

ABUS embedded NVR



Local user interface user guide

Date: 04.05.2016
Firmware: 3.3.4



English

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

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

Keep this user guide to consult later.

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

Important safety information	6
Explanation of symbols	6
Intended use	6
General	6
Power supply	6
Installation	7
Children	7
Introduction	8
General information	8
On-screen keyboard	8
Starting the device	9
Switching off the device, locking, rebooting	9
Setup wizard	10
Setting up the system	10
Administrator set up	11
System time and date	11
Network settings	12
Hard disk drive management	12
Camera assistant	13
Camera recording	13
Live view	14
Overview	14
Pop-up menu with mouse operation	14
Selection bar in the camera image	15
Settings	15
Setting the camera output	16
Playback in live view	17
General	17
Playback screen	17
Control via the control panel	17
Selecting playback type	18
Playback: Duration	19
Playback: Event	19
Playback: Tag	19
Playback: Smart	19
Playback: Multi-Timeshift	20
Playback: External File	20
Playback: Image	21
Device menu	22
Menu overview	22
Settings	23
Menu description	23
Configuration	24
Overview	24
General settings	24
Network layout	26
Network configuration	26
General tab	27
PPPOE tab	27
DDNS tab	27
NTP tab	28

Contents





Email tab.....	28
NAT tab	29
SNMP tab	29
More Settings tab	29
Alarm.....	30
Alarm Status tab.....	30
Alarm Input tab	30
Trigger Channel tab.....	30
Arming Schedule tab	30
Linkage Action tab	31
PTZ Linking tab	31
Alarm Output tab	31
RS-232.....	32
Exception	32
User.....	33
Hot Spare.....	34
Setting up hot spare mode	34
Camera	35
Camera	35
Camera tab.....	35
IP Camera Import/Export tab.....	36
OSD	37
Image	37
PTZ	37
Motion	38
Settings.....	39
Private Zone.....	40
Tamper monitoring.....	40
Video Loss	41
VCA.....	42
Recording	43
Schedule	43
Record tab	43
Parameters	44
Record tab	44
Substream tab	45
Capture tab	45
Advanced settings.....	45
Holiday	45
HDD	47
Hard disk drives	47
General	47
Advanced settings.....	48
RAID.....	49
TAP physical disk	49
TAP array	50
Panic recording.....	51
Recording.....	51
Continuous Capture	51
Alarm.....	51
VCA Search.....	52
Behaviour Search	52
Face Search.....	53

People Counting	53
Video Export	55
Duration.....	55
Event	56
Maintenance	57
System Info	57
Log Information	57
Import/Export	58
Upgrade	58
Default.....	59
Net Detect	59
Traffic tab.....	59
Network Detection tab	59
Network Stat. tab	60
HDD Detect	60
Checking the hard disk drive status	61
Technical data	62
Fault rectification	63
Disposal	63
Notes on EC directives for waste electrical and electronic equipment	63
Notes on RoHS EU Directive	63
Glossary	64
Technical terms used	64

Important safety information

Explanation of symbols

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

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

The following annotations are used in the text:

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

Intended use

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

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

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

Note

Data storage is subject to national data privacy guidelines.

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

General

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



Warning

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

We cannot be held liable for resulting damage.



Warning

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

All guarantee claims are void in such cases.

Retain this handbook for future reference.

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

Power supply



Warning

Prevent data loss.

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



Warning

Modifications to the device invalidate the guarantee.

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:

- TVVR35002
- TVVR35011
- TVVR45021
- TVVR45030
- TVVR60011
- TVVR60021



Warning

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

Children

- Do not allow electrical devices to be handled by children. Do not allow children to use electrical devices unsupervised. Children may not properly identify possible hazards. Small parts may be fatal if swallowed.
- Keep packaging film away from children. 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).

Introduction

Dear Customer,

Thank you for purchasing this product.

This device complies with the requirements of the EU Low Voltage Directive (2006/95/EC) and the RoHS Directive (2011/65/EU). The declaration of conformity can be obtained from:

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

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

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

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

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



Disclaimer

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

General information

To use the device properly, read this user handbook thoroughly and retain it for later use.



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.

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.

Starting the device



Attention

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

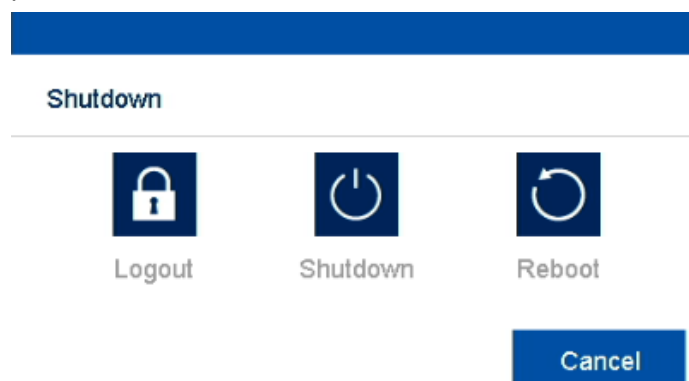
For security, use an uninterruptible power supply UPS.

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

1. During the start-up procedure, the device carries out a self-test.
2. Finally, the setup wizard appears. End this, to go to live view.

Switching off the device, locking, rebooting

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



1. 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.
2. To lock the system, select the left hand symbol **Logout**. The user interface is locked. To reach the menu, a password must be entered.
3. To reboot, select the right hand symbol **Reboot**. The device carries out a reboot.


Switching on the device

- Plug in the power supply unit to start the device.

Setup wizard

Setting up the system

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

**Note**

All the advanced settings can be found in the device menu see the overview on page 22.

Following the first switch-on, the language selection appears:

ABUS

Language

System Language

English

Apply

Exit

- Click on the input field and select your language from the list. To proceed, click on ✓. The following query appears:


Wizard

☒ Start wizard when device starts?

Next

Exit

- Click on Next to start the wizard.

**Note**

After the system has been set up the 'checkbox' can be deactivated, the tick is hidden and the wizard no longer starts automatically.

Administrator set up

**Warning**

Note down the admin password.
The preset password is:

"1 2 3 4 5".

Wizard

Admin Password

New Admin Password ☐

New Password

Confirm

✓ Valid password range [1-16].

Previous

Next

Exit

1. Click on the input field and enter the admin password.
2. To assign a new password, activate the 'checkbox' in front of **New Admin Password**.
3. Enter the new password and confirm the entry in the field below.
4. Click on **Next**.

System time and date

Wizard

Time Zone (GMT+01:00) Amsterdam, Berlin, Rome, Paris

Date Format DD-MM-YYYY

System Date 23-03-2016



System Time 11:38:48



Previous

Next

Exit

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

Network settings

Wizard

Working Mode	Net Fault-tolerance
Select NIC	bond0
NIC Type	10M/100M/1000M Self-adaptive
Enable DHCP	<input type="checkbox"/>
IPv4 Address	192.168.0.62
IPv4 Subnet Mask	255.255.0.0
IPv4 Default Gateway	192.168.0.1
Preferred DNS Serv...	194.25.2.129
Alternate DNS Server	194.25.2.129
Main NIC	LAN1

Previous

Next

Exit

i

Note

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

1.

DHCP active: if the DHCP has been set up in the network router, enable the DHCP 'checkbox'. All network settings are then completed automatically.
2.

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). Alternatively you can also enter the address of the DNS server, which is required for email dispatch.

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

i

Note

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

Wizard

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

Previous

Next

Exit

1.

To set up remote access, activate DDNS using the "checkbox".
2.

Click on the input field and select the DDNS type.
3.

Save the server address and the Device Domain Name, user name and password.
4.

Click on **Next**.

Hard disk drive management

Wizard

<input type="checkbox"/> L...	Capacity	Status	Property	Type	Free Space
<input checked="" type="checkbox"/> 25	465.77GB	Normal	R/W	eSATA	0MB

Init

Previous

Next

Exit

1.

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.

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

Camera assistant

Wizard

No.	IP Address	Amount of...	Device M...	Protocol	Mana
<input checked="" type="checkbox"/> 1	192.168.0.160	1	IPC	ABUS	80
<input type="checkbox"/> 2	192.168.0.170	1	IPC	ABUS	80
<input type="checkbox"/> 3	192.168.0.174	1	IPC	ABUS	80
<input type="checkbox"/> 4	192.168.0.176	1	IPC	ABUS	80
<input type="checkbox"/> 5	192.168.0.180	1	IPC	ABUS	80
<input type="checkbox"/> 6	192.168.0.13	1	IPC	ABUS	80

<

|

|

|

>

Add

Search

Previous

Next

Exit

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

Camera recording

Wizard

Continuous

☒

Motion Detection

☐

Previous

OK

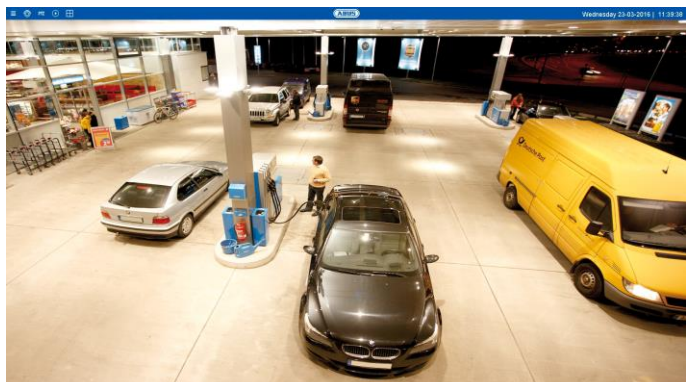
Exit

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

Live view

Overview

Live view starts automatically when the device is switched on.

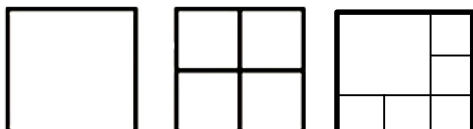


The following menus are found in the header:

- Menu
- Live view
- PTZ
- Playback
- Multiview

The device date and time are displayed on the right-hand side of the header.

- Click on the icon to open the pop-up menu of the **Multiview**.
- Click on one of the icons in the pop-up bar on the right-hand side to switch between the different views.



The signals of the connected cameras are displayed on the main screen.

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

Status symbols

- The following symbols are displayed depending on the operating status of the device:

Symbol	Meaning
	Red: motion recording <ul style="list-style-type: none"> • recording only upon motion detection
	Blue: Recording <ul style="list-style-type: none"> • continuous recording

Pop-up menu with mouse operation



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:

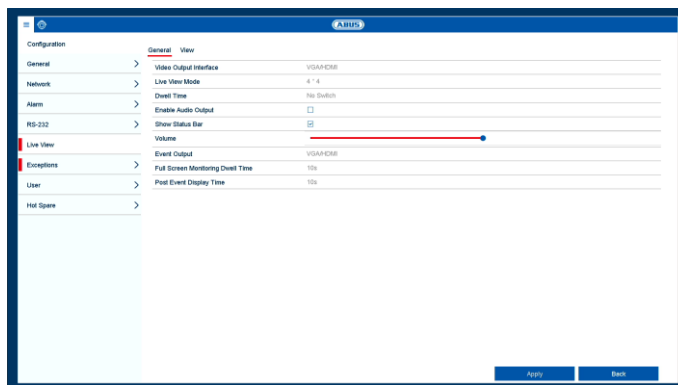


Menu	Opens the main menu
Single Screen	Full-screen view of the selected camera.
Multi-screen	Various camera layouts
Previous Screen	Displays the previous camera
Next Screen	Displays the next camera(s)
Start Auto-switch	Starts the camera sequence display
Start Recording	Starts continuous recording or motion detection
Add IP Camera	Adds additional IP cameras
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.



The following settings are available in the General tab:

Video Output Interface	VGA/HDMI Select the connection where the settings are changed.
Live View Mode	Various camera layouts 1x1, 2x2, 1+5.
Dwell Time	Switching time between the individual cameras during auto-switch.
Enable Audio Output	Activates the audio output (VGA/HDMI/BNC) for the live view.
Display status bar	Activate/deactivate the status bar.
Volume	Adjust volume
Event Output	Allocate monitor for the output of events.
Full Screen Monitoring Dwell Time	The number of seconds for which the event will be displayed on the allocated monitor.
Post Event Display Time	The number of seconds for which the pop-up window should be displayed in the event of an alarm.

Selection bar in the camera image

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



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

No.	Meaning of the symbol
(0)	Area for moving the miniature bar
(1)	Activate/deactivate manual recording
(2)	Instant playback of the last 5 minutes
(3)	Activate / deactivate the audio function
(4)	Create a snapshot from the current camera
(5)	Open the PTZ control menu (for PTZ cameras only)
(6)	Digital zoom
(7)	Image display settings
(8)	Face Detection
(9)	Live View Strategy
(10)	Stream information
(11)	Close the selection bar

Settings

Note
The following settings are available for the live view.

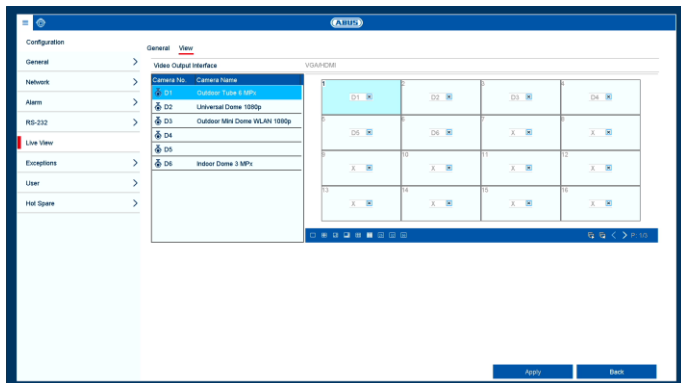
Open the main menu and click on Configuration. Then click on Live View:

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 main VGA connection. Connect the VGA cable and restart the recorder to perform automatic detection.

Setting the camera output

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

1. Click on the View tab:



2. Select the display mode.
 - 1 x 1
 - 2 x 2
 - 1 + 5
 - 1 + 7
 - 3 x 3
 - 4 x 4
 - 5 x 5
 - 6 x 6
3. Use the navigation keys to allocate the camera signal required to the corresponding screen section.
 - The X setting means that this particular camera is not being displayed.
4. Click on **Apply** to apply the setting.



Note

The number of cameras displayed depends on your existing device.

