English

Operating Instructions

Digital video recorder

DMS 240
DMS 160
DMS 80

Dallmeier electronic

DK 200.240.002 EN / Rev. 1.2.0 / 070214

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1 About this document

1.1 Validity

This document applies to the digital video recorder DMS 240 / DMS 160 / DMS 80. It has been produced on the basis of version 6.0.5 (software).

1.2 Documentation on the unit

Operating Instructions (this document)

The document entitled "Operating Instructions" contains detailed descriptions on how to operate the unit. General information on the appropriate use and maintenance is also provided.

The target audience of this document is the operator of the unit ("user"). No special technical knowledge is required.

Store this document in an accessible location near the product and keep it in readable condition. Pass on this document to each successive owner or user of the product.

Installation and Configuration

The document entitled "Installation and Commissioning" contains detailed descriptions of the installation, connection, commissioning and configuration of the unit. Safety notes, general information and technical data are additionally provided.

The target audience of this document is exclusively specially trained and authorized professionals ("installers").

1.3 Convention

This document contains various warning words and symbols that indicate potential sources of danger. Various symbols and formats are used to maintain the clarity of the document.

	**DANGER** The warning word DANGER denotes an **immediate** danger that may cause **death or serious injury** if it is not averted.

	**WARNING** The warning word WARNING denotes a **possible** danger that may cause **death or serious injury** if it is not averted.
	**CAUTION** The warning word CAUTION denotes a **possible** danger that may cause **minor injury** if it is not averted.
	**IMPORTANT** The word IMPORTANT denotes information for preventing damage, incorrect configurations or incorrect actions.
	**NOTE** A NOTE offers information on principles, special features and efficient procedure as well as general recommendations.
Expression	Expressions in ***bold*** and ***italics*** generally indicate a control element on the device (switches or labels) or on its user interface (buttons, menu entries).

2 For your safety

Only use this unit if it is technically in proper working order, to the intended purpose and while keeping safety and potential dangers in mind. Have malfunctions or damages eliminated immediately!

Appoint a professional

Installation, mounting, connection, start-up and configuration of the unit may only be carried out by trained and authorized professionals (installers).

Unless otherwise expressly specified, this also applies to the maintenance, testing and repair.

Read and pay attention to the documents

Carefully and completely read the documents included in delivery. Always pay attention to the provided instructions, notes and warnings.

Regulations surveillance systems

The use of video and audio surveillance systems is strictly regulated in most countries. Therefore, inform yourself on laws and regulations that govern individual applications before using the unit. Ensure compliance with these laws and regulations and also observe regulations regarding data, working and environmental protection.

Regulations data protection

This unit can store data that may be subject to data protection. The collecting, recording, processing or disclosure of such data may be forbidden and thus have legal consequences. Therefore, inform yourself on data protection laws and regulations that govern individual applications before using the unit. Ensure compliance with this laws and regulations.

Do not make modifications

Do not make any modifications to the unit (neither to the software nor the hardware) without consulting Dallmeier electronic. Improper modifications can cause malfunctions or damages. Dallmeier electronic accepts no liability for damages resulting from unauthorized or improper modifications to the unit.

Protection against condensation water

If the unit is brought from a cold to a warm environment, condensation water can form inside the unit. Short-circuits may then lead to damage to the system. Wait up to 8 hours for the unit to reach room temperature before starting it up.

Observe the rated voltage

The unit can be damaged or destroyed by the application of an incorrect voltage.

The mains voltage must always match the rated voltage of the unit. The rated voltage is specified on the rating plate of the unit.

Observe ratings

Unsuitable ambient conditions and improper installation (mainly too high ambient temperature and insufficient ventilation) may reduce the unit's life cycle. Ensure compliance with the stated operating conditions (see technical data), requirements at the installation site and, if applicable, maintenance regulations.

Expansion components/peripheral devices

Use only expansion components conforming with the technical data of the unit. Inappropriate peripheral devices may result in the violation of local laws and regulations and damages to the unit. Furthermore, the use of peripheral devices that are not certified by Dallmeier electronic results in loss of warranty. In case of doubt, contact the sales partner responsible for your area.

Do not move while in operation

Strong vibrations can cause damage to the unit, in particular to the hard disk(s). Therefore, do not bump the unit or move it in a jerky motion while in operation. Instruct the cleaning personnel accordingly if necessary!

Do not open the unit

Do not open the housing of the unit. There are no components inside the unit that require maintenance by the user. The inspection, maintenance and repair with an open housing must only be carried out by trained and authorized professionals (installer).

Penetration of foreign bodies and liquids

No objects or liquids may be allowed to get into the device. In this case, immediately disconnect the unit from the power supply (pull out the power plug). Please contact the sales partner responsible for your area.

Measures to be taken in the event of damage and burnt smell

If you notice burnt smell or formation of smoke from a unit, immediately disconnect it from the power supply (pull out the power plug). Please contact the sales partner responsible for your area.

Disposal

Disconnect the unit from the power supply. Remove all connected units and system components. Return the unit to your respective sales partner.

3 Description

3.1 Intended use

The DMS 240 / 160 / 80 is used to record and evaluate video images. Up to 24 cameras (IP / analog) can be connected. The DMS 240 / 160 / 80 can be operated on a network.

3.2 Performance Features

The DMS 240 / 160 / 80 is a real time recorder with virtual matrix function. It utilizes the latest H.264 compression standard and offers audio on all channels and at all frame rates. With 8, 16, or 24 camera inputs the DMS 240 / 160 / 80 is perfectly suited for complex video surveillance systems.

The movement detection function has been integrated for all camera inputs. The SmartFinder – a function for intelligent searching for objects in an image – allows rapid and efficient analysis of the recorded data in predefined image areas.

The detachable BNC terminal board and the LCD display for service and status displays allow simple handling of the system. Greatest ease of maintenance is achieved due to hard disks that can be replaced from the front.

The SEDOR technology guarantees additional security through automatic camera tampering recognition (focus change, turning, covering and spray painting).

Extensive monitoring mechanisms (dynamic fan controller, external and internal temperature monitoring, module diagnostics, voltage monitoring, etc.) ensure maximum operating stability and durability of the recorder.

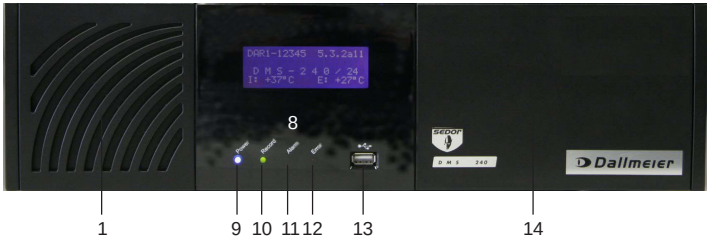
3.3 Certifications

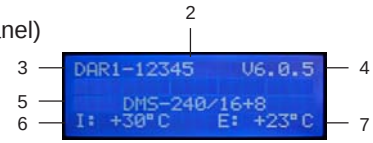
The following certifications were in effect for the DMS 240 / 160 / 80 at the time this document was produced:

- CE
- C-Tick
- FCC

4 Display indications and ports on the front side

Fig. 4-1: Front view DMS 240





1 Filter pad (behind the panel)

2 Display

3 Serial number

4 Version number

5 Product name
Number of activated cameras (analog / IP)

6 Internal temperature

7 External temperature

8 Status LEDs

9 Power (blue)
Always lights up while the unit is switched on.

10 Record (green)
Indicates the recording activity (hard disk activity) of the recorder.

11 Alarm (orange)
Indicates the alarm status of the recorder.

12 Error (red)
Indicated failures, e.g. camera failures or hard disk faults.

13 USB port

14 HDD, CD/DVD drives (behind the panel)

5 Sequencer/Live mode

Initially, the recorder is in the Sequencer/Live mode after switch-on and boot up. Depending on the splitter configuration (see **Installation and Configuration**), live images of the connected cameras will be displayed in a certain split window.

Fig. 5-1: Split type 2x2

If a camera has been assigned to a split window the camera name will be displayed in the top left corner.

The system time is always displayed in the bottom right edge of the display.

5.1 Changing the split type (VGA Monitor)

To change the displayed split type on the VGA monitor, please proceed as follows:

➢ Move the mouse pointer to the lower edge of the display.

The task bar with the buttons for selecting the split type will be displayed. The current split type is marked in blue.

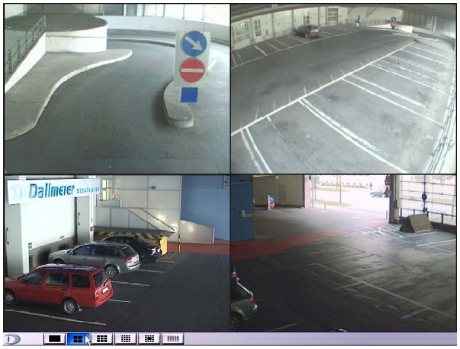


Fig. 5-2: Task bar for selecting the split type

➢ Left-click on a button to display the corresponding split type.

