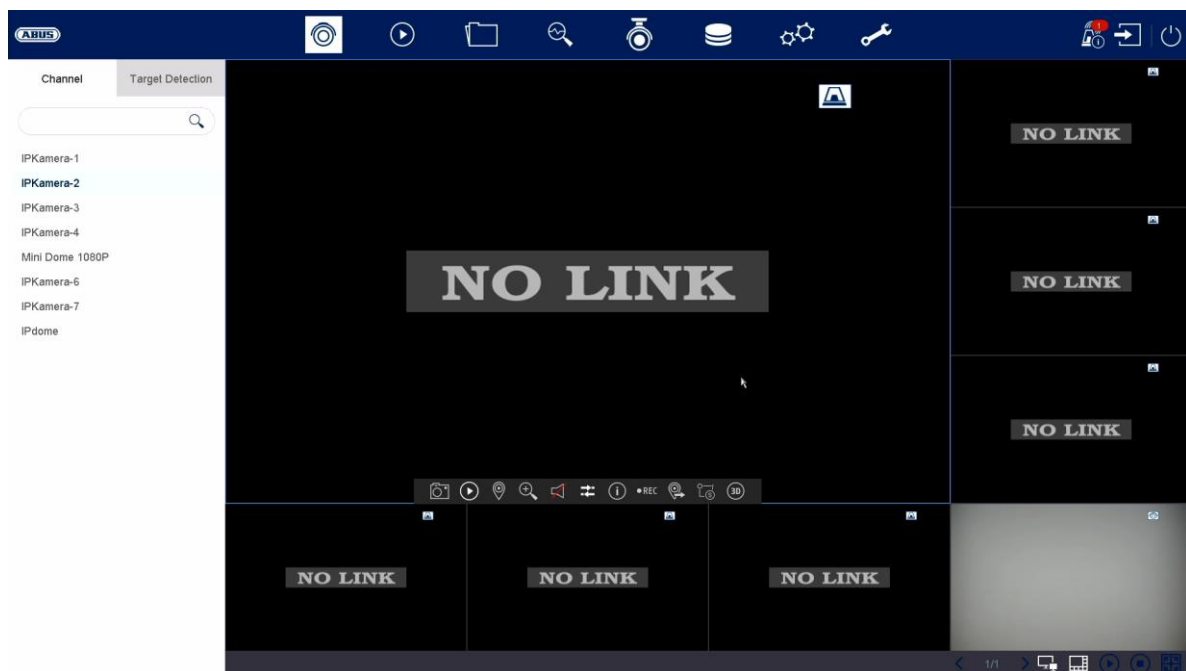
System Time 13:41:12

☒ Enable Wizard

Next Exit

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

3) Live view



Live view starts automatically when the device is switched on. The live view function provides the option of displaying live images and executing camera commands for all cameras connected to the recorder.

- Double-clicking an image displays the selected camera image in full screen or switches back to the original view.
- Click the right-hand button to show or hide the menu in order to display only the relevant camera layout in full screen.

The live view is divided into the following function areas:

Main menu	For selecting the configuration and operating menus						
Camera menu	For selecting and searching for cameras and/or displaying of various analysis functions						
Camera command	For selecting camera commands and actions for the selected camera						
Display menu	For controlling the view on the local monitor						
Recording status	In live image, the current recording status will always be shown (top right) in the form of a coloured R ("Record"). Every video channel can have one of the following three statuses: <table> <tr> <td>No symbol</td><td>No recording programmed, no HDD available, no event</td></tr> <tr> <td></td><td>Event alarm (for motion, alarm input or VCA)</td></tr> <tr> <td></td><td>Recording started</td></tr> </table>	No symbol	No recording programmed, no HDD available, no event		Event alarm (for motion, alarm input or VCA)		Recording started
No symbol	No recording programmed, no HDD available, no event						
	Event alarm (for motion, alarm input or VCA)						
	Recording started						

Main menu

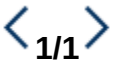
	Switches to live view
	Switches to playback view
	Switches to file search
	Switches to intelligent analysis
	Switches to menu for camera settings
	Switches to menu for memory settings
	Switches to menu for system settings
	Switches to menu for maintenance settings
	Opens the log book All interactions and events are recorded in the log book. Entries can be filtered according to specific criteria and displayed.
	Backup. All active export downloads are displayed.
	Use this to log off from the NVR or restart and/or shut down the system.

Camera menu

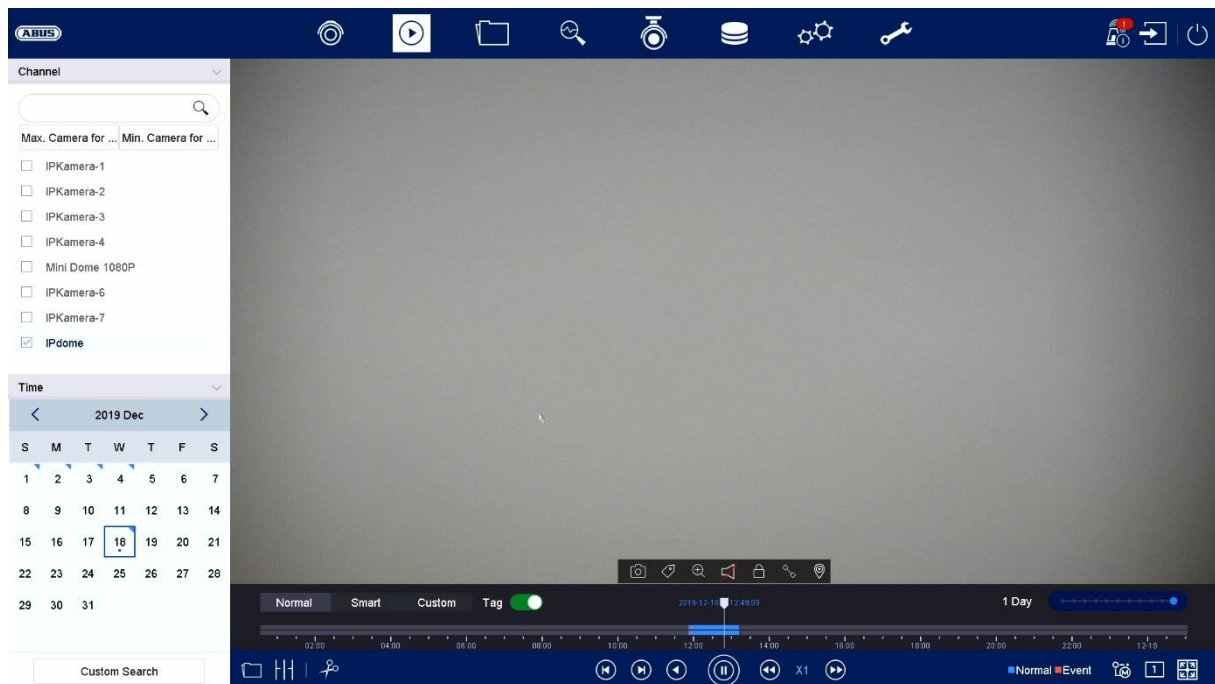
Camera command

	Generates an instant image
	Starts playback of the last 5 minutes
	Opens the PTZ control
	Opens digital zoom
	Switches audio on/off
	Opens the display priority
	Shows information on the video stream
	Starts/ends the recording, ATTENTION: This function overwrites the existing recording schedules.
	Opens a menu for changing views when using fisheye cameras
	Switches between stream 1 and stream 2
	Switches 3D positioning on/off

Display menu

	Switches between view pages
	Changes to second monitor
	Open the camera layout selection
	Starts/ends sequential display
	Starts/ends the recording for all cameras
	Starts/ends full-screen display

4) Playback view



Playback allows recorded video data from cameras on the recorder to be played.

The playback view is divided into the following function areas:

Camera selection	For selecting the cameras for the playback.
Calendar	For selecting the date of the recorded data.
Camera command	For selecting camera commands and actions for the selected camera.
Playback control	For controlling and interacting with the playback.

Camera selection

The camera list makes it possible to select the recorded camera archive on the recorder. By clicking on the selection fields ☐ in the list, several cameras can be played back simultaneously.

You can search for a specific camera name in the search filed above the camera list (case-sensitive). You also have the option to “Select all cameras” or “Select cameras individually” with a single click.

Calendar

Here you can select the day of the recording to be searched.

By clicking on “User-defined search”, you can open a new window with criteria and filters for further customising your search.

Time	For selecting a predefined period of time or a period of time defined by you
File type	For selecting whether you want to search for videos or images
Tagging	If tags were created, you can search for them here according to name
File status	For selecting whether the file is “Locked” or “Unlocked”
Event Type	For selecting whether you want to search for a specific type of event. Example: motion detection
Number plate & region/country	If a compatible number plate camera is used, you can also search for a specific number plate here

You can save the search settings by entering a name and clicking on the “Save” button. These settings can be called up and executed in the menu on the left-hand side.

Camera command

	Generates an instant image
	Creates a tag for the current playback position. Tags can be retrieved and displayed via the playback type “Tag”.
	Opens digital zoom
	Switches audio on/off
	The record file for the current playback position will be locked. A locked data file will not be overwritten by ring memory.
	Opens smart search. In order to be able to use smart search, the relevant event type must be enabled. (Motion detection, tripwire, intrusion detection)
	Opens a menu for changing views when using fisheye cameras.

Playback control

Then, click on the time bar to start/continue the playback from the desired time. Recordings are shown by coloured bars in the time bar. The colour coding is explained below:

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

Preview

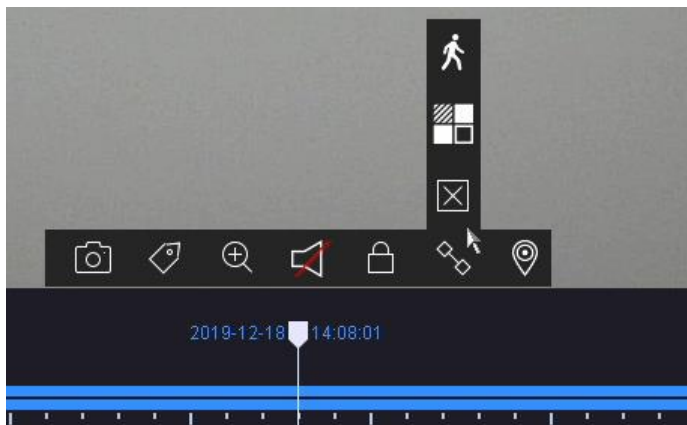
This function gives you a quick overview. Position the cursor over the time bar to display nine previews for the selected time.

Time display on time bar

The standard display range setting for the time bar is 20 minutes. This means that the last 10 minutes before and the next 10 minutes after the current playback time are shown on the time bar. The timeline can be scaled as follows:

5 minutes, 10 minutes, 20 minutes, 1 hour, 2 hours, 4 hours, 8 hours, 12 hours, 16 hours, 20 hours, 1 day.

Time bar filters



There are four different filters for simplifying the search for particular recordings. The display of the time bar is always adjusted as well.