Playback in live view

General

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

Note

The "Previous/Next file/day/event" buttons are allocated as follows, depending on the playback mode:

Normal playback:

Pressing one of the buttons switches playback to the previous/next day.

Event search:

Pressing one of the buttons switches playback to the previous/next event.

Data export:

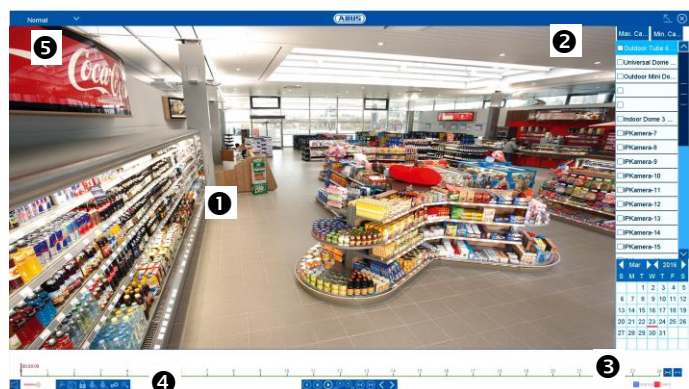
Pressing one of the buttons switches playback to the previous/next file.

Note

The capacity for simultaneous playback on multiple camera channels depends on your end device.

Playback screen

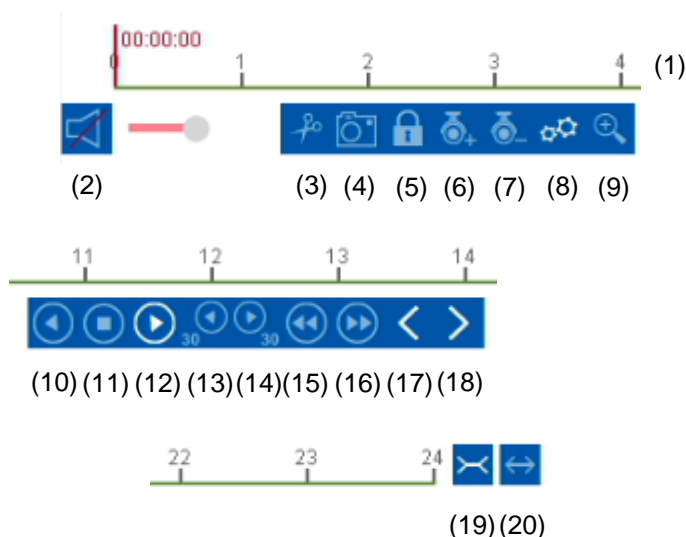
Playback is controlled via the control panel:



No.	Area
①	Running playback with date and time
②	Selection of camera for playback
③	Calendar with recording type
④	Control panel with time bar (see right)
⑤	Selection of playback type

Control via the control panel

The control panel (4) is used to control running playback. The symbols have the following meanings:



No.	Meaning of the symbol
1	Time bar: Click on the time bar with the mouse to continue playback from another point. <ul style="list-style-type: none"> • Click on the slider and drag it to a specific time to start playback from that point.
2	Enable/disable audio output.
3	Start/stop video clip
4	Capture
5	Lock file
6	Add tag
7	Add user-defined tag (see "Tag" playback type).
8	File management
9	Zoom+
10	Reverse playback
11	Stop
12	Start/pause playback.
13	Go back 30 seconds.
14	Go forward 30 seconds.
15	Go forward in slow-motion (8x → 1x).
16	Fast forward (1x → 8x).
17	Previous tag
18	Next tag
19	Reduce time bar section.
20	Increase time bar section.

Playback in live view

Click on 'File management' (8):

The following tabs are available:

Tab	Description
Video Clips	Export and manage video clips
Playback Capture	Export and manage recordings
Locked File	Export, manage and unlock your Locked Files
Tag	Tag management

File Management

Video ClipsPlayback CaptureLocked FileTag

Cam...	Tag Name	Time	Edit	Delete
D1	TAG	23-03-2016 00:00:05		
D1	TAG	23-03-2016 00:00:05		
D1	TAG	23-03-2016 00:00:05		
D1	TAG	23-03-2016 00:00:05		
D1	TAG	23-03-2016 00:00:05		
D1	TAG	23-03-2016 00:00:05		
D1	TAG	23-03-2016 00:00:06		

Total: 7 P: 1/1

Cancel

- Go to the **Tag** tab and click on the edit icon to change the description of your tag. To remove a tag, click on the delete icon.

Selecting playback type

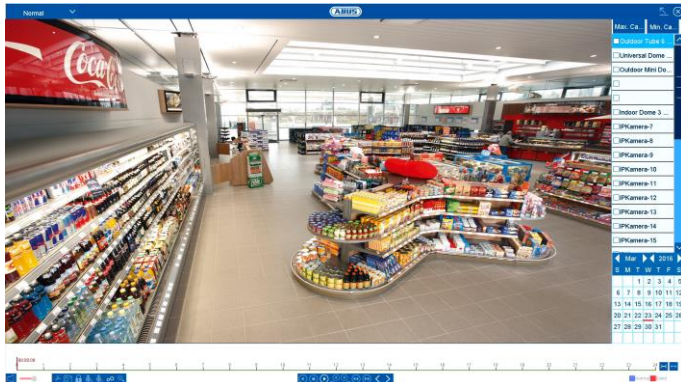
Selecting the playback type (5) allows various types of recording and event to be displayed and filtered in the playback view.



The following menus are available:

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

Playback: Duration

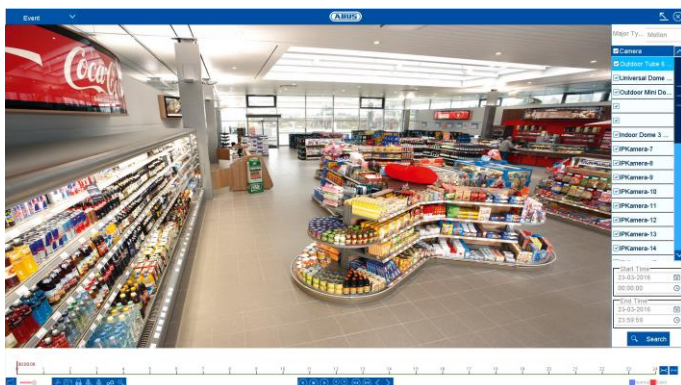


"Continuous" playback is the default view always displayed when the playback function is opened.

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.
Timeline	Select a playback time on the timeline using the mouse.

Playback: Event



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

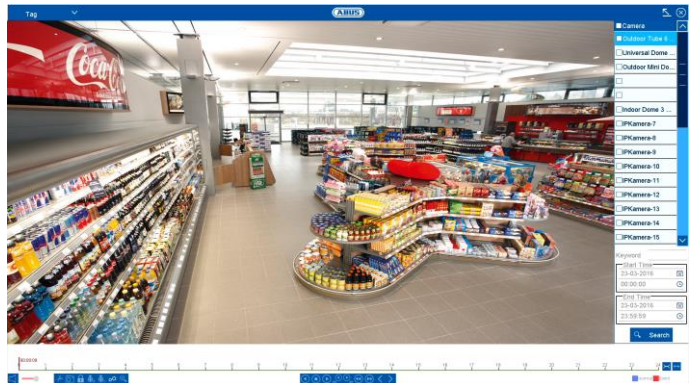
Filters	Description
Filter1	Select an event type: motion, alarm, VCA
Filter2	Select a VCA type: All, Tripwire, Intrusion Detection, Face Detection.
Cameras	Select one or more camera channels.
Start time	Select the start date and start time.
End Time	Select the end date and end time.

Search

Start the event search using the previously defined filters.

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

Playback: Tag



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

There are other filters available for the search:

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

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

Playback: Smart



Playback in live view

Using "Smart" playback, a retrospective motion analysis of the recorded data from the NVR is carried out. To do this, the recorded image content from the selected channel is analysed. The image area to be analysed is selected using the bar on the left-hand edge of the image.

There are other filters available for the search:

Filters	Description
Camera	Select a camera channel.
Calendar	Select the recording date. The whole day (24h) is analysed.
Draw Line	Analyse the recording using Tripwire. This is only possible if the channel was recorded with Tripwire.
Draw Quadrilateral	Analyse the recording using Intrusion Detection. This is only possible if the channel was recorded with Intrusion Detection.
Draw Motion Quadrilateral	Analyse the recording using Motion Detection. Set the image area here.
Motion Detection: Full Screen	A full screen mask is created for analysis using Motion Detection.
Clear All	Deletes all lines, quadrilaterals and motion screens for the analysis.

The results of the analysis are displayed as a separate green line on the time bar.

Playback: Multi-Timeshift



Using "Multi-Timeshift" playback, different points in time from one single camera channel can be simultaneously analysed in a targeted way. To do this, the channel is played back with a time delay of up to 16x, according to the setting.

There are other filters available for the search:

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

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

Playback: External File



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

There are other filters available for the search:

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

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

Playback: Image



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

There are other filters available for the search:

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

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

Device menu

Menu overview

The following overview menu shows the main menus used to set and control the device.

You can also see important information about your device on the right-hand side.

- Click on the menu you need to open it.
- Click on Exit to close the menu overview.

Menu

GeneralCamerasHDD

Settings>

Playback>

VCA Search>

Export>

Maintenance>

DVR ModelTVVR45030

Firmware VersionV3.3.4, Build 160224

Network In/Out72Mbps / 212Mbps

LAN #1LAN #2

IP Address192.168.0.62

MAC Address8c:11:cb:20:00:08

DHCPNo

Port

HTTP80

DVR8000

RTSP554

Exit

Menu	Description
Settings	Leads to the Configuration, Camera, Recording, HDD and Manual menus.
Playback	Parameter-controlled search for video and image recordings which were triggered by events such as motion detection, as well as tags set in playback.
VCA Search	Parameter-controlled search for video and image recordings triggered by events such as tripwire detection, as well as analysis of face search and people counting.
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 traf-fic.

Settings



Settings



Configuration



Camera



Record



HDD



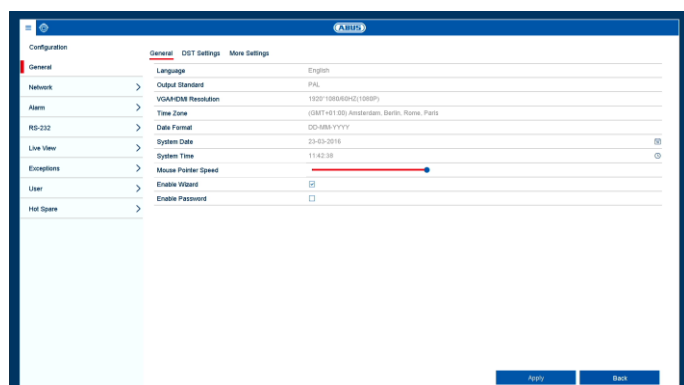
Manual

Back

Menu description

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.)
Manual Management	Menu for setting manual recordings.

Configuration



Note

The Configuration menu is used to manage all device settings.



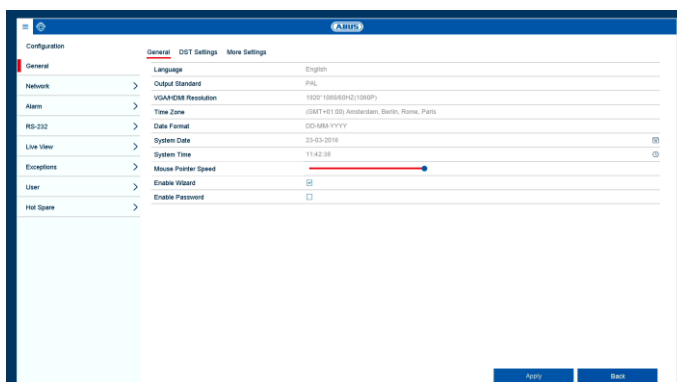
Warning

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

Overview

Menu	Setting
General	Language, video, time, date, mouse, password, daylight saving time and other settings.
Network	Required network settings (manual IP, DHCP, PPPOE, DDNS etc.) and overview of network status.
RS-232	Settings for the serial interface (for servicing purposes only).
Alarm	Settings for the alarm I/Os for the IP cameras.
Live view	Display settings and assignment of the event output.
Exception	Response of the device in exceptional cases (hard disk drive full, network disconnected etc.)
User	Adding and changing users and assigning access rights.
Hot Spare	Setting up the back-up function in the event of device failure.

General settings



General tab	Setting
Language	On-screen display language.
Output Standard	Video output format at BNC video output (PAL/NTSC).
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	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	Settings
Device Name	Set the unique ID for the device.
No.	Used for unique identification when using CMS software.
CVBS Output Brightness	Slider (left = lower brightness, right = higher brightness).
Auto Logout	Never/1–30 minutes: controls how long the menu is displayed before it is hidden again.
VGA/HDMI Simultaneous Output	Box ticked: The HDMI and VGA outputs are cloned. Box not ticked: The HDMI and VGA outputs can be controlled separately (different picture output)
Menu Output Mode	Use to specify the monitor output for the menu display. If set to auto, the recorder will detect the output.

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

Network configuration

General

It is essential that the network settings are correct if you

- want to control the device and monitor remotely via your browser.



Note

Please read the following general instructions before setting up the device.

A network is the connection of at least two network-compatible devices.

Transmission methods:

- wired networks (e.g. CAT5 cable)
- wireless networks (WLAN)
- other transmission types (Powerline)

All systems have significant similarities but are different in various ways.

Terms

Below there is an overview of terms related to using the device on networks.

Parameter	Setting
IP address	An IP address is the unique address of a network device on a network. It must only appear once on a network. Certain IP address ranges are reserved for public networks, such as the internet.
Private address range	E.g. 10.0.0.0–10.255.255.255 Subnet mask: 255.0.0.0 172.16.0.0–172.31.255.255 Subnet mask 255.255.0.0 192.168.0.0–192.168.255.255 Subnet mask: 255.255.255.0
Subnet mask	A subnet mask is a bit mask that is used to make decisions and assignments during routing. The standard subnet mask on home networks is 255.255.255.0.
Gateway	A gateway is a network device that allows all other network devices to access the internet. It can be, for example, the computer to which the DSL modem is connected or, most frequently, the router or access point on the network.


