Bosch Video Management System

BOSCH

en Operator's Manual

Table of Contents

1 Using the Help

To find out more about how to do something in Bosch Video Management System, access the online Help using any of the following methods.

To use the Contents, Index, or Search:

▶ On the **Help** menu, click **Help**. Use the buttons and links to navigate.

To get Help on a window or dialog:

▶ On the toolbar, click  .

OR

▶ Press F1 for help on any program window or dialog.

1.1 Finding information

You can find information in the Help in several ways.

To find information in the Online Help:

1. On the **Help** menu, click **Help**.
2. If the left-hand pane is not visible, click the **Show** button.
3. In the Help window, do the following:

Click:	To:
Contents	Display the table of contents for the Online Help. Click each book to display pages that link to topics, and click each page to display the corresponding topic in the right-hand pane.
Index	Search for specific words or phrases or select from a list of index keywords. Double-click the keyword to display the corresponding topic in the right-hand pane.
Search	Locate words or phrases within the content of your topics. Type the word or phrase in the text field, press ENTER, and select the topic you want from the list of topics.

Texts of the user interface are marked **bold**.

▶ The arrow invites you to click on the underlined text or to click an item in the application.

▶ Click  to get step-by-step instructions

Related Topics

▶ Click to display a topic with information on the application window you currently use. This topic provides information on the application window controls.

Section 13 Concepts provides background information on selected issues.

CAUTION!

Medium risk (without safety alert symbol): Indicates a potentially hazardous situation.
If not avoided, this may result in property damage or risk of damage to the unit.
Cautionary messages should be heeded to help you avoid data loss or damaging the system.

NOTICE!

This symbol indicates information or a company policy that relates directly or indirectly to the safety of personnel or protection of property.

1.2 Printing the Help

While using the Online Help, you can print topics and information right from the browser window.

To print a Help topic:

1. Right-click in the right pane and select **Print**.
   The **Print** dialog box opens.
2. Click **Print**. The topic is printed to the specified printer.

2 Introduction

Bosch Video Management System integrates digital video, audio and data across any IP network.

The system consists of the following software modules:

- Central Server
- *VRM* (Video Recording Manager)
- Operator Client (DiBos DVRs / *VRM* recording / *iSCSI* recording / *VIDOS NVRs* / local recording)
- Configuration Client

To achieve a running system, you must perform the following tasks:

- Install services (Central Server and *VRM*)
- Install Operator Client and Configuration Client
- Connect to network
- Connect devices to network
- Basic configuration:
  - Add devices (e.g. by device scan)
  - Build logical structure
  - Configure schedules, cameras, *event*s, and *alarm*s
  - Configure *user group*s
- Basic operation

Bosch VMS Archive Player displays exported recordings.

3 System overview

If you plan to install and configure Bosch Video Management System, participate in a system training on Bosch Video Management System.
Refer to the Release Notes of the current Bosch Video Management System version for supported versions of firmware and hardware and other important information.
See data sheets on Bosch workstations and servers for information on computers where Bosch Video management System can be installed.
All these software modules can optionally be installed on one PC.

Tasks of the software modules

- **Central Server**: Stream management, alarm management, priority management, central *logbook*, user management
- **VRM**: Distributing storage capacities on iSCSI devices to the encoders, while handling load balancing between multiple iSCSI devices.
  Streaming playback video and audio data from iSCSI to Operator Clients.
- **Configuration Client**: System configuration and administration for Operator Client.
- **Operator Client**: Live monitoring, storage retrieval and playback, alarm.

3.1 Hardware requirements

See the data sheet for Bosch Video Management System. Data sheets for platform PCs are also available.

3.2 Software requirements

See the data sheet for Bosch Video Management System.
Bosch Video Management System must not be installed on a computer where you want to install Bosch VMS Archive Player.

3.3 License requirements

See the data sheet for Bosch Video Management System for the available licenses.

4 Getting started

This chapter provides information on how to get started with Bosch Video Management System and with Bosch VMS Archive Player.

4.1 Starting Operator Client

Note:

- Before using the system, activate the licenses that you have ordered. The Configuration Manual or the Configuration Client Online Help describe how to activate the licenses.
- To be sure that your Bosch Video Management System uses the language that you need, please configure this language in your Configuration Client. See the Online Help for details.

If a newer version of the application is stored on the Central Server, this version is installed automatically by *no-touch deployment* when you log on.