Duration	Shows all continuous recordings
Smart	- Shows all recordings triggered by a VCA function, e.g. tripwire - You can search in existing recordings in a targeted manner using a VCA function. Click on the  icon in the camera command bar. You can choose from the following three VCA functions:  Tripwire  Intrusion detection  Motion detection
Custom	Use the “User-defined search” function first.
Tagging	Displays the added tags in the time bar

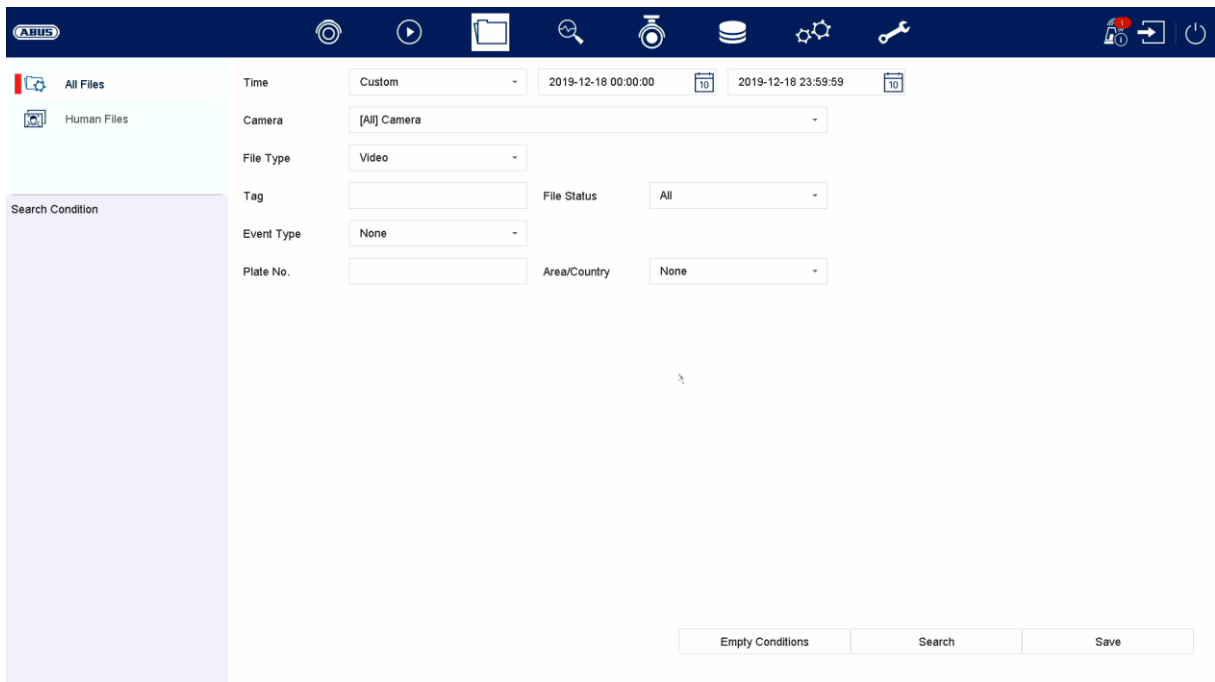
Controlling the time bar

You can choose from the following functions below the time bar:

	Opens the menu for playing back recordings from external data storage devices
	The recordings of the selected camera are played back in quad display at various points in time. This makes it quicker to home in on events.
	Makes exporting video clips fast and simple. You have the option to search the calendar. The time of the video clip can also be defined by sliding the red brackets on the time bar.
	Jumps back 30 seconds

	Jumps forward 30 seconds
	Play back and pause recording backwards
	Play back and pause recording forwards
	Decreases the playback speed
X1	Playback speed
	Increases the playback speed
	Switches between stream 1 and stream 2
	Open the camera layout selection
	Starts/ends full-screen display

5) File search



The screenshot shows the ABUS file search interface. At the top is a dark blue header with the ABUS logo and various navigation icons. Below the header, on the left, is a sidebar with 'All Files' and 'Human Files' options. The main area contains search filters: Time (Custom, 2019-12-18 00:00:00 to 2019-12-18 23:59:59), Camera ([All] Camera), File Type (Video), Tag, File Status (All), Event Type (None), Plate No., and Area/Country (None). At the bottom right, there are buttons for 'Empty Conditions', 'Search', and 'Save'.

Here you have two options to search for recordings:

- Search for videos or images
 - Search for people
- Cameras must support this function and be preconfigured for this

Saved search

Saved search requests are displayed here and can be called up quickly at a later time.

All files

Time	For selecting a predefined period of time or a period of time defined by you.
Camera	For selecting which camera archives to search through
File type	For selecting whether you want to search for videos or images
Tagging	If tags were created, you can search for them here according to name
File status	For selecting whether the file is “Locked” or “Unlocked”.
Event Type	For selecting whether you want to search for a specific type of event, e.g. motion detection.
Number plate & region/country	If a compatible number plate camera is used, you can also search for a specific number plate here.

Search for people

Time	For selecting a predefined period of time or a period of time defined by you.
Camera	For selecting which camera archives to search through
File type	For selecting whether you want to search for videos or images

The search results can be displayed as follows.

Close-up	Shows close-ups of recognised faces
Original image	Show the original image of recognised faces

All search results can be exported quickly and easily.

Save search

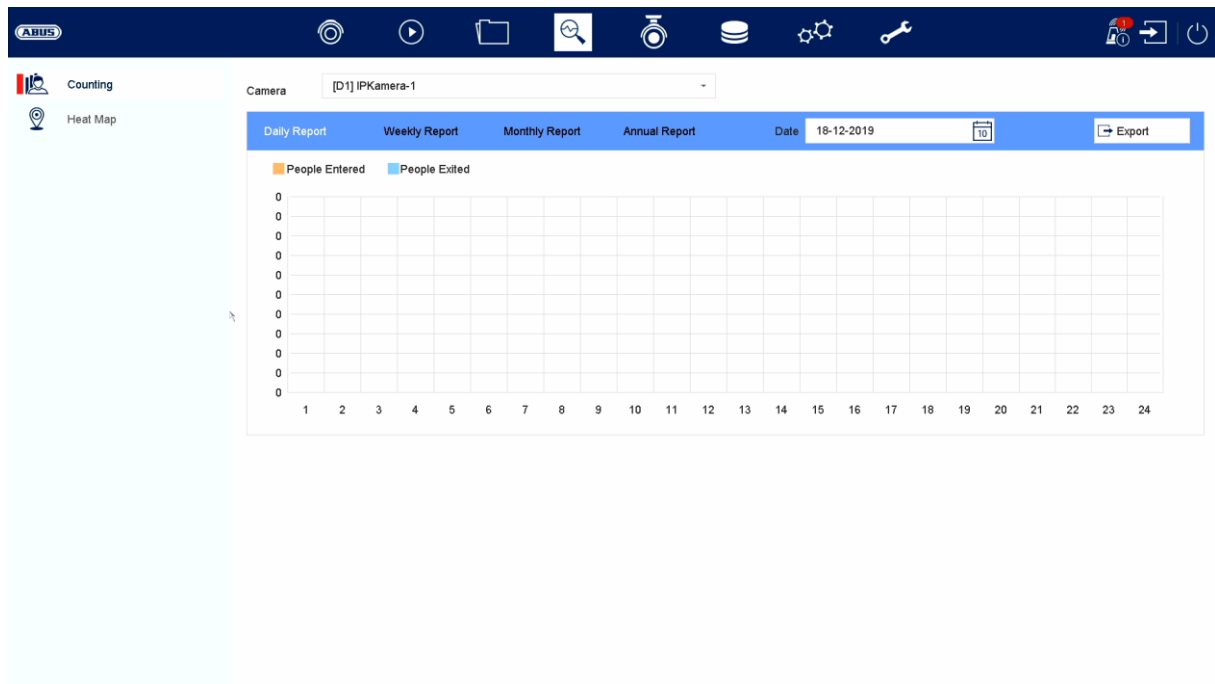
By clicking on the “Save” button, defined filters can be saved and quickly called up again. Enter a name and confirm by clicking on “Save”.

Export search results

Search results can be exported quickly and easily. Select the video or image to be exported (multiple selection is possible) and click on the “Export” button.

During export, you can also export the log file and a video player in addition to the recordings.

6) Intelligent analysis



Important: Only with cameras that support people counting/heat map functions. The relevant function must be activated in the camera itself and saved on the microSD card of the camera.

People counting:

Select the camera with the “People counting” function. Select the desired time period in the calendar and select the desired report type. (Daily, weekly, monthly, yearly report). The people entering and leaving will then be shown in the statistics. These can be exported to an external storage medium via the export function.

Heat map:

Select the camera with the heat map function. Select the desired date in the calendar and select the desired report type. (Daily, weekly, monthly, yearly report). Click on “Count” to call up the heat map image. This image can be exported to an external storage medium via the export function.

7) Camera settings

The screenshot shows the ABUS camera management interface. The top navigation bar includes icons for camera, play, folder, search, camera, database, settings, and a power button. The left sidebar lists settings: Camera (selected), PoE Settings, Display, Privacy Mask, Video Parameters, and Event. The main area displays a table of cameras with columns: No., Delete, Stat., Security, IP Address, Edit, Upgrade, Camera Name, Protocol, Device, Management, and Se. Below this is a section for 'Number of Unadded' cameras with an 'Add' button and a table of added cameras with columns: No., Status, Security, IP Address, Edit, Device Model, Protocol, Management, Serial No., and Firm.

You will find camera management in this menu. You will also find the basic camera settings here.

Camera

	Select all cameras
	Add camera
	Delete camera
	Import/export camera list
	More settings: Protocol Here you can create a user-specific RTSP profile. This profile can then be selected when adding a camera. Protocol: select profile to be defined Name: select any name Stream: - All values below “Stream 1” will be used for stream 1 (live+recording). - All values below “Stream 2” will be used for stream 2 (multi-view live). Stream 2: Activates stream 2

	Type: RTSP Transmission protocol: Use the auto setting, provided that there are no special requirements. Port: Enter the RTSP port Path: Specify the RTSP streaming path on the network camera Typical layout of an RTSP streaming path: rtsp://192.168.0.1:554/video.h264 • Camera default password management Here you can change the default password (assigned during initial setup in the setup wizard). It is used for the QUICK ADD function in the camera menu. Furthermore, “Inactive” cameras can be activated using this password.
	Enter the name of the camera you want to search for here
	Displays the cameras in tile view
	Displays the cameras in list view

Network overview

Click on the “” button in the menu below for an overview of all cameras in the network. Click on the “Lock” icon to lock this display.

Mark all desired cameras to “Activate” them or “Add” them to the NVR.

Manual adding / User-defined adding

Add IP Camera (Custom) ✕

No.	Stat...	Security	IP Address	Device Model	Pro
1	—	Active	192.168.0.15	IPCS82520	AB
2	—	Active	192.168.0.32	IPCA72520	AB
3	—	Active	192.168.0.29	IPCA63500	AB

IP Camera Address

192.168.0.15

Protocol

ABUS

Management Port

8000

Transfer Protocol

Auto

User Name

installer

Password

Use Channel Defaul...

☐

Use Default Port

☒

Verify Certificate

☐

Search

Continue to Add

Add

Here you can manually add network cameras by entering the IP address and protocol and specifying the port and user ID or adjust the settings of already added cameras. You can also use this menu to add network cameras from other manufacturers, ONVIF-compatible cameras and RTSP profiles.

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

Alternatively, you can add cameras by clicking on the buttons in the menu above.

IP address	IP address of the camera
Protocol	Manufacturer communication protocol. For ABUS cameras, please select ABUS as the protocol.
Port	Communication port of the camera (usually port 80 or 8000)
Transmission protocol	Auto (recommended), UDP, TCP
User name	User name for the admin account of the camera
Password	Password for the admin account of the camera

Use default password for the camera	Use default password (assigned during initial setup in the setup wizard)
Use default port	Use default port (8000) (assigned during initial setup in the setup wizard)
Check certificate	The certificate is a form of identification for the camera that enables more reliable camera authentication. When using this function, the IP camera certificate must firstly be imported into the NVR (see network settings).

Connecting camera via PoE

NVR10020P and NVR10030P have integrated PoE ports via which ABUS network cameras can be connected directly. (See compatibility list).

Please connect the individual cameras to the PoE ports one-by-one and wait until the status of the relevant camera is “ONLINE” and an image is displayed.

Important:

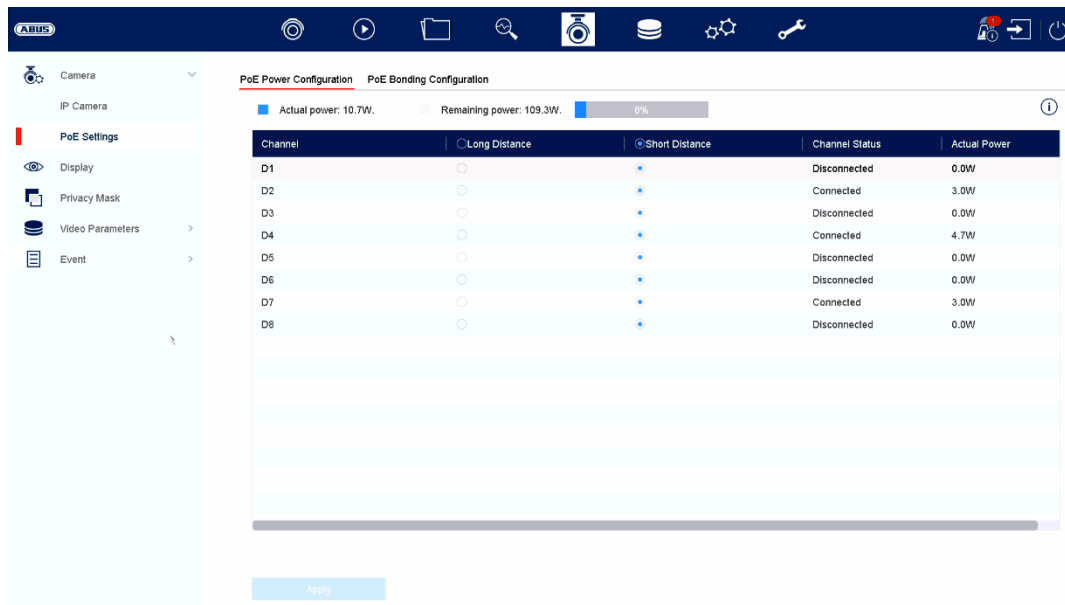
Automatically adding cameras via a PoE port only works if the camera is inactive and set to factory settings. The NVR activates the camera automatically with the default IP camera password. If the camera has already been activated, the correct password must be entered in the NVR afterwards.