Parameter	Setting
Name server	The name server, also known as the DNS (Domain Name Server), is responsible for assigning a unique IP address to a web address or URL (e.g. www.google.de). When a domain is entered into a browser, the DNS searches for the corresponding IP address of the server and forwards the query on to it. The IP of the provider's DNS can be entered here. However, it is often sufficient to select the IP of the gateway. This then forwards the queries independently to the provider DNS.
DHCP	The DHCP server automatically assigns the IP address, subnet mask, gateway and name server to a network device. DHCPs are available in current routers. The DHCP service must be specially set and activated (see the relevant manual for more information). Note: When using fixed IP addresses together with a DHCP server, you should ensure that the fixed IP addresses are outside of

	the addresses assigned by DHCP to avoid problems occurring.
Port	A port is an interface that enables different programs to communicate. Certain ports are fixed (23: Telnet, 21: FTP), whilst others can be freely selected. Ports are relevant for various applications, e.g. for external access to the device via a browser.
MAC Address	The MAC address (Media Access Control address or Ethernet ID) is the specific hardware address of the network adapter. It is used for the unique identification of the device on a computer network.

	Click on Change to enter the access data (user name and password) for your provider.
DDNS	Server for Dynamic Domain Name System management used to update host names and DNS entries.
NTP	Network Time Protocol. Server for time synchronisation.
Email	Specify email settings to be used when an email is sent to a specific address in the event of an alarm.
SNMP	SNMP is a protocol for displaying the network status via corresponding SNMP software.
NAT	Network Address Translation To separate internal and external networks
More Settings	Used to configure the IP address of the PC where a notification should be displayed in the event of an alarm.

Network layout


The device must be physically connected to the network via at least a CAT5 cable.



Note

Please follow the instructions and notes for the network devices.

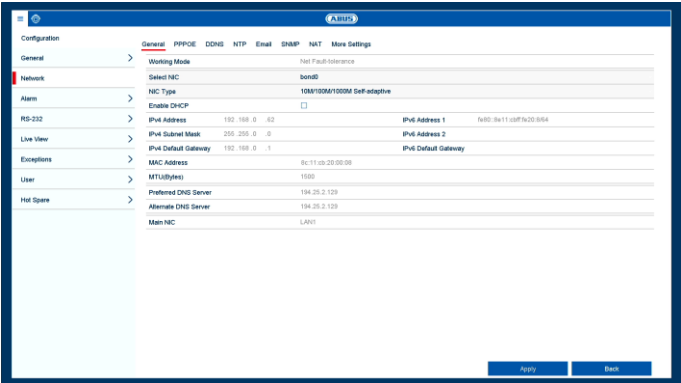
Several switches/routers/access points can be connected to one another. Firewalls and other security software may have a negative effect on the network.



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.

Network configuration



Tab	Setting
General	Settings for the local network and selecting the network mode.
PPPOE	PPPOE is used with ADSL connections and when using a modem in Germany.

General tab

Parameter	Setting
NIC Type	Set the transmission speed of the integrated network card here. Tip: 10M/100M/1000M Self-adaptive.
DHCP	<p>Tick the box if the IP addresses on the network are assigned dynamically via DHCP.</p> <p>DHCP enabled: subsequent entry fields are set to disabled because parameters are obtained via DHCP.</p> <p>Note:</p> <p>If the IP addresses are assigned manually, ensure that DHCP is not enabled (do not tick the box).</p>
IPv4 Address	Address of the network device on the network when assigned manually.
IPv4 Subnet Mask	Usually 255.255.255.0.
IPv4 Default Gateway	Gateway address for internet access.
IPv6 Address 1	Local (link local) IPv6 address.
IPv6 Address 2	Global (global unicast) IPv6 address.
IPv6 Default Gateway	IPv6 gateway address for internet access.
MAC address	Hardware address of the integrated network card.
MTU(Bytes)	Describes the maximum protocol packet size.
Preferred DNS Server	Address of the domain name server, usually the IP address of the gateway.
Alternate DNS Server	IP address of the alternative DNS server.



Note

In certain modes some of these settings cannot be selected.

PPPOE tab

1. Tick the "Enable PPPOE" box. Then enter your user name (internet access ID) and password and confirm your password.
2. Apply the data by clicking on **Apply**.



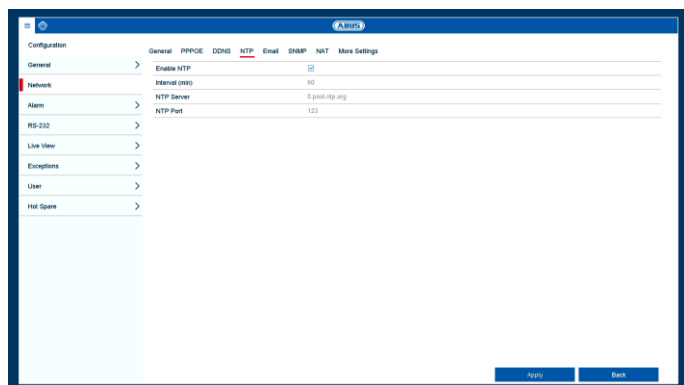
Warning

If possible, only use PPPOE when no router is available.

DDNS tab

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 "DynDNS" as the DDNS Type and enter the www.abus-server.com IP address in the "Server Address" field.
3. Apply the data by clicking on **Apply**. The IP address of your internet connection is now updated on the server every minute.

NTP tab



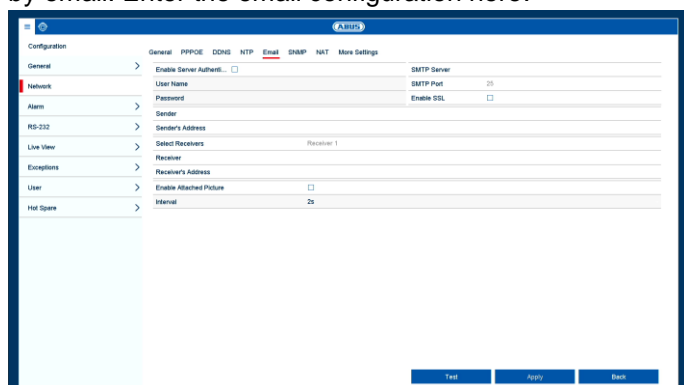
Note

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.



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 for 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.

Parameter	Setting
Enable Server Authentication	Tick the box when logged onto the internet provider's server
User name	Email account with the provider
Password	Password used to protect the email account
SMTP Server	SMTP server address of the provider.
SMTP Port	Enter the SMTP port (default: 25)
Enable SSL	Tick the box to enable email encryption
Sender	Name of the sender

NAT tab

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

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

SNMP tab

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

Note

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

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

More Settings tab

Parameter	Setting
Alarm Host IP	Network address of the CMS station
Alarm Host Port	Port for your CMS station
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).
Enable high-speed download	Tick the box to enable high-speed download

i Note

Server port 8000 and HTTP port 80 are the standard ports for remote clients and remote internet browser access.

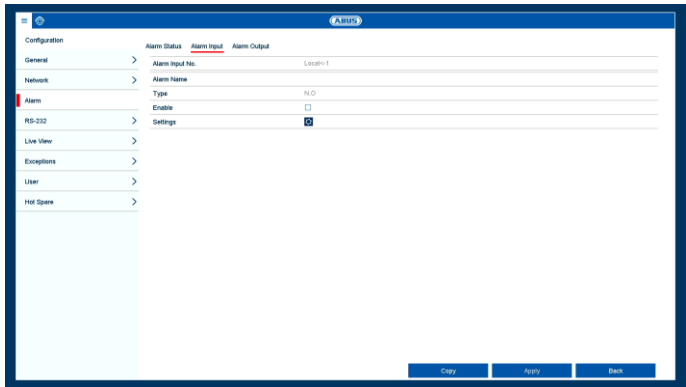
Alarm

Alarm Status tab



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

Alarm Input tab

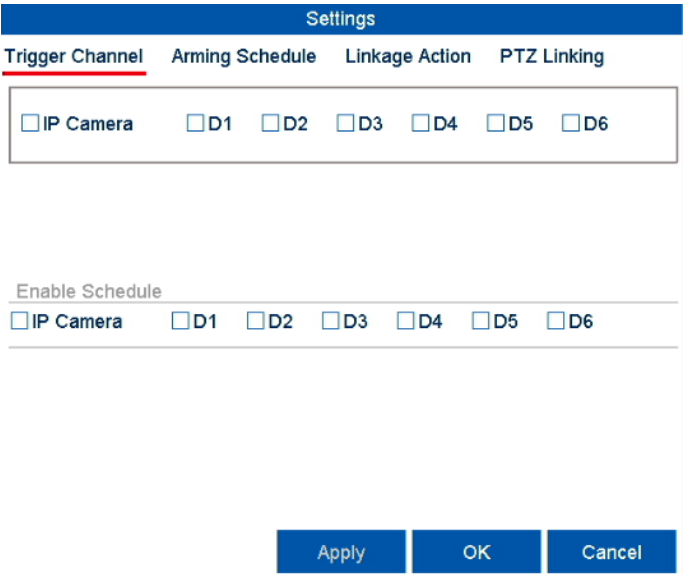


Parameter	Setting
Alarm Input No.	Select the alarm input to adjust the settings. You can select the alarm input for an IP camera using the network address data.
Alarm Name	Enter a clear description, e.g. warehouse door contact.
Type	N.O.: normally open circuit N.C.: normally closed circuit

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

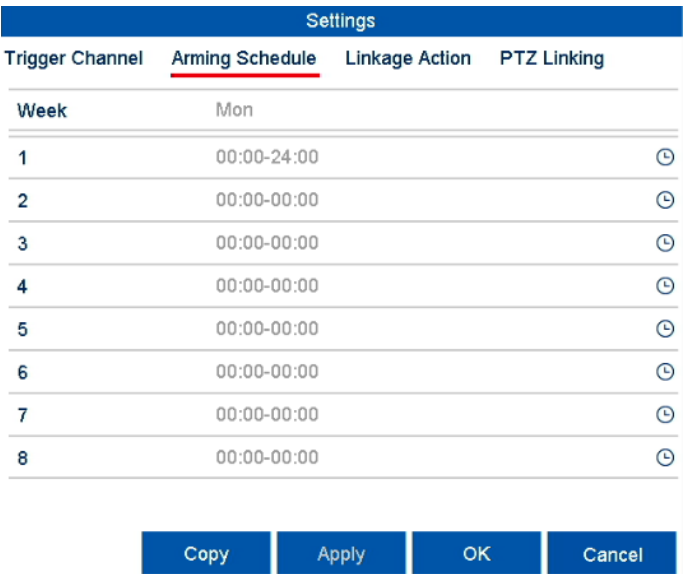
Settings

Trigger Channel tab



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

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.

Settings	
Trigger Channel	Arming Schedule
<input type="checkbox"/> Full Screen Monitoring	
<input type="checkbox"/> Audible Warning	
<input type="checkbox"/> Notify Surveillance Center	
<input type="checkbox"/> Send Email	
<input type="checkbox"/> Trigger Alarm Output	

Apply	OK	Cancel
-------	----	--------

Parameter	Notifications
Full Screen Monitoring	The camera is displayed in full screen in live view.
Audible Warning	The device emits a repeated signal tone.
Notify Surveillance Centre	The CMS emits an audible warning tone.
Send Email	An email is sent to a specified email address. See page 29.
Trigger Alarm Output	The 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.

Settings	
Trigger Channel	Arming Schedule
PTZ Linking	[D1] Outdoor Tube 6 MPx
Call Preset	<input type="radio"/>
Preset	1
Call Patrol	<input type="radio"/>
Patrol	1
Call Pattern	<input type="radio"/>
Pattern	1

Apply	OK	Cancel
-------	----	--------

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.
Call Patrol	Select the patrol number.
Call Pattern	Select the pattern number.

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

Alarm Output tab

Parameter	Setting
Alarm Output No.	Select the alarm output to adjust the settings. You can select the alarm output for an IP camera using the network address data.
Alarm Name	Enter a clear description, e.g. warehouse door contact.

Configuration

Dwell Time	Select the dwell time for switching the alarm output.
------------	---

- 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"**.

Settings

Arming Schedule

Week	Mon
1	00:00-24:00
2	00:00-00:00
3	00:00-00:00
4	00:00-00:00
5	00:00-00:00
6	00:00-00:00
7	00:00-00:00
8	00:00-00:00

Copy

Apply

OK

Cancel

- Click on **Copy** to apply these settings to other cameras.
- Confirm the settings by clicking on **Apply** and exit the menu by clicking on **Back**.

RS-232

RS-232 Settings

General	Baud Rate	115200
Network	Data Bit	8
Alarm	Stop Bit	1
RS-232	Parity	None
Live View	Flow Ctrl	None
Exceptions	Usage	Console

Apply

Back

Parameter	Setting
Baud Rate	Set the transmission speed you require using the baud rate
Data Bit	Set the data size to be transmitted
Stop Bit	Set the stop bit value for data transmission
Parity	Set the parity to test the error-free transmission of data packages

Flow Ctrl	Required to transfer data to the Speed Dome without the data transmission being performed too quickly and data packages being lost
Use	Select your usage type – "Console" (only for service purposes) or "Transparent Channel" (for virtual RS-485 control)

Exception

Exception

Configuration	Exception
General	Enable Event Hint <input checked="" type="checkbox"/>
Network	Event Hint Settings <input checked="" type="checkbox"/>
Alarm	Exception Type <input checked="" type="checkbox"/>
RS-232	Audible Warning <input type="checkbox"/>
Live View	Notify Surveillance Center <input type="checkbox"/>
Exceptions	Send Email <input type="checkbox"/>
User	Trigger Alarm Output <input type="checkbox"/>
Hot Spare	

Apply

Back

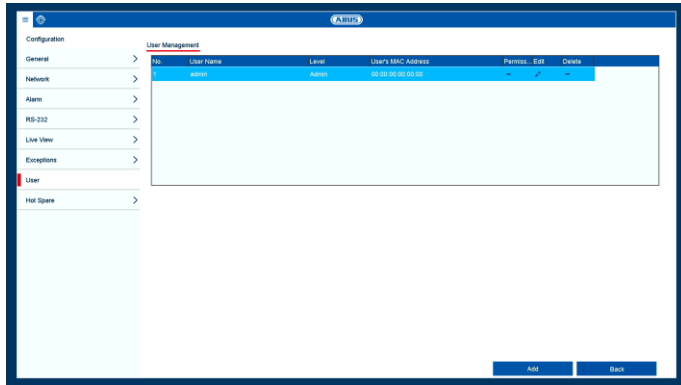
Set the response of the recorder for warning messages and system events here. To do this, activate the "Enable Event Hint" setting.