To start Operator Client:

1. From the **Start** menu, select **Programs** > **Bosch VMS** > **Operator Client**.
   The dialog box for logging on is displayed.
2. In the **User Name:** field, type your user name.
   When you start the application for the first time, type `Admin` as user name, no password required.
3. In the **Password:** field, type your password.
4. In the **Connection** list, select the IP address or the *DNS* name of the Central Server.
5. Click **OK**.
   If dual authorization has been configured for your user group, the next logon dialog is displayed.

   A user of the configured second user group enters the required information.

   The application starts.

   If dual authorization is optional, just click **OK** again on the second logon dialog box. But you then only have the user rights of your user group and not the potentially extended user rights of your *dual authorization* group.

To quit Operator Client:

1. On the **System** menu, click **Exit**.
   The application quits.

   If you logged on to Operator Client as a user who is not authorized to quit the application, the **Enter Logoff Password** dialog box is displayed.
2. Ask a user with corresponding user rights to enter his user name and password to confirm the process.

4.2 Working offline

When Operator Client is disconnected from Central Server,  appears in the toolbar. You can continue working with Operator Client even if the disconnection lasts longer, but some functions are not available.

If the connection to Central Server is reestablished,  appears in the toolbar.

If a new configuration has been activated,  appears in the toolbar and a dialog box is displayed for some seconds. Accept or refuse the new configuration.

If your Operator Client instance is scheduled to log off at a specific point in time, this logoff will occur even when the connection to the Central Server is not reestablished at this point in time.
When disconnected from Central Server, the following functions are not available in Operator Client:

- Handling alarms, *Alarm List*
- Indication of recording
  Indication of state changes

  All devices are indicated with the icon.
- PTZ control locking
- Analog monitor group
- Scipts

4.3 Accepting a new configuration

When the system administrator activates a new configuration from within Configuration Client, each Operator Client is either instantly restarted automatically or the user of a workstation is informed about the new configuration and can accept it later. The system administrator configures which of these 2 cases occurs.
If the system administrator activated a new configuration without forcing each Operator Client workstation to accept the new configuration, a dialog box is displayed on all Operator Client workstations. The users can refuse or accept the new configuration. The dialog box is closed after a few seconds without user interaction. In this case the new configuration is refused. If a device (for example a camera) is removed from the system in the new configuration, some functions of this device are not available if you have refused the new configuration.

To accept a new configuration:

▶ Log off and then log on again.
  The new configuration is used now.

5 Displaying camera images

This chapter provides information on how to display camera images.
Some of the features described in this chapter can be deactivated for your user group.

5.1 Displaying a camera in an Image pane

Main window

To assign a camera image to an Image pane:

▶ Drag a camera from the **Logical Tree** window to an *Image pane*.
The selected camera image is displayed in the Image pane.

Or:

1. Select an Image pane.
2. In the **Logical Tree** window, double-click a camera.
The selected camera image is displayed in the Image pane.
3. Repeat the above steps for every camera you want to display.
You can also drag maps and documents to Image panes.

Or:

▶ In the Logical Tree, right-click a camera and click **Show in next free Image pane**.
The camera is displayed.

To move a camera within the Image window:

▶ Drag the camera into another Image pane.

To zoom digitally:

▶ Right-click anywhere on an Image pane and click **Zoom in**.

5.2 Finding an item in the Logical Tree

Main window

To find an item in the Logical Tree:

1. Right-click the root node or a child node of the Logical Tree and click **Tree Search**.
The **Search** dialog box is displayed. This dialog box appears on the monitor where it was closed earlier. It is always on top.
2. In the **Search for:** field, type a search string representing the display name of an item.
3. Click **Find**.
The first item that matches the search string is marked. If you want to display it in an *Image pane*, double-click it.
4. Click **Next** to mark the next matching item.
5. Click **Close**.

5.3 Arranging Image panes

Main window

To arrange Image panes:

1. Move the slider for the *Image pane* pattern.
2. Drag an item from the **Logical Tree** window to an Image pane. Repeat this until all required cameras are displayed.
If an object is already displayed in a target Image pane, this object is replaced.
3. Drag a camera from one Image pane to another, if required.

To resize an Image pane:

1. Point to an Image pane corner. The pointer appears as a double-headed arrow.

2. Drag the corner to resize the Image pane.

5.4 Displaying the Alarm Image window

Main window

You can switch from the Image window to the *Alarm Image window* if at least one alarm is in the Alarm List.