The cameras are automatically assigned a fixed IP address by the NVR.

The web interfaces of the cameras connected to the PoE port can also be opened via the web interface of the NVR. (Configuration / System / Camera management).

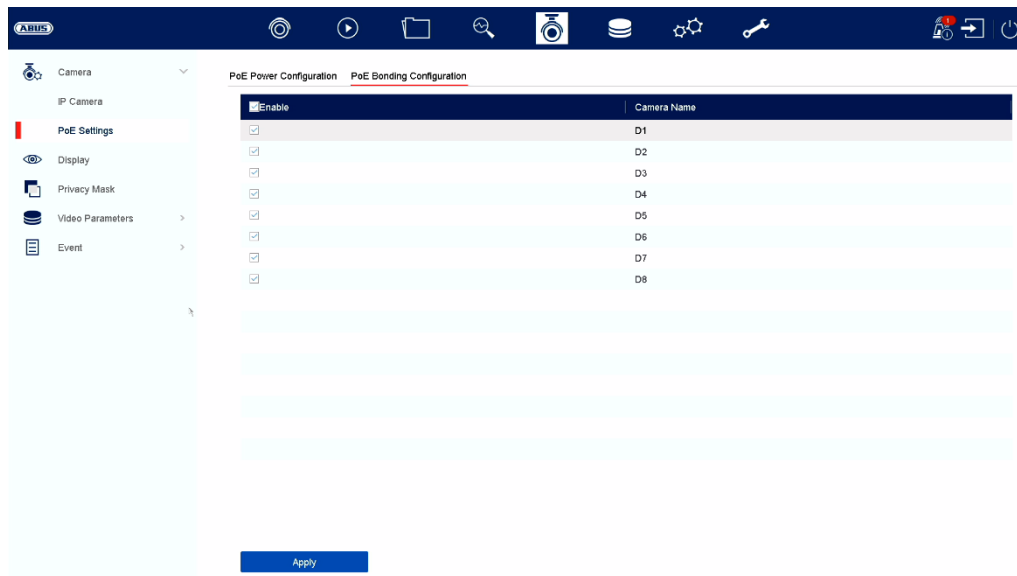
You will find the configuration options for the integrated PoE ports under “Camera” / “PoE settings” on the device.

A) PoE Power Configuration



Channel:	This shows the number of available slots
Long-distance transmission:	Here you can activate long-distance transmission
Short-distance transmission:	Here you can activate short-distance transmission
Channel status:	This shows which cameras are connected.
Info display:	
Current power:	The power consumption of all connected cameras is added up here
Available power:	The amount of unused power is displayed here

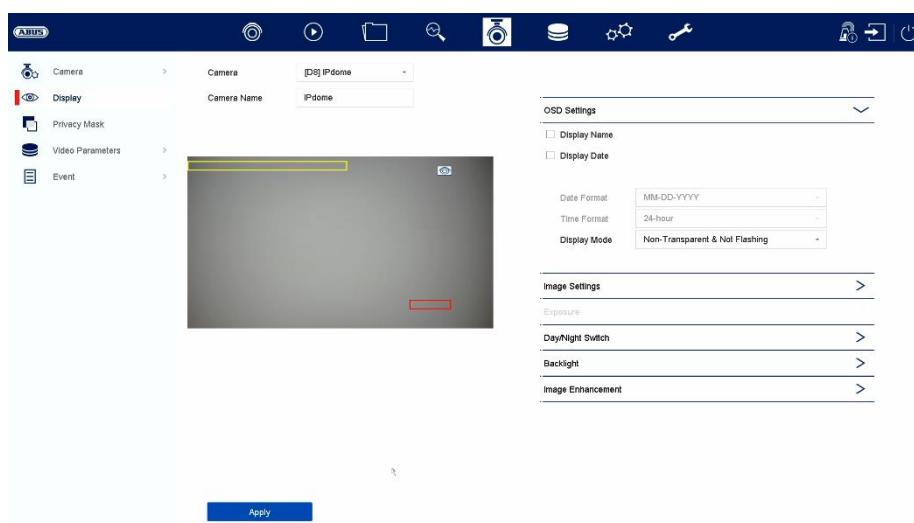
B) PoE Bonding Configuration



Here you will find a list in which you can Activate/Deactivate the PoE channels.

When you deactivate the “PoE ports”, you can add network cameras in the normal manner in the “IP camera” menu.

Layout



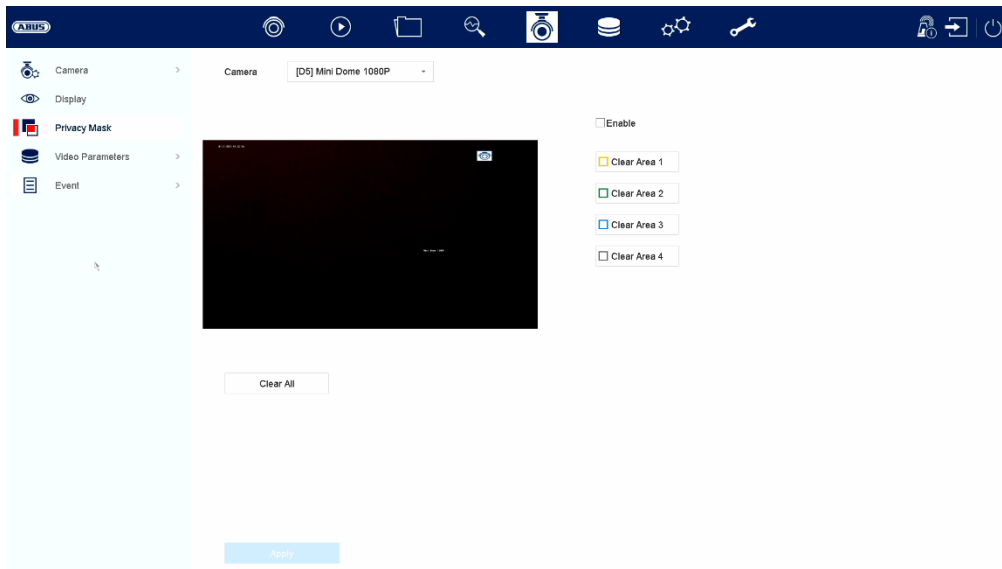
You can adjust the display settings for each individual camera. You can alter the position of the camera name and date and time directly in the live image displayed.

Important: The range of settings may vary depending on the camera model used.

You will find more information on the settings in the user guide for the camera.

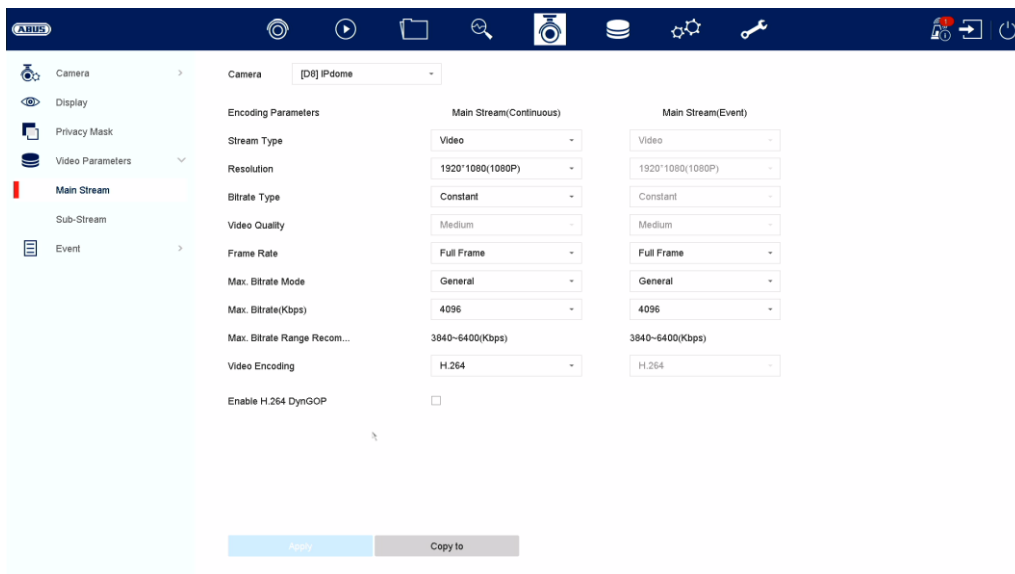
Camera	Select the camera you would like to set
Camera Name	You can change the name of the camera here
OSD	Here you can specify what should be displayed in the camera image and in which format: Name, date, day of week
Image	Here you can set the brightness, contrast and saturation of the image. Depending on how the camera is installed, it may be necessary to apply the following settings: Corridor mode: Rotates the image by 90° Mirror mode: Flips or mirrors the image.
Exposure	You can adjust the exposure time of the camera here
Day and night switching	Here you can adjust the behaviour of the day/night switching and activate/deactivate SMART IR.
Backlighting	You can adjust the WDR behaviour of the camera here
Image improvement	You can adjust the digital noise reduction (DNR) of the camera here

Private Zone



Here you can create up to 4 private zones per camera. By clicking on the “Activate” box, you can create and delete the private zone directly in the live image displayed.

Video parameters



Here you can adjust the video parameters for streams 1 and 2.

Important: You will find more information on the settings in the user guide for the camera.

Event

In the “Event” menu, you can define which reactions should be triggered during an event (e.g. motion detection).

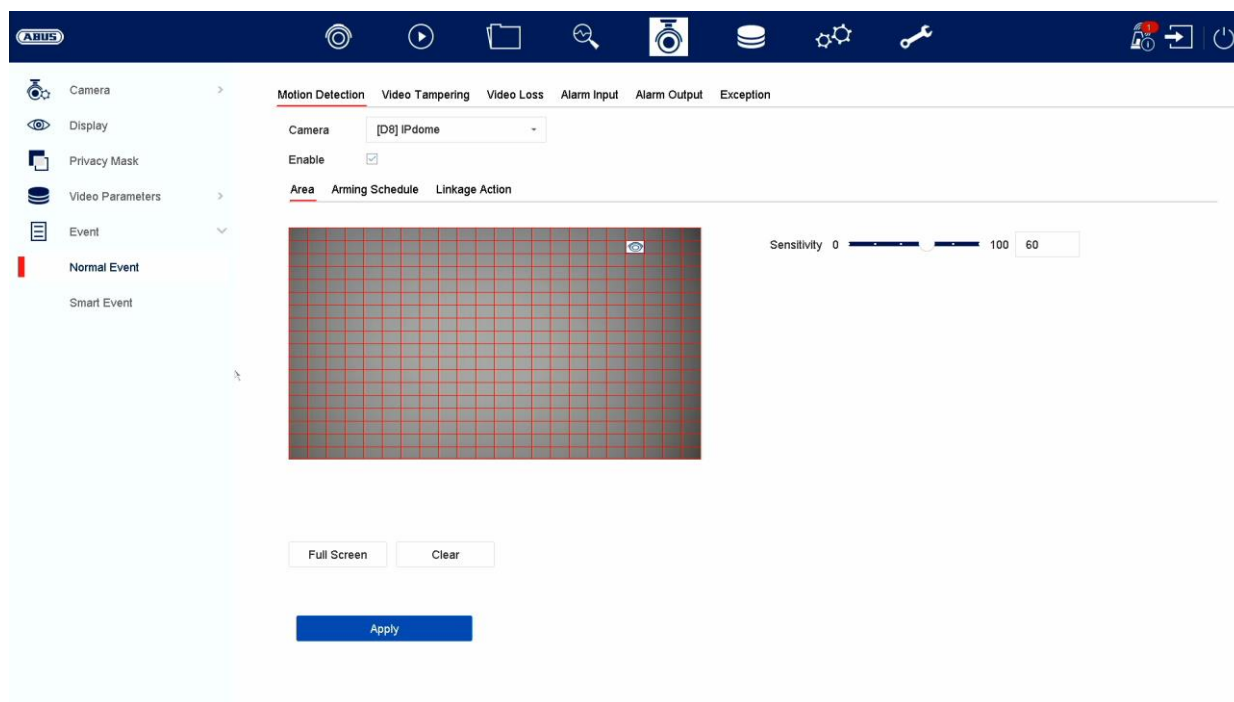
For some events it may be necessary to define an area, sensitivity and schedule (when the event in question should be monitored). You can also select the following “Linkage actions” as reactions to the event.

