

# Operating Instructions

## Digital Video Recorder

Models: DPR-2016/500D





# Safety instructions

## EMC class

- ▶ This video recorder (DVR) is a class A device in accordance with EN 55022.
- ▶ This device may cause interference to other equipment in domestic use. In such cases the persons operating the DVR are required to provide appropriate countermeasures, for which they themselves bear the cost.

## Importance of these Operating Instructions

- ▶ Please read the safety instructions and the other information contained in the Operating Instructions before connecting up and operating the DVR.
- ▶ The Operating Instructions should be kept in a safe place for later reference.

## Ambient conditions for the DVR

- ▶ The DVR should be protected against excessive heat, dust, damp and vibration.
- ▶ The DVR may only be operated at temperatures between +5°C and +40°C, and up to a maximum air humidity of 90%.
- ▶ The DVR may only be operated indoors, and must be protected against incursion of water and damp.

## Care of the DVR

- ▶ Never switch on the DVR when damp has penetrated it. In such cases, have the DVR checked by a qualified service engineer.
- ▶ Do not place any heavy objects on the DVR.
- ▶ Never cover over the DVR's vents.
- ▶ Never insert metal objects or any other items into the vents. This may permanently damage the DVR.
- ▶ The housing may only be opened by authorised persons. Repairs may only be carried out by qualified service personnel.
- ▶ The DVR must be disconnected from the power supply before its housing is opened.

## Getting started with the DVR

- ▶ When laying the connecting cables, make sure no weight is placed on them, that they are not kinked or damaged, and that no damp can penetrate them.

## Cleaning the DVR

- ▶ The housing of the DVR may only be cleaned with a damp (not wet) cloth,
- ▶ Use only a mild detergent. Do not use solvent-containing detergents or petrol. This could permanently damage the surface finish.

## Spare parts

- ▶ Use only original spare parts from Videor E. Hartig GmbH.



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# Overview

## Package contents

- Digital video recorder (DVR)
- Mains power cord
- Operating instructions
- RAS (Remote Administration System) software on CD
- Operating instructions for RAS software on paper and CD
- Mounting kit for cabinet installation
- Screws for attaching SCSI Connector
- Mounting screws for installation of hard disk drives
- Infrared remote control
- Key for hard disk drive rack

## Basic functions

- Record video images using multiple cameras
- Event-based recording start
- Video playback
- Search for specific video sequences

## Features

- MPEG-4 compression / pentaplex mode
- 16 loop-through inputs / VGA, S-VHS/FBAS outputs
- Audio and alarm inputs / outputs
- Max. recording speed: 400 field images per sec (PAL)2
- Memory capacity 500 GB
- 4 hard disks max., CD/DVD-RW writer included
- Standard hard disk mirroring
- Maximum video resolution 720 x 576 pixels
- SCSI port for archiving / memory expansion
- Integral motion detector/object tracking
- ATM/POS text display / 2x to 4x digital zoom
- RS-232 / RS-485 ports
- Network port (Ethernet) / IR remote control

## Requirements for operation

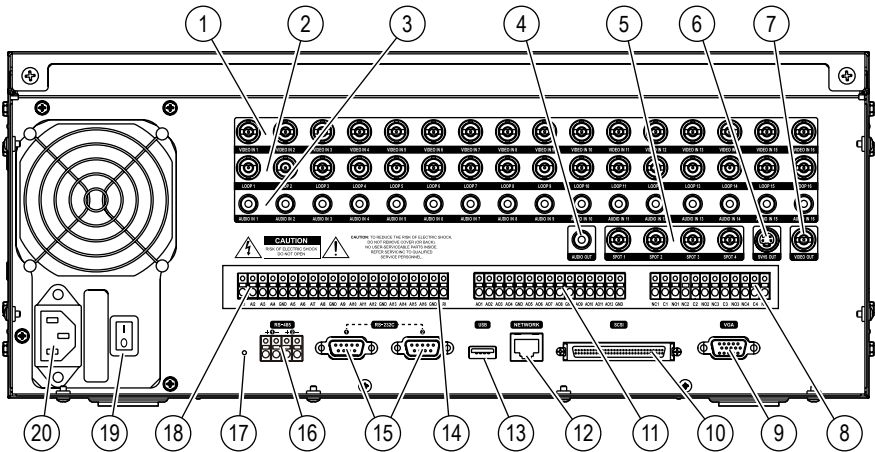
- Digital video recorder DTR connected
- At least 1 camera connected
- At least 1 monitor connected
- Mouse connected, if DVR is to be controlled by mouse

## Control options

- Front panel
- Remote Control
- Mouse
- WebGuard
- RAS program

# Connections on the rear

**Note:** Connections optionally for NTSC or PAL operation.



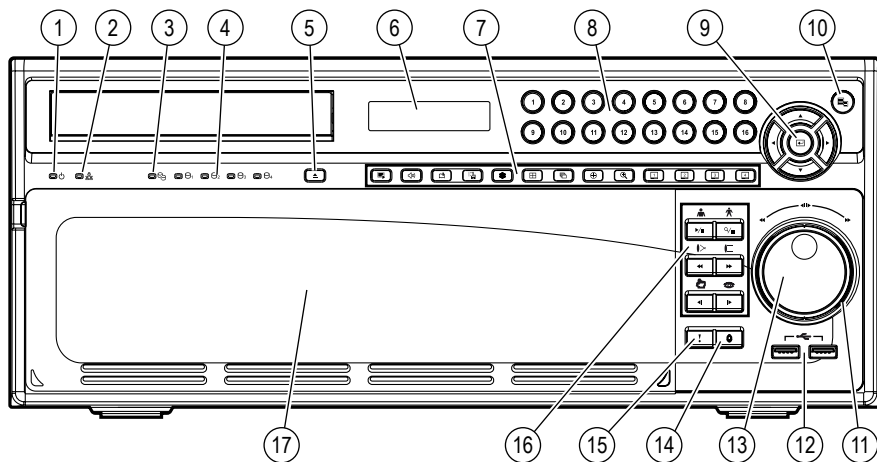


## Connections on the rear (continued)













No.	Designation	Functions/connections	Example devices
1	VIDEO IN 1-16	Max. 16 video channels	Cameras
2	LOOP 1-16	Max. 16 loop-through video channels	Cameras
3	AUDIO IN 1-16	Max. 16 Audio inputs	Microphone
4	AUDIO OUT	Audio output	Amplifier, speakers
5	SPOT1 - SPOT4	Max. 4 video outputs	Spot monitors
6	SVHS OUT	S-VHS output	Monitors
7	VIDEO OUT	Video output	Monitors
8	NC1 - NC4, C1 - C4, NO1 - NO4	Relay alarm output for external device	Siren, flashing light
9	VGA	PC monitor	PC monitor
10	SCSI	External storage media	Hard disk
11	AO1 - AO12	Alarm outputs for external devices	Siren, flashing light
12	NETWORK	Network	Network cable
13	USB	External interface	Drive, mouse
14	ARI/GND	Reset alarm with external signal	Switch
15	RS-232C	2 external interfaces	Modem
16	RS-485	2 external interfaces	Keyboard, PTZ camera
17	Reset switch	Reset to factory defaults	-
18	AI1 - AI16	Alarm inputs for external devices	Sensors
19	Power switch	On/Off switch	-
20	Power supply	Mains power connection	-

## Front panel controls

The following diagram and table set out the controls on the front panel of the DVR:













## Front panel controls (continued)







No.	Designation	Function
1		Power-on indicator when DVR is in operation
2		Indicates Ethernet connection
3		Display when mirroring hard disks
4		Display when using hard disks
5		Open built-in CD/DVD-RW writer
6	Display window	Status display
7		Function buttons
8	1 to 16	<ul style="list-style-type: none"> <li>• Select cameras</li> <li>• Enter passwords</li> </ul>
9	Menu navigation	Navigation and selection within the menu
10		Open/quit menu structure
11	Shuttle ring	Infinitely adjust playback speed
12		USB ports for mouse and external storage media
13	Jog dial	<ul style="list-style-type: none"> <li>• Change size of frame in picture-in-picture mode</li> <li>• Change numerical values in Setup menu</li> <li>• Frame-by-frame playback in Play mode</li> </ul>
14		<ul style="list-style-type: none"> <li>• Reset alarm</li> <li>• View event list</li> </ul>
15		Start/end panic recording
16		Playback functions (primary assignment)
16		PTZ camera functions (secondary assignment)
17	Hard disks	max. 4 hard disks in the exchange frame

# Key to controls







## Function buttons

Element	Function
	On/Off Triplex
	On/Off Audio
	Defining bookmarks in Search menu by pressing and holding button
	Copying recordings in Search menu by pressing and holding down button
	Freeze On/Off
	Change display mode
	Sequence On/Off
	PTZ camera functions On/Off
	Zoom On/Off
	Spot monitor assignments

## PTZ camera functions

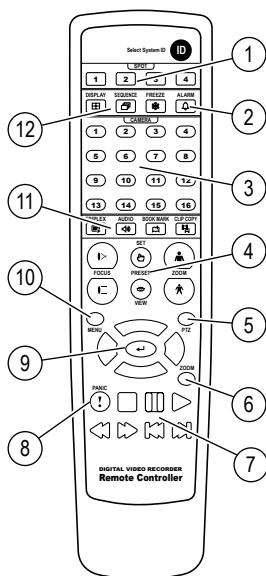
Element	Function
	Zoom in
	Zoom in
	Close-up
	Wide-angle
	Save preset
	Load preset

## Playback functions

Element	Function
	Start/pause playback
	<ul style="list-style-type: none"><li>• Select Search/Play function</li><li>• Stop playback</li></ul>
	Fast rewind
	Fast forward
	Frame-by-frame rewind
	Frame-by-frame forward

# Remote control functions

The following diagram and table set out the functions on the remote control:



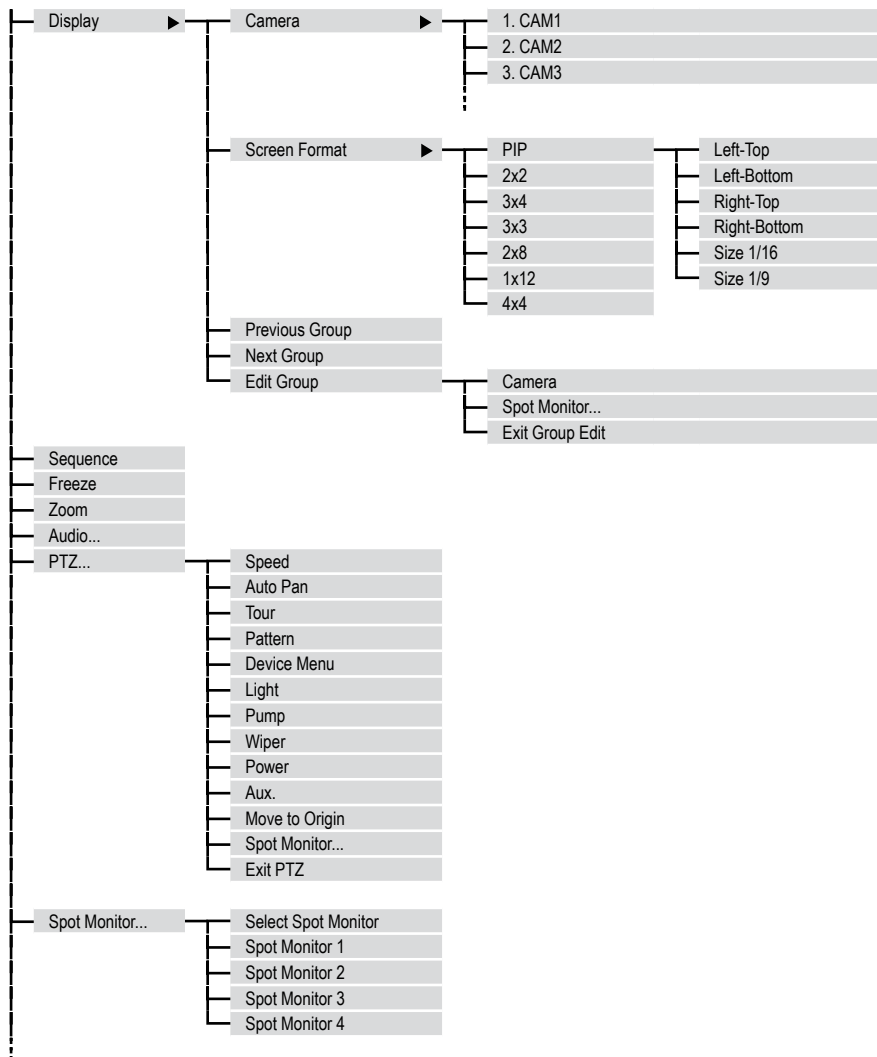
No.	Designation	Function
1	SPOT 1 - 4	Spot monitor assignments
2		<ul style="list-style-type: none"> <li>Reset alarm</li> <li>View event list</li> </ul>
3	1 to 16	<ul style="list-style-type: none"> <li>Select cameras</li> <li>Enter passwords</li> </ul>
4		PTZ camera functions
5	PTZ	PTZ camera functions On/Off
6	ZOOM	Zoom On/Off
7		Playback functions
8	PANIC	Start/end panic recording
9	Menu navigation	Navigation and selection within the menu
10	MENU	Open/quit menu structure
11		Function buttons
12		Function buttons

## Playback functions

Element	Function
	<ul style="list-style-type: none"> <li>Select Search/Play function</li> <li>Stop playback</li> </ul>
	Pause playback
	Start playback
	Fast rewind
	Fast forward
	Frame-by-frame rewind
	Frame-by-frame forward

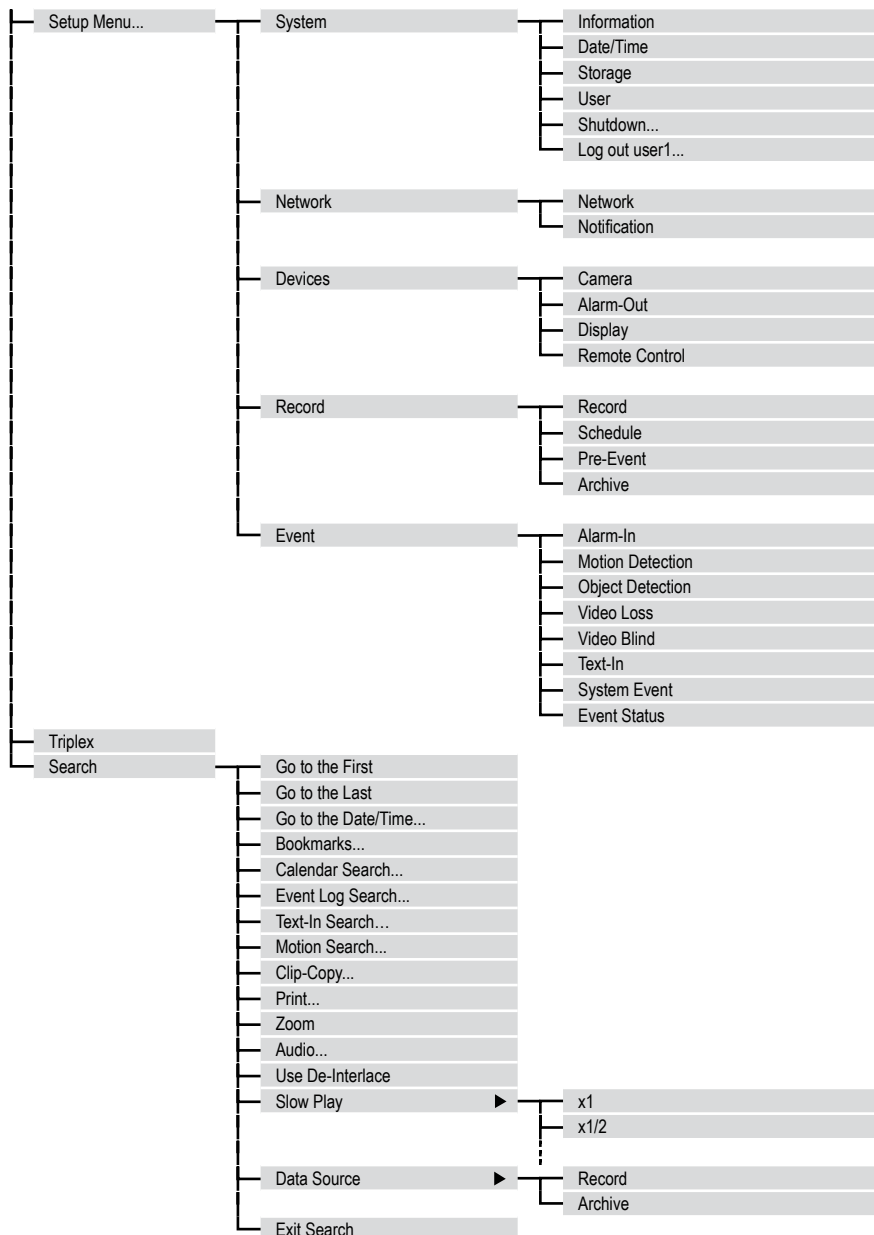
# Menu overview

The following illustration shows the structure of the complete menu tree that is accessible using the mouse control:



## Menu overview (continued)

The following illustration shows the structure of the complete menu tree that is accessible using the mouse control:





# Accessing the menus











## Accessing the Display menu

### Requirement:

- The current camera image is shown in full image or quad image.

Step	Action	Access using	Key sequence/menu path
1	Open Display menu...	Device	
		Remote Control	
		Mouse	Display





## Access to submenu via Device/Remote Control

Submenu	Camera image	Key sequence
Change Display modes (PIP, 2x2, 3x3, 4x4)	Without frame	    ...
Previous/Next Group	Without frame	 
Edit Group	With frames	 > 
Change position of image-in-image	Without frame	 
Change size of image-in-image	Without frame	Jog dial

## Accessing the PTZ menu

### Requirement:

- A PTZ camera is connected and configured.
- Current camera image is shown as a full image.

Step	Action	Access using	Key sequence/menu path
1	Open PTZ menu... <b>Result:</b> Menu of the configured PTZ camera is shown.	Device	 >  > 
		Remote Control	PTZ >  > MENU
		Mouse	PTZ...




## Accessing the menus, continued

### Accessing the Setup menu

**Requirement:**




- The current camera image is shown in full image or quad image.

Step	Action	Access using	Key sequence/menu path
1	Open Setup menu... <b>Result:</b> Prompt for user name and password.	Device	
		Remote Control	MENU
		Mouse	Setup Menu...
2	Log in as user. User name: admin Password: (blank) <b>Note:</b> Use default access data only for first-time access.		

### Accessing the Search menu

**Requirement:**

- The current camera image is shown in full image or quad image.

Step	Action	Access using	Key sequence/menu path
1	Open Search menu... <b>Result:</b> Search for recorded images is activated.	Device	 > 
		Remote Control	 > MENU
		Mouse	Search

# Getting started

## Checklist for DVR operation

Step	Action	Menu path
1	Connect peripheral devices as per planned setup.	
2	Specify menu language.	Setup Menu... > System > Information
3	Adjust date and time.	Setup Menu... > System > Date/Time
4	Set up user.	Setup Menu... > System > User
5	Set up network and desired notification channels (optional).	Setup Menu... > Network > ...
6	Register peripherals with DVR.	Setup Menu... > Devices > ...
7	Set up event types and associated responses.	Setup Menu... > Event > ...
8	Set up recording parameters and schedule.	Setup Menu... > Record > ...

## Connecting the remote control and DVR

The remote control and DVR can be assigned an ID, because the ID of each DVR in the network must be unique. The DVR will then only respond to the remote control with the matching ID.

- If the system ID in the DVR is 0, it will respond to the remote control regardless of the remote's ID.
- If the system ID in the DVR is not 0, you must set the ID of the remote control identically.

Step	Action	Menu path
1	Set DVR system ID.	Setup Menu... > System > Information
2	Match remote control to system ID by pressing ID button on remote control.	
3	Select relevant number on remote control.	

## Getting started (continued)

### Switching on the DVR

**Requirement:**

- The start-up preparations are complete.
- DVR mains plug is connected.

Step	Action
1	Switch on power switch.
2	Switch on monitor. <b>Result:</b> System starts up automatically and is ready to use.

### Switching off the DVR

**Requirement:**

- You have accessed the Setup menu.

Step	Action	Menu path
1	Shut down the system. <b>Result:</b> System shuts down automatically.	Setup Menu... > System > Shutdown .....
2	After shutdown, switch off power switch.	

# Administration

## Saving your system setup

You can save your DVR's setup data, including its network configuration.