NOTICE!

A map displayed in an Alarm Image pane is optimized for display and contains only the initial view of the basic `.dwf` file.

To display the Alarm Image window:

▶ In an *Image window*, click  .
The Alarm Image window is displayed.

To display the Image window again:

▶ In an *Image window*, click  .
Live Mode or Playback Mode is displayed depending on the Mode that was displayed before.

5.5 Starting manual recording

Main window

You can start recording for each camera manually. The quality level of alarm recording mode is used. The duration of alarm recording is configured in the Configuration Client.
If the selected camera is already recording, the quality level is changed to alarm recording mode. The alarm recording can be protected when NVR recording is used. With VRM recording, the alarm recording is not protected.
Note: You cannot start manual recording for a DiBos camera.

To start recording:

1. Select an *Image pane* displaying a camera.
2. Click  .
   Recording is started.

Notes:

NVR recordings only: The icon in the Image pane bar changes to  . Click to stop recording. If you do not click to stop recording, manual recording stops after the configured manual recording time. In the Timeline of the camera, the manual recording is displayed as alarm recording.
VRM recordings only: You cannot manually stop recording. The recording stops after the configured alarm recording time. In the Timeline of the camera, the pre-alarm recording is displayed as alarm recording, if pre-alarm recording is configured in Configuration Client.

5.6 Starting a pre-configured camera sequence

Main window

With a *camera sequence*, a group of cameras are displayed one after the other. The pre-configured camera sequences are configured in the Configuration Client and appear in the *Logical Tree*.

A sequence can be configured to use more than one *Image pane*. If there are not enough Image panes to display the whole sequence, only those Image panes are displayed which fit into the *Image window*. The remaining Image panes are not displayed and an appropriate message is displayed.
Under the following conditions, a sequence is not being displayed:
– Video loss
– Connection to the camera lost
– No permission to display the camera
– Camera not configured
In addition, for sequences displayed on an analog monitor via a decoder, DiBos cameras cannot be displayed.

NOTICE!
When the configuration is changed and activated, a camera sequence (pre-configured or automatic) usually is continued after restart of the Operator Client.
But in the following cases the sequence is not continued:
– A monitor where the sequence is configured to be displayed has been removed.
– The mode of a monitor (single/quad view) where the sequence is configured to be displayed has been changed.
– The logical number of a monitor where the sequence is configured to be displayed is changed.

To start and control a camera sequence:

1. Drag the required sequence  from the **Logical Tree** window to an Image pane.
   The sequence is displayed indicated by the  symbol.
2. Click a playback control icon of the Image window toolbar to control the sequence.

5.7 Starting an automatic camera sequence

Main window
With a *camera sequence*, a group of cameras are displayed one after the other.
You configure the *dwell time* for these sequences in the **Options** dialog box (**Extras** menu, **Options...** command).
Under the following conditions, a sequence is not being displayed:
– Video loss
– Connection to the camera lost
– No permission to display the camera
– Camera not configured
In addition, for sequences displayed on an analog monitor via a decoder, DiBos cameras cannot be displayed.

NOTICE!
When the configuration is changed and activated, a camera sequence (pre-configured or automatic) usually is continued after restart of the Operator Client.
But in the following cases the sequence is not continued:
– A monitor where the sequence is configured to be displayed has been removed.
– The mode of a monitor (single/quad view) where the sequence is configured to be displayed has been changed.
– The logical number of a monitor where the sequence is configured to be displayed is changed.

To start a camera sequence:

1. Select an *Image pane* where you want the sequence to be played.
2. Right-click a folder in the **Logical Tree** or **Favorites Tree** window and click **Show as sequence in selected Image pane**.
   The cameras of the selected folder are displayed one after the other in the selected Image pane.  indicates that the sequence is running.

To pause a camera sequence:

▶ In the *Image window* toolbar, click  .
The sequence stops playing, as indicated by  .

To jump to the previous / next step of a camera sequence:

▶ In the Image window toolbar, click  or  .
The sequence jumps to the previous or next step.

5.8 Using one channel audio mode

Main window

You use one channel audio mode when you want to hear only one audio source assigned to a camera. You cannot activate audio for another camera.