You can trigger a warning for the following error types:

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

Parameter	Notifications
Audible Warning	The device emits a repeated signal tone.
Notify Surveillance Center	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.

User



Warning

Note down the admin password.
The preset password is:
"1 2 3 4 5".

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

1. To add a new user, select **Add**.

Add User	
User Name	guest
Password	****
Confirm	****
Level	Guest
User's MAC Address	00 : 00 : 00 : 00 : 00 : 00

- ✓ Valid password range [8-16]. You can use a combination of numbers, lowercase, uppercase and special character for your password with at least two kinds of them contained.

OK

Cancel

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	IMPORTANT: More rights can be set on the Operator level than on the Guest level.

User's MAC Address

MAC address of the network adapter of the PC used by the corresponding user.

Note:

This limits access to the PC, for which the MAC address has been entered here.

2. Enter the name and password and confirm the password in the field below.
3. Select the level and enter the MAC address.
3. Confirm the settings by clicking on OK.



Warning

Follow the instructions below on assigning access rights.

Setting permissions

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

Permission	
Local Configuration	Remote Configuration
Camera Configuration	
<input checked="" type="checkbox"/> Local Log Search	
<input type="checkbox"/> Local Parameters Settings	
<input type="checkbox"/> Local Camera Management	
<input type="checkbox"/> Local Advanced Operation	
<input type="checkbox"/> Local Shutdown / Reboot	

Apply

OK

Cancel




Note

The user can adjust the settings locally, i.e. on the device, or change the parameters.

The user can access the device via the network connection.


Settings relating to permission to access individual cameras (via the network or locally) can be found in the Camera tab.

Parameter	Setting
-----------	---------

 **Note**

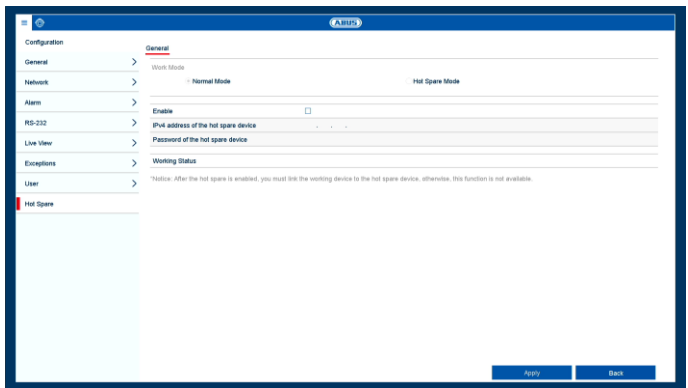
Make sure that the second device has the same or better performance data (IN/OUT, number of channels, number and size of hard disk drives). Both devices should also have the same firmware version.

Local Configuration	Local Log Search Local Parameters Settings Local Camera Management Advanced settings Local Shutdown/Reboot
Remote Configuration	Camera Permission: Remote Log Search Remote Parameters Settings Remote Camera Management Remote Video Output Control Two-way Audio Remote Alarm Control Advanced settings Remote Reboot
Camera Configuration	Camera Permission: Remote Live View Local Manual Operation Remote Manual Operation Local Playback Remote Playback Local Video Export

 **Warning**

Change the general settings of the user (name, password, level, MAC address) by clicking on the "Edit" icon or in the "Change Password" tab.


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

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

Setting up hot spare mode

1. First, set up the second device on the network and configure all basic functions (date, memory drives etc.).
2. In the "Hot spare" menu, select the hot spare mode for this device. You will need to restart the recorder in order to do this. Follow the instructions.
3. Make a note of the IP address for the hot spare device.

 **Note**

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

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**.

Camera

Camera



Here you can see an overview of all cameras currently found on the network and a status display of cameras already integrated.

Camera tab

Parameter	Setting
Camera No.	Channel port starting with D1...D32.
Add/Delete	X : manually delete the camera + : quickly add the camera. To do this, the camera must be set to the standard user and port settings.
Status	> : camera is online, click to view a preview ! : there is a camera fault or the camera is offline.
IP Camera Address	Displays the IP address.
Edit	Manually change the settings for the IP address, protocol, port and user name.
Upgrade	Updates the IP camera firmware via USB.
Name	Displays the camera name (see OSD menu item).
Protocol	Displays the manufacturer device protocol.
Device Model	Displays the camera model number.
Management Port	Saved management port
Firmware	IP camera firmware version
Advanced Settings	If available: Access to the advanced settings

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



Note

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

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

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

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

Custom Adding

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

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

Add IP Camera (Custom)

No.	IP Address	Amount of...	Device M...	Protocol	Manag
1	192.168.0.160	1	IPC	ABUS	80
2	192.168.0.170	1	IPC	ABUS	80
3	192.168.0.174	1	IPC	ABUS	80

IP Camera Address

192.168.0.160

Protocol

ABUS

Management Port

80

Transfer Protocol

Auto

User Name

NVR

Admin Password

☒ Continue to Add

Protocol

Search

Add

Back

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

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

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



Note

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

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

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



Note

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

Protocol

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



Note

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

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

Port	RTSP port entered
Path	Specifies the RTSP streaming path on the IP camera.



Note

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

Typical layout of an RTSP streaming path:

rtsp://192.168.0.1:554/video.h264

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

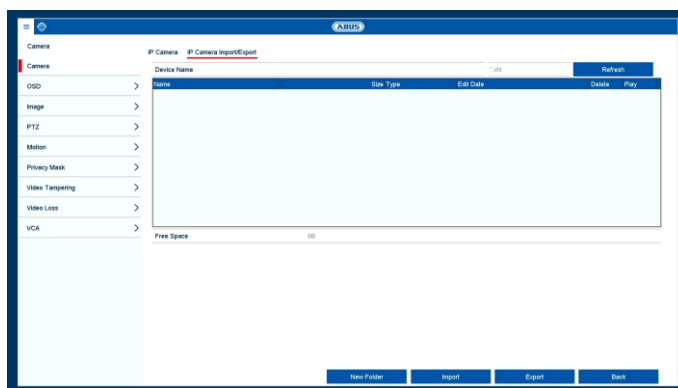


Note

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

IP Camera Import/Export tab

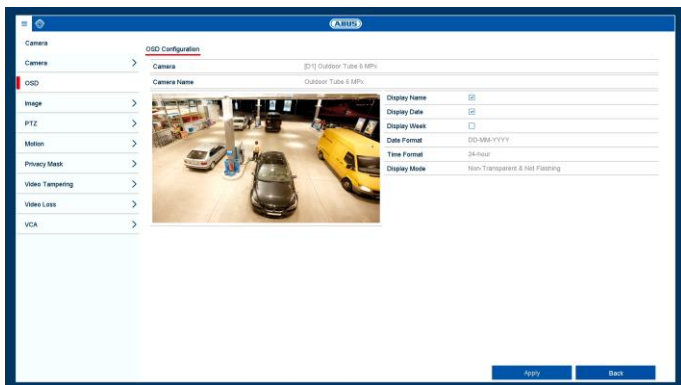
Here you can export and import all camera settings and configured camera lists from/to an external data storage device.



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

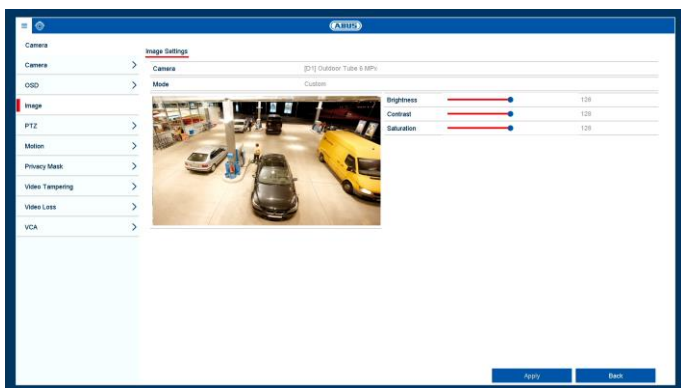
Click on **Export** to export a list of all saved cameras to an external data storage device.

OSD



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

Image



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

PTZ

PTZ Parameter Settings	
Baud Rate	9600
Data Bit	8
Stop Bit	1
Parity	None
Flow Ctrl	None
PTZ Protocol	Samsung
Address	1

Address range: 0~255

OK Cancel

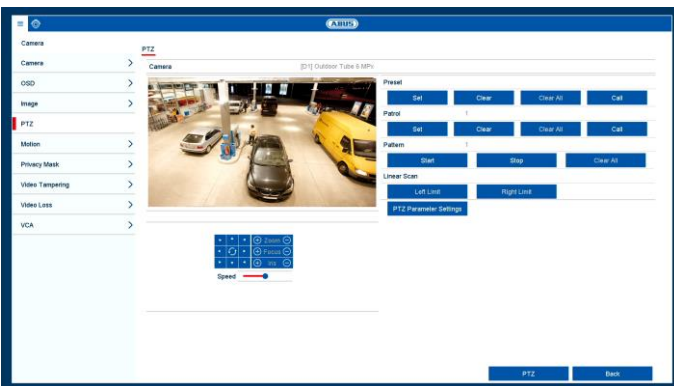
Select the camera channel to be processed under "Camera". "Linear Scan" under the menu item "PTZ Parameters" is used for the configuration of a PTZ camera.

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.



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

Presets	Save and retrieve individual pre-set positions.
---------	---

Pattern	Save and retrieve a motion pattern.
Patrol	Save and retrieve patrols.

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.



Note

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

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

1. Select the camera channel to be processed under "Camera".
2. Tick the "Enable Motion Detection" box and define any other optional parameters under "**Settings**".
3. On a PC, open the web interface for the camera you have selected and adjust the advanced settings for the motion mask, threshold and sensitivity.
4. Repeat the process for any additional cameras.
5. Click on **Apply** to save the settings.
6. If you wish to record based on motion detection, switch to the "**Record**" menu item and select the relevant cameras under "**Schedule**". Here you can configure the schedule using the "**Motion**" event in order to set up a motion-detection-based recording.



Note

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

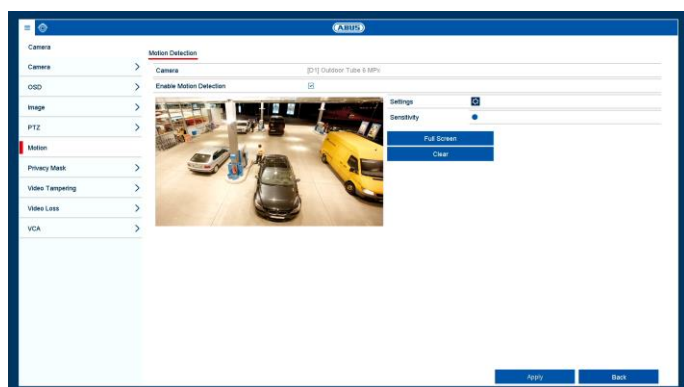


Note

The sensitivity settings for motion detection need to be adjusted on the camera web interface.

7. Click on **Apply** to save the settings.

Motion



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

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

Settings

When you click on "Settings", the **Trigger Channel** tab will appear (only for motion detection):

Settings

Trigger Channel Arming Schedule Linkage Action

☐ IP Camera
 ☒ D1
 ☐ D2
 ☐ D3
 ☐ D4
 ☐ D5
 ☐ D6

Apply OK Cancel

Select one or more camera channel(s) to react in the event of an alarm.

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

Arming Schedule

Select the **Arming Schedule** tab.

Here you set the times at which the reactions set in the **Linkage Action** tab are triggered.

Settings

Trigger Channel Arming Schedule Linkage Action

Week	Mon
1	00:00-24:00
2	00:00-00:00
3	00:00-00:00
4	00:00-00:00
5	00:00-00:00
6	00:00-00:00
7	00:00-00:00
8	00:00-00:00

Copy Apply OK Cancel

1. Select the day and enter the schedule.

Note

Up to eight time slots, between 00:00 and 00:00, can be defined in each case, but the individual time slots must not overlap.

2. Under **Copy**, select whether or not the setting should be applied to every day of the week and the holiday settings.
3. Confirm the settings by clicking on **Apply** and exit the menu by clicking on **OK**.

Linkage Method

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.

Settings

Trigger Channel Arming Schedule Linkage Action

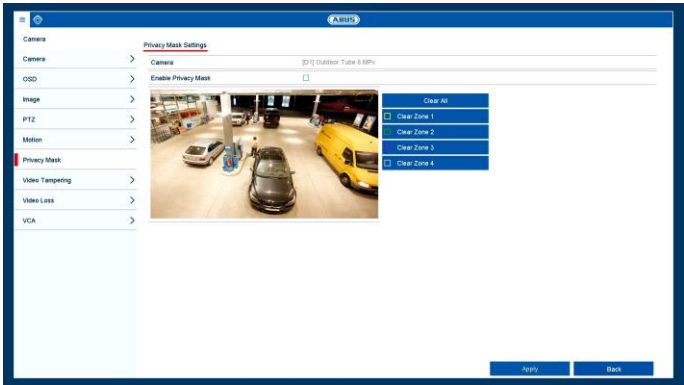
☐ Full Screen Monitoring
 ☐ Audible Warning
 ☐ Notify Surveillance Center
 ☐ Send Email
 ☐ Trigger Alarm Output

Apply OK Cancel

Parameter	Notifications
Full Screen Monitoring	The camera is displayed in full screen in live view.
Audible Warning	The device emits a repeated signal tone.
Notify Surveillance Centre	The CMS sends out a warning message
Send Email	An email is sent to a specified email address. See page 29.
Trigger Alarm Output	The alarm output is triggered in the event of an alarm.