**Requirement:**

- USB memory stick
- Software versions must be compatible

Step	Action	Menu path
1	Insert a USB memory stick into one of the USB ports.	
2	Export your setup.	Setup Menu... > System > Information > Setup > Export...
3	Specify a file name.	
4	Export your setup.	Export

## Loading your system setup

You can load your stored DVR system setup with or without its network configuration.

**Requirement:**

- USB memory stick with stored setup
- Software versions must be compatible

Step	Action	Menu path
1	Insert a USB memory stick into one of the USB ports.	
2	Import your setup.	Setup Menu... > System > Information > Setup > Import...
3	Select the file name and, where appropriate, the network configuration.	
4	Import your setup.	Import

## Administration (continued)

### Deleting recordings

You can only delete all your recordings together. It is not possible to delete recordings from a specific time period.

Step	Action	Menu path
1	Delete all recordings.	Setup Menu... > System > Information > Clear All Data... or Setup Menu... > System > Storage > Information > Information > Using > Clear

### Downloading software updates

You can download software updates for your DVR from a USB memory stick.

**Requirement:**

- USB memory stick with latest software release

Step	Action	Menu path
1	Insert a USB memory stick into one of the USB ports.	
2	Start update.	Setup Menu... > System > Information > Upgrade...
3	Install new release.	

### Hiding from specific users

You can hide video images and camera data according to the preset user rights.

Step	Action	Menu path
1	Set camera Covert mode.	Setup Menu... > Devices > Camera > Settings
2	Cancel 'Covert Camera View' access for specific users (groups).	Setup Menu... > System > User

## Administration (continued)

### Restoring factory defaults

Before restoring the factory defaults, you should export your current system settings in case you need to re-import them later. (see *Saving your system setup and Loading your system setup*)

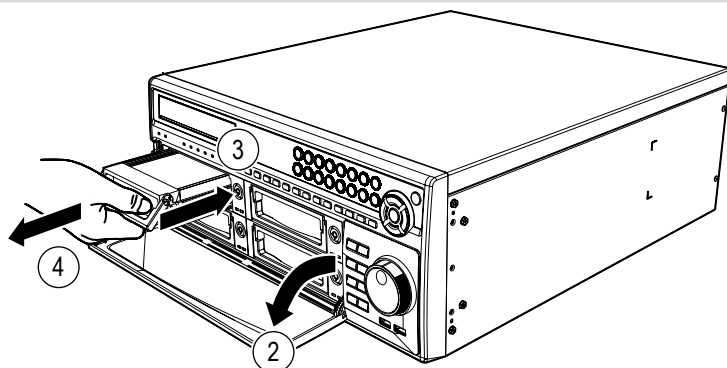
Step	Action
1	Shut down the system.
2	Switching off the DVR
3	Push a paper clip into the Reset button (on the rear of the DVR) and hold it there.
4	Switching on the DVR
5	Wait for all the LEDs to flash 5 times (about 30 seconds).
6	Withdraw the paper clip.

## Administration (continued)

### Changing hard disk

#### Requirements:

- At least one hard disk is installed in hard disk drive rack.
- No hard disk operation
- Key for hard disk drive rack



Step	Action	Menu path
1	Deselect desired hard disk. <b>Caution:</b> Removal without deselecting the hard disk will cause a software crash and loss of data.	Setup Menu... > System > Storage > Information > Type X
2	Swing out the hard disk cover on the front of the device.	
3	Unlock the hard disk using the key.	
4	Open the drive rack frame and pull the hard disk out on its frame.	
5	Open the drive rack frame for the new hard disk and slide the hard disk into the drive rack slot of the video recorder.	
6	Swing down the frame. <b>Result:</b> The hard disk is now connected to the video recorder.	
7	Lock the drive rack using the key.	
8	Swing the hard disk cover back into position.	
9	Select the new hard disk.	

## Administration (continued)

### Fitting hard disk into an empty drive rack

#### Requirements:

- Mounting screws for installation of hard disk drives
- Suitable screwdriver
- Key for hard disk drive rack

Step	Action
1	Swing out the hard disk cover on the front of the device.
2	Release the empty drive using the key.
3	Open the drive rack frame and pull out the drive rack frame.
4	Insert the hard disk to be connected into the empty drive rack and secure it with the fastening screws.
5	Open the drive rack frame for the new hard disk and slide the hard disk into the drive rack slot of the video recorder.
6	Swing down the frame. <b>Result:</b> The hard disk is now connected to the video recorder.
7	Lock the drive rack using the key.
8	Swing the hard disk cover back into position.



## Administration (continued)

### Mirroring of hard disks

Mirroring of hard disks prevents the loss of records in the event of a hard disk defect.

#### Requirements:

- The Digital Video Recorder has 2 or 4 hard disks installed
- The destination hard disk is identical to the source hard disk in type and memory capacity
- The source hard disk and the destination hard disk are used for records only

Step	Action	Menu path
1	Format the source and destination hard disks for records.	Setup Menu... > System > Storage > Information > Format > Record
2	Select the source and destination hard disks as Mirror 1 and Mirror 2. <b>Note:</b> Only the hard disk pairings internal1 to internal2, and internal3 to internal4 can be used for mirroring.	Setup Menu... > System > Storage > Information > Mirroring Setup > InternalX -> InternalX
	Start Mirroring. <b>Results:</b>	Start
3	<ul style="list-style-type: none"><li>• The source hard disk and destination hard disk are synchronised (approx. 40 minutes for 10 GB).</li><li>• All data on the destination hard disk are deleted.</li><li>• All records are written to both hard disks.</li></ul>	
	Interrupting Mirroring. <b>Results:</b>	Setup Menu... > System > Storage > Information > Mirroring Setup > No Mirror 1/2
4	<ul style="list-style-type: none"><li>• The status of the destination hard is set to:</li><li>• The hard disk can now only be used for searching for records.</li><li>• If the hard disk is to be used for records or archiving, it must be formatted.</li></ul>	Not used  Setup-Menu... > System > Storage > Information > Format > Format
5	Continuing Mirroring - see step.2	Setup Menu... > System > Storage > Information > Mirroring Setup > InternalX -> InternalX

## Administration (continued)

### Determining the memory requirement of a recording

The amount of memory recorded video sequences will take up depends on the following factors:

- Picture quality
- number of images per second
- duration

The memory requirement is calculated by this formula:

$$\text{Memory requirement} = \text{picture size} \times \text{duration of recording} \times \text{images per second}$$

Calculation example: CIF resolution (PAL):

Picture quality	Picture size	Duration of recording	Approx. memory space		
			5 images/s	10 images/s	25 images/s
Basic	2.4 kB	24 hours	1.04 GB	2.07 GB	5.18 GB
Standard	4.8 kB	24 hours	2.07 GB	4.15 GB	10.37 GB
High	9.6 kB	24 hours	4.15 GB	8.29 GB	20.74 GB
Super High	14.4 kB	24 hours	6.22 GB	12.44 GB	31.10 GB

Calculation example: 2CIF / Half D1 resolution (PAL):

Picture quality	Picture size	Duration of recording	Approx. memory space		
			5 images/s	10 images/s	25 images/s
Basic	4.8 kB	24 hours	2.07 GB	4.15 GB	10.37 GB
Standard	9.6 kB	24 hours	4.15 GB	8.29 GB	20.74 GB
High	19.2 kB	24 hours	8.29 GB	16.59 GB	41.47 GB
Super High	28.8 kB	24 hours	12.44 GB	24.88 GB	62.20 GB

Calculation example: 4CIF / Half D1 resolution (PAL):

Picture quality	Picture size	Duration of recording	Approx. memory space		
			5 images/s	10 images/s	25 images/s
Basic	8 kB	24 hours	3.46 GB	6.9 GB	17.28 GB
Standard	18 kB	24 hours	7.78 GB	15.55 GB	38.88 GB
High	36 kB	24 hours	15.55 GB	31.1 GB	77.76 GB
Super High	80 kB	24 hours	34.56 GB	69.12 GB	172.8 GB

# Searching for recordings

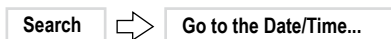
## Find first stored recording



## Find last stored recording



## Find recording by date and time



## Bookmark Search

Using Bookmark Search you can search for records based on previously defined bookmarks:



## Calendar search

For each camera the calendar search indicates:

- the days from which there are recordings
- the time ranges of recordings on those days



## Event log search

The event log search enables you to search for events based on specific criteria, such as:

- movements recorded by a specific camera
- alarm from a specific alarm input
- System events



## Text-in search

The text-in search enables you to search for recordings based on specific text inputs.



## Searching for recordings (continued)

### Motion search

The motion search function can detect movements in recordings within defined zones for one camera. 2 types of motion search are possible:

- Motion search: Search for movement in a defined zone.
- Museum search: Search for movement of a defined object.

Search



Motion Search...

### Copying recordings

Recordings can be written to a CD or copied to a USB memory stick.

Search



Clip-Copy...

# Using Bookmark search

## Defining bookmarks

Step	Action	Menu path
1	Find desired recordings. Open bookmark search.	Search...
2	<b>Result:</b> A list of all bookmarks so far defined will be displayed. Add bookmark.	Search > Bookmarks...
3	<b>Result:</b> The new bookmark with date and time will be added to the list.	Add Current Position

## Perform bookmark search

Step	Action	Menu path
1	Open bookmark search. <b>Result:</b> A list of all bookmarks so far defined will be displayed.	Search > Bookmarks...
2	Select the desired bookmark from the list.	Bookmark

Search



Bookmarks...

Term	Symbol	Meaning
No.	<input type="text"/>	Number of the bookmark
Title	<input type="text" value="..."/>	Name of the bookmark
Bookmark	<input type="button" value=""/>	Activates the search for the defined bookmark
Channels	<input type="text"/>	Display the channels
Add Current Position	<input type="button" value=""/>	Adds a new bookmark.

# Using calendar search

## Performing a calendar search

Step	Action	Menu path
1	Open calendar search. <b>Result:</b> Calendar and time line are displayed.	Search > Calendar Search...
2	Select day and time	
3	Confirm input.	Go

Search



Calendar Search...

Term	Symbol	Meaning
		Date display <ul style="list-style-type: none"><li>● Grey: No recording available</li><li>● White: Recording available</li></ul>
		Hours display <ul style="list-style-type: none"><li>● White: Recording available</li></ul>
Select a Segment		If the date and time on the DVR have been changed (such as when switching to Summer time) there may be multiple recordings for one time from the same camera. They are stored in separate segments.