Full Screen Monitoring	Displays the triggered camera in full screen on the local monitor. (Configuration of full-screen output under “System” / “Live view”)
Audible Warning	Triggers a warning tone on the recorder
CMS / Link Station Push	Sends a push notification to the ABUS CMS or ABUS Link Station App
Send Email	Sends an email (the recipients + SMTP must be set up in advance)
Local->1	Triggers the local alarm output. Note: The number of alarm outputs varies depending on the model and cameras connected.

Under “Trigger channel” you can specify which cameras are triggered and recorded in an event.

Normal event

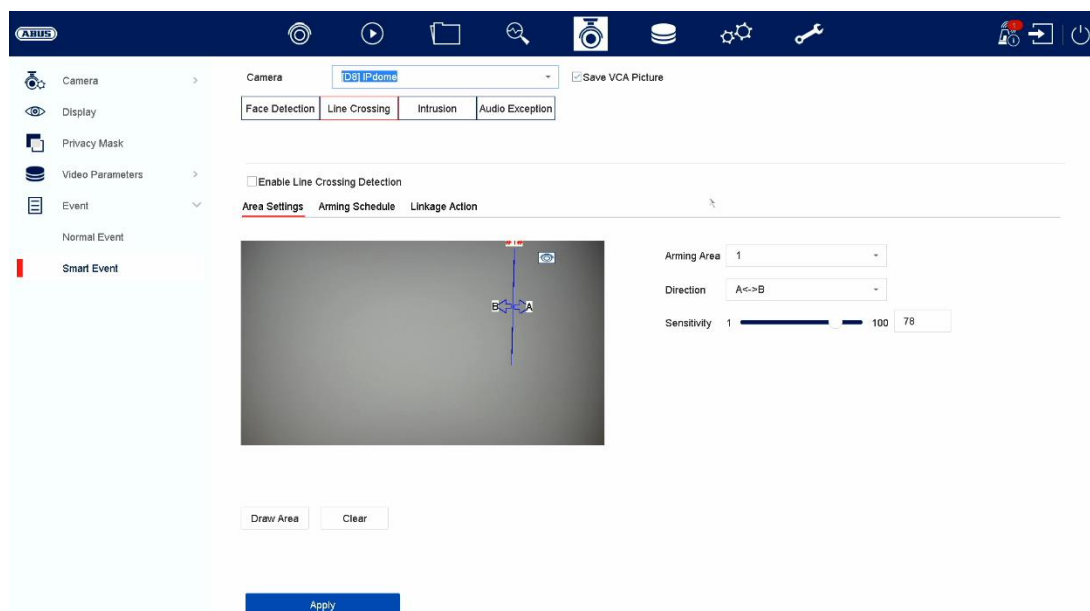
The following events can be set up in the “Normal event” menu:



Motion detection	The recorder processes exclusively the motion detection within the camera. If a live image from the camera is displayed in this dialogue, you can configure the camera's motion screens directly. <i>Note: The displayed settings for motion detection are basic settings. In the camera's web interface, detailed settings may be available.</i>
Tamper monitoring	The tamper monitoring function monitors the brightness in the selected camera. If the lens is covered, the trigger will be set off.
Video Loss	The video loss function monitors the selected camera for image loss. If the camera can no longer be reached via the network, the trigger will be set off.
Alarm input	The alarm input function monitors the behaviour of the physical and virtual alarm inputs.
Alarm output	The alarm output function defines the behaviour of the physical and virtual alarm outputs.
Exception	The exception function defines the behaviour of warning messages and system events.

Intelligent event

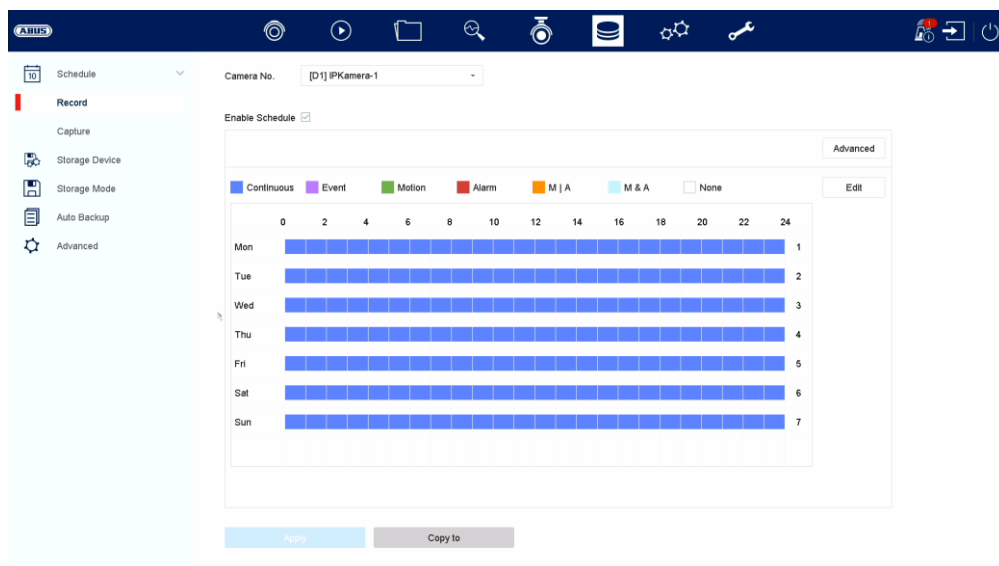
Note: There are various VCA functions depending on the camera used. For more detailed instructions on using this function, please consult the camera instruction manual. The functions mentioned here are the most frequently available VCA functions:



Tripwire detection	The tripwire function triggers an event if an object crosses a virtual line in a certain direction or both directions.
Intrusion detection	The intrusion detection function triggers an event if an object stays in the area to be monitored for longer than the set time.
Scene change detection	This function triggers an event if the content of the image has changed significantly. Any turning of the camera can therefore be detected.

8) Storage settings

Schedule



In this menu, you can define the schedule and the triggers for recording videos and images.

Recording plan	Here you can programme the recording of videos
Detection	Here you can programme the recording of images

Video recording (recording plan)

First, enable the schedule, click on a trigger and then click and drag in the week calendar using the left-hand mouse button to define the desired times.

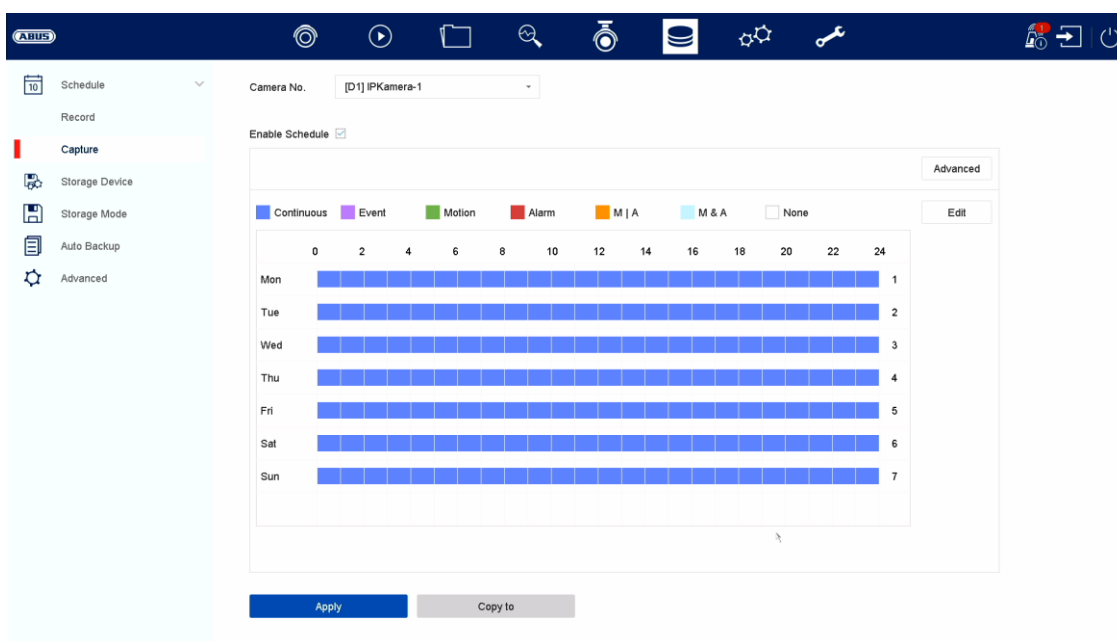
Duration	Continuous recording
Event	Recording takes place for all types of event (motion or VCA events)
Motion	Recording takes place only for motion detection
Alarm	Recording takes place only for alarm input (local/remote)
M A	Recording takes place for motion detection or alarm input (local/remote)
M & A	Recording takes place only for simultaneous motion detection and alarm input
None	No recording takes place
Edit	Here you can edit the settings in list form

By clicking on the “Advanced” button, you can also apply the following settings.

Advanced Configuration

Record Audio	Enables audio recording (provided that the camera delivers a signal and the stream is switched to “Video & Audio”)
Pre-play	Here you can enable pre-play recording <i>Note: Depending on the system configuration and the number of cameras, you can save up to 10 seconds.</i>
Post-play	Select the duration for which event recordings are saved post-play
Video Stream	Select the stream source for the recording. In “Stream1&2”, both streams are recorded
Maximum usability time (days)	Specify how many days the recordings can be stored for before being overwritten
Redundant (video/image)	Enables storage for the HDD group “redundant” (only available when the HDD group mode is activated).

Image recording (detection)



First, enable the schedule, click on a trigger and then click and drag in the week calendar using the left-hand mouse button to define the desired times.

Duration	Snapshots are continuously saved
Event	A snapshot is saved for all types of event (motion or VCA events).
Motion	An image is only saved for motion detection
Alarm	An image is only saved for alarm input (local/remote)
M A	An image is saved for motion detection or alarm input (local/remote)

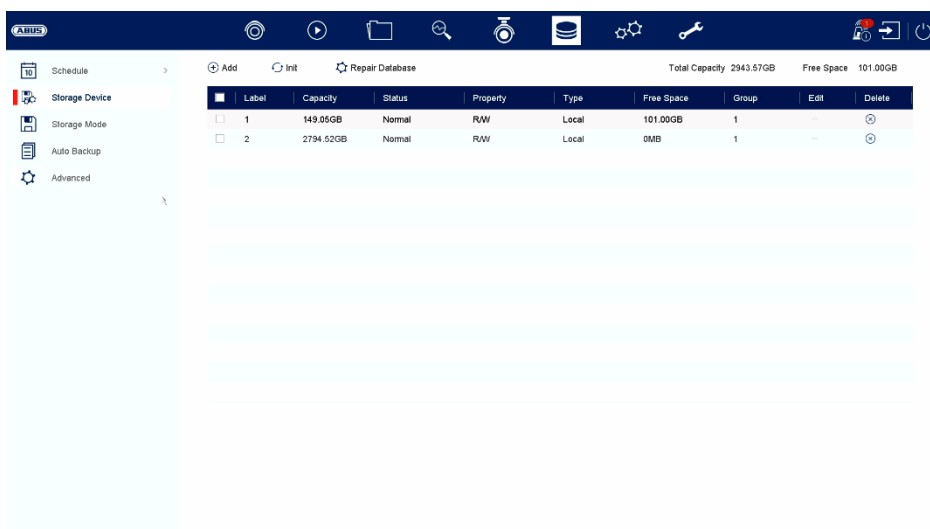
M & A	An image is only saved for simultaneous motion detection and alarm input
None	No recording takes place
Edit	Here you can edit the settings in list form

By clicking on the “Advanced” button, you can also apply the following settings.