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

Private Zone



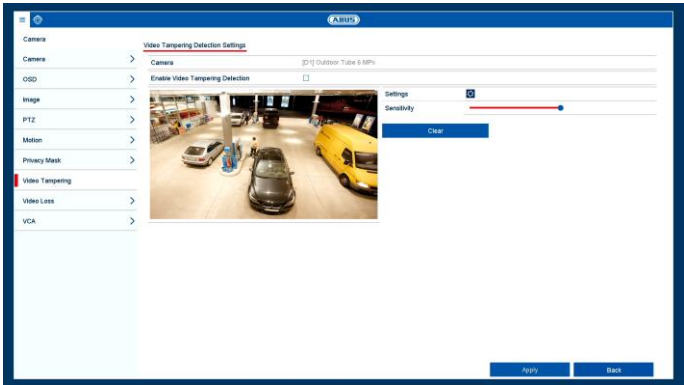
Select the camera channel to be processed under "Camera" and select the checkbox "Enable Privacy Mask".

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



Select the camera channel to be processed under "Camera" and select the checkbox "Enable Video Tampering Detection".

Open the **settings**.

Settings

Arming Schedule Linkage Action

Week	Mon	
1	00:00-24:00	
2	00:00-00:00	
3	00:00-00:00	
4	00:00-00:00	
5	00:00-00:00	
6	00:00-00:00	
7	00:00-00:00	
8	00:00-00:00	

Copy Apply OK Cancel

1. Select the day and enter the schedule.

Note

Up to eight time slots, between 00:00 and 00:00, can be defined in each case, but the individual time slots must not overlap.

2. Under **Copy**, select whether or not the setting should be applied to every day of the week and the holiday settings.
3. Confirm the settings by clicking on **Apply** and exit the menu by clicking on **OK**.

Select the **Linkage Action** tab.

Here you can configure the response of the recorder during an event (e.g. motion detected) by ticking the corresponding box.

Settings

Arming Schedule Linkage Action

☐ Full Screen Monitoring

☐ Audible Warning

☐ Notify Surveillance Center

☐ Send Email

☐ Trigger Alarm Output

<div>Apply OK Cancel</div>	
Parameter	Notifications
Full Screen Monitoring	The camera is displayed in full screen in live view.

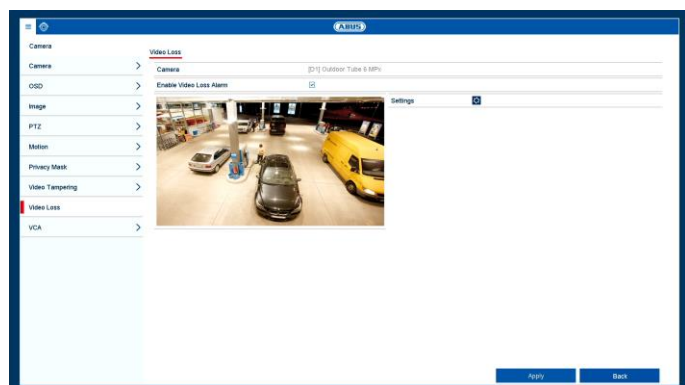
Audible Warning	The device emits a repeated signal tone.
Notify Surveillance Centre	The CMS sends out a warning message.
Send Email	An email is sent to a specified email address. See page 29.
Trigger Alarm Output	The alarm output is triggered in the event of an alarm.

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

Next, set the desired sensitivity.

Using the "Delete" field, you can discard the defined settings.

Video Loss



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

Tick the **Enable "Video Loss" Alarm** box and define any other parameters under **Settings** as required.

Arming Schedule

Select the **Arming Schedule** tab.

Here you set the times at which the reactions set in the **Linkage Action** tab are triggered.

Settings		
Arming Schedule	Linkage Action	
Week	Mon	
1	00:00-24:00	⌵
2	00:00-00:00	⌵
3	00:00-00:00	⌵
4	00:00-00:00	⌵
5	00:00-00:00	⌵
6	00:00-00:00	⌵
7	00:00-00:00	⌵
8	00:00-00:00	⌵
<div>Copy Apply OK Cancel</div>		

- Select the day and enter the schedule.



Note

Up to eight time slots, between 00:00 and 00:00, can be defined in each case, but the individual time slots must not overlap.

- Under **Copy**, select whether or not the setting should be applied to every day of the week and the holiday settings.
- Confirm the settings by clicking on **Apply** and exit the menu by clicking on **OK**.

Linkage Method

Select the **Linkage Action** tab.

Here you can configure the response of the recorder during an event (e.g. motion detected) by ticking the corresponding box.

Settings

Arming Schedule Linkage Action

☐ Full Screen Monitoring
 ☐ Audible Warning
 ☐ Notify Surveillance Center
 ☐ Send Email
 ☐ Trigger Alarm Output

Apply

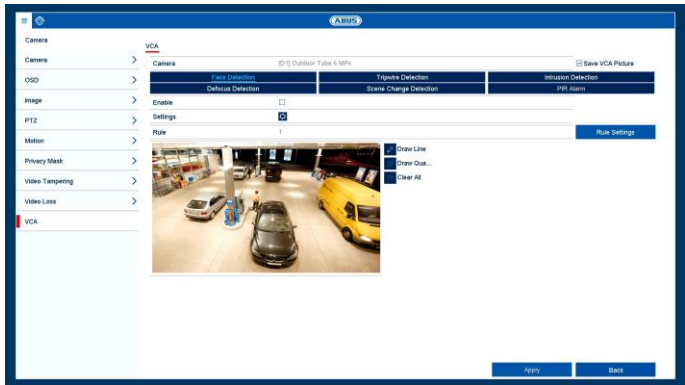
OK

Cancel

Parameter	Notifications
Full Screen Monitoring	The camera is displayed in full screen in live view.
Audible Warning	The device emits a repeated signal tone.
Notify Surveillance Centre	The CMS sends out a warning message.
Send Email	An email is sent to a specified email address. See page 29.
Trigger Alarm Output	The alarm output is triggered in the event of an alarm.

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

VCA



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

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

*i***Note**

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

Some VCA functions may not be available, depending on the camera model used.

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
Enable	Enables the VCA function in the camera.
Settings	Define settings for re-sponses 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.

*i***Note**

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

To fully enable the VCS function, confirm all settings by clicking on **Apply**.

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

Recording

Schedule

Open the overview menu and select Settings. Next, click on the "Record" icon. There are two types of configuration and data recording available:

Recording	Configuration of video stream recording from connected IP cameras. Continuous data streams are saved on the recorder.
Capture	Configuration of single image capture from connected IP cameras. Only single images are saved on the recorder.



Note

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

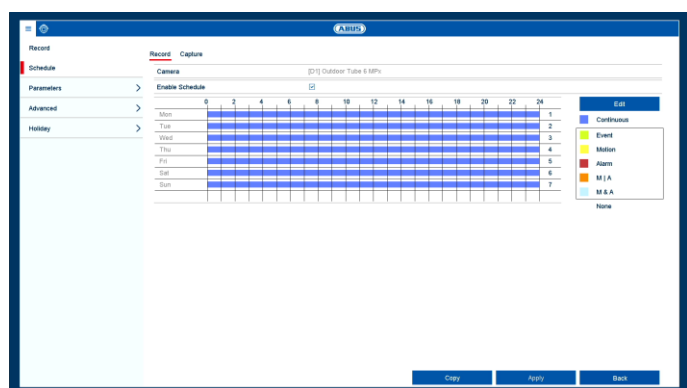
Record tab

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



Note

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



On the on-screen display, 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, there is a colour key, i.e. the time frames for recording are

displayed in the schedule in a different colour depending on the "trigger" (recording type) in question.

Coloured icon	Key
Blue	Duration: period in hours
Light green	Event: a recording is made whenever any type of event (motion, alarm input or VCA) occurs.
Yellow	Motion detection
Red	Alarm Input
Orange	Motion or alarm
Light blue	Motion and alarm
White	No selection

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

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

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

Copy

Apply

OK

Cancel

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".



Application example

If you want recording to run from 11:00 to 07:00, you need to set up two time zones:

1. 11:00–24:00
2. 00:00–07:00

Recording

4. Specify the recording type in the drop-down menu for "Type":

- Duration
- Event
- Motion
- Alarm
- Motion or alarm
- Motion and alarm
- Event



Note

For "Normal", you define the time period for recording.

The other triggers, such as motion detection, only trigger recording when the specific trigger has occurred.

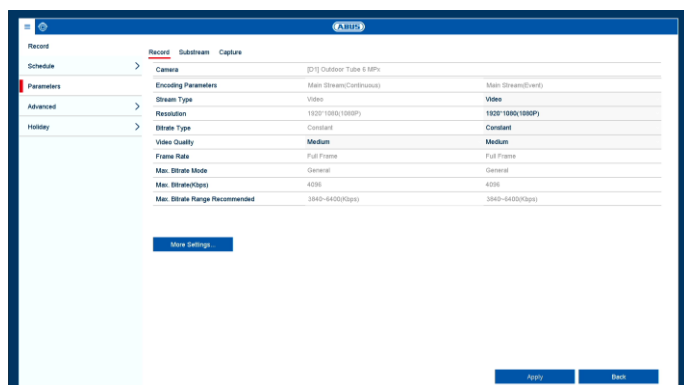
5. If you are entering time-dependent settings, you can define up to eight time slots, between 00:00 and 00:00 in each case, but the individual time slots must not overlap.

- 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**.

Parameters

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



Note

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

There are three types of configuration available:

Recording	Quality settings for continuous and event-based recording
Substream	Quality settings for the sub-stream, which is used for the live image display.
Capture	Quality settings for capturing single images

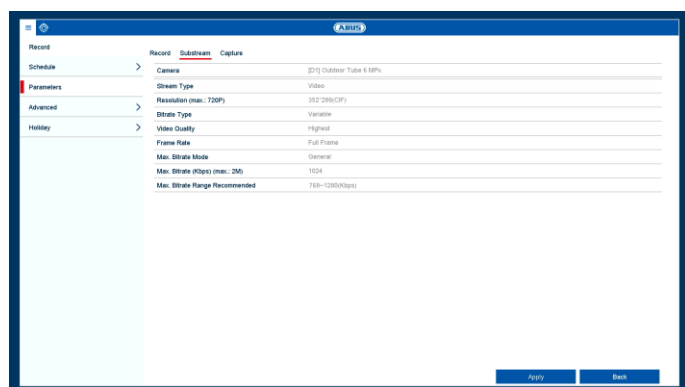
Record tab

The following setting options are available in this sub-menu:

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. Bi-rate(Kbps)	Settings for the maximum bitrate
Max. Bitrate Range Recommended	Recommended bit rate depending on the set resolution, frame rate etc.
Pre-play	Recording period before an alarm (in seconds)
Post-play	Recording period after an alarm (in seconds)
Expired time (days)	Setting for the maximum retention time for recorded files
Record Audio	Box ticked: recording with audio data
Video Stream	Stream type allocated for recording

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

Substream tab

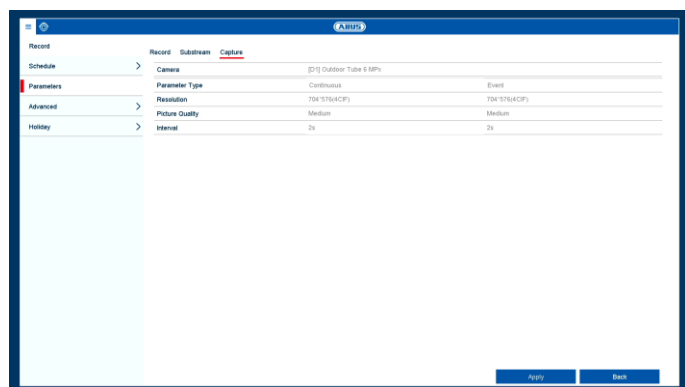


The following parameters can be set:

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 bi-trate
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. Bi-rate(Kbps)	Display of the maximum bitrate
Max. Bitrate Range Recommended	192–320 (Kbps)

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

Capture tab

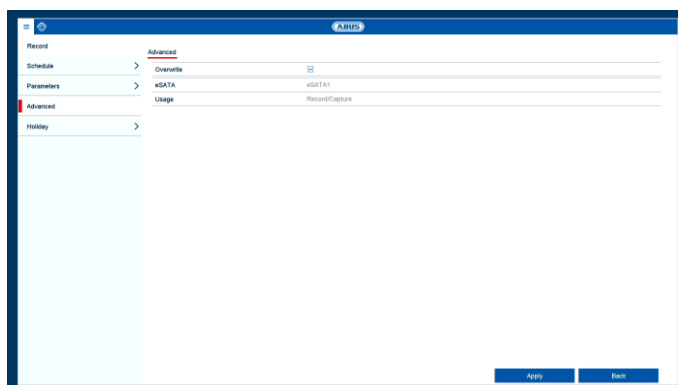


The following parameters can be set:

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

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

Advanced settings



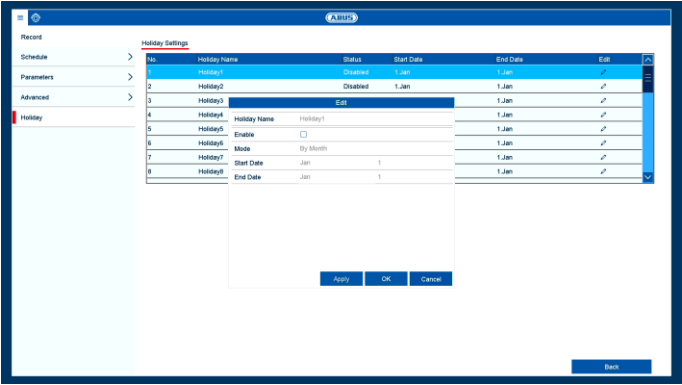
Overwrite	Specify whether older recordings should be overwritten when the hard disk drive is full.
-----------	--

Holiday



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

Click on the "Edit" icon to apply these settings



Name	Manually enter the name of the holiday or bank holiday
Activated	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**.

HDD

Hard disk drives



Note

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



Warning

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

Ensure data is backed up promptly.



Note

If the installed hard disk drive is not displayed, check the connections.

Click on "HDD" in the menu to adjust settings relating to management of the hard disk drive.

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
Features	<ul style="list-style-type: none">Read-only: write protectionR/W: read and write
Type	Local: device hard disk drive
Free Space	Shows the approximate amount of free memory for recordings
Group	Group ID
Edit	
Delete	Remove the hard disk drive.