# Using event log search

## Performing an event log search

Step	Action	Menu path
1	Open event log search. <b>Result:</b> The result of the last search is displayed.	Search > Event Log Search...
2	Define criteria.	Option...
3	Confirm input. <b>Result:</b> List of search results is displayed.	Search
4	Select desired entry from list.	



Term	Symbol	Meaning
From First	<input checked="" type="checkbox"/> <input type="text" value="..."/>	Start date
To Last	<input checked="" type="checkbox"/> <input type="text" value="..."/>	End date
Check Time Overlap	<input checked="" type="checkbox"/>	Activates a system prompt if there are multiple recordings for the same time range
Alarm-In	<input type="checkbox"/> <input checked="" type="checkbox"/>	Alarm inputs in response to which a search for events is to start
Motion	<input type="checkbox"/> <input checked="" type="checkbox"/>	Cameras on which to search for motion detection
Object Detection	<input type="checkbox"/> <input checked="" type="checkbox"/>	Cameras on which to search for object detection
Video Loss	<input type="checkbox"/> <input checked="" type="checkbox"/>	Cameras on which to search for video loss
Video Blind	<input type="checkbox"/> <input checked="" type="checkbox"/>	Cameras on which to search for video blind
Text-In	<input type="checkbox"/> <input checked="" type="checkbox"/>	Text input devices on which to search for events
Record Channels	<input type="checkbox"/> <input checked="" type="checkbox"/>	Cameras on which to search for events
	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/>	Search for system events: Setup Menu... > Event > System Event > Actions

# Using text-in search

## Performing a text-in search

Step	Action	Menu path
1	Open text-in search. <b>Result:</b> The result of the last search is displayed.	Search > Text-In Search...
2	Define text inputs.	Option...
3	Confirm input. <b>Result:</b> List of search results is displayed.	Search
4	Select desired entry from list.	



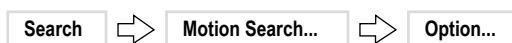
Term	Symbol	Meaning
From First	<input checked="" type="checkbox"/> <input type="text" value="..."/>	Start date
To Last	<input checked="" type="checkbox"/> <input type="text" value="..."/>	End date
Channels	<input type="checkbox"/> <input checked="" type="checkbox"/>	Text input devices on which to search for events
		Type of text input:
	<input type="text" value="..."/>	Any Text-In Product
		Generic Text
		Epson
No.	<input checked="" type="checkbox"/>	Numbers of text elements to search for
Keyword	<input type="text" value="..."/>	Text element
Case Sensitive	<input checked="" type="checkbox"/>	Makes search case-sensitive



# Using motion search

## Performing a motion search

Step	Action	Menu path
1	Display desired camera in single frame.	Display > Camera > ...
2	Open motion search.	Search > Motion Search...
3	Enter settings for motion search.	Option...
4	Confirm input. <b>Result:</b> List of search results is generated.	Search
5	Select desired entry from list.	



Term	Symbol	Meaning
From First	<input checked="" type="checkbox"/> <input type="text" value="..."/>	Start date
To Last	<input checked="" type="checkbox"/> <input type="text" value="..."/>	End date
Type	<input type="text" value="▼"/>	Type of search: Motion search      Search for movement in a defined zone Museum Search      Search for movement of a defined object.
Zone	<input type="text" value="□"/> <input type="text" value="..."/>	Definition of motion-sensitive zones for motion search or museum search: See "Zone" on page 46.
Sensitivity	<input type="text" value="▼"/>	Sensitivity of motion detection of: 1 (Dull) 2 3 4 5 (Sensitive)
Min. Blocks	<input type="text" value="..."/>	Motion search only (not museum search): Specify in how many motion-sensitive blocks motion must be detected as a minimum to trigger an alarm

# Copying recordings

## Copying recordings to CD or USB memory stick

Step	Action	Menu path
1	Find desired recordings. <b>Note:</b> Make a note of the data of the recordings you want to copy.	Search > ...
2	Define settings.	Search > Clip-Copy...
3	Start copying. <b>Result:</b> The recordings are copied.	Start

Search  Clip-Copy...

Term	Symbol	Meaning
Data Source	<input type="text"/>	Record
From First	<input checked="" type="checkbox"/> <input type="text"/>	Start date
To Last	<input checked="" type="checkbox"/> <input type="text"/>	End date
Channels	<input type="checkbox"/> <input checked="" type="checkbox"/>	Assignment of cameras from which recordings are to be copied
Password	<input type="checkbox"/> <input type="text"/>	Use password, if desired
Dest.	<input type="text"/>	Destination medium:
		Internal DVD-RW
		USB-CD-RW
		1. USB Storage
		2. USB Storage
		3. USB Storage
File name	<input type="text"/>	Name of file on destination medium
Verify After Burning	<input checked="" type="checkbox"/>	Activates verification after burning
Progress	<input type="text"/>	Copy status

## Menu descriptions – Setup menu

The Setup menu has the following sub-menus:

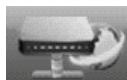
### System menu



On the "System" menu

- the basic settings are made
- users are administered
- the system is shut down.

### Network menu



On the "Network" menu the network settings are made. Network access provides access to all the functions of the DVR via

- WebGuard, same access using Internet Explorer
- RAS (Remote Administration System), independent of Internet Explorer

The DVR can be configured so that alarms trigger a notification by e-mail or notify an RAS.

### Devices menu



On the "Devices" menu the connected peripheral devices are configured. Possible peripherals are:

- Cameras
- Microphones and speakers (through amplifier)
- Sirens and signal lamps
- Monitors
- Remote control for PTZ

### Record menu



On the "Record" menu the following settings are made:

- Recording quality
- Timer control
- Duration of pre-event recording
- Schedule and method of archiving

### Event menu



On the "Event" menu the following settings are made:

- Assignment of alarm inputs to alarms
- Configuration of motion-sensitive zones individually for each camera
- Definition of text input device and assignment to alarms
- Response to undesirable events

The event status is additionally displayed.

# Setup menu

## System – Information

On the “Information” menu

- basic information is entered and displayed
- software updates are installed
- recorded data are deleted as required



Term	Symbol	Meaning
Site	<input type="text" value="..."/>	Location of DVR
System ID	<input type="text" value="..."/>	Identifier for remote control <ul style="list-style-type: none"><li>• The remote control and DVR must be set to the same ID.</li><li>• If the system ID in the DVR is 0, it will respond to the remote control regardless of the remote's ID.</li></ul>
Language	<input type="text" value="v"/>	Menu language
Version	<input type="text"/>	Version of DVR software
Upgrade...	<input type="checkbox"/>	Starts installing latest version of software via USB port
Import...	<input type="checkbox"/>	Import setup
Export...	<input type="checkbox"/>	Export setup
Show System Log...	<input type="checkbox"/>	Show log of all actions and events
Recorded data		
From	<input type="text"/>	Date of oldest recording
To	<input type="text"/>	Date of newest recording
Clear All Data...	<input type="checkbox"/>	Deletes all stored data

## Setup menu (continued)

### System – Date/Time

On the “Date/Time” menu

- time and date settings are made
- dates of public holidays are entered
- time synchronisation is configured.

Setup Menu... ➞ System ➞ Date/Time ➞  Date/Time

Term	Symbol	Meaning
Date	<input type="text" value="..."/>	Date
Format	<input type="text" value="v"/>	Date display format
Time	<input type="text" value="..."/>	Time
Format	<input type="text" value="v"/>	Time display format
Time Zone	<input type="text" value="v"/>	Local time zone
Use Daylight Saving Time	<input checked="" type="checkbox"/>	Activates use of summertime Daylight Saving Time

Setup Menu... ➞ System ➞ Date/Time ➞  Holiday

Term	Symbol	Meaning
No.	<input type="text"/>	Number of entered public holiday
Date	<input type="text" value="..."/>	Date of each desired public holiday

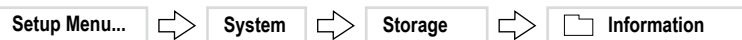
Setup Menu... ➞ System ➞ Date/Time ➞  Time Sync

Term	Symbol	Meaning
Automatic Sync.	<input checked="" type="checkbox"/>	Activates synchronisation with time server
Time Server	<input type="text" value="..."/>	Address of time server
Interval	<input type="text" value="v"/>	Synchronisation interval
Last Sync-Time	<input type="text"/>	Time of last synchronisation
Run as Server	<input checked="" type="checkbox"/>	Activates use of the DVR as the time server

## Setup menu (continued)

### System – Storage

On the “Storage” menu the status and usage of the available storage media is displayed.



Term	Symbol	Meaning
Type	<input type="text"/>	Type of storage medium
Capacity	<input type="text"/>	Size of storage medium
Format	<input type="text"/>	Storage medium usage >>
Information	<input type="text"/>	Time range of recorded data >>
Mirroring Setup		
No Mirror 1	<input type="text"/>	Mirroring hard disks 1 and 2
		No Mirror 1
		Internal1 -> Internal2 Internal2 -> Internal1
No Mirror 2	<input type="text"/>	Mirroring hard disks 3 and 4
		No Mirror 2
		Internal3 -> Internal4 Internal4 -> Internal3

## Setup menu (continued)

### ⇒ Format

Term	Symbol	Meaning
		Use of storage medium:
Use as	<input type="text"/>	Record
		Archive
		Not using
		Activating permits:
Partition	<input checked="" type="checkbox"/>	Reserves a data buffer as a separate partition. This is essential for burning CDs, and must be activated for a storage medium with „Record“ usage.
Format	<input type="checkbox"/>	Formatting deletes the recordings from the hard disk

### ⇒ Information

Term	Symbol	Meaning
		Recorded data
From	<input type="text"/>	Start date of recorded data
To	<input type="text"/>	End date of recorded data
Clear	<input type="checkbox"/>	Delete all recordings

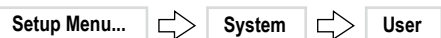
### Setup Menu... ⇒ System ⇒ Storage ⇒ Status

Term	Symbol	Meaning
Type	<input type="text"/>	Memory type
Disk Bad	<input type="text"/>	Data carrier status
Temperature	<input type="text"/>	Temperature status
S.M.A.R.T.	<input type="text"/>	Result of S.M.A.R.T. check
Internal 1 to 4	<input type="text"/>	Name of hard disk drives



## Setup menu (continued)

### System – User

On the “User” menu the user groups and individual users are set up.