5.2 Changing the split type (FBAS Monitor)

To change the displayed split type on the FBAS monitor, please proceed as follows:

➢ Move the mouse pointer to the lower edge of the display.

The task bar with the buttons for selecting the split type will be displayed.

	NOTE Please take into account that this function is not available for split types 4x4c and 5x5.

➢ Move the mouse pointer to the button of the relevant split type.

➢ **Right-click** on the button.

Fig. 5-3: Context menu for selecting the FBAS monitor

The context menu for selecting the FBAS Monitor will be displayed.

➢ Click on the relevant menu entry to display the split type on the FBAS monitor.

5.3 Context menu functions of the multi split types

Fig. 5-4: Context menu multi split types

➢ **Right-click** into a split.

The split will be marked with a yellow frame. The context menu of the multi split types will be displayed.

Expand

Click on ***Expand*** to display the current split window as single split. The context menu of the single split is available.

	NOTE The ***Expand*** and ***Back*** functions can also be triggered by double-clicking in the respective split.

Audio on/off

If the displayed camera has been configured for recording with audio, the audio output can be turned on (***Audio on***) and off (***Audio off***).

5.4 Context menu functions of the single split

➢ **Right-click** into the single split.

The context menu of the single split will be displayed.

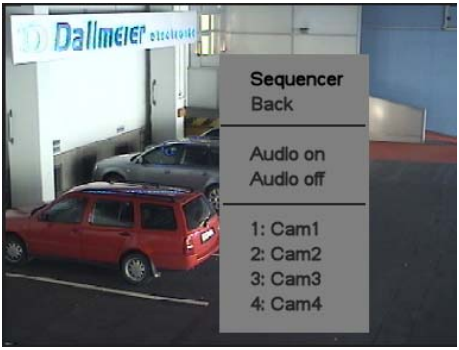


Fig. 5-5: Context menu single split

Sequencer

If the recorder has been configured for alternately displaying various cameras (sequence), this sequence will run in the single split after clicking on ***Sequencer***.

Back

The context menu only contains the entry ***Back*** if a single split has been activated by clicking on ***Expand*** in a multi split type. Click on ***Back*** to return to the multi split type.

	**NOTE** The ***Expand*** and ***Back*** functions can also be triggered by double-clicking in the respective split.

Audio on/off

If the displayed camera has been configured for recording with audio, the audio output can be turned on (***Audio on***) and off (***Audio off***).

Number/Camera name

All connected cameras are displayed in the ***camera number/ camera name*** format. Select a camera by clicking on the corresponding menu entry. The camera will be shown in the single split. This action deactivates the sequencer if it was active before.

5.5 Login

If you want to go from the Sequencer/Live mode to the Playback mode you have to login to the system with your password.

5.5.1 Login Group

➢ Left-click into a split.

The ***Login*** dialog will be displayed.

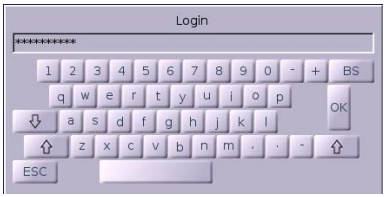


Fig. 5-6: Login Group

➢ Enter the password.

➢ Confirm with ***OK.***

5.5.2 Login User

➢ Left-click into a split.

The ***Login*** dialog will be displayed.

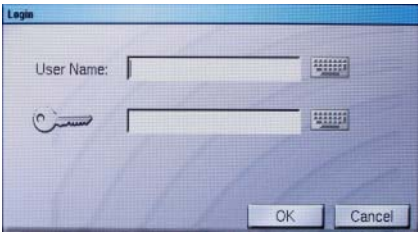


Fig. 5-7: Login User

➢ Enter the ***User Name***.

➢ Enter the ***Password***.

➢ Confirm with ***OK.***

6 Playback/Live Mode

After you have logged in successfully, the recorder is in the Playback/Live mode. The graphical user interface will be displayed. Depending on the splitter configuration (see **Installation and Configuration**), live images of the connected cameras will be displayed in a certain split type.

	**NOTE** If there is no entry or mouse movement for 10 minutes, the recorder will automatically go back to the Sequencer/Live mode.

6.1 Graphical User Interface

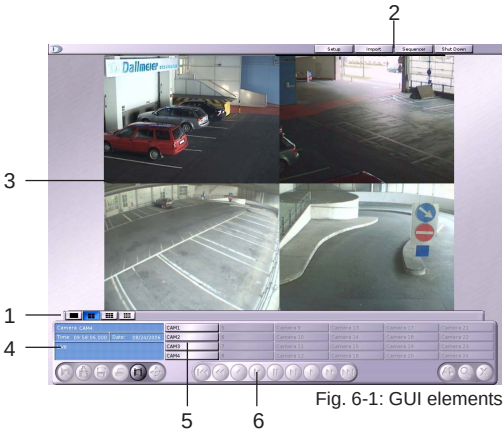


Fig. 6-1: GUI elements

1 Buttons for selecting the split type
2 Buttons for selecting the dialog
3 Live or playback splits
4 Information window
5 Camera buttons
6 Buttons for playback control

The Sequencer/Live mode can be reactivated at any time by clicking on the ***Sequencer*** button.

6.2 Split types

6.2.1 Changing the split types

➢ Click on one of the buttons for selecting the split type to activate another split.

Fig. 6-2: Selecting a split type

The currently displayed split type is marked in blue.

6.2.2 Context menu functions of the split types

The split windows of the different split types have the same context menu as in the Sequencer/Live mode. The corresponding chapter applies accordingly.

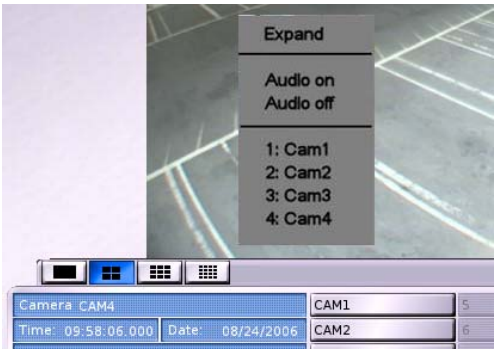


Fig. 6-3: Context menu of a split window in the Playback/Live mode

6.3 Displaying cameras

	**NOTE** Please note that only live images of analog cameras can be displayed. IP cameras are not available.

6.3.1 Toggling between cameras in the single split

Similar to the Sequencer/Live mode the context menu allows to toggle between the cameras in the active single split. The GUI additionally provides camera buttons for toggling between the cameras.

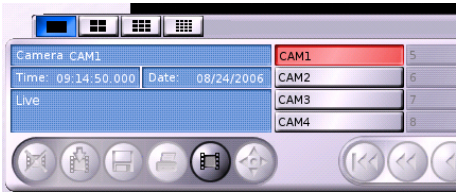


Fig. 6-4: Camera buttons

- Click on a camera button to display the image of the corresponding camera.

The button of the camera currently displayed is marked in red.

6.3.2 Toggling between cameras in multi split types

The context menu for toggling between the cameras is also provided for multi split types.

However, if you want to toggle between the cameras with the camera buttons, you have to first define a split window for displaying the camera image.

Fig. 6-5: Marked split window

- Click into a split window in order to mark it.
- Click on a camera button to display the image of the corresponding camera in the marked split.

The button of the camera currently displayed is marked in red.

If there is no split window marked the top left split window will automatically be used for toggling between the cameras.

6.3.3 Presets

The current camera - split window assignment can be saved as preset for multi split types. 5 presets can be saved for each multi split type.

➢ **Right-click** on the button of the current multi split type.

The context menu of the button will be displayed.

➢ Select ***Save/Preset X***.

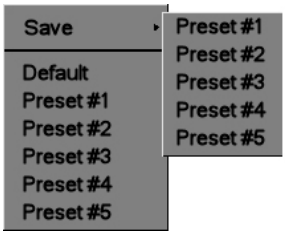


Fig. 6-6: Context menu for saving a preset

The virtual keyboard will be displayed.

➢ Enter a name for the preset.

➢ Confirm with ***OK***.

➢ Select the corresponding preset name in the context menu to display the saved preset.

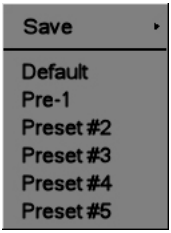


Fig. 6-7: Context menu for selecting a preset

If you select ***Default*** in the context menu, the split type will be displayed with the cameras assigned to by default. This basic assignment is done when configuring the splitter (see **Installation and Configuration**).

6.4 Camera control

	**NOTE** Please note that the **Camera control** function is not available for IP cameras.

The graphical user interface allows to control a controllable camera (dome, PTZ head) if such a camera has been connected to the recorder and defined as controllable (see **Installation and Configuration**).

➢ Click on the corresponding camera button in the Playback / Live mode.

The live image of the camera will be displayed.

The *camera control* button will be activated.

Fig. 6-8: Camera *control button*

➢ Click on the *camera control* button.