General



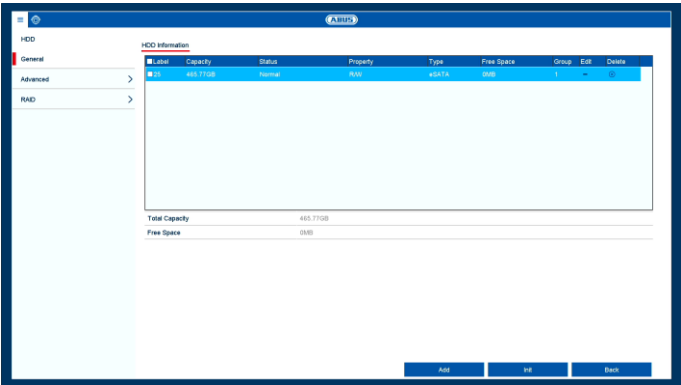
Warning

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.



Initialising the hard disk drive

1. Select the hard disk drive by ticking the box.
2. Click on **Init** to start the process.
3. Click on **OK** to acknowledge the security prompt.
4. The status bar will show the progress of the initialisation.
5. 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.

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

Add NetHDD

NetHDD	NetHDD 1
Type	NAS
NetHDD IP Address	.
NetHDD Directory	

Search

OK

Cancel

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.

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

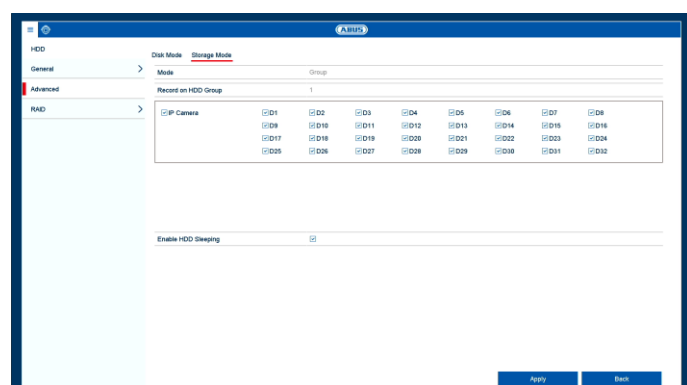
The NetHDD must be initialised before use.

Advanced settings

Here you can define the settings for the storage mode.

Mode: Quota

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

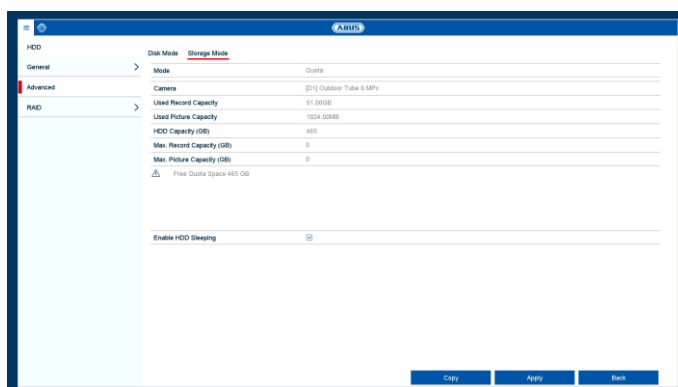


Max. Picture Capacity (GB)	Specify the maximum picture recording size on the linked data storage devices for each camera.
Enable HDD Sleeping	When this function is activated, idle hard disk drives go into standby mode.

1. Use **Copy** to specify if the setting is to be applied to all cameras.
2. Confirm the settings by clicking on **Apply** and exit the menu by clicking on **OK**.
The group of hard disk drives will be saved.
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.



Parameter	Setting
Record on HDD Group	Select HDD group.
IP 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.

Camera	Selection of the camera channel to be processed
Used Record 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.

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

Local HDD Settings

HDD No.25

HDD Property

☒ R/W

☐ Read-only

☐ Redundancy

Group

☒ 1

☐ 2

☐ 3

☐ 4

☐ 5

☐ 6

☐ 7

☐ 8

☐ 9

☐ 10

☐ 11

☐ 12

☐ 13

☐ 14

☐ 15

☐ 16

HDD Capacity465.77GB

Apply

OK

Cancel

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 is stored in parallel. All data storage devices with the R/W setting are also stored on all data storage devices with the "Redundancy" setting.
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.

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).

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%.

RAID

Physical Disk

No.	Capacity	Array	Type	Status	Model	Hot Spare	Task
1	465.77GB	Normal	Functional	ST36000100V	✓	None	
4	465.77GB	Normal	Functional	ST36000100V	✓	None	
5	465.77GB	Normal	Functional	ST36000100V	✓	None	
6	465.77GB	Normal	Functional	ST36000100V	✓	None	
7	931.52GB	Global	Functional	ST310000200V	⊗	None	
8	465.77GB	Normal	Functional	ST36000100V	✓	None	

One-touch Config

Create

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



Note
The "RAID" option is only available for models with 8xSATA HDD.



Important:

TAP physical disk

Physical Disk

No.	Capacity	Array	Type	Status	Model	Hot Spare	Task
1	465.77GB	Normal	Functional	ST36000100V	✓	None	
4	465.77GB	Normal	Functional	ST36000100V	✓	None	
5	465.77GB	Normal	Functional	ST36000100V	✓	None	
6	465.77GB	Normal	Functional	ST36000100V	✓	None	
7	931.52GB	Global	Functional	ST310000200V	⊗	None	
8	465.77GB	Normal	Functional	ST36000100V	✓	None	

One-touch Config

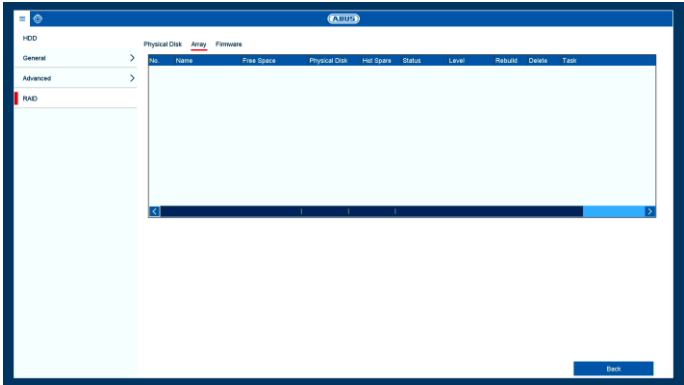
Create

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

Parameter	Setting
One-touch Config	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.

TAP array



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

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

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

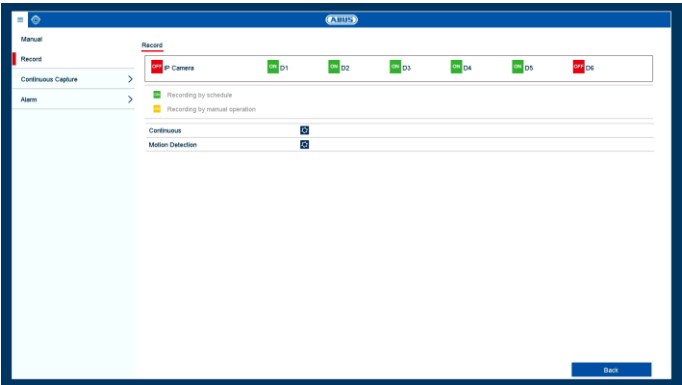
Panic recording

Recording

Press the REC button or navigate to **Manual Management** in the main menu to start manual picture/video recording. The settings are identical for snapshots and so will only be described once.

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

Click on the "Record" submenu.



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

"On (green)" → "Off (red)"
Manually stop recording

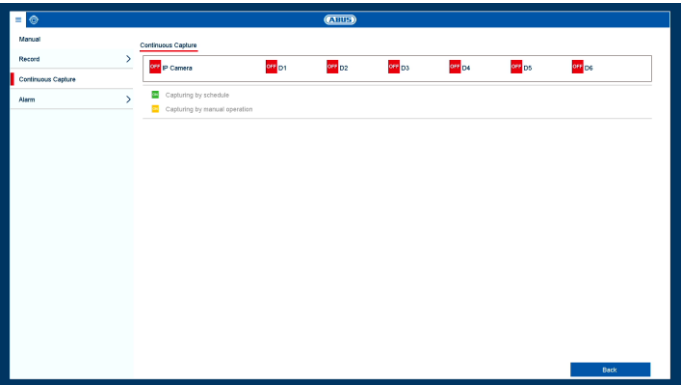
"Off (red)" → "On (yellow)"
Manual continuous recording

"On (yellow)" → "Off (red)"

Parameter	Description
permanent recording.	Click on the icon to activate continuous recording for all channels for the whole day. Click on "Yes" to confirm your selection.
Motion de-tection	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).

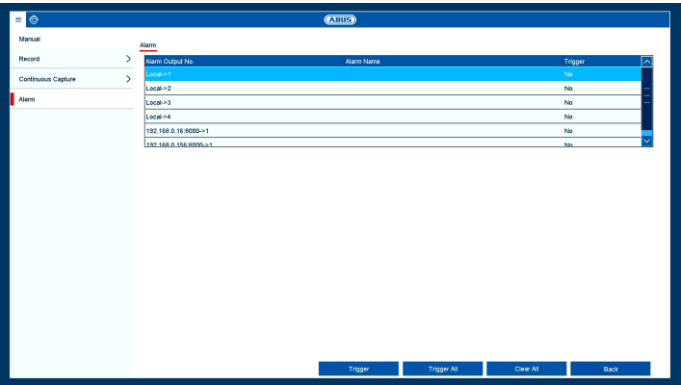
Continuous Capture



Click on the camera channel to activate the function.
ON green = snapshots according to time schedule
ON yellow = snapshots captured by manual operation

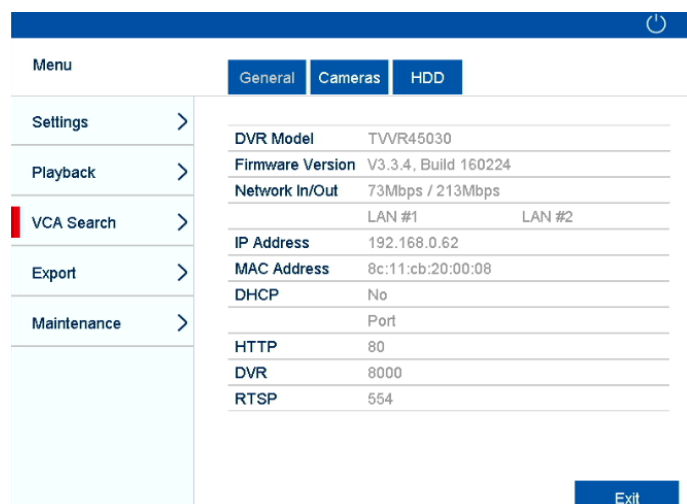
Alarm

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



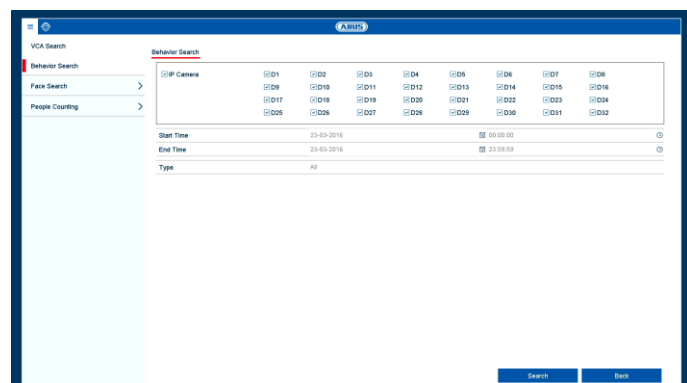
You can switch several alarm outputs in the event of a manual response.
Select **Trigger** to activate the selected alarm output.
Click on **Trigger All** to activate all of the alarm outputs.
Click on **Clear All** to remove the settings.

VCA Search



In the overview menu, select the "VCA Search" item to analyse video data recorded using VCA functions.

Behaviour Search

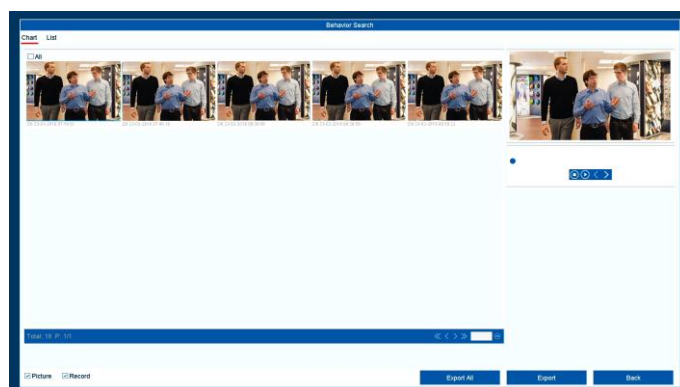


In the menu item Behaviour Search, all "Tripwire" and "Intrusion Detection" recordings can be analysed in a targeted way. The following parameters can be set for the search:

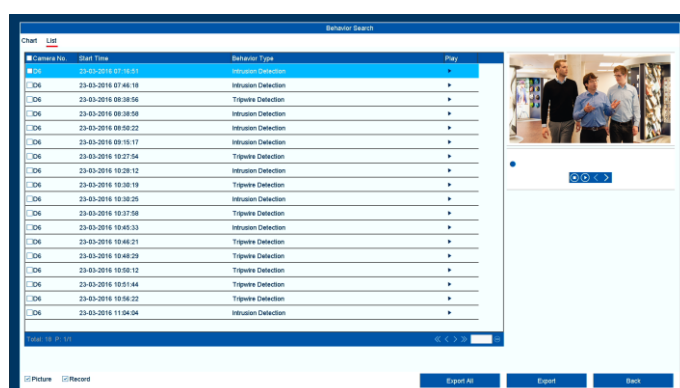
Parameter	Description
IP Camera	Select one or more recorded camera channels.
Start time	Set the start time.
End Time	Set the end time.
Type	Select the recording type.