You will find the following setting options under “**Advanced**”:

Parameter type	Shows the setting for continuous recording and event
Resolution	Select the image resolution
Image quality	Select the image quality
Interval	Select the interval to be triggered
Detection delay	Can be set between 0 and 5 minutes

Storage medium



Here you can configure local or network-based storage media and view their status.

Add	Add NetHDD
Initialise	Initialise (format) the memory
Repair database	Rebuilds all databases; the files are not deleted.
Total	Shows the total storage space
Available	Shows the total free storage space

*Important: The installed hard disk drives have to be initialised before the device can be used for recording. **All data will be deleted from the hard disk drive during initialisation.***

No.	Number of hard disk drives installed / NAS drives added
Capacity	Shows the storage space in GB
Status	Shows the current status of the hard disk drives: • Not initialised • Normal • Error • Standby
Attributes	Shows the access status of the hard disk drive: • Read-only: write protection • R/W: read and write
Type	Shows the type of connection for the hard disk drive: • Local: device hard disk drive • NAS: Network hard disk drive (NHDD) • IP SAN: iSCSI volume
Free Space	Shows the free storage space
Group	Shows which group the hard disk drive has been assigned to

Edit	You can change the group assignment and access status here • HDD No.: Internal numbering system for the hard disk drives • R/W: In this mode, video data is written onto the hard disk drives 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: For allocating the hard disk drive to an HDD group
Delete	Enable/disable hard disk drive

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

Add NetHDD

Click on “Add” to add a network drive.

Important: It is recommended to use a single volume per NVR on the NAS, as using multiple volumes can cause problems.

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 IP address of the network memory here.
NetHDD Directory	Click on “Search” to select the path or enter the path directly.

Storage mode

The screenshot displays the 'Storage Mode' configuration page in the Abus NVR web interface. The left sidebar shows the navigation menu with 'Storage Mode' selected. The main panel is titled 'Mode' and features two radio buttons: 'Quota' (selected) and 'Group'. Below the mode selection, there are several input fields: 'Camera' (set to 'D1 IPKamera-1'), 'Used Record Capacity' (363.00GB), 'Used Picture Capacity' (1024.00MB), 'HDD Capacity (GB)' (2943), 'Max. Record Capacity (GB)' (0), and 'Max. Picture Capacity (GB)' (0). A status message at the bottom indicates 'Free Quota Space 2943 GB'. At the bottom of the form are 'Apply' and 'Copy to' buttons.

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	Select the camera
Video storage space used	Video storage space currently in use on the linked data storage devices.
Image storage space used	Image storage space currently in use on the linked data storage devices
HDD Capacity (GB)	Shows the total storage space in GB
Reserved storage space "Video"	Set the maximum video recording space on the linked data storage devices for each camera
Reserved storage space "Images"	Set the maximum image recording space on the linked data storage devices for each camera

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.

Record on HDD group	Select the HDD group
Camera	Select which cameras in the currently selected group should record

Note: To adjust the HDD group settings, click on "Edit" in the "Memory/storage device" menu on the relevant hard disk drive.

Auto backup

Here you can set up automatic backup. The last 24h are automatically exported to a USB / eSATA device.

Backup status	Displays the progress of the backup procedure
Current status	Displays the current status.
Last backup	Shows whether the last backup was successful or not
Auto backup	You can set the backup to be carried out automatically every day
Start time	Here you can specify when the backup should start
Cameras	Here you can select the camera channel for the backup
Backup stream type	Here you can select the stream for the backup
Aim	Here you can select the type of device to be used for the backup
Select device	Here you can select the connected device. USB or eSATA (if available)
Overwrite	Use this option to specify whether existing data of the connected device may be overwritten

Advanced settings

Here you can apply general settings for all hard disk drives installed.

Overwrite	Specify whether older recordings should be overwritten when the hard disk drive is full.
HDD sleep function	When this function is activated, idle hard disk drives go into standby mode.
RAID	Use this to activate the integrated RAID controller (only NVR10040)

RAID:

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

Important:

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

Physical data storage device:

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

One-touch configuration	Automatically creates a RAID array from all the free data storage devices.
Create	Create a RAID array manually. The following RAID types can be used: RAID0, RAID1, RAID5, RAID10.
Hot spare	Free data storage devices which are not assigned to a RAID array can be defined as "hot spares". These data storage devices are not used by the system initially. If there is an error in a disk which is part of a RAID array, the hot spare data storage device is immediately activated for use.

Note

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

Array:

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

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

9) System settings

All basic device settings are managed in the “System” menu.

Important: Ensure that the date and time are set correctly.

Subsequent alterations may lead to loss of data. Ensure data is backed up beforehand.

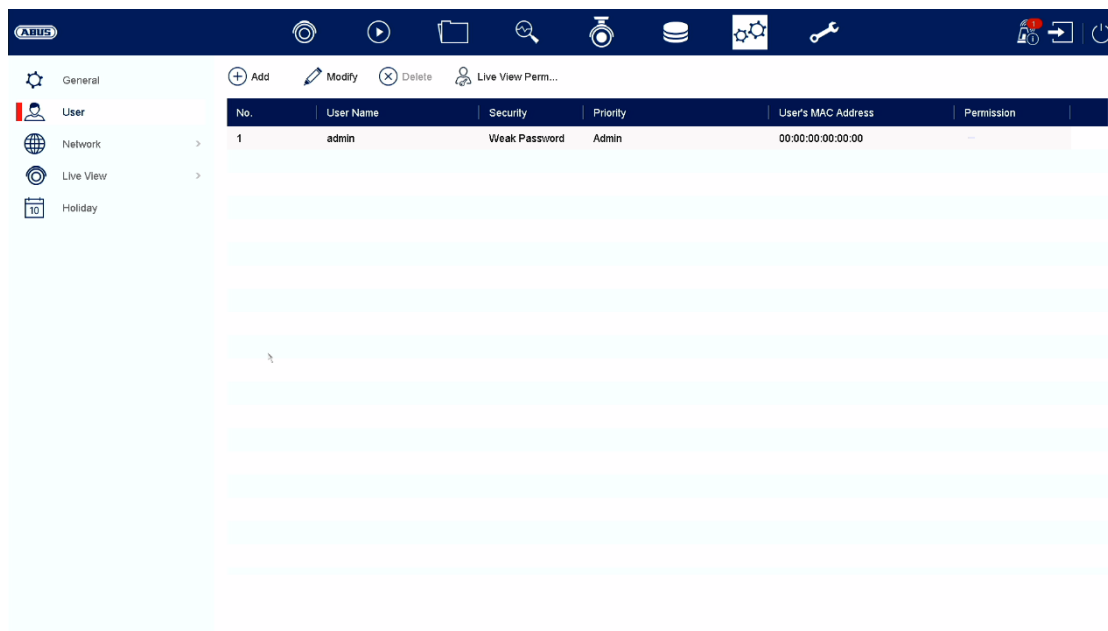
General

The screenshot shows the 'General' settings page of the ABUS system. The left sidebar contains icons for General, User, Network, Live View, and Holiday. The main area is divided into two columns. The left column contains settings for Language (English), Time Zone ((GMT+01:00) Amsterdam, B...), Date Format (DD-MM-YYYY), System Date (18-12-2019), System Time (13:26:19), Device Name (DS-7608NI-I2/8P ABUS NVR), Device No. (255), Auto Log out (5 Minutes), Menu Output Mode (Auto), Enable Wizard (checked), and Enable Password (checked). The right column contains settings for VGA Resolution (1920*1080/60HZ(1080P)), HDMI Resolution (1920*1080/60HZ(1080P)), Mouse Pointer Speed (a slider between Slow and Fast), Enable DST (checked), DST Mode (Auto/Manual), Start Time (Mar, last, Sun, 2 :00), End Time (Oct, last, Sun, 3 :00), and DST Bias (60 Minutes). An 'Apply' button is at the bottom.

Language	Choose the menu language to be displayed
Time zone	Select your time zone
Date Format	Select how the date should be displayed: MM-DD-YYYY, DD-MM-YYYY, YYYY-MM-DD
Date	Set the current date
Time	Set the current time
Device name	Here you can assign a name to the recorder
No.	Used for the unique identification of the recorder when using a control panel
Mouse Pointer Speed	Slider: left = low speed, right = high speed
Auto. log off	Select how long it should take before the menu closes automatically: Never / 1–30 minutes
Menu display	Select the monitor output for displaying the menu. If set to auto, the recorder will detect the output.
Enable Wizard	Select whether the wizard should appear when the system starts up

Enable Password	Select whether a password request should appear for local operation. <i>Attention: However, the password does need to be entered if accessing via the network.</i>
VGA Resolution	Select the monitor resolution for the VGA output
HDMI resolution	Select the monitor resolution for the HDMI output
Mouse Pointer Speed	Select the mouse pointer speed
Enable DST	Select whether the recorder should switch between summer and winter time. • Auto: Recorder switches automatically • Manual: Recorder switches based on the start and end date set

Users



Users can be managed in the “Users” menu.

	Add user
	Editing a user
	Delete Users
	Specifies which cameras can be seen locally on the “Lock screen”.

Add user

Click on the “+” symbol to add a user.

User name	Choose a unique name
Password	Choose a password <i>Note: change your passwords regularly, using a combination of letters and numbers etc. and note them down to be stored in a safe place.</i>
Confirm	Confirm the password
User authorisation	Select the user’s authorisation level. <i>IMPORTANT: More rights can be set on the Operator level than on the Guest level.</i>
User MAC address	Here you can enter the MAC address of the network adapter from the PC used by the relevant user. The user can then only gain access using this MAC address.

Editing a user

To change the settings for a user, first select a user and then click on the “Edit” symbol.

The following changes can be made:

- User name
- Password
- User authorisation
- User MAC address

Delete Users

To delete a user, first select a user and then click on the “Delete” symbol.

Live view parameters

Here you can specify which cameras may and may not be displayed when no users are logged on.

To do this, enter the admin password and then select which cameras should be displayed when no one is logged in.

Individual user authorisation

You can define what rights individual users have for local and remote access via the network.

To do this, select the user, click on  in the “Permissions” column and enter the admin password.

Local configuration	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	The permissions in the “Remote configuration” tab are related exclusively to configuration settings which are accessible via remote applications (browser, app, CMS software).
Camera configuration	The permissions in the “Camera configuration” tab are related exclusively to cameras. Here, the access to and operation of cameras (live/playback/export) are controlled remotely and locally.

Network

The screenshot shows a web-based configuration interface for a network recorder. On the left is a sidebar menu with options: General, User, Network (selected), TCP/IP (active), Advanced, Live View, and Holiday. The main area is titled 'TCP/IP' and contains several configuration fields. Under the 'NIC Type' dropdown, '10M/100M/1000M Self-adap' is selected. The 'Enable DHCP' checkbox is checked. The 'IPv4 Address' field is set to '192 . 168 . 0 . 35', 'IPv4 Subnet Mask' to '255 . 255 . 255 . 0', and 'IPv4 Default Gateway' to '192 . 168 . 0 . 1'. The 'MAC Address' is '58:03:fb:18:51:5d' and 'MTU(Bytes)' is '1500'. On the right side, 'Enable Obtain DNS...' is checked, with 'Preferred DNS Ser...' set to '192.168.0.1' and 'Alternate DNS Server' set to '194.25.2.129'. An 'Internal NIC IPv4 A...' field is also present with the value '192 . 168 . 254 . 1'. A blue 'Apply' button is at the bottom.

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

Note

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

TCP/IP

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

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.
Enable 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. <i>Note:</i> <i>If the IP addresses are assigned manually, ensure that DHCP is not enabled (do not tick the box).</i>
IPv4 address	Enter the IP address of the network device on the network during manual assignment
IPv4 subnet mask	Enter the subnet mask of the network device on the network during manual assignment

IPv4 default gateway	Enter the IP address of the gateway on the network during manual assignment, normally this is the IP address of the router
MAC address	Hardware address of the integrated network card
MTU(Bytes)	Describes the maximum protocol packet size.
Preferred DNS server	IP address of the domain name server, usually the IP address of the router
Alternative DNS server	Alternative IP address of DNS server
Obtain DNS server address automatically	Automatically obtains the correct DNS server address from the DHCP server

DDNS

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

Enable	Here you can enable DDNS synchronisation
DDNS type	Here you can select the DDNS service provider
Server address	Enter the IP address or host name of the DDNS provider here
Device domain name	If necessary, enter the sub domain of the device here
Status	Display of the DDNS status
User name	Enter the user name of your DDNS account here
Password	Enter the password for your DDNS account here

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

- 1) In order to be able to use the ABUS DDNS function, you must first set up a free account at <http://www.abus-server.com>. Please read the FAQs on this topic on the website.
- 2) Please make sure that you set up your ABUS devices on the ABUS server correctly using the relevant MAC address before activating the ABUS server DDNS function.
- 3) Activate/deactivate the DDNS function
- 4) Enter the user name and password of your ABUS server account
- 5) Click on "Save".