The camera control panel will be displayed.

6.4.1 Functions

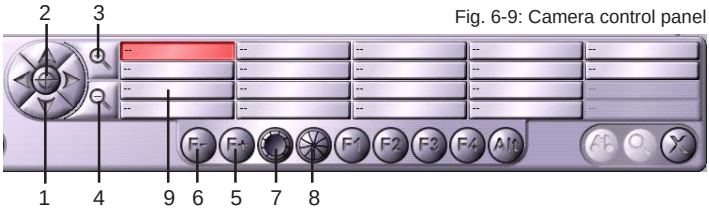


Fig. 6-9: Camera control panel

1 Control buttons (left, right, up, down)
2 Starting position
3 Zoom +
4 Zoom -
5 Focus +
6 Focus –
7 Open shutter
8 Close shutter
9 PTZ preset buttons

	NOTE Buttons F1 through F4 and ALT are intended for future options and are not yet active.

6.4.2 PTZ presets

The current position of a camera can be saved as preset. For this purpose 18 presets are available.

Save as preset

- Direct the camera at the relevant position/scene.
- **Right-click** on the button of a PTZ preset.

The context menu of the button will be displayed.

Fig. 6-10: Context menu PTZ preset save position

- Select ***Save position***.

Position name

- **Right-click** on the button of a PTZ preset.

The context menu of the button will be displayed.

Fig. 6-11: Context menu PTZ preset change name

- Select ***Change name***.
- The virtual keyboard will be displayed.
- Enter a name for the PTZ preset.
- Confirm with ***OK***.

Displaying a PTZ preset

Click on the corresponding button to display a saved PTZ preset.

6.4.3 Leaving the camera control

➢ Click again on the *camera control* button to leave the camera control.

6.5 UTC zoom control

	**NOTE** Please note that the **UTC zoom control** function is not available for IP cameras.

The graphical user interface allows to control (zoom control) a Dallmeier electronic UTC camera if such a camera has been connected to the recorder and defined as controllable (see **Installation and Configuration**).

	**NOTE** There must be no video distributor or signal amplifier between the UTC camera and the recorder.

➢ Click on the corresponding camera button in the Playback/Live mode.

The live image of the camera will be displayed.

The *camera control* button will be activated.

Fig. 6-12: Camera *control button*

➢ Click on the *camera control* button.

The UTC zoom control panel will be displayed.

6.5.1 Functions

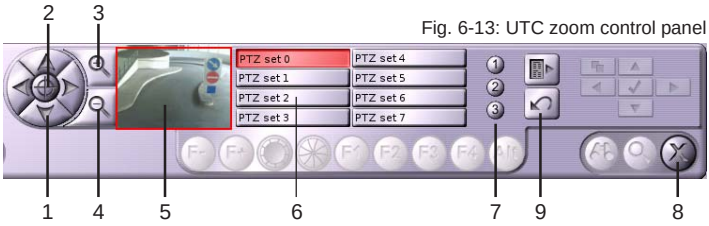


Fig. 6-13: UTC zoom control panel

1 Control buttons
2 Reset zoom
3 Zoom +
4 Zoom -
5 Preview window
6 PTZ preset buttons
7 Preset 1 – 3
8 Menu on/off
9 Reset settings

The functions 6 - 8 allow to change the internal configuration of a Dallmeier electronic UTC camera. Normally, it is not necessary to change this configuration. This functionality is described in the documentation **Installation and Configuration**.

6.5.2 Zoom control

➢ Define the size of the relevant image section with *Zoom* + and *Zoom* –.

A red frame in the preview window shows the position of the image section.

➢ The control buttons allow you to position the image section.

The drag & drop method also allows you to change the position of the section in the preview window.

6.5.3 PTZ presets

The current position of the relevant image section can be saved as preset. For this purpose 8 presets are available.

Save as preset

- Direct the camera at the relevant position/scene.
- **Right-click** on the button of a PTZ preset.

Fig. 6-14: Context menu PTZ preset/save position

The context menu of the button will be displayed.

- Select ***Save position***.

Position name

- **Right-click** on the button of a PTZ preset.

The context menu of the button will be displayed.

- Select ***Change name***.

The virtual keyboard will be displayed.

- Enter a name for the PTZ preset.
- Confirm with ***OK***.

Displaying a PTZ preset

- Click on the corresponding button to activate a saved PTZ preset.

6.5.4 Leaving the UTC Zoom control

- Click again on the *camera control* button to leave the UTC Zoom control.

7 Playback mode

The recorder changes from Playback/Live mode to Playback mode when selecting a track. The full functionality for track playback and analysis is available. Unnecessary functions are disabled (e.g. buttons for selecting a split type or dialog).

NOTE

Please note that only tracks of analog cameras can be displayed. The recordings of IP cameras are not available.

7.1 Tracks

7.1.1 Track types

Long play tracks

LP tracks are usually large ring buffers. They are used for current recording. One LP track is assigned to each camera.

Secure tracks

Secure tracks are usually relatively small ring buffers. One secure track can be assigned to each camera. The recording settings for secure tracks may differ from those of a LP track.

These secure tracks will be saved as soon as an alarm is triggered on the recorder (see **Installation and Configuration**). This prevents the current pictures from being overwritten. New secure tracks will subsequently be created in which the recording is continued.

Saved tracks

Saved tracks are secure tracks that have been protected against overwriting after an alarm had been triggered. Depending on the number of triggered alarms, more than one saved track may exist for each camera.

Reference track

Single images of the cameras are stored in the reference track. These images can be used to compare current camera settings and positions with the original conditions. Reference tracks are therefore not used for recording or playback.

7.1.2 Track selection

There are different methods for selecting a track:

Direct selection

This method allows a LP track to be quickly selected.

- Click on a *camera button* in the Playback/Live mode to display the live image of the camera.

Fig. 7-1: *Select track* button

- Left-click on the *Select track* button.

The recorder will switch to Playback mode. The latest image in the LP track of the corresponding camera will be displayed.

Selecting a track in the *Select track* panel

Every track type can be selected for recording in the *Select track* panel.

- **Right-click** on the *Select track* button.

  The *Select track* panel will be displayed.
- Select the tab with the relevant track type.
- Left-click a track to mark it.
- Click on ***Open***.

The recorder will switch to Playback mode. The latest picture in the track will be displayed.

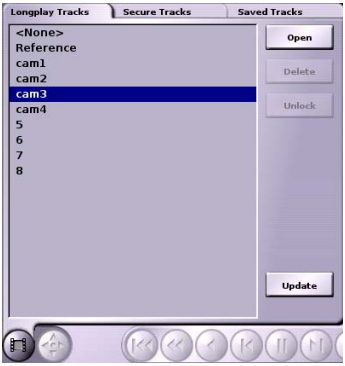


Fig. 7-2: *Select track* panel

7.1.3 Changing the track

There a different methods for changing the displayed track:

Context menu

- Call the context menu of the split window.
- Select a LP track for playback.

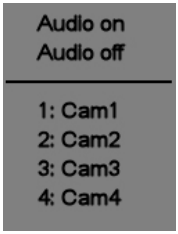


Fig. 7-3:
Context menu split window with track playback

Camera buttons

Clicking on the camera buttons also allows to toggle between the various tracks of a track type.

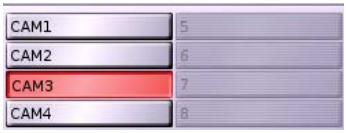


Fig. 7-4: Camera buttons for toggling between tracks

***Select track* panel**

The *Select track* panel will be displayed again when **right-clicking** on the *Select track* button. Select the new track following the method described above.

7.2 Playback

The recorder will switch to Playback mode after a track for playback has been selected. The playback control panel and the latest image in the track will be displayed.

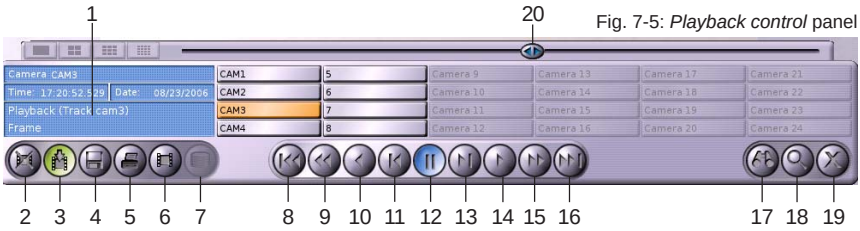


Fig. 7-5: *Playback control* panel

	NOTE The functions marked with * are described in separate chapters.

1 Information window
2 Delete all images of this track *
3 Recording on/off
4 Image export *
5 Print image
6 Track selection *
7 Database for playback
8 Start of the track
9 Fast playback backwards
10 Playback backwards
11 Picture-by-picture backward
12 Stop
13 Picture-by-picture forward
14 Playback forwards
15 Fast playback forwards
16 End of track
17 Search functions *
18 Magnifying glass (Zoom)
19 Exit playback mode
20 Slider

7.2.1 Playback control

The buttons 8 – 16 allow to control the playback of the track. The current track data (recording time and date of the displayed image) are displayed in the information window.