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

Behaviour Search: Table view



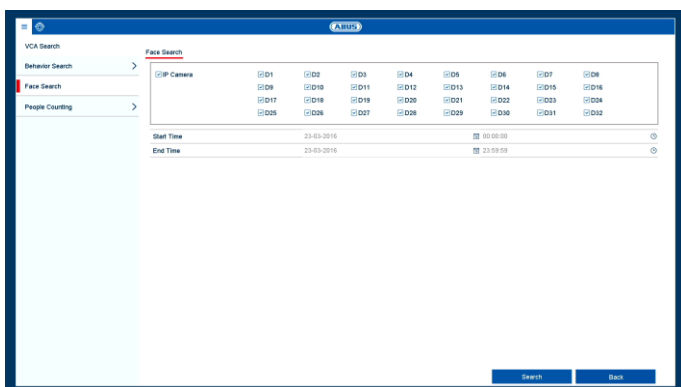
Behaviour Search: List view



The following options are available in the results search:

Parameter	Description
Playback	Select a line by clicking on the Play icon ►. The recording is shown in the preview window (1). Using the playback controls displayed below the image, the recording can be played back.
Browse	When several pages of results have been found, navigate through the search results (2) using the icons << < > >>.
Select	Select one or more recordings by clicking on the checkboxes in the results list (3).
Export	Export all selected data to an external data storage device using the button "Export"/"Export All" (4).

Face Search

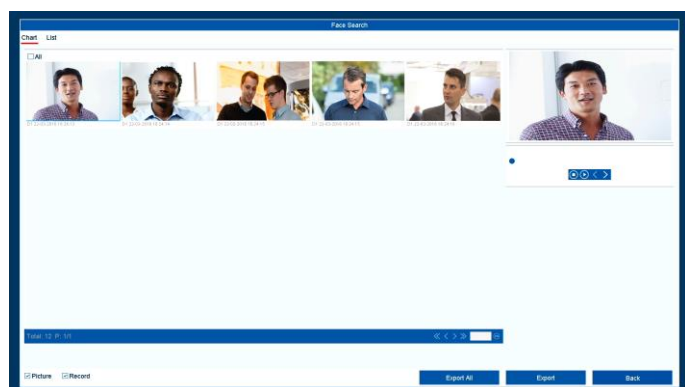


In the Face Search menu item, "Face Detection" recordings can be analysed in a targeted way. The following parameters can be set for the search:

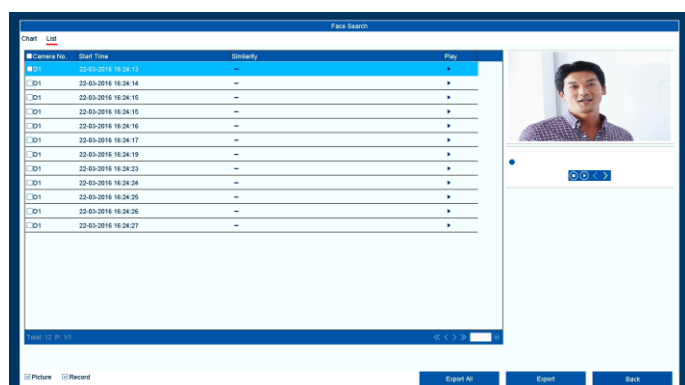
Parameter	Description
IP Camera	Select one or more recorded camera channels.
Start time	Set the start time.
End Time	Set the end time.
Type	Select the recording type.

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

Face Search: Table view



Face Search: List view

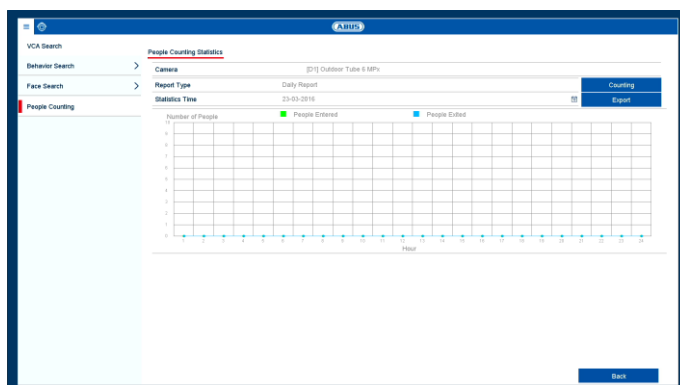


1 2 3 4

The following options are available in the results search:

Parameter	Description
Playback	Select a line by clicking on the Play icon ►. The recording is shown in the preview window (1). Using the playback controls displayed below the image, the recording can be played back.
Browse	When several pages of results have been found, navigate through the search results (2) using the icons << < > >>.
Select	Select one or more recordings by clicking on the checkboxes in the results list (3).
Export	Export all selected data to an external data storage device using the button "Export"/"Export All" (4).

People Counting



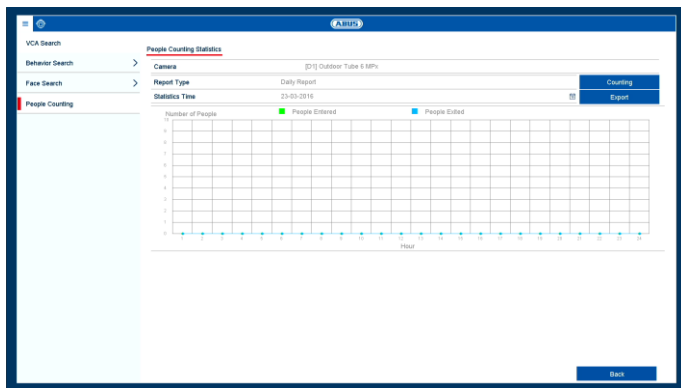
In the "People Counting" menu item, people counting statistics can be analysed by IP cameras using "Object Counting".

Note

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

The following parameters can be set for the search:

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



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

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

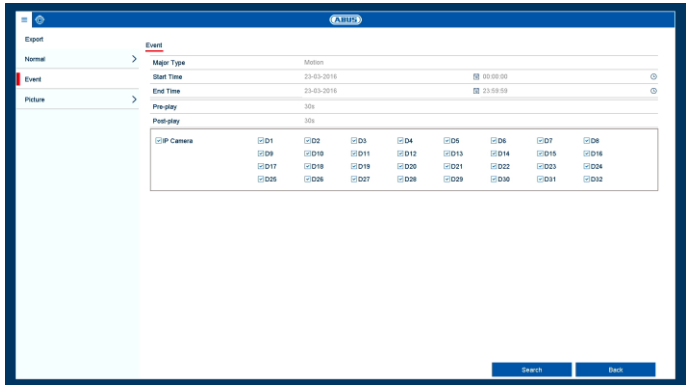


Note
Once the storage process is completed, you can select the data on the medium and play it back on the player (which has to be exported separately). This way you can check that the export was successful.

Note
Pre-play recordings can only be viewed if recording was started before the alarm.

Event

Note
The "Normal" and "Picture" sub-menus are similar and will therefore not be described separately.



Define the period of the recordings to be searched for using the "Start Time" and "End Time" selection fields. Select the camera by ticking or unticking the box and then click on **Search**.

Maintenance

Menu

General

Cameras

HDD

Settings

Playback

VCA Search

Export

Maintenance

DVR Model

TVVR45030

Firmware Version

V3.3.4, Build 160224

Network In/Out

73Mbps / 213Mbps

LAN #1

LAN #2

IP Address

192.168.0.62

MAC Address

8c:11:cb:20:00:08

DHCP

No

Port

HTTP

80

DVR

8000

RTSP

554

Exit

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.

System Maintenance

Device Info

Camera

Record

Alarm

Network

HDD

System Info

Log Information

Import/Export

Upgrade

Default

Net Detect

HDD Detect

Device Name

TVVR45030 ASUS DVR

Model

TVVR45030

Serial No.

16201101588R009168020W0C0J

Firmware Version

V3.3.4, Build 160224

Please scan the QR code via SMS client.

QR Code

Back

System Info

Note

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

System Maintenance

Log Search

System Info

Log Information

Import/Export

Upgrade

Default

Net Detect

HDD Detect

Start Time

23-03-2016

End Time

23-03-2016

Major Type

All

Minor Type

All

Alarm Output

Motion Detection Started

Motion Detection Stopped

Video Tampering Detection Started

Video Tampering Detection Stopped

Spektra Detection Alarm Started

Spektra Detection Alarm Stopped

Intrusion Detection Alarm Started

Intrusion Detection Alarm Stopped

Export All Search Back

Note

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

- All
- Alarm
- Warning
- Operation
- Information

Major Type	Filter2
All	-
Alarm	<ul style="list-style-type: none"> • All • Motion detection Start/stop • Start/Stop Video Tampering Detection
Exception	<ul style="list-style-type: none"> • All • Video Signal Loss • Illegal Login • HDD Full

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
Upgrade	Performs a firmware upgrade
Default	Resets the system
Net Detect	Displays the transmission and reception rate of the recorder
HDD Detect	Checks the hard disk drive for errors

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

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

Search Result						
No.	Major Type	Time	Minor Type	Parameter	Play	Details
1	Exception	23-03-2016 00:01:09	Illegal Login	N/A	—	✓
2	Information	23-03-2016 00:04:11	System Running...	N/A	—	✓
3	Information	23-03-2016 00:04:21	System Running...	N/A	—	✓
4	Exception	23-03-2016 00:06:10	Illegal Login	N/A	—	✓
5	Information	23-03-2016 00:14:24	System Running...	N/A	—	✓
6	Information	23-03-2016 00:14:34	System Running...	N/A	—	✓
7	Exception	23-03-2016 00:15:11	Illegal Login	N/A	—	✓
8	Information	23-03-2016 00:24:36	System Running...	N/A	—	✓
9	Information	23-03-2016 00:24:46	System Running...	N/A	—	✓
10	Exception	23-03-2016 00:26:11	Illegal Login	N/A	—	✓
Total: 428 P: 1/5						
<div>Export Back</div>						

- You can change the page using the navigation bar:



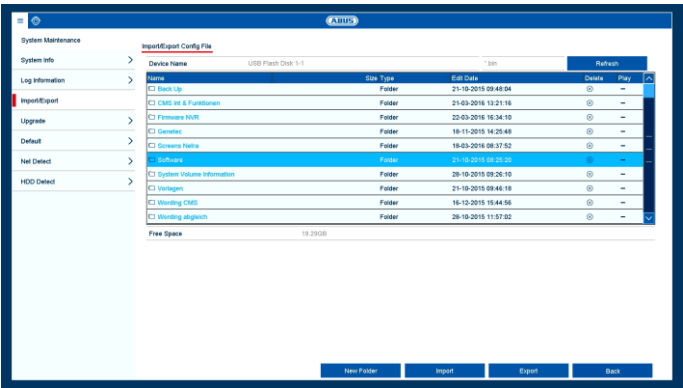
Note

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.

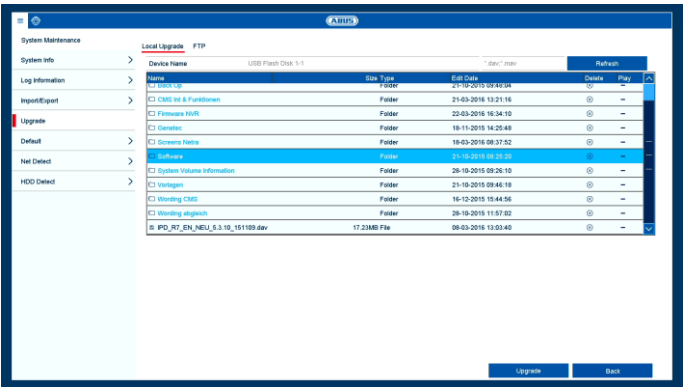
Import/Export



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.

Upgrade



Note

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

- 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 upgrade file and click on Upgrade.
3. Wait until the device reboots.
4. If necessary, check the firmware status under Information in the Maintenance menu. Performing a system reset

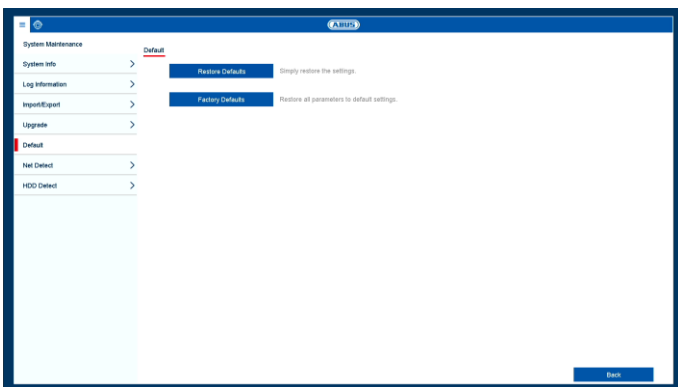
**Note**

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

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



Default

**Note**

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

**Warning**

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

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

Net Detect

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

Traffic tab

The network graphs can be used to measure continuous traffic on the recorder. The amount of data sent and received is shown in graph form.

Depending on the network settings, the status and information for one or two network connections is shown in the field underneath the graph.

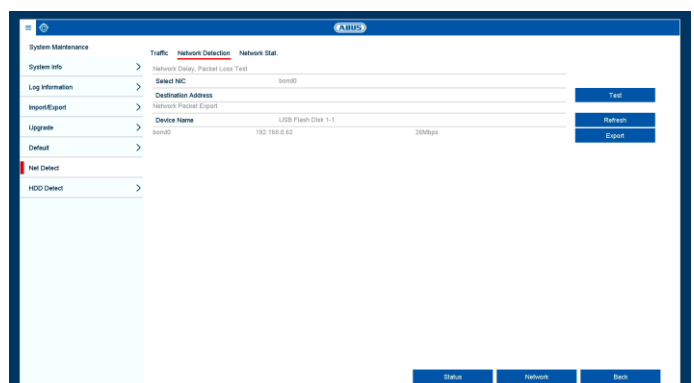
Sending

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

Receiving

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

Network Detection tab

**Note**

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

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.

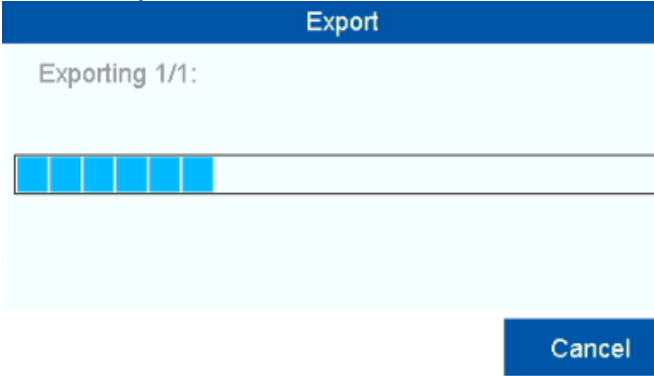
The higher the packet loss rate, the poorer the connection between the pinged device and the recorder.