The NVR will then connect to the ABUS server account. This can take up to two minutes. The ports will then be transmitted and updated at regular intervals on the ABUS server.

The respective ports in the router/firewall must be enabled/forwarded such that access is possible from the outside and the ABUS server port scan identifies the “green” status.

PPPoE

Here you can activate/deactivate PPPoE.

NTP

The Network Time Protocol (NTP) automatically synchronises the time via the network or Internet.

Activate	Here you can activate the NTP function on the recorder
Interval (min.)	Here you can select the interval for the synchronisation
NTP server	Enter the IP address of the NTP server here
NPT port	Enter the NTP server port here

NAT

Network Address Translation (NAT) is used to separate internal and external networks.

IMPORTANT: We recommend leaving the AutoUPnP function set to “Manual”. (Assignment method).

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.

Advanced settings – SNMP

The Simple Network Management Protocol (SNMP) is used to monitor and control network components from a central station. The protocol regulates the communication between the monitored devices and the monitoring station.

Activate	Select the checkbox to create a connection to SNMP software
SNMP Version	The version of the SNMP system
SNMP port	Enter the SNMP port here, usually 161
Write community	Enter the “Key” according to the settings of your SNMP software here
Read community:	Enter the “Key” according to the settings of your SNMP software here
Trap address	Enter the IP address of your SNMP manager here.
Trap port	Enter the trap port here, usually 162

Advanced settings – Email

The screenshot displays the 'Advanced settings – Email' configuration interface. The left sidebar contains navigation icons for General, User, Network, TCP/IP, Advanced (highlighted), Live View, and Holiday. The main panel has tabs for SNMP, Email (selected), ABUS Link Station, and More Settings. Under the 'Email' tab, the following settings are visible:

- Enable Server Authentication:** A checkbox that is currently unchecked.
- User Name:** An empty text input field.
- Password:** An empty text input field.
- SMTP Server:** An empty text input field.
- SMTP Port:** A text input field containing the value '587'.
- Sender:** An empty text input field.
- Sender's Address:** An empty text input field.
- Select Receivers:** A dropdown menu showing 'Receiver 1'.
- Receiver:** An empty text input field.
- Receiver's Address:** An empty text input field.
- Enable Attached Picture:** A checkbox that is currently unchecked.
- Interval:** A dropdown menu showing '2s'.

At the bottom of the configuration area, there are two buttons: 'Test' and 'Apply'.

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

Server authentication	Tick the box when authentication on the server is required
User name	Enter the user name of your email account here
Password	Enter the password of your email account here
Sender	Enter the sender name here
Sender's address	Enter the email address linked to the email account here
Select recipients	Here you can select up to three different recipients and then enter their email addresses
Recipient	Enter the name of the recipient here
Recipient's address	Enter the recipient's email address here
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.
SMTP server	Enter the SMTP server address of the email provider here
SMTP port	Enter the SMTP port of the email provider here.
Enable SSL/TLS	Tick the box to enable email encryption

Advanced settings – ABUS Link Station

ABUS

General User Network TCP/IP **Advanced** Live View Holiday

SNMP Email **ABUS Link Station** More Settings

Enable ☒

Enable Stream Encrypt... ☐

Verification Code/Encr... test1234

Status Online

ABUS Link Station Account S... Unlinked Unbind

Scan the QR code via the ABUS Link Station app application to add the device.

Apply

The ABUS Link Station service enables quick and easy remote access, e.g. via a mobile end device (without port forwarding).

Note: An Internet connection is essential for using this service.

Activate	Tick the box to enable this service. After activation, a menu for entering the “Verification code” and agreeing to the conditions of use will appear.
Stream encryption	Here you can enable encryption of the data transmission.
Verification code	You can set the verification code here. This will be requested when establishing the connection remotely in order to prevent access by unauthorised third parties. (If stream encryption is enabled)
Status	Shows whether the recorder is connected to the ABUS Link Station service
ABUS Link Station account status	Shows whether the recorder is connected to an ABUS Link Station user account

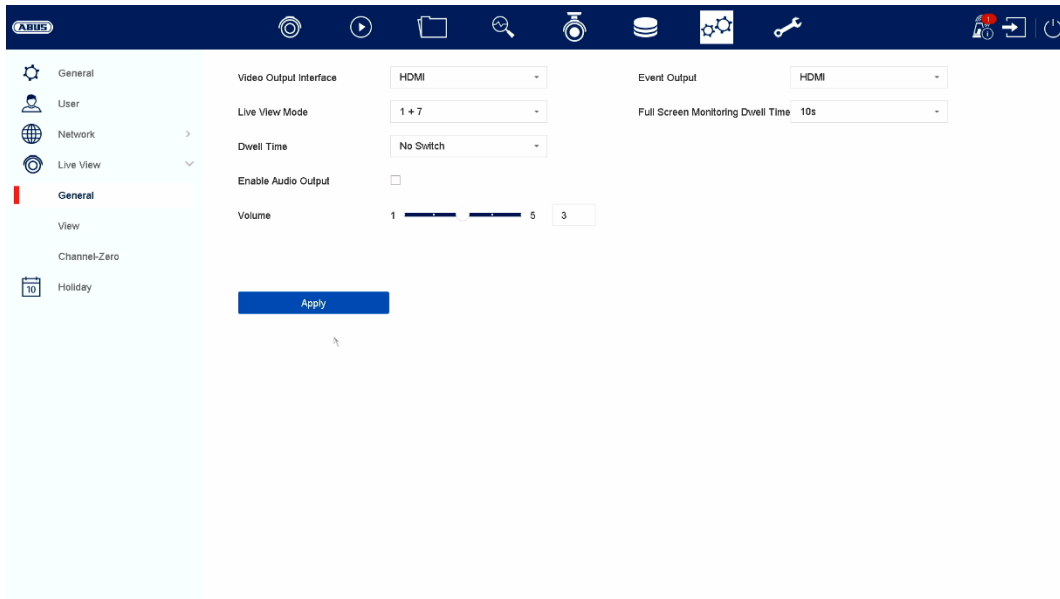
You can add devices in the “ABUS Link Station” app very easily by scanning the QR code of the device. This QR code is included in the scope of delivery or you can use the QR code displayed here in the menu.

Advanced settings – additional settings

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 with ABUS CMS and iDVR app / ABUS LINK STATION APP (normal connection via IP) (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)
Advanced SDK service connection	(Default: 8443)

Live view

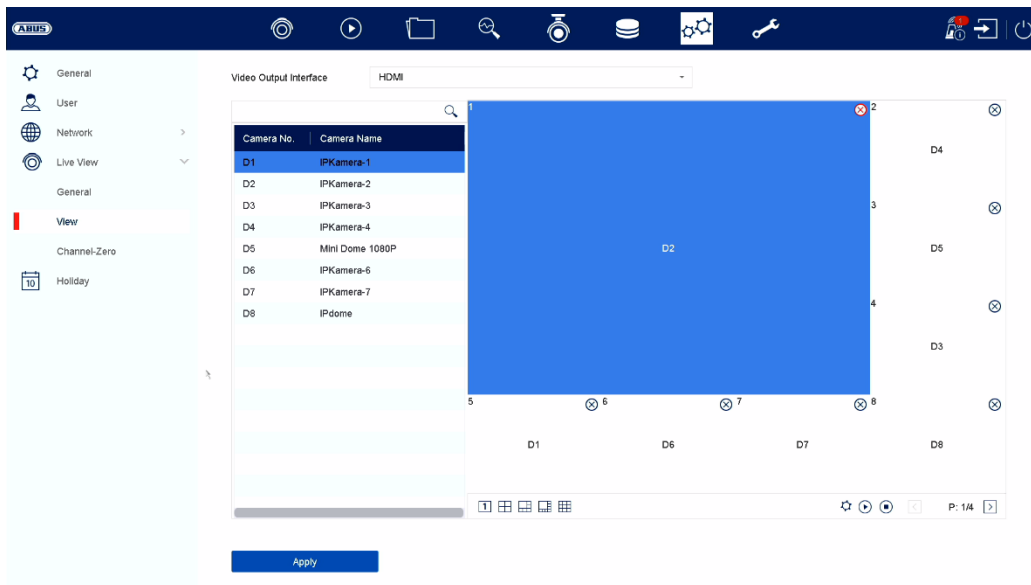
In the live view menu, define the behaviour of the local image output on the recorder.



General

Video output	Here you can select which connection you want to change the settings for
Layout	Here you can select the camera layout: 1x1, 2x2, 1+5, 1+7, 3x3, etc.
Dwell Time	Here you can select the switching time between the individual cameras during auto-switch.
Disable audio	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
Volume	Here you can adjust the volume
Event Output	Here you can select the monitor for outputting events
Full Screen Monitoring Dwell Time	Here you can specify the length of time (in seconds) for which the event should be displayed on the assigned monitor

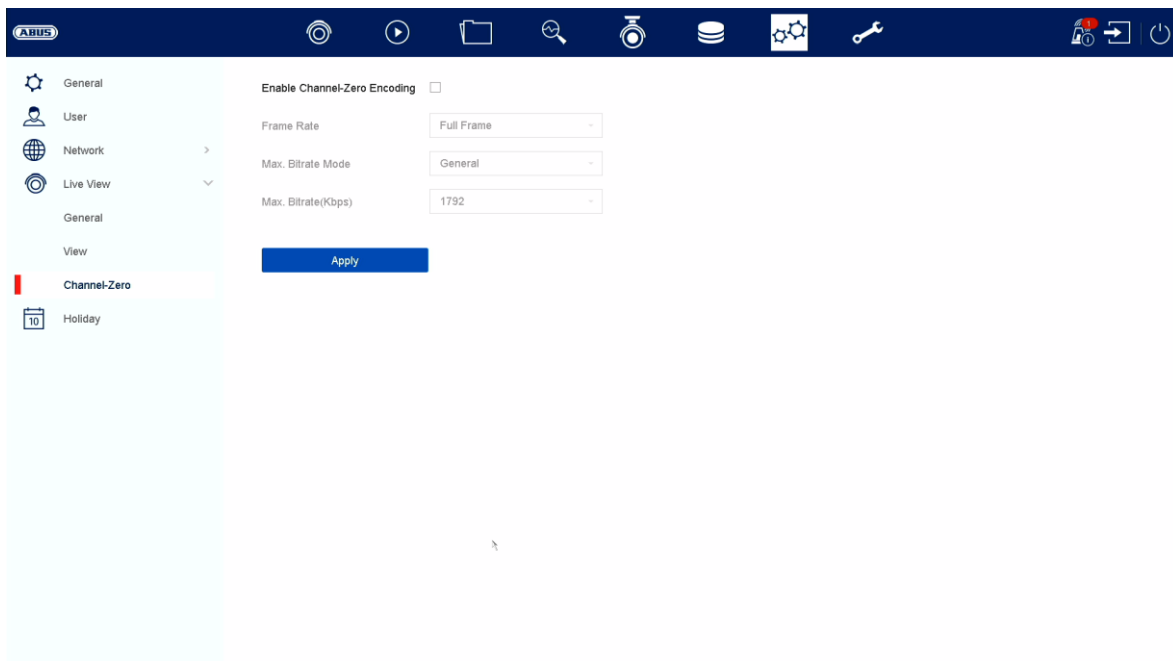
Layout / display



Here you can specify the camera layout for the selected monitor.