Term	Symbol	Meaning
Group & User Group field	<input type="text"/>	Assignment of group access privileges Table of possible group access privileges >>
Group & User Group field	<input type="text" value="..."/>	Set password
+ Group...	<input type="text"/>	Add a new group
+ User...	<input type="text"/>	Add a new user Set password
Auto Login	<input type="text" value="v"/>	User to be logged in automatically
Auto Logout	<input type="text" value="v"/>	Time after which logged-in user is automatically logged out

  **Table of possible group access privileges**

Group access privilege	Meaning
Shutdown	May shut down the DVR
Upgrade	May install a new firmware version
System Time Change	May change the time setting
Data Clear	May delete recording data
Setup	May make changes anywhere on the Setup menu
Colour Control	May change the picture settings
PTZ Control	May control PTZ cameras
Alarm-Out Control	May reset alarms
Covert Camera View	May view video images from covert cameras
System Check	May interrogate system status
Record Setup	May make changes to the Record menu
Search	May use Search mode
Clip-Copy	May copy video images



## Setup menu (continued)

### System – Shutdown

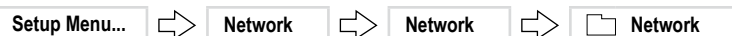


### System – Log out user1...



### Network – Network

On the “Network” menu all settings required to ensure network access are made.



Term	Symbol	Meaning
Transfer Speed	<input type="text" value="..."/>	Transmission bandwidth:
		(bps) bits per second
		(ips) images per second
Quality	<input type="text" value="▼"/>	Quality of picture transmission via network (PAL):
		Super High 14.4 kB/picture
		High 9.6 kB/picture
		Standard 4.8 kB/picture
		Basic 2.4 kB/picture
Resolution	<input type="text" value="▼"/>	Quality of recorded images
		Standard (CIF) CIF
		High (Half D1) 2CIF
Remote Audio Channel	<input type="text" value="▼"/>	Selecting Audio Channel
		Select From RAS
		1 - 16

## Setup menu (continued)




Term	Symbol	Meaning
		Type of connection to DVR:
		Manual connection required input of:
	Manual	<ul style="list-style-type: none"> <li>• IP Address</li> <li>• Gateway</li> <li>• Subnet Mask</li> </ul>
Type	<input type="text" value="▼"/>	DHCP Automatic assignment of IP address of DNS server
	ADSL (with PPPoE)	Requires following input as specified by provider: <ul style="list-style-type: none"> <li>• ID</li> <li>• Password</li> </ul>
		<b>Note:</b> Use of modem must not be activated.
DNS Server	<input type="text" value="..."/>	Address of DNS server
Port Number Setup...	<input type="text"/>	Definition of the port numbers that are required for access to the Digital Video Recorder using the RAS plus software or using WebGuard

## Setup menu (continued)

Setup Menu... ➔ Network ➔ Network ➔  DVRNS

Term	Symbol	Meaning
Use DVR Name Service	<input checked="" type="checkbox"/>	Enables the DVR name service
DVRNS Server	<input type="text" value="..."/>	IP address or domain name of DVRNS server DVRNS = Digital Video Recorder Name Service
Port	<input type="text" value="..."/>	Port for DVRNS
Use NAT	<input checked="" type="checkbox"/>	Enables NAT (Network Address Translation) use
DVR Name	<input type="text" value="..."/>	Name by which the DVR is to be registered with the DVRNS server
Check	<input type="text"/>	Check DVR name for usability after entering
Help Desk	<input type="text"/>	Information from help desk if DVRNS setting correct

Setup Menu... ➔ Network ➔ Network ➔  WebGuard

Term	Symbol	Meaning
Use WebGuard Service	<input checked="" type="checkbox"/>	WebGuard Service activated
Port	<input type="text" value="..."/>	Port for the WebGuard Service

## Setup menu (continued)

### Network – Notification

On the “Notification” menu the method of notification is defined.



Term	Symbol	Meaning
Enable	<input checked="" type="checkbox"/>	Enables notification by e-mail
SMTP Server	<input type="text" value="..."/>	Address of SMTP server
Port	<input type="text" value="..."/>	Port for SMTP server Default is port 25.
Use SSL/TLS	<input checked="" type="checkbox"/>	Activates the Encryption
Authentication	<input type="checkbox"/>	Login to SMTP server
Sender	<input type="text" value="..."/>	E-mail address of sender
Recipient	<input type="text" value="..."/>	E-mail address of recipient
Attached Image Quality	<input type="text" value="..."/>	Resolution of attached picture



Term	Symbol	Meaning
LAN	<input checked="" type="checkbox"/>	Enables notification of an RAS via LAN
No.	<input type="text" value="..."/>	Number of IP address
IP Address	<input type="text" value="..."/>	IP addresses of RAS PCs
Retry	<input type="text" value="..."/>	Number of notification attempts by the DVR in the event of an error

## Setup menu (continued)

### Devices – Camera

On the “Camera” menu the cameras are configured.



Term	Symbol	Meaning	
No.	<input checked="" type="checkbox"/>	Activates the cameras	
Title	<input type="text" value="..."/>	Name of camera	
Use	<input type="text" value="Normal"/>	Visibility of recordings and camera data depending on user access privileges:	
		Normal	All users see all camera data and all recordings
		Covert 1	Users without relevant access see camera title, status symbol, but no recordings
		Covert 2	Users without relevant access see only camera title, but no recordings



Term	Symbol	Meaning
No.	<input type="text"/>	Number of camera
Product	<input type="text" value="PTZ"/>	PTZ camera type as per specified list
ID	<input type="text" value="..."/>	Unique ID of PTZ camera
Port	<input type="text" value="..."/>	Interface type of PTZ cameras
Setup...	<input type="checkbox"/>	Settings as specified by PTZ camera manufacturer:
		Baud Rate
		Data Bit
		Stop Bit
		Parity

## Setup menu (continued)

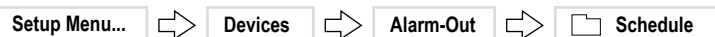
### Devices – Alarm-Out

On the “Alarm-Out” menu the alarm outputs are configured.

- “Settings” tab: The alarm outputs are configured.
- “Schedule” tab: Time slots are defined in which the alarm outputs respond in specific ways.



Term	Symbol	Meaning	
No.	<input type="text"/>	Number of alarm output	
Title	<input type="text" value="..."/>	Name of alarm output	
Type	<input type="text" value="▼"/>	Contact method of alarm output:	
		NO	Normally Open
		NC	Normally Closed
Dwell	<input type="text" value="▼"/>	Duration of alarm signal	







Term	Symbol	Meaning	
No.	<input type="text"/>	Number of schedule entry	
Day	<input type="text" value="▼"/>	Day of the week	
Range	<input type="text" value="..."/>	Time range at 15-minute intervals	
Mode	<input type="text" value="▼"/>	Response in defined period:	
		Event	Alarm in response to event
		On	Continuous alarm
		Off	No alarm
Channels	<input type="checkbox"/> <input checked="" type="checkbox"/>	Enable	
		<ul style="list-style-type: none"> <li>• Alarm outputs</li> <li>• internal beep by DVR</li> </ul>	













## Setup menu (continued)

### Devices – Display

On the “Display” menu the mode of on-screen display is configured.

- “OSD” tab: Specify what additional information is displayed on-screen.
- “Main Monitor” tab: Specify how the camera images are displayed on the main monitor.
- “Spot Monitor” tab: Specify which cameras are displayed on the spot monitors.

Setup Menu...  Devices  Display   OSD

Term	Symbol	Displayed symbol	Meaning
Progress			Activates display of:
Remote Control	<input checked="" type="checkbox"/>		Remote Control
Zoom	<input checked="" type="checkbox"/>		Visible when Zoom mode enabled
Network	<input checked="" type="checkbox"/>		Visible when DVR operating in a network
Freeze & Sequence	<input checked="" type="checkbox"/>		<ul style="list-style-type: none"> <li>• Freeze</li> <li>• Visible when Sequence mode enabled</li> </ul>
Screen Group	<input checked="" type="checkbox"/>	1/4	Displays number of groups, and their ID numbers
Free Space	<input checked="" type="checkbox"/>		<ul style="list-style-type: none"> <li>• Visible when Recycle mode enabled</li> <li>• Remaining hard disk capacity, if Recycle mode not selected</li> </ul>
Archive	<input checked="" type="checkbox"/>		Visible when archiving in progress
Mirror	<input checked="" type="checkbox"/>		Mirroring
Date	<input checked="" type="checkbox"/>	-	Date
Time	<input checked="" type="checkbox"/>	-	Time
User Name	<input checked="" type="checkbox"/>	-	Display of user name
Camera			Activates display of:
No.	<input checked="" type="checkbox"/>	-	Display of camera number
Title	<input checked="" type="checkbox"/>	-	Display of camera title
Record	<input checked="" type="checkbox"/>		Display of Record symbols
PTZ	<input checked="" type="checkbox"/>		Visible when PTZ camera is displayed
Text-In	<input checked="" type="checkbox"/>		Display of character string
Audio	<input checked="" type="checkbox"/>		Audio
Transparency		-	Transparency of menu screens
OSD Margin...		-	Distance of displayed symbols from screen margin

## Setup menu (continued)

Setup Menu... → Devices → Display → Main Monitor

Term	Symbol	Meaning
		Modes of sequences in multiple playback:
Mode	<input type="text"/>	Full Sequence All cameras are switched through sequentially.
		Cameo Sequence Only the image at the bottom right is switched through; cameras in „Covert“ mode are not displayed to users without „Covert“ access.
Interval	<input type="text"/>	Time interval between picture refresh
Event Monitoring On	<input checked="" type="checkbox"/>	Displays image of relevant camera in full-screen mode when an event occurs

Setup Menu... → Devices → Display → Spot Monitor

Term	Symbol	Meaning
No.	<input type="text"/>	Number of spot monitor output
Channels	<input type="checkbox"/> <input checked="" type="checkbox"/>	Camera Selecting a camera
		Dwell Duration of display of the camera image

## Devices – Remote Control

On the “Remote Control” menu the remote control function is configured.

Setup Menu... → Devices → Remote Control

Term	Symbol	Meaning
Port	<input type="text"/>	Interface type of remote control
		Setup as specified by manufacturer:
Setup...	<input type="checkbox"/>	Baud Rate
		Data Bit
		Stop Bit
		Parity
Remote Control Product	<input type="text"/>	Remote control type as per specified list



## Setup menu (continued)

### Record – Record

On the “Record” menu the basic settings for recordings and their quality are made.