If playback is stopped, the current track position can be changed by scrolling the mouse wheel. The mouse pointer must be positioned in the panel. Scrolling the mouse wheel means always picture-by-picture forward or backward.

In addition to these control buttons, the slider also allows to navigate the track (quick search). The latest image of a track is displayed after activating the playback mode. The slider is on the right side of the bar.

Fig. 7-6: Slider with tooltip

The slider graphically shows the position of the current image in the track during playback. Its context menu shows this position as number of the current image.

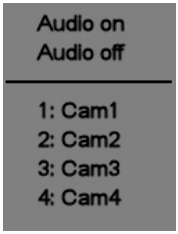
The current position in the track can be changed by moving the slider. Clicking in the bar of the slider also results in jumping to another position.

	NOTE The larger a track the bigger the effect on the timely position when moving the slider. The navigation may possibly become a little imprecise.

7.2.2 Playback with audio

If the displayed track has been configured for recording with audio, audio can be turned on for *playback forwards*.

➢ Call the context menu of the split.



➢ Turn ***Audio on*** or ***Audio off***.

Fig. 7-7:
Context menu with track playback

7.3 Magnifying glass (zoom)

The magnifying glass function of the recorder is a digital section enlargement.

➢ Click on the *Zoom* button.

Fig. 7-8: *Zoom* button

Except for printing, all functions will be deactivated. The split window will be displayed at maximum size.

➢ Position the mouse pointer in the split window.

The mouse pointer will be displayed as magnifying glass.

➢ Left-click on the relevant image section.

The image will be enlarged. The current position of the mouse pointer will be selected (as far as possible) as center of the enlargement.

➢ Left-click again to enlarge the image by one step.
➢ **Right-click** to zoom out by one step.
➢ Click again on the *Zoom* button to exit the magnifying glass function.

7.4 Stopping the recording

If you want to prevent the oldest images from being overwritten during playback of a track, the recording can be stopped.

➢ Click on *Recording on/off*.

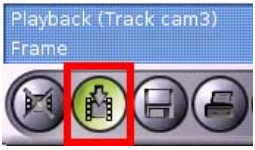


Fig. 7-9:
Recording on/off button

The color of the button will change from green (recording on) to red (recording off). Recording in this track is temporarily stopped.

	NOTE Recording in a track will automatically be enabled when leaving the playback mode or changing the track.

7.5 Printing an image

➢ Click the *Print image* button to print the currently displayed image.

Fig. 7-10: *Print image* button

This function is also provided when using the magnifying glass.

7.6 Exit playback mode

➢ Click on the *Exit playback mode* button to end the playback of a track.

8 Search functions

You can search for specific pictures and events via various functions.

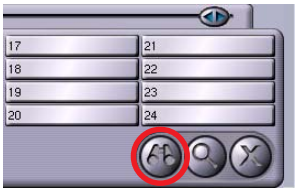


Fig. 8-1

➢ Click the *Search functions* button for this.

5 tabs, corresponding to the search functions, are available for selection:

- **Simple search**
  Picture search by date and time
- **Quick search**
  Picture search by time intervals
- **Indexsearch**
  Picture search by events
- **Extended search**
  Picture search by, for example, account or transaction number
- **SmartFinder**
  Search for objects in a picture.
  (only active in case of a corresponding configuration in the **Camera settings** dialog)

➢ To select the desired search function, click the corresponding tab.

8.1 Simple search

➢ Click the ***Simple Search*** tab.

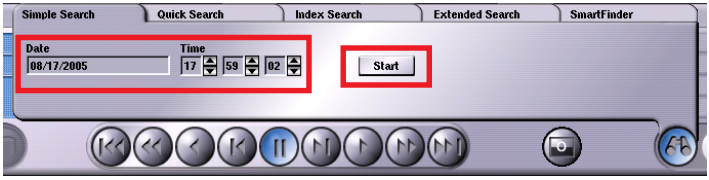


Fig. 8-2

Fig. 8-3

- Clicking the ***Date*** field opens a calendar in which you can select the date directly.
- You select the time by clicking the arrow buttons next to the hours, minutes and seconds.
- The picture search is started by clicking ***Start***.

If the relevant picture was found and you would like to view the individual pictures before and after it, close the tabs by clicking the *Search function* button. The standard playback functions are then available once again.

8.2 Quick search with time intervals

With the **quick search**, time intervals are searched. The intervals can be set by day, hour, minute and second in steps of 1, 5, 10 or 30.

Before calling up the search function and searching in time intervals, please set a starting point for the quick search with the slider knob in Playback mode. You can also use the "simple search" by date and time here. The corresponding picture is now the starting point for the forward and back intervals.

With a setting of Hour/5, the time interval is 5 hours.

You can scroll forward or back by the respective time intervals with the arrow buttons. The playback functions Single picture forward and Single picture back are active for this search function and can be used for a more precise search.

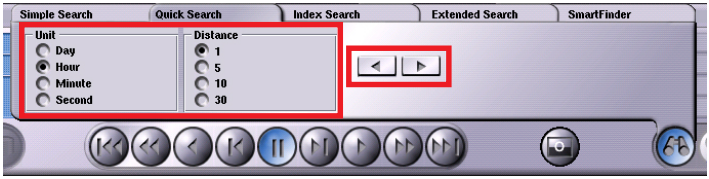


Fig. 8-4

8.3 Index search

With the index search, events are searched for before and after the starting point.

The "events" listed for the index search are a collection of individual events. Individual events which occur within 10 seconds, e.g. via picture comparison, make up one event. An event can be both a recording after picture comparison and a marker (index mark after contact) for constant recording.

Before calling up the search function and starting the index search, please set a starting point for the quick search with the slider knob in Playback mode. You can also use the "simple search" by date and time here. The corresponding picture is now the starting point for the index search.

➢ Click the *Search functions* button and select the ***Index Search*** tab.

Fig. 8-5

➢ Then click the *Events* button (**A**).

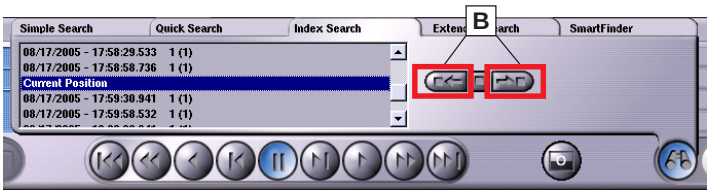


Fig. 8-6

You will now find seven events before and after the "Current Position". The **Current Position** is the starting picture determined by the quick search or simple search **before** the search function is called up.

You can access the listed events with the *Event back and Event forward* buttons (**B**). If you would like to view events belonging to the relevant event, close the search function.

You can also select an event directly by double-clicking the corresponding list entry.

8.4 Extended search

The extended search is used when other data, in addition to the picture data (including date and time), is saved for the picture. This is especially the case with ATMs and cash registers.

	**NOTE** The search criteria available in this search function are set by the configuration in the ***Search Items*** dialog box.

The extended search is performed within a time window. You define the time window with the ***Start*** and ***Stop*** entries.

Click  ⇨ Current date and time are entered.

Click  ⇨ The respective setting is deleted.

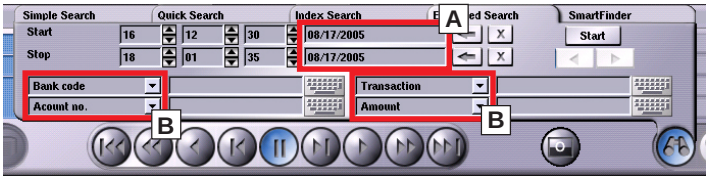


Fig. 8-7

Setting the date

➢ Click the field for the *date* (**A**) and select the desired date in the calendar.

Setting the time

➢ Click the arrow buttons to set the hour, minute and second.

Selecting search criteria

You can select 4 search criteria used as an AND link for the search (**B**). If you would like to search for a specific account number, for example, select the search criterion "ID02 Acount no.".

Click the symbol for the virtual keyboard next to the search criterion and enter the account number to be found.

Using this procedure, you can define 3 other search criteria, which make the search more refined. This could be another specific amount of money or currency type, for example.

➢ Start searching by clicking ***Start***.

8.5 SmartFinder

The ***SmartFinder*** search function allows you to search for changes in any picture area.

However, it is a precondition that the ***SF*** function (SmartFinder) has to be activated for the corresponding camera in the ***Camera settings*** dialog.

	**NOTE** If ***SF*** is not activated for any camera (Point 1), the ***SmartFinder*** tab is empty. Further information about ***Camera settings*** and ***Search criteria*** can be found in the **Installation and Configuration** manual.