To activate / de-activate multichannel audio mode:

1. On the **Extras** menu, click **Options...**.
2. Select the **Playback audio of the selected Image pane** check box.

5.9 Using multichannel audio mode

Main window

You use multichannel audio mode when you want to hear different audio sources at the same time. You can activate different audio sources assigned to a camera in the *Image pane* of each camera.

To activate / de-activate multichannel audio mode:

1. On the **Extras** menu, click **Options...**.
2. Select the **Multichannel audio playback** check box.

5.10 Using digital zoom

Main window

Every *Image pane* provides a digital zoom function. This digital zoom has 11 levels: 1x, 1.35x, 1.8x, 2.5x, 3.3x, 4.5x, 6x, 8.2x, 11x, 14.9x, 20.1x.

When you save a Favorites View, the current setting of the digital zoom and the image section are saved.

When you click  , the current setting of the digital zoom and the image section are used for instant playback.

When Operator Client restarts, the current setting of the digital zoom and the image section are retained.

To use digital zoom:

1. Right-click anywhere on an Image pane and click **Zoom in**.
    indicates that the digital zoom was used.
2. Repeat the previous step to zoom in.

3. Drag the image to navigate to the desired image section.
4. Right-click the Image pane and click **Zoom 1:1** to return to the original size.

 disappears.

Note:
You can also use the controls for digital zoom in the **PTZ Control** window.

5.11 Saving a single image

Main window

To save a single image:

1. Select an *Image pane*.
2. Click  .
   A dialog box for saving the image file is displayed.
3. Select the desired directory, enter a file name, and select the desired file type. JPG and BMP are available.
4. Click **OK**.
   The image is saved. The file contains additional information about the camera.

5.12 Printing a single image

Main window

To print a single image:

1. Select an *Image pane*.
2. Click  .
   A dialog box for selecting the printer is displayed.
3. Click **OK**.
   The image is printed. The printout contains additional information about the camera.

5.13 Switching to full-screen mode

Main window

Full-screen mode hides many control elements, for example the menu commands or the Alarm List if no alarm monitor was switched to full-screen mode. For accessing these control elements, leave the full-screen-mode.

To display the entire Image window in full-screen mode:

▶ On the *Image window* toolbar, click  .
The Image window is displayed in full-screen mode.

To leave the full-screen mode:

▶ Click  .

To maximize a selected Image pane:

▶ Right-click an *Image pane* and click **Maximize**.
The selected Image pane is displayed using the entire Image window.

5.14 Displaying or hiding the Image pane bars

Main window

To display / hide the toolbars:

▶ Click  to display the toolbars.

Click  to hide the toolbars.

5.15 Displaying information on a camera

Main window

To display information:

▶ Right-click an *Image pane* with a camera assigned and click **Properties**.
A dialog box with the camera properties is displayed.

5.16 Starting instant playback

Main window > 

You can view the recordings of a camera in an Image pane in the Live Mode.
The current setting of the digital zoom and the image section are used for instant playback.
The start time (number of seconds in the past or rewind time) for *instant playback* is configured in the **Options** dialog box (**Extras** menu, **Options...** command).

To start instant playback:

1. Select the required *Image pane*.
2. Click  .
   The recording is played.

   To return to live image, click  .

Note: More than one Image pane with instant playback is possible, even multiple instant playbacks of the same camera.

5.17 Assigning a camera to a monitor

Main window >  >  tab

You can assign IP devices to a decoder. This displays the video signal on the analog monitor and plays the audio signal on the speakers if connected to the decoder. DiBos and Bosch Allegiant cameras cannot be assigned this way.

To assign a camera image to a monitor:

1. Click the  tab and the  tab.
2. Drag a camera from the **Logical Tree** window to the desired monitor.

5.18 Using audio mode

Main window

If available you can activate audio for a selected camera.
To hear the audio signal of multiple cameras simultaneously, activate multichannel audio mode.
You switch the audio mode in the **Options** dialog box (**Extras** menu, **Options...** command).

To activate / de-activate audio:

1. Select an *Image pane*.
2. Click  to de-activate or  to activate audio.

5.19 Displaying metadata (for NVR recordings only)

Main window > 

You can display *metadata* of the selected camera such as *ATM* / *POS* / Barcode if available.

To display metadata in a separate window:

1. Select an *Image pane*.
2. In the **Camera** menu, click **Show Metadata...**.
   A window is displayed with the available metadata.
   When you close the selected Image pane, the **Metadata** window is closed too.