Term	Symbol	Meaning
Recycle	<input checked="" type="checkbox"/>	Enables automatic overwriting of the oldest recordings when the hard disk is full <b>Note:</b> If not enabled, recording ends when the hard disk is full.
Event Record Dwell	<input type="text"/>	Duration of recording when an event occurs
Auto Deletion	<input type="range"/>	Specify time after which automatically deleted
Use Real Time High Resolution Record	<input checked="" type="checkbox"/>	Activates high resolution recording
Audio Record	<input type="checkbox"/> <input checked="" type="checkbox"/>	Selection of the audio channels
Use Panic Recording	<input checked="" type="checkbox"/>	Enables the panic recording function
Panic Recording Duration	<input type="text"/>	Duration of panic recording
		No Limit      End panic recording by pressing PANIC button
		xx min.      Panic recording ends after preset time or by pressing PANIC button
ips	<input type="text"/>	Number of recorded images per second in panic recording
Quality	<input type="text"/>	Picture quality of the recorded images in panic recording
Resolution	<input type="text"/>	Quality of recorded images

## Setup menu (continued)

### Record – Schedule

On the “Schedule” menu the schedule for recording is defined.

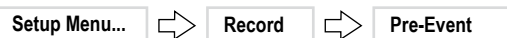


Term	Symbol	Meaning	
Schedule On	<input checked="" type="checkbox"/>	Enables schedule entries <b>Note:</b> A recording is made only if schedule entries are enabled. Otherwise only panic recording is possible.	
No.	<input type="text"/>	Number of schedule entry	
Day	<input type="text" value="▼"/>	Day of the week	
Range	<input type="text" value="..."/>	Time range at 15-minute intervals	
Mode	<input type="text" value="▼"/>	Response:	
		No Record	-
		Time	Always record in the defined time slot in the quality set for "Time" mode
		Event	Record only in case of event in the defined time slot in the quality set for "Event" mode
Channels	<input type="checkbox"/> <input checked="" type="checkbox"/>	Time & Event	Always record in the defined time slot in the quality set for "Time" mode, also in case of event in the defined time slot in the quality set for "Event" mode
		Assignment of cameras to schedule	
Settings	<input type="checkbox"/> <input type="text" value="▼"/>	Picture data settings in Time and Event modes:	
		ips	Number of recorded images per second
Default...	<input type="checkbox"/> <input type="text" value="▼"/>	Quality	Picture quality of recorded images
		Picture data defaults in Time and Event modes:	
		ips	Number of recorded images per second
		Quality	Picture quality of recorded images

## Setup menu (continued)

### Record – Pre-Event

On the “Pre-Event” menu the settings for recording prior to the event are made.



Term	Symbol	Meaning
No.	<input checked="" type="checkbox"/>	Activates the cameras
ips	<input type="text" value=""/>	Number of recorded images per second prior to the event
Quality	<input type="text" value=""/>	Picture quality of the recorded images prior to the event
Resolution	<input type="text" value=""/>	Quality of recorded images
Dwell	<input type="text" value="..."/>	Recording time prior to the event <b>Note:</b> The pre-event recording memory capacity is limited. Consequently, the maximum recording time prior to the event, the number of recorded images and picture quality are inter-dependent.

## Setup menu (continued)

### Record – Archive

On the “Archive” menu the schedules and settings for archiving are entered.



Term	Symbol	Meaning	
Archive On	<input checked="" type="checkbox"/>	Enables the archiving settings	
Schedule			
Day	<input checked="" type="checkbox"/>	Day of week from which to archive recordings	
Range	<input type="text" value="..."/>	Time range	
Archive Data Range			
		Start of archiving, from:	
From	<input checked="" type="checkbox"/> <input type="text" value="..."/>	Last Archived	Time of last archiving
		xx/yy/200x	Defined date and time
		End of archiving, up to:	
To	<input checked="" type="checkbox"/> <input type="text" value="..."/>	Continue	No end
		xx/yy/200x	Defined date and time
Recycle	<input checked="" type="checkbox"/>	Enables automatic overwriting of the oldest recordings when the archive medium is full. <b>Note:</b> If not enabled, archiving ends when the archive medium is full.	

## Setup menu (continued)

### Event – Alarm-In

On the “Alarm-In” menu the alarm inputs and responses to events are configured.



Term	Symbol	Meaning
No.	<input checked="" type="checkbox"/>	Enables the alarm inputs
Title	<input type="text" value="..."/>	Name of alarm input
Type	<input type="text" value="v"/>	Contact method of alarm input: NO Normally Open NC Normally Closed
Panic Record	<input type="text" value="v"/>	Select alarm input for which the function of panic recording should be activated



Term	Symbol	Meaning
No.	<input type="text" value=""/>	Number of alarm input
Record	<input type="checkbox"/> <input checked="" type="checkbox"/>	Assignment of cameras to record in event of alarm These cameras must be in “Event” or “Time and Event” mode within the time slot: Setup Menu... > Record > Schedule
Alarm-Out	<input type="checkbox"/> <input checked="" type="checkbox"/>	Assign and enable <ul style="list-style-type: none"> <li>alarm outputs</li> <li>internal beep by DVR</li> </ul> These alarm outputs and the internal beep must be enabled within the time slot: Setup Menu... > Devices > Alarm-Out > Schedule
Notify	<input type="checkbox"/> <input checked="" type="checkbox"/>	Assign and enable notifications: Mail Option "Image Attachment" for Camera 1-16 LAN 1 to LAN 5 Alert Window The selected function must be enabled: Setup Menu... > Network > Notification

## Setup menu (continued)

Setup Menu... ➞ Event ➞ Alarm-In ➞ Actions 2

Term	Symbol	Meaning
No.	<input type="text"/>	Number of alarm input
PTZ	<input type="text"/> <input type="text"/>	Select PTZ cameras to record in event of alarm and select the desired settings
Spot Monitor	<input type="text"/> <input type="text"/>	Select spot monitor on which camera image is displayed in event of alarm

## Setup menu (continued)

### Event – Motion Detection

On the “Motion Detection” menu the motion-sensitive zones are defined and responses to events configured.



Term	Symbol	Meaning	
No.	<input checked="" type="checkbox"/>	Enables motion detection for the camera	
Sensitivity	<input type="text"/>	Sensitivity of motion detection:	
		Daytime	
Zone	<input type="text"/>	Nighttime	
		Select the motion-sensitive blocks within the time slot	
		Left mouse button functions:	
		<ul style="list-style-type: none"> <li>Click to select/deselect</li> <li>Click - hold down - drag to define a zone for selection/deletion/back</li> </ul>	
		Right mouse button functions or menu in time slot to select blocks:	
		Select	Select complete row of blocks
		Clear	Clear selection of a row
Min. Blocks	<input type="text"/>	Reverse	Reverse selection of a row
		Select All	Select all blocks
		Clear All	Clear selection of all blocks
		Reverse All	Reverse selection of all blocks
		Specify in how many motion-sensitive blocks motion must be detected as a minimum to trigger an alarm:	
Zone View	<input checked="" type="checkbox"/>	Daytime	
		Nighttime	
Motion Ignoring Interval	<input type="text"/>	Mark the motion-sensitive zones (red in event of motion)	
		Time interval between 2 events logged as separate events:	
Daytime Setup...	<input type="text"/>	Never	Each motion detection is logged as a separate event.
		Definition of “Daytime” time range	

## Setup menu (continued)

Setup Menu... ➔ Event ➔ Motion Detection ➔ Actions 1

Term	Symbol	Meaning
No.	<input type="text"/>	Number of alarm input
Record	<input type="checkbox"/> <input checked="" type="checkbox"/>	<p>Assignment of cameras to record in event of alarm</p> <p>These cameras must be in "Event" or "Time and Event" mode within the time slot:</p> <p>Setup Menu... &gt; Record &gt; Schedule</p>
Alarm-Out	<input type="checkbox"/> <input checked="" type="checkbox"/>	<p>Assign and enable</p> <ul style="list-style-type: none"> <li>alarm outputs</li> <li>internal beep by DVR</li> </ul> <p>These alarm outputs and the internal beep must be enabled within the time slot:</p> <p>Setup Menu... &gt; Devices &gt; Alarm-Out &gt; Schedule</p>
Notify	<input type="checkbox"/> <input checked="" type="checkbox"/>	<p>Assign and enable notifications:</p> <p>Mail                      Option "Image Attachment" for Camera 1-16</p> <p>LAN 1 to LAN 5</p> <p>Alert Window</p> <p>The selected function must be enabled:</p> <p>Setup Menu... &gt; Network &gt; Notification</p>

Setup Menu... ➔ Event ➔ Motion Detection ➔ Actions 2

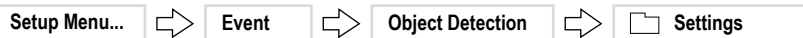
Term	Symbol	Meaning
No.	<input type="text"/>	Number of alarm input
PTZ	<input type="checkbox"/> <input type="text"/>	Select PTZ cameras to record in event of alarm and select the desired settings
Spot Monitor	<input type="checkbox"/> <input type="text"/>	Select spot monitor on which camera image is displayed in event of alarm



## Setup menu (continued)

### Event – Object Detection

On the "Object Detection" menu the motion-sensitive zones are defined and responses to events configured.