The following steps are therefore necessary in order to use the ***SmartFinder*** search function:

1. Feed a track.
2. Click the *Search functions* (binoculars) button.
3. Click the ***SmartFinder*** tab.

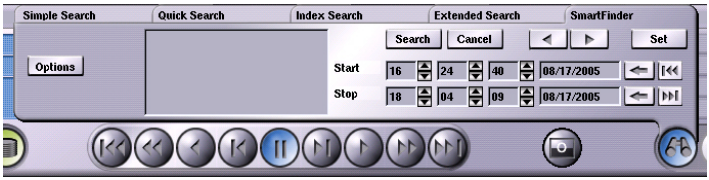


Fig. 8-8

8.5.1 Basic procedure

Steps A to D first show the basic course of the search function. Further settings can be found in the **Advanced search options** section.

A) Selecting the search range in the picture

- Click the ***Set*** button.
- Drag a rectangle in the picture by using the mouse.

This rectangle marks the range in the picture in which a search for picture changes is to be carried out afterwards.

A maximum of four picture ranges can be selected.

Moving the marking

If you click in the center of a marking, you can move it while keeping the mouse button pressed.

Changing the size

If you position the cursor at the edge of a marking, you can change its size.

Deleting the marking

In order to delete a marking, just click with the **right** mouse button.

B) Setting the time range

The date and time fields next to ***Start*** and ***Stop*** are used to set the time frames (time window) for the search. The procedure is identical to the description in the **Advanced search** section.

C) Starting a search

- Click the ***Search*** button to start the search process.

The results of the search (hits) are displayed in an event list (see Fig. 8-9).

The display ***Hit x/y*** shows the number of hits found under y and the number of the hit currently selected under x (see Step D).

D) Viewing the results

In order to view a recognized result, click the corresponding entry in the event list.

You can use the arrow buttons between Cancel and Set to jump one event forward or back.

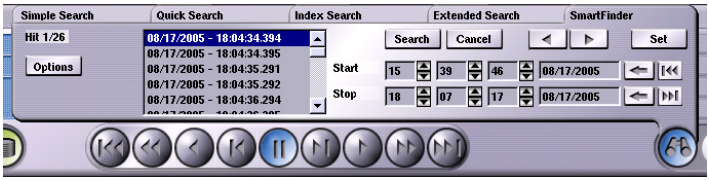


Fig. 8-9

8.5.2 Advanced search options

The search function is always carried out in accordance with the course described (A to D). However, the search result can be influenced by means of the settings in the ***Advanced Search Options*** dialog.

➢ Click the ***Options*** button.

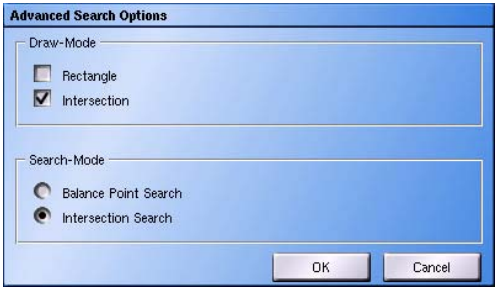


Fig. 8-10

Picture changes are generally displayed as rectangular fields. You can specify in the ***Draw-Mode*** section whether the display is to be realized as individual fields or as a combination of fields.

In the ***Search-Mode*** a relationship is established between these rectangles (picture changes) and the marking drawn by you.

Draw mode

The draw mode influences the display of the existing picture changes.

❑ **Rectangle**

If you have activated ***Rectangle*** in the draw mode, **all** the changes are each displayed with a rectangle, whereby rectangles may also be positioned partially on top of each other.

If you have **not** activated ***Rectangle*** in the draw mode, adjacent and overlapping rectangles are combined into a single area.

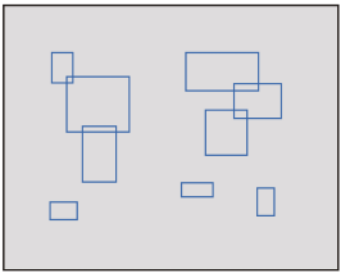


Fig. 8-11: Rectangle activates

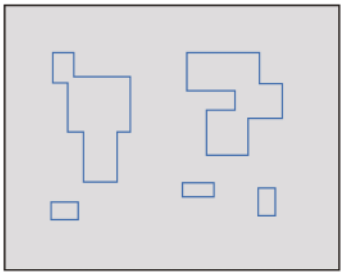


Fig. 8-12: Rectangle not activated

❑ **Intersection**

If you have activated ***Intersection*** in the draw mode, only those rectangles are displayed that are linked correspondingly with the marking drawn by you, depending on the search method (see **Search mode**).

If you have **not** activated ***Interface***, all the rectangles are displayed.

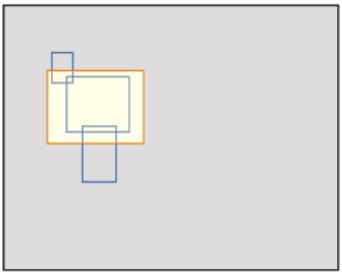


Fig. 8-13: Interface activated

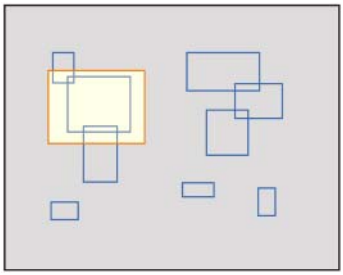


Fig. 8-14: Interface not activated

Search Mode

The selection in the ***Search Mode*** field are theoretically used to specify the search method and thus the number of relevant events.

- **Balance Point Search**

  The rectangles that mark a figure change have an imaginary geometric balance point assigned.

  If ***Balance Point Search*** is activated, a hit is always listed when this geometric balance point lies within the marking drawn by you.

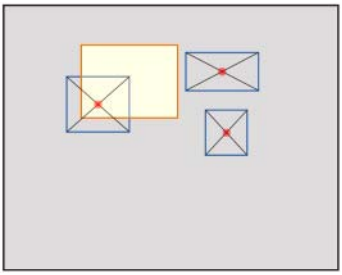


Fig. 8-15: Balance point within the marking = Hit

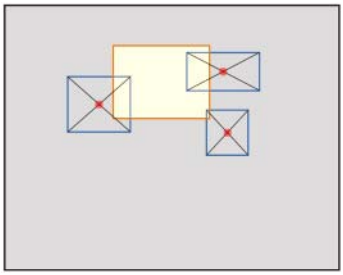


Fig. 8-16: Balance point outside the marking = No hit

- **Intersection Search**

  If ***Intersection Search*** is activated, you already obtain a search result when a rectangle of a figure change intersects the marking drawn by you by even the smallest amount. The geometric balance point is not of relevance then.

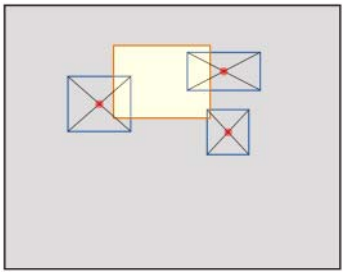


Fig. 8-17: Rectangles intersect the marking = Hit

General comparison of the search modes

If one compares the two search modes, it becomes clear that more search results (hits) result during an intersection search than during a balance point search.

However, there is a danger at a balance point search that too few search results are available and that a relevant event is not listed.

If you cannot define the search range (marking) exactly at first, you should first activate the intersection search mode. After a rough analysis you can set your marking again and specify a narrower selection with the balance point search.

8.6 Use database

In the ***Camera settings*** dialog (see documentation entitled **Installation and configuration**) you can decide whether the recording should be made using the database (DB).

Index search and ***Advanced search*** allow to access the database.

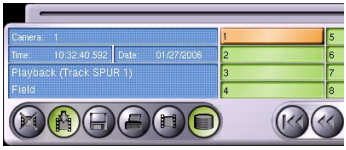


Fig. 8-18: DB button

Click on the DB button to toggle between "Use DB" and "Do not use DB".

 User DB

 Do not use DB

Whether it is beneficial to use the database for the search depends on a large number of factors.

We recommend that you use the software setting. If the result is unsatisfactory, you may attempt to improve performance by switch the DB on or off.

9 Image export and import

9.1 Export images and sequences

9.1.1 Export images

To export pictures to external storage media, search for the required picture in the selected track using the **Slide (A).**

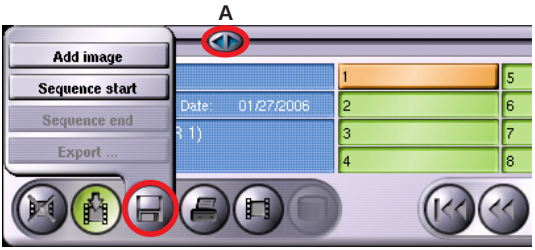


Fig. 9-1

- Click on *Export pictures* (**B**).
- Click on ***Add image***.

The ***Export ...*** option is inactive until you have selected the first picture.

If you wish to export more pictures from this track, simply repeat the steps described above.

When you have selected all the pictures, click again on *Export pictures* and then click on ***Export ...*** which will now be active.

Fig. 9-2

9.1.2 Export sequences

Select the start of the required sequence using the slide.