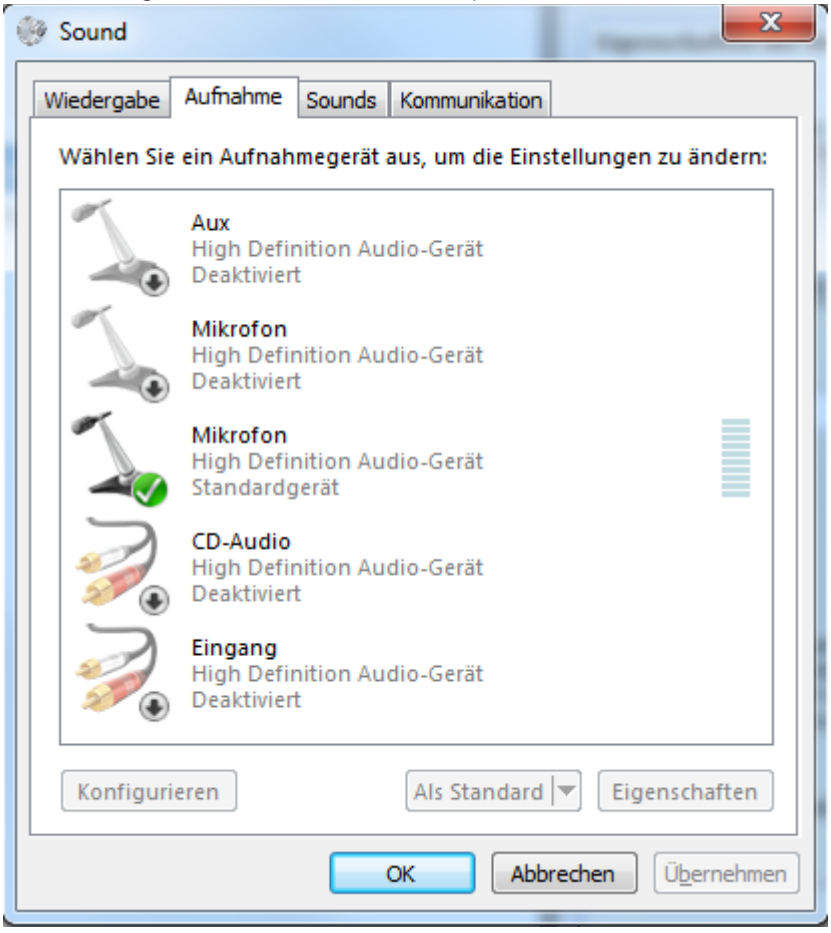
5.20 Using the Intercom functionality

Main window > 

You can use the *Intercom functionality* only when Live Mode is active.

Ensure that the microphone is active on your sound card and its volume is not 0. You perform this task in the Control Panel of your workstation computer. Additionally ensure that in the recording control of your sound card only the microphone is selected, not the stereo mix. For Windows 7: Disable all input devices except the one you want to use for Intercom functionality.

The following screenshot shows an example:



If you change the setting from stereo mix to microphone after the first start of Operator Client, the setting is overridden after the next start of Operator Client. Follow the steps in *Section 14.2 Fixing the recording setting for Intercom functionality, page 77* to fix this behavior.
We recommend to use a headset instead of a microphone-loudspeaker combination to avoid acoustic feedback.
The Intercom functionality only works with an *encoder* that has both audio-in and audio-out. Ensure that the volume settings for the encoder microphone and loudspeakers are not 0. You perform this task in Configuration Client.
To use Intercom functionality on your workstation your user group must be granted to use it. You perform this task in Configuration Client.
In the **Options** dialog box, you can configure half *duplex* or full duplex mode.

To use Intercom functionality:

1. Select an Image pane with an audio encoder.
2. Click and hold the mouse button. If audio was off for this Image pane, it is switched on automatically.

   The icon changes to .

   Now you can talk. If configured, the other side can talk also, regardless whether the icon is clicked or not.
3. Release the mouse button. The transfer is interrupted.
   Audio remains on for this Image pane.

NOTICE!
An incoming auto pop-up alarm can interrupt the transfer.

5.21 Locking the control of a PTZ camera

Main window > 
You can lock the control of a PTZ camera for other users. A user with a higher priority can take over the control and lock the camera control. A timeout can be configured for this explicit PTZ locking. If you only take over the control without manually locking it before, the control is locked for the user with lower priority for 5 seconds.