Term	Symbol	Meaning	
No.	<input checked="" type="checkbox"/>	Enables object detection for the camera	
Sensitivity		Sensitivity of object detection:	
		1 (Dull) 5 (Sensitive)	
Zone		Select the motion-sensitive blocks within the time slot Left mouse button functions:	
		<ul style="list-style-type: none"> <li>Click to select/deselect</li> <li>Click - hold down - drag to define a zone for selection/deletion/back</li> </ul>	
		Right mouse button functions or menu in time slot to select blocks:	
		Select	Select complete row of blocks
		Clear	Clear selection of a row
		Reverse	Reverse selection of a row
		Select All	Select all blocks
		Clear All	Clear selection of all blocks
Settings		Reverse All	Reverse selection of all blocks
		View Ref. Image	Displays the reference image
		Set Ref. Image	Uses the current image as the reference image
		Setting the number of movement-sensitive blocks in which movement must be detected and over what period of time, for the alarm to be triggered:	
Settings		Min. Blocks	
		Max. Blocks	
Settings		Activation Time	
Zone View	<input checked="" type="checkbox"/>	Mark the motion-sensitive zones (red in event of motion)	
Use Ignoring Time	<input checked="" type="checkbox"/>	Time Setup... . Definition of the period of time during which there is no reaction to the occurrence of an event	

## Setup menu (continued)

Setup Menu... → Event → Object Detection → Actions 1

Term	Symbol	Meaning
No.	<input type="text"/>	Number of alarm input
Record	<input type="checkbox"/> <input checked="" type="checkbox"/>	Assignment of cameras to record in event of alarm These cameras must be in "Event" or "Time and Event" mode within the time slot: Setup Menu... > Record > Schedule
Alarm-Out	<input type="checkbox"/> <input checked="" type="checkbox"/>	Assign and enable <ul style="list-style-type: none"> <li>alarm outputs</li> <li>internal beep by DVR</li> </ul> These alarm outputs and the internal beep must be enabled within the time slot: Setup Menu... > Devices > Alarm-Out > Schedule
Notify	<input type="checkbox"/> <input checked="" type="checkbox"/>	Assign and enable notifications: Mail                      Option "Image Attachment" for Camera 1-16 LAN 1 to LAN 5 Alert Window The selected function must be enabled: Setup Menu... > Network > Notification

Setup Menu... → Event → Object Detection → Actions 2

Term	Symbol	Meaning
No.	<input type="text"/>	Number of alarm input
PTZ	<input type="checkbox"/> <input type="text"/>	Select PTZ cameras to record in event of alarm and select the desired settings
Spot Monitor	<input type="checkbox"/> <input type="text"/>	Select spot monitor on which camera image is displayed in event of alarm

## Setup menu (continued)

### Event – Video Loss

The "Video Loss" menu allows configuration of checking for loss of signal and the responses to events.



Term	Symbol	Meaning
No.	<input type="text"/>	Number of camera
Status View	<input checked="" type="checkbox"/>	Activates the status display



Term	Symbol	Meaning		
No.	<input type="text"/>	Number of camera		
Record	<input type="checkbox"/> <input checked="" type="checkbox"/>	Assignment of cameras to record in event of alarm These cameras must be in "Event" or "Time and Event" mode within the time slot: Setup Menu... > Record > Schedule		
Alarm-Out	<input type="checkbox"/> <input checked="" type="checkbox"/>	Assign and enable <ul style="list-style-type: none"> <li>alarm outputs</li> <li>internal beep by DVR</li> </ul> These alarm outputs and the internal beep must be enabled within the time slot: Setup Menu... > Devices > Alarm-Out > Schedule		
Notify	<input type="checkbox"/> <input checked="" type="checkbox"/>	Assign and enable notifications: <table border="0" style="width: 100%;"> <tr> <td style="width: 50%;">Mail</td> <td>Option "Image Attachment" for Camera 1-16</td> </tr> </table> LAN 1 to LAN 5 Alert Window The selected function must be enabled: Setup Menu... > Network > Notification	Mail	Option "Image Attachment" for Camera 1-16
Mail	Option "Image Attachment" for Camera 1-16			

## Setup menu (continued)

Setup Menu... ➞ Event ➞ Video Loss ➞ Actions 2

Term	Symbol	Meaning
No.	<input type="text"/>	Number of camera
PTZ	<input type="checkbox"/> <input type="text"/>	Select PTZ cameras to record in event of alarm and select the desired settings
Spot Monitor	<input type="checkbox"/> <input type="text"/>	Select spot monitor on which camera image is displayed in event of alarm

## Setup menu (continued)

### Event – Video Blind

The "Video Blind" menu allows configuration of checking for covert cameras and the responses to events.



Term	Symbol	Meaning
No.	<input type="text"/>	Number of covert camera
Sensitivity		1 Not very sensitive
		100 very sensitive
Activation Time	<input type="text"/>	Activation Time of check as to whether camera is covert
		Don't Use xx min.
Status View	<input checked="" type="checkbox"/>	Activates the status display
Use Ignoring Time	<input checked="" type="checkbox"/> <input type="text"/>	Time Setup... Definition of the period of time during which there is no reaction to the occurrence of an event

## Setup menu (continued)

Setup Menu... ➞ Event ➞ Video Blind ➞ Actions 1

Term	Symbol	Meaning
No.	<input type="text"/>	Number of covert camera
Record	<input type="checkbox"/> <input checked="" type="checkbox"/>	Assignment of cameras to record in event of alarm These cameras must be in "Event" or "Time and Event" mode within the time slot: Setup Menu... > Record > Schedule
Alarm-Out	<input type="checkbox"/> <input checked="" type="checkbox"/>	Assign and enable <ul style="list-style-type: none"> <li>alarm outputs</li> <li>internal beep by DVR</li> </ul> These alarm outputs and the internal beep must be enabled within the time slot: Setup Menu... > Devices > Alarm-Out > Schedule
Notify	<input type="checkbox"/> <input checked="" type="checkbox"/>	Assign and enable notifications: Mail                      Option "Image Attachment" for Camera 1-16 LAN 1 to LAN 5 Alert Window The selected function must be enabled: Setup Menu... > Network > Notification

Setup Menu... ➞ Event ➞ Video Blind ➞ Actions 2

Term	Symbol	Meaning
No.	<input type="text"/>	Number of covert camera
PTZ	<input type="checkbox"/> <input type="text"/>	Select PTZ cameras to record in event of alarm and select the desired settings
Spot Monitor	<input type="checkbox"/> <input type="text"/>	Select spot monitor on which camera image is displayed in event of alarm

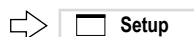
## Setup menu (continued)

### Event – Text-In

On the “Text-In” menu the text input device is defined and the responses to text input are configured.



Term	Symbol	Meaning
No.	<input type="text"/>	Number of text input device
Setup	<input type="text"/>	Configuration of text input >>
Title	<input type="text" value="..."/>	Name of text input



Term	Symbol	Meaning
Port	<input type="text" value="v"/>	Interface
Setup...	<input type="text"/>	Setting as specified by manufacturer of text input device (ATM, cash-till etc.):
		Baud Rate
		Data Bit
		Stop Bit
Text-In Product	<input type="text" value="v"/>	Parity
		Type of text input:
Transaction Start	<input type="text" value="..."/>	Generic Text
		Epson
Any Character	<input checked="" type="checkbox"/>	Character string with which text input must start for the DVR to respond
Transaction End	<input type="text" value="..."/>	DVR responds to any character
0 more line(s)	<input type="text" value="v"/>	Character string with which text input must end for the DVR to respond
Line Delimiter	<input type="text" value="..."/>	Enables recording of n more lines
Ignore String	<input type="text" value="..."/>	Line delimiter as specified by the text input device manufacturer: ^J for LF or ^M for CR
		Character string in the text input which the DVR is to ignore
Case Sensitive	<input checked="" type="checkbox"/>	All transmittable character strings are specified by the text input device manufacturer.
		Case sensitivity according to text input device manufacturer's specification

## Setup menu (continued)

Setup Menu... ➡ Event ➡ Text-In ➡  Actions 1

Term	Symbol	Meaning		
No.	<input type="text"/>	Number of alarm input		
Record	<input type="checkbox"/> <input checked="" type="checkbox"/>	<p>Assignment of cameras to record in event of alarm</p> <p>These cameras must be in "Event" or "Time and Event" mode within the time slot:</p> <p>Setup Menu... &gt; Record &gt; Schedule</p>		
Alarm-Out	<input type="checkbox"/> <input checked="" type="checkbox"/>	<p>Assign and enable</p> <ul style="list-style-type: none"> <li>alarm outputs</li> <li>internal beep by DVR</li> </ul> <p>These alarm outputs and the internal beep must be enabled within the time slot:</p> <p>Setup Menu... &gt; Devices &gt; Alarm-Out &gt; Schedule</p>		
Notify	<input type="checkbox"/> <input checked="" type="checkbox"/>	<p>Assign and enable notifications:</p> <table border="0" style="width: 100%;"> <tr> <td style="width: 50%;">Mail</td> <td>Option "Image Attachment" for Camera 1-16</td> </tr> </table> <p>LAN 1 to LAN 5</p> <p>Alert Window</p> <p>The selected function must be enabled:</p> <p>Setup Menu... &gt; Network &gt; Notification</p>	Mail	Option "Image Attachment" for Camera 1-16
Mail	Option "Image Attachment" for Camera 1-16			

Setup Menu... ➡ Event ➡ Text-In ➡  Actions 2

Term	Symbol	Meaning
No.	<input type="text"/>	Number of alarm input
PTZ	<input type="checkbox"/> <input type="text"/>	Select PTZ cameras to record in event of alarm and select the desired settings
Spot Monitor	<input type="checkbox"/> <input type="text"/>	Select spot monitor on which camera image is displayed in event of alarm



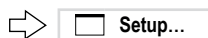
## Setup menu (continued)

### Event – System Event

On the “System Event” menu the self-diagnostics and corresponding messages are configured..



Term	Symbol	Meaning
System	<input type="text"/>	System self-diagnostics interval
Check Recording	<input type="checkbox"/>	Setup... . Configuration of schedule >>
Check Alarm-In	<input type="text"/> <input type="text"/>	Interval for checking Alarm Inputs



Term	Symbol	Meaning
Schedule On	<input checked="" type="checkbox"/>	Enables schedule entries
No.	<input type="text"/>	Number of schedule entry
Day	<input type="text"/>	Day of the week
Range	<input type="text"/>	Time range at 15-minute intervals
Interval	<input type="text"/>	Checking interval



Term	Symbol	Meaning
Disk Bad Notify	<input type="text"/>	Percentage of bad sectors on hard disk as from which an alarm is triggered
Disk Almost Full Notify	<input type="text"/>	Percentage hard disk space available as from which “Disk Almost Full” alarm is triggered
Disk S.M.A.R.T.	<input type="text"/>	Entering the temperature limit (in Celsius or Fahrenheit) for the data media S.M.A.R.T. check If the temperature limit is exceeded an alarm is triggered. For details of your hard disk’s temperature limit refer to the manufacturer’s manual.