- Click on *Export pictures*.
- Click on ***Sequence start***.

Select the end of the sequence you wish to export using the slide.

- Click on *Export pictures*.

➢ Click on ***Sequence end***.

If you wish to export more sequences, repeat the steps described above.

If you wish to save the sequence, click again on *Export pictures* and then click on ***Export ...*** which will now be active.

9.1.3 Export list

When you click on ***Export ...*** the ***Export List*** will open. This list contains all the pictures and sequences you have selected for export.

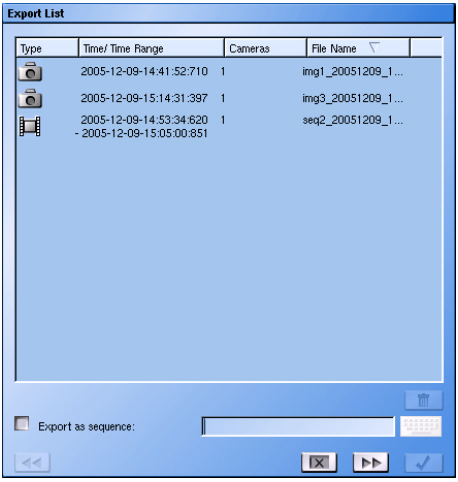


Fig. 9-3

	**NOTE** The ***Export List*** contains the pictures from the currently selected track and camera. If you change the track the current export list will be deleted.

Delete pictures or sequences form the list

➢ Click on the appropriate picture.

➢ Click on  to delete the entry.

Export selection individually

➢ Click on [▶▶] to open the ***Select device for export*** dialog. All the pictures and sequences will be exported individually.

Export selection as a sequence

The selection of the ***Export List*** can be exported in the form of a sequence. In other words all the files (pictures and sequences) on the list can be merged to form a single sequence. You can change the order by clicking on the various column headings.

➢ Check the checkbox ***Export as sequence***.

➢ Click on the keyboard symbol.

➢ Enter the name of the sequence using a connected keyboard or the mouse.

➢ Click on [▶▶] to go to the next dialog.

Exit export list

Click on [✕] to end and close the ***Export*** function.

9.1.4 Select devices for export

In the next dialog you can select a medium for exporting the pictures or sequences.

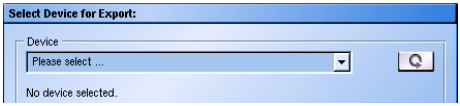


Fig. 9-4

➢ Update the device list if necessary using [↻] .

➢ Select a medium using the pull-down menu.

After selecting the medium the current information for it will be displayed (see Fig. 9-5).

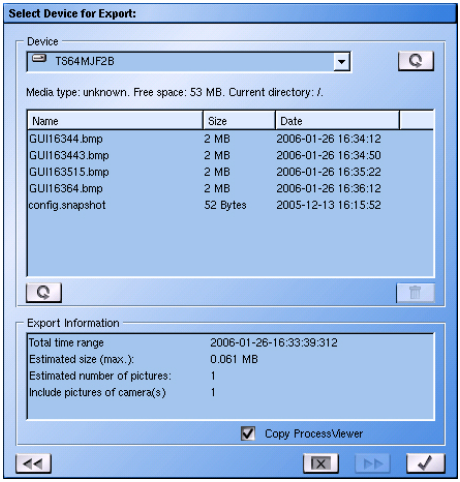


Fig. 9-5

- Compare the ***Export Information*** with the free memory of your selected medium.
- If necessary delete some data from your medium. To do this mark the appropriate file in the information window and click on [🗑].

	**NOTE** If a CD/DVD medium is used, only the whole medium can be erased. It is not possible to delete individual files.

- Click on [✓] to save the files.

9.1.5 Exporting...

After you have confirmed the save procedure, the ***Exporting…*** window will open.

- Check the checkbox ***Show export`s log file*** to view information about the saving procedure.

➢ Also check the checkbox ***Detailed message*** to view more detailed information about the saving procedure.

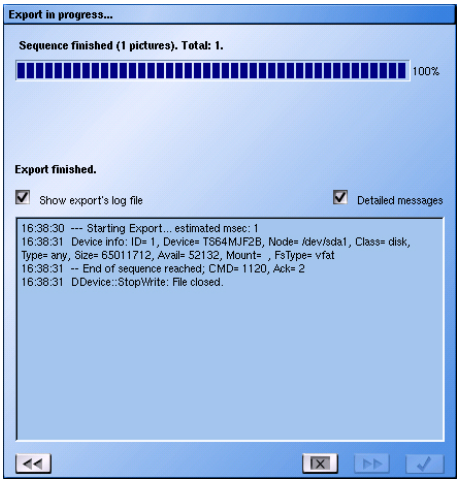


Fig. 9-6

After the export has finished, click on [ ] to exist the export menu.

or click on [ ] to return to the previous export menu.

9.2 Importing exported pictures

Two options are available for viewing exported pictures:

1. ProcessViewer (picture viewing on PC)
2. Import (imaging viewing on DMS 240 / 160 / 80)

Pictures exported using the export function can be read back in at the DMS 240 / 160 / 80 and viewed.

!	**IMPORTANT** Pictures already **processed** can no longer be read in and viewed on the system. Exported pictures cannot be saved to the hard disk of the DMS 240 / 160 / 80 with the Import function.

➢ Click ***Import*** in the dialog selection.

Fig. 9-7

➢ Select the file whose pictures are to be viewed in the list of data medium information.

➢ Update the device list if necessary using .

➢ Select a medium using the pull-down menu.

After selecting the medium the current information for it will be displayed.

➢ Select the required file.

➢ Click on to load the file into the recorder.

All playback functions are available for evaluation of the recording.

Erasing files

The *Erase* function is also available in the ***Import*** dialog. Individual recording files can be erased from a floppy disk, as described in the **Export List** chapter.

With CD-RWs, only the entire CD can be erased.

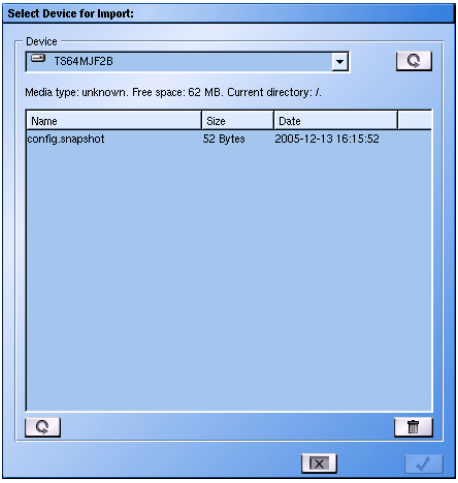


Fig. 9-8

10 Erasing tracks

Images that have already been recorded can be erased at any time. However, distinctions must be made between long play, secure and saved tracks.

10.1 Erasing a track

- Activate the Playback mode if you want to erase images saved in a long play or secure track.
- Select the relevant track for playback.
- Click on the *Erase all images* button.

Fig. 10-1:
Erase all images button

All images saved in the track will be erased.

The recorder will automatically switch to Playback/Live mode. Recording on this track will be continued immediately if recording has been defined for the erased track.

10.2 Erasing saved tracks

Saved tracks are secure tracks that have been protected against overwriting.

Erasing such tracks results in a loss of the saved images. The disk space required for recording will again be available for saving a secure track.

- Open the *Select track* panel to erase a saved track.
- Click on the ***Saved Tracks*** tab.

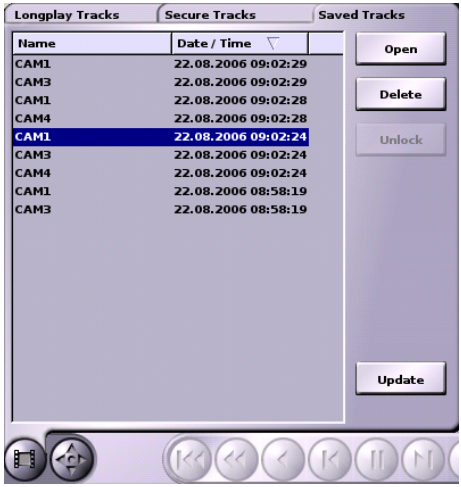


Fig. 10-2: *Select track* panel/***Saved Tracks*** tab

- Left-click the relevant track.
- Click on the ***Delete*** button.

11 Reference image memory

The reference image memory is used for comparing image quality and camera angle with revisions. It can then be determined whether the lens was adjusted or the physical position of the camera changed.

The images saved at a specific point in time are called the **reference image set**.

11.1 Creating a new reference image set

- Open the *Select track* panel.
- Select ***Reference*** on the ***Longplay Tracks*** tab.

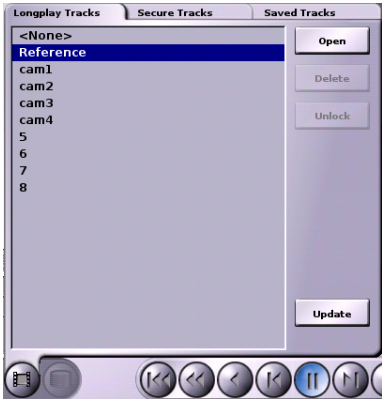


Fig.11-1: *Select track* panel

- Click on ***Open***.