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.

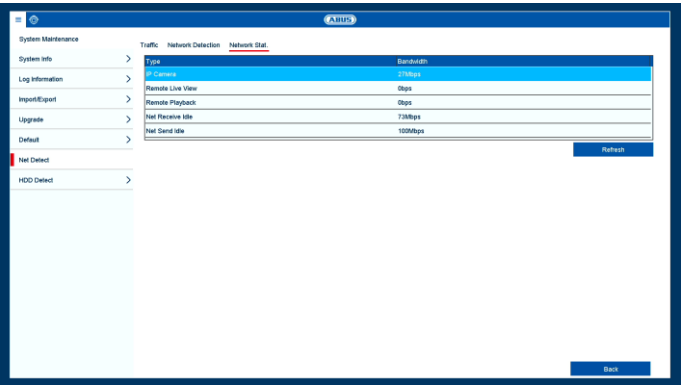
Click on **Export**.



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.

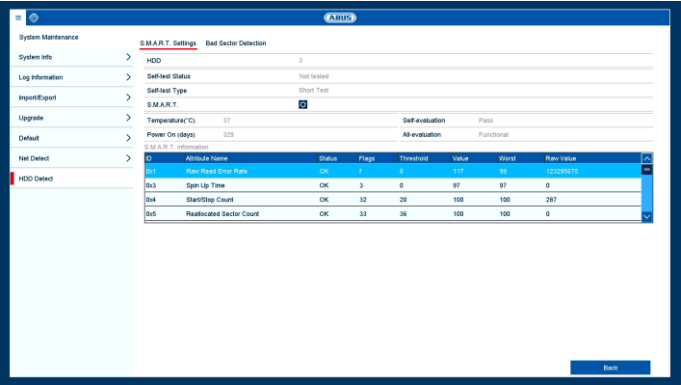
Network Stat. tab



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 "HDD Detect" submenu.

This submenu gives you the option to check your 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 type of self-test 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
Power On (days)	Shows the operating days of the hard disk drive
Self-evaluation	Shows the status of the self-evaluation
Complete evaluation	Shows the status of the evaluation

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

Checking the hard disk drive status

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

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

To do this, open "Exception" in the "Settings" menu.



Note

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

Technical data

Subject to technical changes and correction without notice.

ABUS video recorder	TVVR35002	TVVR35011	TVVR45021	TVVR45030	TVVR60011	TVVR60021
Video compression	H.264, MPEG-4	H.264, MPEG-4	H.264, MPEG-4	H.264, MPEG-4	H.264, MPEG-4	H.264, MPEG-4
Camera inputs	5 x IP	8 x IP	16 x IP	32 x IP	8 x IP 8 x analogue	16 x IP 16 x analogue
Total network throughput (input/output)	290 MBit/s (50 MBit/s/240 MBit/s)	340 MBit/s (100 MBit/s/240 MBit/s)	360 MBit/s (200 MBit/s/160 MBit/s)	360 MBit/s (200 MBit/s/160 MBit/s)	290 MBit/s (50 MBit/s/240 MBit/s)	340 MBit/s (100 MBit/s/240 MBit/s)
Monitor outputs	1 x VGA, 1 x HDMI, 1 x BNC	1 x VGA, 1 x HDMI, 1 x BNC	1 x VGA, 1 x HDMI, 1 x BNC	1 x VGA, 1 x HDMI, 1 x BNC	1 x VGA, 1 x HDMI, 1 x BNC	1 x VGA, 1 x HDMI, 1 x BNC
Operating mode	Triplex	Triplex	Triplex	Triplex	Triplex	Triplex
Resolution (Live view)	VGA: 1080P: 1920*1080/60 Hz, 1280*1024/60 Hz, 720P: 1280*720/60 Hz, 1 024*768/60 Hz BNC Output: PAL: 704x576, NTSC: 704x480	VGA: 1080P: 1920*1080/60 Hz, 1280*1024/60 Hz, 720P: 1280*720/60 Hz, 1 024*768/60 Hz BNC Output: PAL: 704x576, NTSC	VGA: 1080P: 1920*1080/60 Hz 1280*1024/60 Hz 720P: 1280*720/60 Hz 1024*768/60 H z BNC Output: PAL: 704x576, NTSC	VGA: 1080P: 1920*1080/60 Hz 1280*1024/60 Hz 720P: 1280*720/60 Hz 1024*768/60 H z BNC Output: PAL: 704x576, NTSC	VGA: 1080P: 1920*1080/60 Hz 1280*1024/60 Hz 720P: 1280*720/60 Hz 1024*768/60 H z BNC Output: PAL: 704x576, NTSC	VGA: 1080P: 1920*1080/60 Hz 1280*1024/60 Hz 720P: 1280*720/60 Hz 1024*768/60 H z BNC Output: PAL: 704x576, NTSC
Resolution @ frame rate per Camera (recording)	6MP /3MP /1080P /UXGA /720P /VGA /4CIF /DCIF /2CIF /CIF /QCIF @ 25fps	6MP /3MP /1080P /UXGA /720P /VGA /4CIF /DCIF /2CIF /CIF /QCIF @ 25fps	6MP /3MP /1080P /UXGA /720P /VGA /4CIF /DCIF /2CIF /CIF /QCIF @ 25fps	6MP /3MP /1080P /UXGA /720P /VGA /4CIF /DCIF /2CIF /CIF /QCIF @ 25fps	6MP /3MP /1080P /UXGA /720P /VGA /4CIF /DCIF /2CIF /CIF /QCIF @ 25fps	6MP /3MP /1080P /UXGA /720P /VGA /4CIF /DCIF /2CIF /CIF /QCIF @ 25fps
Total frame rate	125 fps	200 fps	400 fps	800 fps	400 fps	800 fps
Compression levels	6	6	6	6	6	6
Post-alarm memory	0–30 sec./5–900 sec.	0–30 sec./5–900 sec.	0–30 sec./5–900 sec.	0–30 sec./5–900 sec.	0–30 sec./5–900 sec.	0–30 sec./5–900 sec.
Storage medium	2 x 3.5" SATA HDD	2 x 3.5" SATA HDD	8 x 3.5" SATA HDD	8 x 3.5" SATA HDD	8 x 3.5" SATA HDD	8 x 3.5" SATA HDD
Storage	2 x USB 2.0	3 x USB 2.0	3 x USB 2.0	3 x USB 2.0	3 x USB 2.0	3 x USB 2.0
Recording modes	Manual, time schedule, motion detection, alarm, VCA	Manual, time schedule, motion detection, alarm, VCA	Manual, time schedule, motion detection, alarm, VCA	Manual, time schedule, motion detection, alarm, VCA	Manual, time schedule, motion detection, alarm, VCA	Manual, time schedule, motion detection, alarm, VCA
Search modes	By event, date and time, S.M.A.R.T., VCA	By event, date and time, S.M.A.R.T., VCA	By event, date and time, S.M.A.R.T., VCA	By event, date and time, S.M.A.R.T., VCA	By event, date and time, S.M.A.R.T., VCA	By event, date and time, S.M.A.R.T., VCA
User levels	2 (max. 31 users)	2 (max. 31 users)	2 (max. 31 users)	2 (max. 31 users)	2 (max. 31 users)	2 (max. 31 users)
Network connector	1 x RJ45 10/100/1000 Mbps	1 x RJ45 10/100/1000 Mbps	2 x RJ45 10/100/1000 Mbps	2 x RJ45 10/100/1000 Mbps	1 x RJ45 10/100/1000 Mbps	1 x RJ45 10/100/1000 Mbps
Simultaneous network access	128 camera connections	128 camera connections	128 camera connections	128 camera connections	128 camera connections	128 camera connections
Network functions	Live view, playback, data export	Live view, playback, data export	Live view, playback, data export	Live view, playback, data export	Live view, playback, data export	Live view, playback, data export
Alarming	Acoustic warning, OSD signal, email, CMS	Acoustic warning, OSD signal, email, CMS	Acoustic warning, OSD signal, email, CMS	Acoustic warning, OSD signal, email, CMS	Acoustic warning, OSD signal, email, CMS	Acoustic warning, OSD signal, email, CMS
Controls	USB mouse	USB mouse	USB mouse	USB mouse	USB mouse	USB mouse
Power supply	12 VDC, 5 A, 50–60 Hz	12 VDC, 5 A, 50–60 Hz	230 VAC, 5 A, 50–60 Hz	230 VAC, 5 A, 50–60 Hz	230 VAC, 5 A, 50–60 Hz	230 VAC, 5 A, 50–60 Hz
Power consumption	<10 W (without hard disk drive)	<45 W (without hard disk drive)	<45 W (without hard disk drive)	<45 W (without hard disk drive)	<45 W (without hard disk drive)	<45 W (without hard disk drive)
Operating temperature	-10°C ~ +55°C	-10°C ~ +55°C	-10°C ~ +55°C	-10°C ~ +55°C	-10°C ~ +55°C	-10°C ~ +55°C
Dimensions (WxHxD)	440 x 45 x 275 mm	470 x 90 x 445 mm	470 x 90 x 445 mm	470 x 90 x 445 mm	470 x 90 x 445 mm	470 x 90 x 445 mm
Weight	≤ 4.0 kg without hard disk drive	≤ 4.0 kg without hard disk drive	≤ 4.0 kg without hard disk drive	≤ 4.0 kg without hard disk drive	≤ 4.0 kg without hard disk drive	≤ 4.0 kg without hard disk drive
Certifications	CE	CE	CE	CE	CE	CE

Fault rectification

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

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

Disposal

Notes on EC directives for waste electrical and electronic equipment

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



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

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).

Notes on RoHS EU Directive

The device complies with the RoHS directive.

Glossary

Technical terms used

16:9

Cinema orientated aspect ratio for wide-screen displays.

Screen diagonal

Size information for displays: Distance between the bottom left-hand corner to the top right-hand corner – in inches or centimetres.

Browser

Program for viewing websites on the World Wide Web.

CIF

'Common Intermediate Format'.

Originally intended for conversion of PAL to NTSC standard. CIF equates to a video resolution of 352 x 288 pixels, 2 CIF 704 x 288 pixels, 4 CIF 704 x 576 pixels.

DDNS

'Dynamic Domain Name System Entry'

A network service that keeps and updates the IP addresses of its clients in a database.

DHCP

'Dynamic Host Configuration Protocol'

A network protocol that enables the automatic incorporation of devices (clients) into existing networks. As such, DHCP servers (such as internet routers) allocate the IP address, the network mask, the gateway, the DNS server and, if necessary WINS server automatically. The client only has to be set to obtain the IP address automatically.

Domain

Domains (name space) that identify Internet pages (e.g. www.abus-sc.de).

Dual stream

Dual stream designates a video transmission method. A high resolution recording is made along with a low resolution transmission, e.g. via the network.

DVR

Digital Video Recorder; a device for recording various video and audio sources (analogue, digital). The data is compressed for recording and stored on hard disk drives.

CVBS

"Colour, Video, Blanking and Synchronisation" signal. The most simple variant of video signals, also called "Composite Signal". Picture Quality is comparatively low.

H.264

(MPEG-4 AVC); standard for high-efficiency compression of video signals. Used in such things as Blu-ray discs or video conferencing systems.

HDD

'Hard Disk Drive', hard disk (magnetic disk store)

Digital data store in computers or NVRs.

GIGABYTE

Unit of storage capacity for storage media (HDD, USB, SD/MMC cards).

HDVR

Hybrid DVR, DVR for recording from analogue cameras and network cameras.

http

'Hypertext Transfer Protocol';

A process for data transfer across networks. Mainly used for the presentation of websites in a browser.

INTERLACED

Line skip procedure

IP address

An address on a computer network based in the internet protocol (IP), this enables various devices to be addressable on the network and individually accessible.

JPEG

Low-loss compression process for photos. Most digital cameras store their pictures in JPEG format

MPEG

Abbreviation for Moving Picture Experts Group. This is used as an international standard for the compression of moving pictures. On some DVDs the audio signals are compressed and recorded in this format.

NTP

Network Time Protocol

A process for time synchronisation across networks. Also SNTP (Simple Network Time Protocol) that represents a simpler form.

NTSC

Colour television standard in the USA. The process differs in certain details from the European PAL system: An NTSC full screen consists of 480 visible lines and a total of 525 lines. Sixty half images are displayed per second. Compared with PAL, the system is more susceptible to colour distortions.

PAL

"Phase Alternating Line"; European colour TV system. It uses 576 visible picture lines, with the lines used for management signals, a full screen consists of 625 lines. Fifty half images are displayed per second. Its colour signal phase position changes from picture line to picture line.

PANEL

Interior working of a flat display (the terms LCD or plasma panel are used).

PC

A PC can be used as a remote access point with the software supplied or with a browser.

Pixel

"Picture element". Image point, image element refers to the smallest unit of a digital image transmission or display.

PIP

"Picture in Picture". Abbreviation for the "picture-in-picture" function, where two signal sources can be seen on the screen at the same time. When this occurs, the second signal source is placed over the first one.

PPPoE

'PPP over Ethernet' (Point-to-Point Protocol)

Network transmission process for establishing connection via dial-up lines that are used with ADSL connections, for example.

PROGRESSIVE

Scanning by line or image display, as opposed to line skip or "Interlaced".

RTSP

'Real-Time Streaming Protocol'

Network protocol for the control of continuous transmission of streams or software via IP-based networks.

SNMP

'Simple Network Management Protocol'

A network protocol that regulates the communication between the monitored devices and the monitoring station. Therefore, with appropriate software, the device status can be monitored.

USB

'Universal Serial Bus'

Serial bus link for the connection of, among other things, storage media in operation. Maximum usable data rate for USB 2.0: approx. 320 Mbit/s (approx. 40 MB/s).

VGA

"Video Graphics Array"" For PCs, the usual interface for analogue video signals – usually involves RGB signals.

INCH

Measurement of screen diagonals. An inch is equal to 2.54 centimetres. The main typical sizes of 16:9 displays: 26 inch (66 cm), 32 inch (81 cm), 37 inch (94 cm), 42 inch (106 cm), 50 inch (127 cm), 65 inch (165 cm).

ABUS **Embedded NVR Recorder**

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