## Setup menu (continued)

Setup Menu... → Event → System Event → Actions

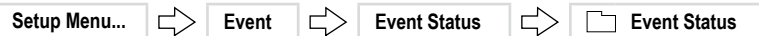
Term	Symbol	Meaning
		Events (based on checks):
		System System check failed
		Panic Record Panic recording in progress
		Check Recording Recording check failed
		Check Alarm-In Check of alarm inputs failed
Event	<input type="checkbox"/>	Disk Almost Full Preset limit value for hard disk capacity reached
		Disk Full Hard disk full
		Disk Bad Preset limit value for number of bad sectors reached
		Disk Temperature Preset temperature limit reached
		Disk S.M.A.R.T. S.M.A.R.T. check failed
Alarm-Out	<input type="checkbox"/> <input checked="" type="checkbox"/>	Assign and enable <ul style="list-style-type: none"> <li>alarm outputs</li> <li>internal beep by DVR</li> </ul> <b>Note:</b> Not possible for system event and panic recording
		Assign and enable notifications:
Notify	<input type="checkbox"/> <input checked="" type="checkbox"/>	Mail Option "Image Attachment" for Camera 1-16 LAN 1 to LAN 5 (not in case of system event) Alert Window (not in case of system event)
		The selected function must be enabled: Setup Menu... > Network > Notification

## Setup menu (continued)

### Event – Event Status

The “Event Status” menu indicates the status of all possible events:

- Grey text: Event detection not enabled
- White text: Event detection enabled
- Flashing border: Message – acute event for 5 sec
- Yellow field: Pending event



Term	Event
Alarm-In	At alarm input 1 to 16
Check Alarm-In	Error detected at one of alarm inputs 1 to 16
Motion	Motion detected on camera 1 to 16
Object Detection	Object detected on camera 1 to 16
Video Loss	Loss of signal on camera 1 to 16
Video Blind	Covert camera on camera 1 to 16
Text-In	Text input on text input device 1 to 16
Panic Record	Panic recording
Check Recording	On checking the recording
Disk Almost Full	On checking the data medium (only if DVR is not operating in Overwrite mode)
Disk Full	On checking the data medium (only if DVR is not operating in Overwrite mode)



Term	Meaning
Type	Memory type
Disk Bad	Data carrier status
Temperature	Data carrier status
S.M.A.R.T.	Result of S.M.A.R.T. check
Internal 1 to 4	Name of hard disk drives

# WebGuard – WebWatch controls

The following diagram and table set out the functions on the Web Watch:



No.	Designation	Function
1		WebGuard Logging out
2		Open Search (WebSearch)
3	DVR	<ul style="list-style-type: none"> <li>• Date/Time</li> <li>• IP Address</li> <li>• User Name</li> </ul>
4		Image display modes
5	Display	Change camera name and image aspect ratio
6		Select cameras
7		Image optimisation
7		PTZ camera functions
7		Activate Alarm Outputs
8		Save current recording data
9		Set up image drawing mode
10	Display	Event log

# WebGuard – WebSearch controls

The following diagram and table set out the functions on the Web Search:



No.	Designation	Function
1		WebGuard Logging out
2		Open Display (WebWatch)
3	DVR	Display date/time, IP address and user name
4		Zoom On/Off and image optimisation
5	Display	Change camera name and image aspect ratio
6		Playback functions
7		Image display modes
8	Display	Time bar calendar search and event log
9		Search for date/time
		Calendar search
		Event Search
10		Reload recording data
11		Set up image drawing mode
		Save any video clip as an EXE file
12		Save current image as BMP or JPEG file
		Print

## Using WebGuard

WebGuard permits the following, using an Internet connection

- View current video images
- Search and view recorded records

### Requirements:

- The Internet connection is set up and the WebGuard service is activated.
- A PC with Internet access to the DVR must be available.
- Internet Explorer must be installed on the PC.

## Using WebGuard

Step	Action
1	Ask your System Administrator about the current access data.
2	Start Internet Explorer. Enter the access data in the address line, e.g.: 192.168.1.129:12088
3	Enter your User Name (admin), Password (blank) and if necessary the port addresses.
4	Select Login. <b>Result:</b> WebGuard window is opened.

# Specifications DPR-2016

Model	DPR-2016/500D
EDP No.	71955
Video standard	PAL/NTSC (auto detection)
Remark	-
Event logs	Unlimited number of entries for alarm/event/text messages, loss of signal
Security against unauthorised use	Key locking, 64 user groups with programmable access (up to 256 users)
Transmission rate	100 field images per sec (CIF), 50 field images per sec (2CIF), PAL
Alarm triggering	E-Mail, Remote SW (RAS plus)
Alarm activation	Automatic multi-screen display of alarm images programmable
Remote Control	Wireless IR remote control (included)
Text display interface	ATM/POS, 10 channels max.
Monitor display	Real-time playback: 25 field images per sec (PAL), 30 field images per sec (NTSC) per camera
Covert camera mode	Programmable
Time synchronisation	Network time log, network time server
System change log	Up to 5000 entries for login/logout, configuration changes, remote access, change of signal connection, disk read/write errors
Zoom function	2x-4x
Playback	Full image, 4-, 3+4-, 9-, 2+8-, 1+12-, 16-channel split, PIP
Post-alarm recording	Up to 15 minutes
VGA	-
Control interface	RS-485 port for PTZ control (verified logs: eneo-Fastrax, Pelco P/D) or keyboard connection for remote control
Activity detection	Programmable 24 x 30 (720) grid, 5 sensitivity settings
Simplex/Duplex/Triplex/Pentaplex mode	Pentaplex (Live/Recording/Playback/Network/Backup without loss of performance)
Video inputs	16x 1 Vp-p, (F)BAS, 75 Ohm, BNC, loop-through
Monitor outputs	4x Spot-Outputs 1Vss, (F)BAS, 75 Ohm, BNC, 1x VGA
Video output	1x 1 Vp-p, (F)BAS, 75 Ohm, BNC; 1x S-VHS, S= 1 Vp-p, C= 0.3 Vp-p, 75 Ohm
Audio input	16x amplifier input, cinch
Audio output	1x amplifier output, cinch
Resolution	FBAS/PAL: 720 x 576 Pixels VGA: 720 x 576, 800 x 600 Pixels (Display)
Compression method	MPEG-4, higher compression rates with same picture quality enable maximum recording times

## Specifications DPR-2016 (continued)

Model	DPR-2016/500D
Recording speed	400 field image per sec at CIF/2CIF resolution (352 x 288 / 704 x 288 pixels/PAL), 200 field image per sec at 4CIF resolution (704 x 576 pixels/PAL)
Picture size	Basic: 6.7/8 kB; Standard: 15/18 kB; High: 30/36 kB; Very high: 66.7/80 kB (NTSC/PAL). Modus: "High Resolution/4CIF"
Hard disk capacity	500 GB ATA hard disk, expandable to as many as 4 internal hard disks
Playback speed	100 field image per sec at CIF/2CIF resolution (352 x 288 / 704 x 288 pixels/PAL), 50 field image per sec at 4CIF resolution (704 x 576 pixels/PAL)
Export of picture data	via USB 2.0, SCSI port, CD/DVD writer. Network data export: Clip Player, AVI, JPG, BMP
Alarm inputs	16x TTL, programmable as NC/NO (terminal strip)
Alarm outputs	12x TTL, open collector, 4x relay contacts (125 VAC / 0,6 A, 110 VDC / 0,6 A, 30 VDC / 2 A)
Alarm reset	1 TTL (terminal strip)
Alarm messages	System error, hard disk error
Pre-alarm recording	Up to 30 minutes
Recording medium	SATA hard disks, built-in CD/DVD-RW writer
Archiving	With EIDE, SCSI and USB hard disks. Real-time mirroring
Menu languages	German, English, Italian, French, Spanish
Ethernet port	10Base-T, 100Base-TX, RJ-45
Remote software	For remote administration and image search function (RAS plus included)
Ports	3x USB, 2x RS-485, 2x RS-232 (ATM/POS, telemetry, configuration or modem), 1x SCSI for extending the memory
Power Supply	100 VAC~230 VAC, 50/60 Hz
Power consumption	approx. 240 W
Temperature range	5°C to 40°C
Housing	Metal with plastic front panel
Colour	Pantone 877C
Dimensions (H x W x D)	177 x 430 x 504 mm (4HE 19" rack)
Weight	approx. 16 kg



## Accessories

EDP No.	Short description
71950	Hard disk 250GB for DPR-2016
71956	Hard disk 500GB for DPR-2016
71975	CD/DVD Writer DVD+/-RW 48x/18x, CD/DVD
74088	System keyboard with 3-axis joystick
74092	System keyboard with joystick, 5" monitor
71902	USB mouse for DVR series DLR3 and DTR

## Supported PTZ cameras

Manufacturer	Designation
Costar	CDC 2500
Dyna Color	CDC2400
Chilsung	CRD-J6416
Fine	CRR-1660s
Pelco	D-log
Dennard	Dennard2060
Tokina	DMP-1223
Dongyang Unitech	DRX-500
Dongyang	DY-255RXC
Sensormatic	Delta Dome II/Ultra IV
<b>Eneo</b>	<b>Fastrax</b>
Philips	G3 Basic AutoDome
LG Honeywell)	GRU604A
JVC	TK-S576
Sensormatic	Ultra VI
Canon	VC-C4
Canon	VC-C50i
Inter-M	VRX-2201
Vicon	Vicon
Hitron	22x AF Zoom
360Vision	VisionDome
Panasonic	WJ-SX550A
Panasonic	WV-CS850/854
CBC	ZC-SD622J
Samsung	Zoom Camera
Honeywell	HDC-655
LG Honeywell	HSD-25X
Honeywell	HSDN-251
Idis	IRX-100
Ultrak	KD6
Ultrak	KD6 Z-series
Kalatel	KTD-312
LG	LPT-A100L
	Novus-C
Samsung	MRX-1000

Manufacturer	Designation
Ademco Video	Orbiter Microsphere
SysMania	ORX_1000
Linlin	PIH-717
ELMO	PTC-200C/CVAS
ELMO	PTC-250C
Pacom	Pacom 2036
Dongyang	Power Controller
Sungjin	Receiver/MPU
Costar	SIC722V
Samsung Techwin	SPD 1600
Samsung	Samsung Dome
Pelco	Spectra Dome
Samsung Techwin	SRX-100B
Hitron	Speed Dome



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# Notes on disposal

## Correct disposal of this DVR



### WEEE (Waste Electrical & Electronic Equipment)

Applicable in the member states of the European Union and other European countries with a separate collection system

The marking on the DVR and on the documentation stipulates that it must not be thrown away in normal domestic waste at the end of its useful life.

## General rules

- ▶ Avoid uncontrolled waste disposal: Please dispose of this DVR separately from other waste, so as to avoid posing a hazard to the environment and to human health.
- ▶ Recycle the DVR in order to aid the sustainable reuse of material resources.

## Private users

- ▶ Contact the retailer from whom you purchased the DVR or your competent local authority to find out how you can recycle the DVR in an environmentally friendly way.

## Commercial users

- ▶ This DVR must not be thrown away with trade waste. To clarify the conditions of disposal, check your purchase contract or contact your supplier.



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