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

All-in-one stream (Channel-Zero)

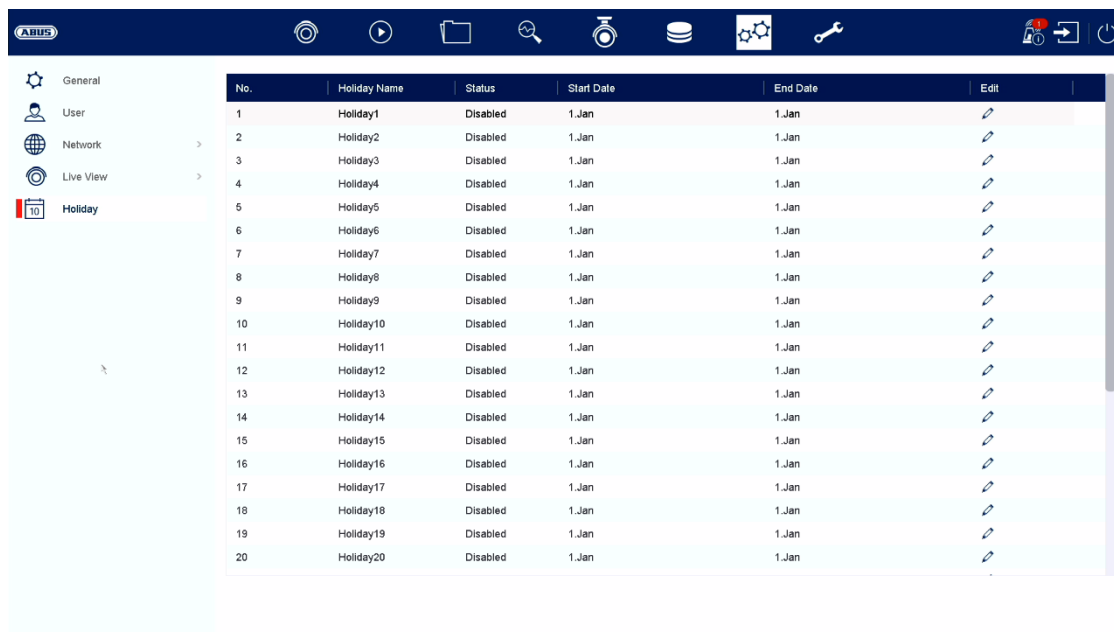


Here you can enable the “All-in-one” stream. The recorder will then provide an additional stream. The current image on the VGA monitor is then transmitted as a combined “Image/stream” (it is no longer possible to select a camera in the stream). This option is useful when you want an overview of all cameras but have limited bandwidth for transmission.

Important:

Once the menu is opened on the VG monitor, only a black image is transmitted.

Holiday



No.	Holiday Name	Status	Start Date	End Date	Edit
1	Holiday1	Disabled	1.Jan	1.Jan	
2	Holiday2	Disabled	1.Jan	1.Jan	
3	Holiday3	Disabled	1.Jan	1.Jan	
4	Holiday4	Disabled	1.Jan	1.Jan	
5	Holiday5	Disabled	1.Jan	1.Jan	
6	Holiday6	Disabled	1.Jan	1.Jan	
7	Holiday7	Disabled	1.Jan	1.Jan	
8	Holiday8	Disabled	1.Jan	1.Jan	
9	Holiday9	Disabled	1.Jan	1.Jan	
10	Holiday10	Disabled	1.Jan	1.Jan	
11	Holiday11	Disabled	1.Jan	1.Jan	
12	Holiday12	Disabled	1.Jan	1.Jan	
13	Holiday13	Disabled	1.Jan	1.Jan	
14	Holiday14	Disabled	1.Jan	1.Jan	
15	Holiday15	Disabled	1.Jan	1.Jan	
16	Holiday16	Disabled	1.Jan	1.Jan	
17	Holiday17	Disabled	1.Jan	1.Jan	
18	Holiday18	Disabled	1.Jan	1.Jan	
19	Holiday19	Disabled	1.Jan	1.Jan	
20	Holiday20	Disabled	1.Jan	1.Jan	

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

Hot spare

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

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

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

Note

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

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

Setting up hot spare mode

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

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

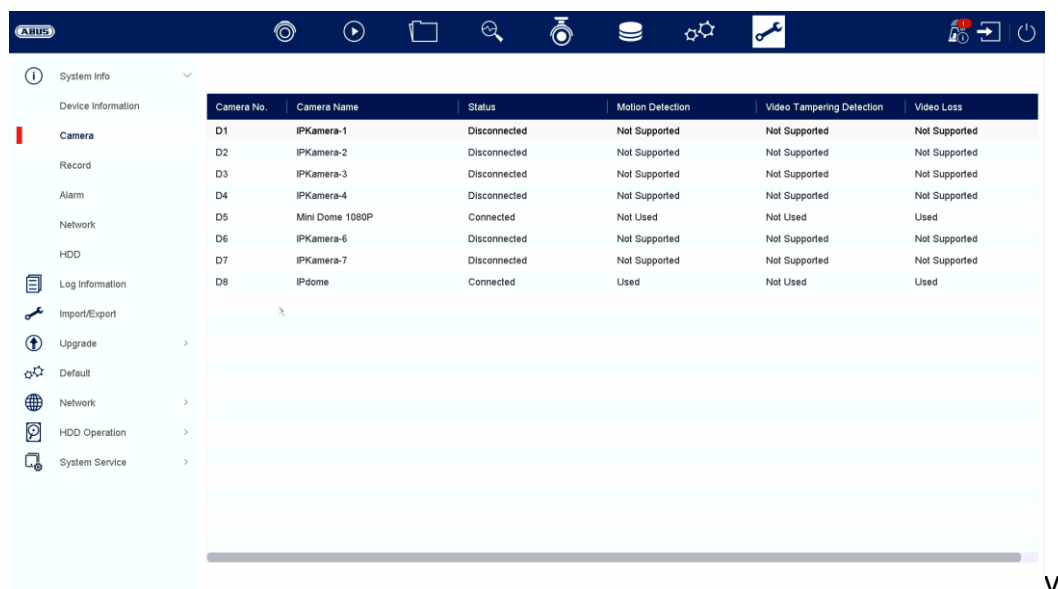
Note

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

10) Maintenance settings

In this menu you can import and export e.g. important status information and configuration data and reset the recorder to the default settings.

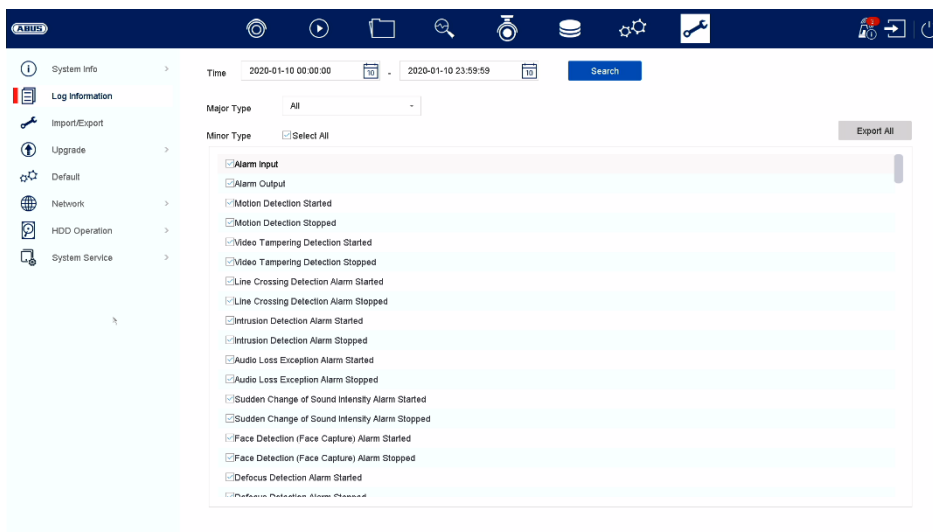
System info



Camera No.	Camera Name	Status	Motion Detection	Video Tampering Detection	Video Loss
D1	IPKamera-1	Disconnected	Not Supported	Not Supported	Not Supported
D2	IPKamera-2	Disconnected	Not Supported	Not Supported	Not Supported
D3	IPKamera-3	Disconnected	Not Supported	Not Supported	Not Supported
D4	IPKamera-4	Disconnected	Not Supported	Not Supported	Not Supported
D5	Mini Dome 1080P	Connected	Not Used	Not Used	Used
D6	IPKamera-6	Disconnected	Not Supported	Not Supported	Not Supported
D7	IPKamera-7	Disconnected	Not Supported	Not Supported	Not Supported
D8	IPdome	Connected	Used	Not Used	Used

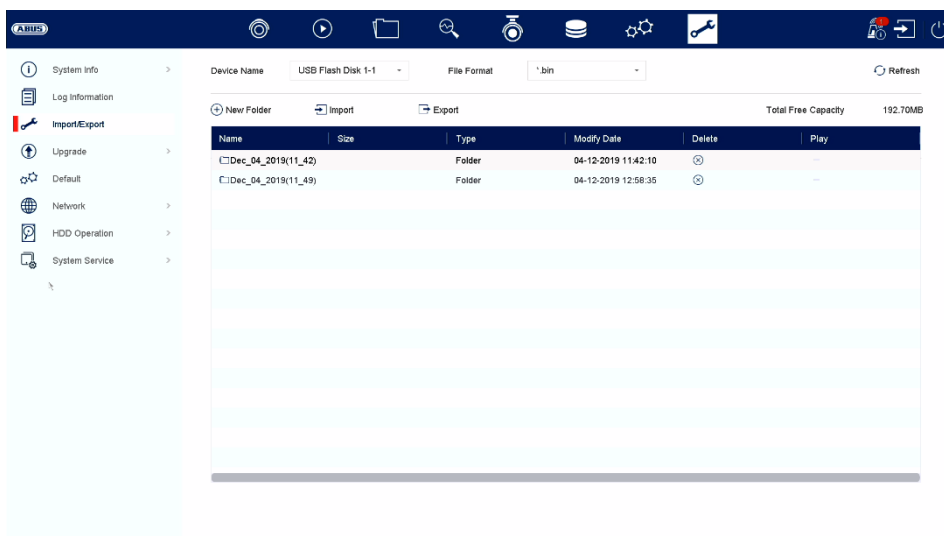
This menu displays various information on the system, cameras, recording, alarms, the network and storage media.

Log book



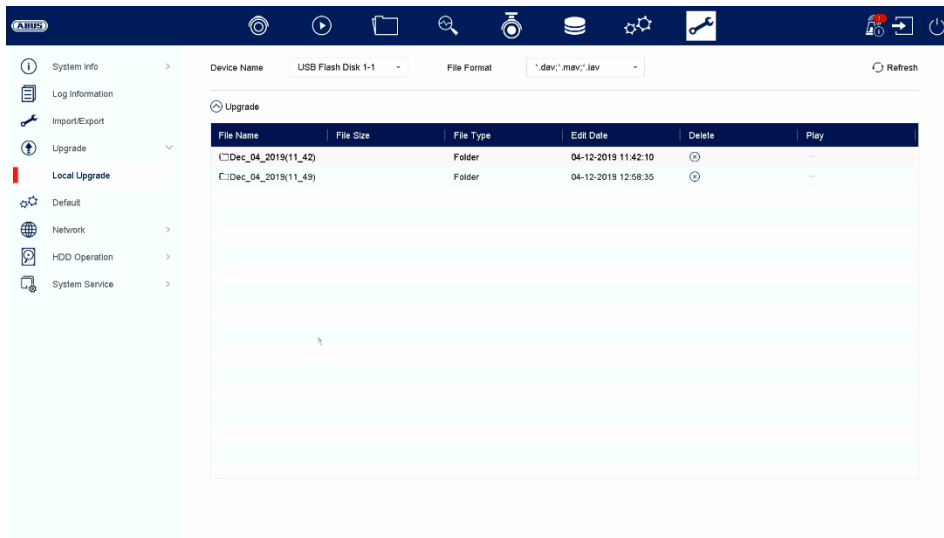
All interactions and events are recorded in the log book. Entries can be filtered according to specific criteria and displayed.