The ***Reference Image Memory*** dialog will be displayed.

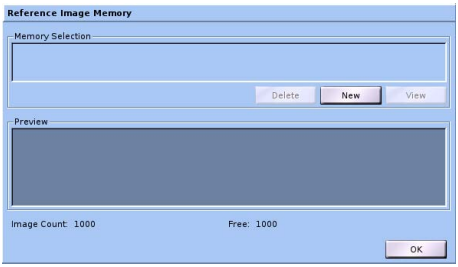


Fig.11-2: ***Reference Image Memory***

➢ Click on ***New***.

The virtual keyboard will be displayed.

Enter a name for the reference image set.

The reference image set will be created and displayed with date and time in the ***Memory Selection*** field.

The saved images of the cameras connected at this time are displayed in the ***Preview*** field.

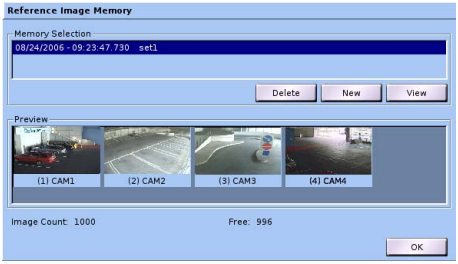


Fig.11-3: ***Reference Image Memory***

If you want to create more reference image sets, please proceed as described above.

	**NOTE** The storage capacity of the reference image memory is limited to 1000 images. This corresponds to approx. 41 image sets with 24 connected cameras.

11.2 Comparison of reference to live image

Open the ***Reference Image Memory*** dialog for comparison of a reference image set to current images of a connected camera.

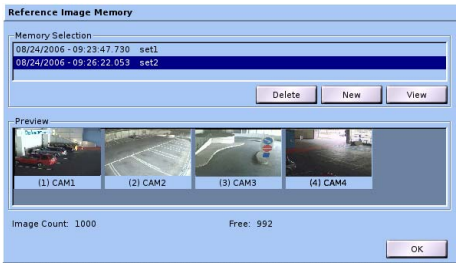


Fig.11-4: ***Reference Image Memory***

- Select an image set in the ***Memory Selection*** field.
- Click on ***View***.

The images of the reference image set are displayed in the ***Preview*** field.

- Click on the image of the relevant camera in the ***Preview*** field.

The ***Reference Image Memory*** dialog will be hidden. The reference image will be displayed as maximized single split.

Fig. 11-5: Reference image as maximized single split

- ***Reference*** and ***Live*** allow you to toggle between the saved reference image and the current image of the camera.

Clicking on ***Close*** will hide the maximized single split. The ***Reference Image Memory*** dialog will be displayed again.

11.3 Deleting the reference image set

As the storage capacity of the reference image memory is limited, the oldest reference image sets should be deleted.

- Select an image set in the ***Memory Selection*** field.
- Click on ***View***.
- Click on ***Delete*** and then ***OK***.

12 System messages

System messages can be analyzed and exported via the GUI if the recorder has been configured (see **Installation and Configuration**) to record these messages.

12.1 Analyzing system messages

Open the ***System Messages*** dialog via ***Setup > System > System messages***.

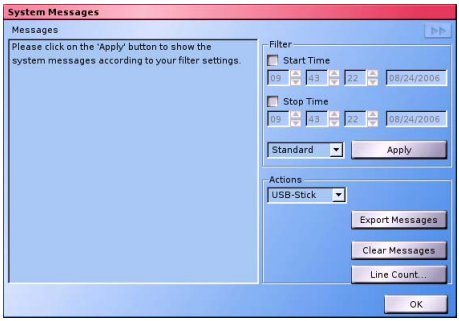


Fig. 12-1: ***System Messages*** dialog

Time localization

Check the ***Start time*** and ***Stop time*** checkboxes to define the period in which system messages are to be displayed. Messages can be displayed from a certain point in time onwards (only ***Start time***), until a certain point in time (only ***Stop time***) or within a certain period (combination of ***Start*** and ***Stop time***).

Message categories

The ***System Messages*** are divided into different categories. Use the drop-down box next to ***Apply*** to decide which category you wish to be relevant for the analysis.

Standard

System messages relating to certain states of the recorder or events will be displayed (e.g. fan failure, shut down).

Protocol

System logons and logoffs will be displayed (e.g. login, external connection to PView).

Actions

System messages relating to actions carried out by the user will be displayed (e.g. changing a setting, track playback).

Click on ***Apply*** after selecting the message categories to start displaying the message list.

The ***Filter*** and ***Actions*** fields will be hidden and the message list displayed.

➢ Click on the button do display the ***Filter*** and ***Actions*** fields again.

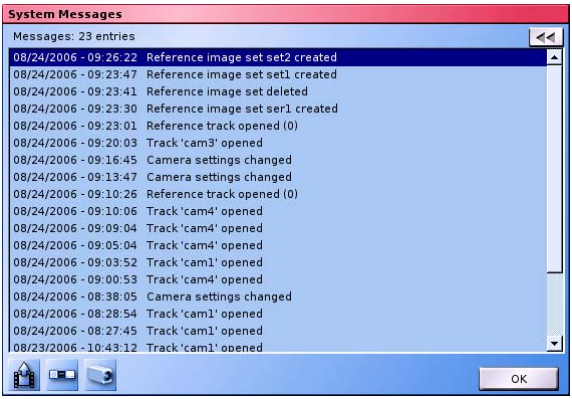


Fig. 12-2: ***System Messages*** dialog/message list

12.2 Filtering system messages

The different messages of the current category can be listed in filtered form. A filter will only be displayed if a corresponding message can be found in the message list.

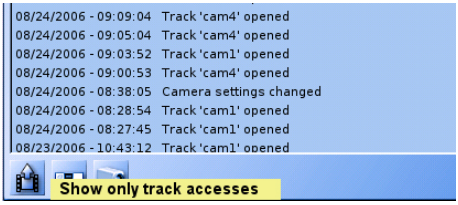


Fig. 12-3: ***System Messages*** dialog/filter buttons

Click on a filter button in the bottom left corner to activate the corresponding filter. The buttons' tooltips always show the filter's effect on the list.

If no filter is active (all buttons blue) all messages of the current category will be shown.

Active filters are displayed with a red button. Different filters can be combined (AND gating).

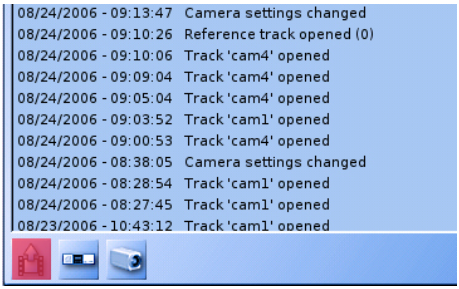


Fig. 12-4: ***System Messages*** dialog/active filter

12.3 Exporting system messages

The system messages listed in the Messages list can be exported to floppy disk or USB stick.

NOTE

The system messages which are exported depend on the category selection and lower and upper time settings.

If **all** system messages in the archive are to be exported, all categories must be activated and both the lower and upper times must be deactivated.

- To export the correct list, always click ***Apply*** before exporting.
- Insert a floppy disk into the drive of your DMS 240 / 160 / 80, or insert a USB stick into an available USB port.

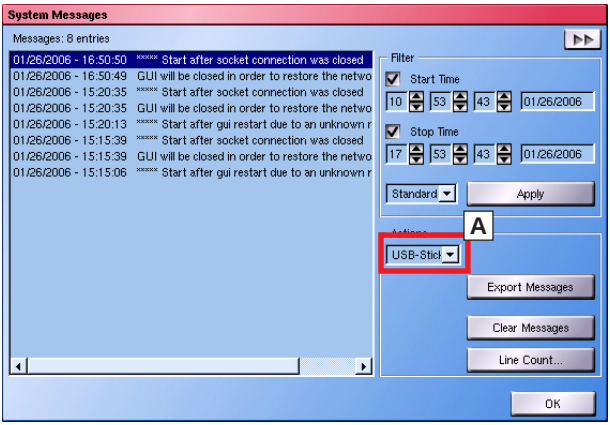


Fig. 12-5

IMPORTANT

If an exported archive file is already located on the floppy disk or the USB stick, it is overwritten by the new archive file.

- Select the storage medium you are using (field **A**).
- Then click ***Export Messages***.

The end of the saving procedure is indicated by a corresponding message.

➢ Click ***OK*** and remove the respective storage medium.

The file is saved as ***logsysmessages.txt*** on the floppy disk, or USB stick, and can be viewed on a PC and printed if necessary.

12.4 Deleting and limiting an archive

The number of saved system messages and therefore the maximum size of the list can be defined using the ***Line Count*** dialog.

➢ You can open this by clicking on ***Line Count...***.

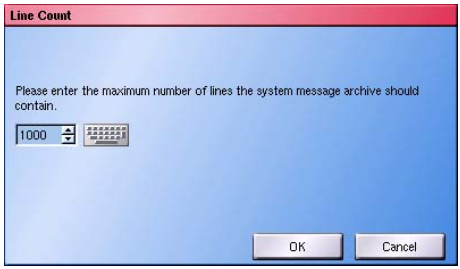


Fig. 12-6

➢ Enter the maximum of messages you wish to save.

This setting will only take effect when the system updates the system messages, in other words when it writes a new message to the protocol file.

13 Info menu

Clicking the ***Info*** button brings up a dialog in which all the connected cameras are displayed light in color.

This dialog is accessed via:

Setup > System > Info

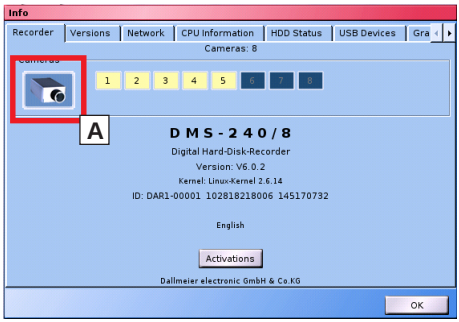


Fig. 13-1

In addition to the system name, the Software version and the device-specific serial number are found here.

If you click the button with the camera symbol (**A**), the list of active cameras is updated.

Extensions

➢ Click the ***Extensions*** button.

The ***Extensions*** dialog is solely an information dialog on the outfitting of the system, and no extensions can be made here.

Functions which are not activated with a check are either not integrated in your system or are not enabled.

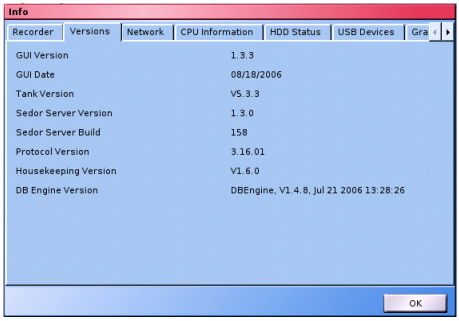


Fig. 13-2: ***Versions*** tab

Versions

The ***Versions*** tab provides information on the software versions and internal components.

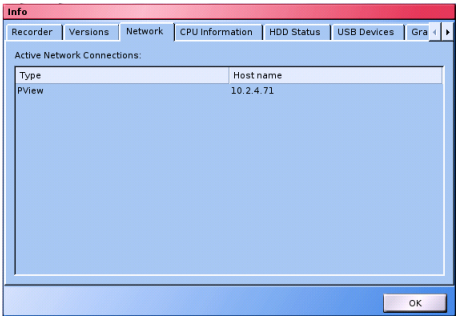


Fig. 13-3: ***Network connections*** tab

Network connection

Active network connections are listed on the ***Network connections*** tab.

Here, you can determine which user (***IP address***/***Host name***) is accessing the system at the time of the inquiry.

All the connections using the DaVid protocol are displayed (for example, DMS WebAccess, PView, etc.).

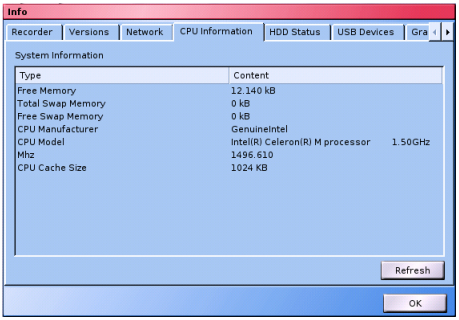


Fig. 13-4: ***CPU Informationen*** tab

CPU Information

The ***CPU Information*** tab provides detailed information on the used CPU.

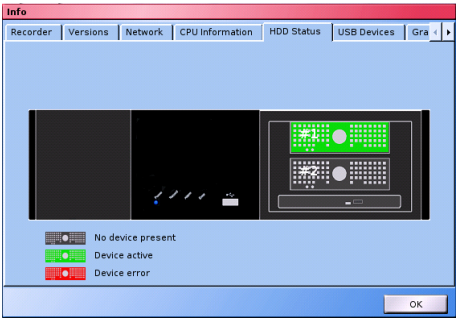


Fig. 13-5: ***HDD Status*** tab

HDD Status

The ***HDD status*** tab provides an overview of the HDDs connected to the recorder. Defective HDDs are displayed in red.

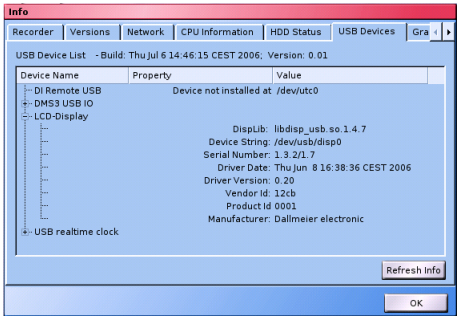


Fig. 13-6: ***USB Devices*** tab

USB Devices

This tab shows all USB devices connected to the USb bus of the recorder. Both internal and external devices will be shown.

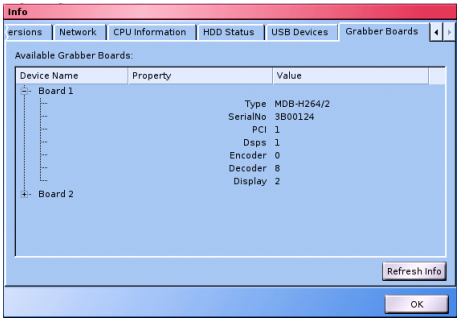


Fig. 13-7: ***Grabber Boards*** tab

Grabber Boards

This tab provides information on the grabber boards used in the recorder.

14 Switching unit off

IMPORTANT

Data can be permanently lost if the device is switched off without being shut down.

Ensure that the DMS 240 / 160 / 80 is properly shut down.

Shutting down is only possible via login with a password.

NOTE

If you use the VdS installation kit, the unit can only be switched back on after shutdown by service or setup personnel.

➢ Click the ***Shut Down*** button in the dialog selection.

Fig. 14-1

Switching off and on again

After switching the system off, you must wait approx. 10 seconds before you can switch it back on.

If you switch the system back on immediately, it will not start up, as the bridging voltage of the power supply has not yet discharged.

Restarting system (reboot)

You can restart the system without switching off the unit.

Click:

Setup > System > Reboot

15 Maintaining the unit

Changing the filter mat and possibly occasional cleaning of the housing are the only maintenance work that you have to carry out at your system.

15.1 Changing the filter mat

A filter mat is positioned behind the front panel in front of the intake fan. This filter mat prevents dirt particles in the ambient air from entering the unit.

A strongly soiled filter mat can impair the cooling air supply. This can lead to a system failure due to overheating.

IMPORTANT

Change the filter mat regularly, at the latest when it is gray.

The frequency of filter changes is dependent upon the installation site and the degree of soiling associated with it. In normal office rooms, checking every three months is generally sufficient, while a monthly check would be recommended for rooms with large amounts of dust (storage etc.).

Filter-change procedure

- The unit should be switched off (replacement is possible while in operation, however).
- Open the front panel on the left side of the recorder.
- Remove the soiled filter mat.
- Remove lint/dust from the mesh with a dry cloth if necessary.
- Insert a new filter mat
- Close the panel.

15.2 Cleaning the unit

If the housing of your system is soiled, use a dry cleaning cloth to clean it.

IMPORTANT

Do not use cleansing agents or detergents.

Some cleansing agents and detergents contain solvents that can damage the surface of your system.

CE

Declaration of Conformity

This declaration is valid for following product:

Equipment: Hard Disk Recorder and Streamer
Model name: DMS 240 / DMS 160 / DMS 80

Hereby the equipment is confirmed to comply with the requirements set out in the Council Directive on the Approximation of the Laws of the Member States relating to Electromagnetic Compatibility (89/336/EEC) and the Council Directive relating to Low Voltage 73/23/EEC.

The following company is responsible for this declaration:

Dallmeier electronic GmbH & Co.KG
Cranachweg 1

D - 93051 Regensburg

The measurements were carried out in accredited laboratories.

For the evaluation of above mentioned Council Directives for Electromagnetic Compatibility and for Low Voltage following standards were consulted:

DIN EN 55022: 1998-04 Class B

DIN EN 50130-4: 2003-09

(DIN EN 61000-4-2: 2001-12, DIN EN 61000-4-3: 2003-11, DIN EN 61000-4-4: 2002-07, DIN EN 61000-4-5: 2001-12, DIN EN 61000-4-6: 2001-12, DIN EN 61000-4-11: 2001-12)

DIN EN 61000-3-2: 2001-12

DIN EN 61000-3-3: 2002-05

DIN EN 50132-2-1: 1997

Regensburg, 29.08.2006

ppa. Dieter Dallmeier
President & CEO