Import/Export



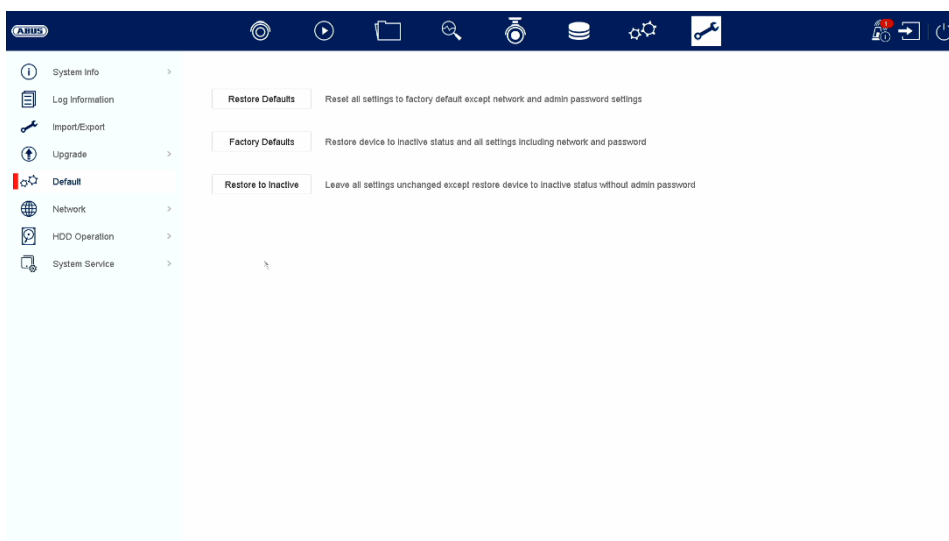
Here you can import and export the configuration data from the recorder.

Update



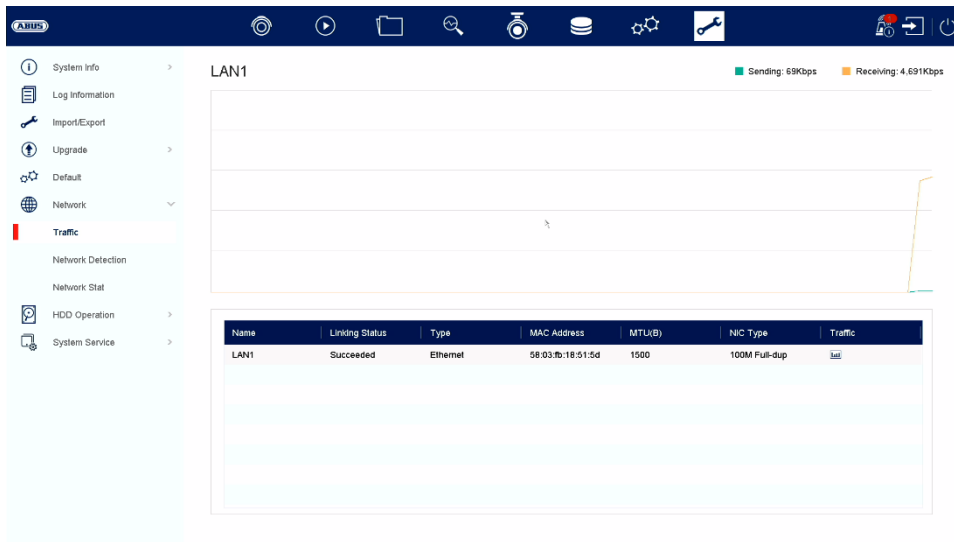
Here you can update the recorder with the latest firmware.

Restore defaults



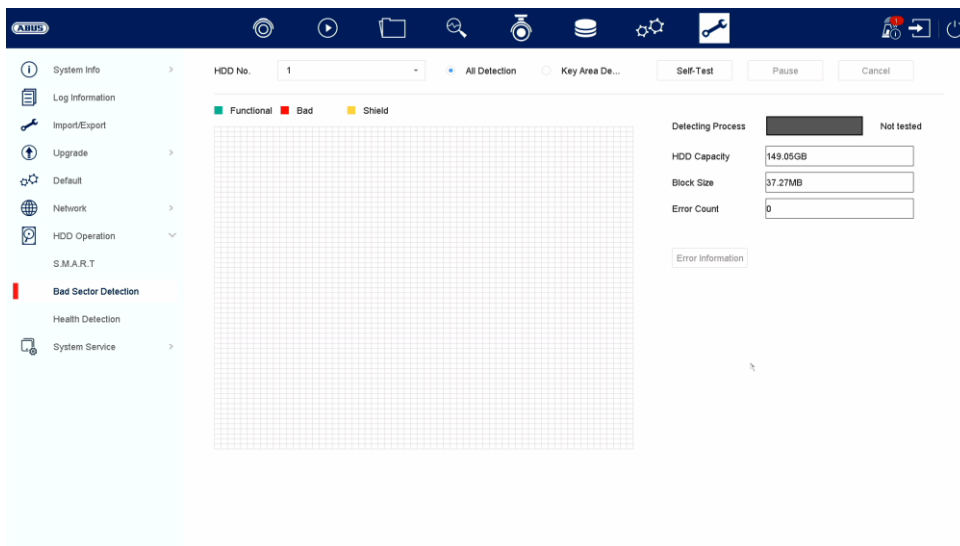
Here you can reset the recorder settings, completely reset the recorder to factory settings or reset the recorder to “Disabled”.

Network



In this menu you will find various information on the network interface, network traffic and network status.

Hard disk drive function



In this menu you will find various information on the installed hard disk drive. You can also check the hard disk drive for “Bad sectors”.

System maintenance

Advanced settings

ABUS

System Info >
Log Information
Import/Export
Upgrade >
Default >
Network >
HDD Operation >
System Service >
System Service
ONVIF
Stream Encryption
Address Filter
Double Verification Settings

Enable RTSP ☒
RTSP Authentication Type digest
Enable ISAPI ☒
Enable HTTP ☒
HTTP Authentication Type digest
Enable IP Camera Occupancy Detection ☒
Enable SDK Service ☒
Enable Enhanced SDK Service ☒
Enable USB Redirect ☒
Apply

ONVIF:

ABUS

System Info >
Log Information
Import/Export
Upgrade >
Default >
Network >
HDD Operation >
System Service >
System Service
ONVIF
Stream Encryption
Address Filter
Double Verification Settings

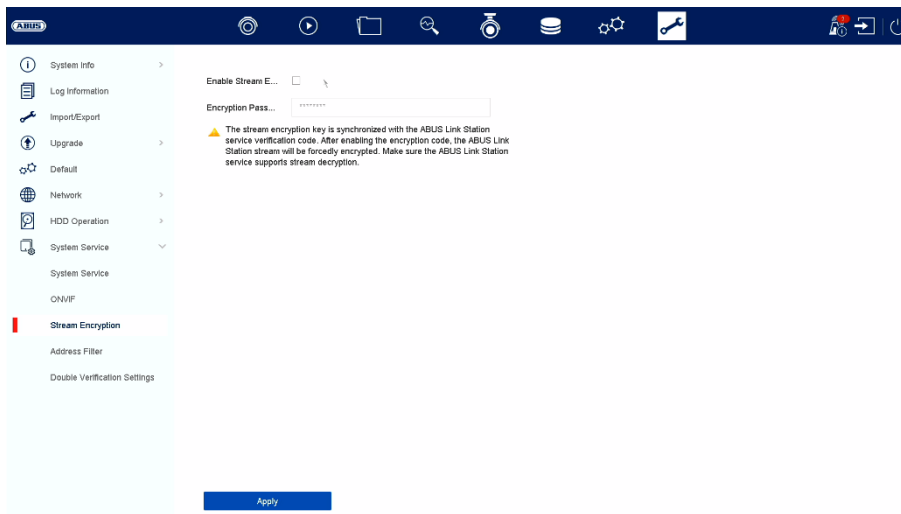
Enable ONVIF ☒

No.	User Name	Security	Level	Edit	Delete
-----	-----------	----------	-------	------	--------

Add Apply

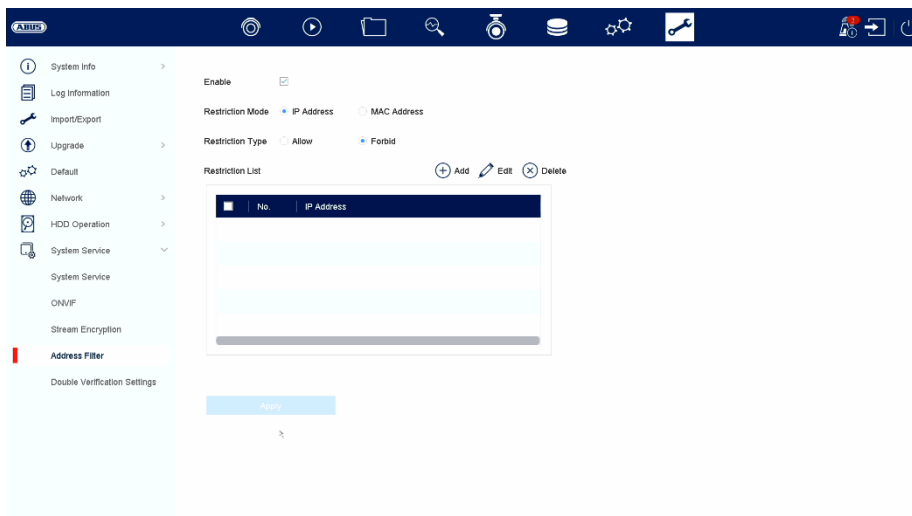
Here you can activate the ONVIF function and create users who are authorised to access the NVR via the ONVIF protocol.

Stream encryption:



Here you can activate/deactivate stream encryption for access via the ABUS LINK STATION app and change the verification code. This is required for accessing live images in the app as well as for remote access via the web interface and ABUS CMS software.

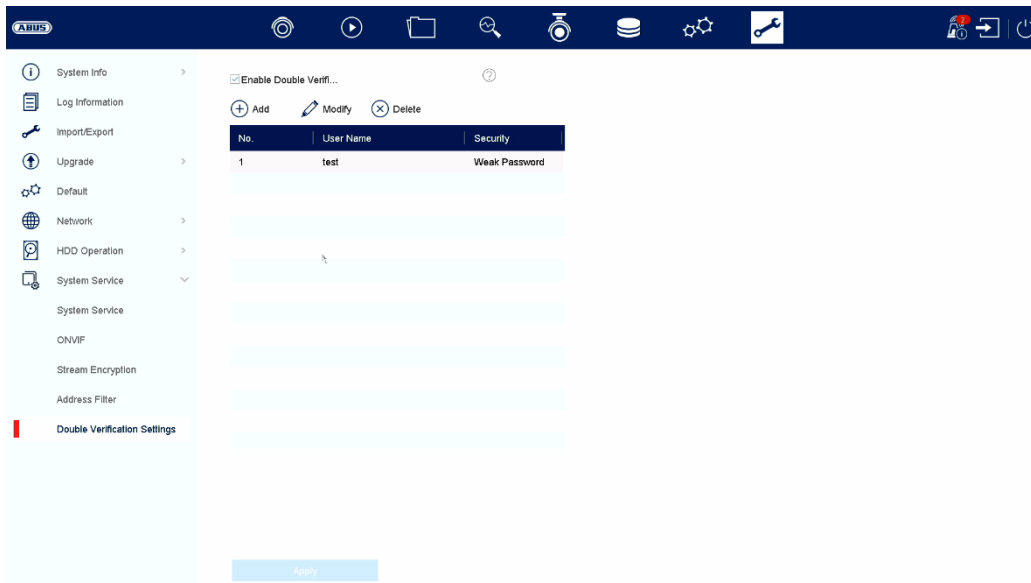
Address filter:



In this menu you can create an authorisation filter. This filter can “Authorise” or “Block” based on the IP or MAC address. Select IP or MAC and whether to allow/block and then click on “Add”.

Important: The filter immediately becomes active when you click “Apply”. Make sure that the correct filter rule is created and that you have not blocked yourself.

Double Verification Settings (Two-man rule):



The Double Verification allows for double verification of a “Guest” or “Operator” user for the following actions:

- Local Playback
- Remote Playback
- Local Video Export

One of these actions can only be carried out if the “Double Verification” user then enters their password, thereby completing the double verification process. You can create up to eight different “Double Verification” users.

How to set up the Double Verification, using the example of a newly created user with the authorisation level of “Operator”:

- 1) Create a new “Operator” under “System” / “Users” and specify the desired authorisations (not relating to Double Verification access)
- 2) Enable the function under “Maintenance” / “System maintenance” / “Double Verification” and create a new user to be subject to double verification.
- 3) Assign the desired cameras to be called up solely via double verification in the “Double Verification” menu.

Info: The “Double Verification” authorisations can also be modified under “Authorisation” for the relevant user in “System” / “Users”.

- 4) The “Double Verification” user is then requested for the desired cameras during an action of the “Operator”.

The procedure is the same for a “Guest” user.