To lock a PTZ control:
1. Select one of the following items:
   - Image pane with PTZ camera
   - PTZ camera in the Logical Tree
   - PTZ camera in the Favorites Tree
   - PTZ camera in the Map window
2. Right-click the Image pane or the PTZ camera and click **Lock**.
   The users with lower priorities cannot use the PTZ control any longer. On their displays a corresponding message box is displayed.
   To stop the locking of the PTZ control, right-click the Image pane or the PTZ camera and click **Unlock**.
   The locking ends automatically after a configured time period or when you log off.

5.22 Updating the reference image

Main window > 
You can update the *reference image*.

To update the reference image:
1. Right-click an Image pane and click **Reference Image...**.
   The **Reference Image** dialog box is displayed.
2. Click **Update**.
   The image of the time when you click **Update** is displayed.

5.23 Displaying a sub program

Main window > 
You can display a sub program either in an *Image pane* or in the sub program's own window. The link to this sub program must be configured from within Configuration Client.

To start a sub program in an Image pane:
- ▶ Right-click the link to the sub program in the *Logical Tree* and click **Show in selected Image pane** or **Show in next free Image pane**.
  The sup program is embedded in the desired Image pane. This Image pane can be managed like an Image pane displaying a camera or a map.

To start a sub program in its own window:

▶ Right-click the link to the sub program in the *Logical Tree* and click **Run outside of Operator Client**.

The sup program starts and runs independently from Operator Client.

6 Using maps and the PTZ cameras

This chapter provides information on how to use the **Map** window and the **PTZ Control** window.
You can view a map in the required ratio and zooming factor. Hence, you see all your devices and their places at a glance.
Some of the features described in this chapter can be deactivated for your user group.

6.1 Displaying a map

Main window
You can display a map in the **Map** window or in an *Image pane*. In the Image pane, the 4:3 ratio applies.

NOTICE!
A map displayed in an Alarm Image pane is optimized for display and contains only the initial view of the basic `.dwf` file.

To view a map in the map window:

▶ Drag a map from the *Logical Tree* to the  tab, wait until the **Map** window is displayed, and drop the map on the **Map** window.
The map is displayed.

To view a map in an Image pane:

▶ Drag a map from the **Logical Tree** window to an Image pane.
The map is displayed in the Image pane.

6.2 Controlling PTZ cameras

Main window >  tab
You can zoom and control the cameras in the **PTZ Control** window or in the *Image pane*.
The digital zoom function is not available for dome and pan/tilt cameras.

Controlling/zooming cameras in the PTZ Control window:

1. Select the required Image pane.
2. Click the various control elements in the **PTZ Control** window to control the camera.

6.3 Using in-window control of a camera

Main window
After you have assigned a *PTZ* camera to an Image pane, you can use the camera control functions directly in this Image pane.

To use control functions:

1. Move the cursor on the Image pane which displays a PTZ camera.
   The cursor changes depending on the location in the Image pane.
2. Move the cursor to the left side of the Image pane.
   The cursor changes to an arrow.
   Click to swivel to the left direction in a small step. Keep the mouse button pressed to swivel continuously. Drag to the outside direction to accelerate.
3. Move the cursor to another direction and perform a corresponding tilt or swiveling task.

4. Move the cursor to the center of the Image pane.
   The cursor changes to a magnifying class.
   In the upper area, use the zooming in function.
   In the lower area, use the zooming out function.

7 Using favorites and bookmarks

This chapter provides information on how to use the Favorites Tree.
You can add every item of the *Logical Tree* to the Favorites Tree to create your own subset of the Logical Tree. At any time you can add or delete devices in the Favorites Tree.
Additionally, you can save the assignment of cameras or other objects to *Image panes* and the *Image pane* pattern.
At any time you can restore this *View*.
Note: Do not add more than 4 cameras in one bookmark to avoid performance issues when loading the bookmark.
You can save a time period of a recording in a *bookmark*. A bookmark saves a start and an end time, the cameras assigned to the *Image window* at this time, and the entire Image window layout. A time period of 0 seconds is possible. Bookmarks are saved in the Bookmark Tree  . Deleting a bookmark does not affect the corresponding recordings. You cannot add or remove cameras from a bookmark. To change a bookmark, load it, make your changes and save it.
If a recording is deleted, the corresponding bookmark is not synchronized. If loaded, a black *Image pane* is displayed.

7.1 Adding items to the Favorites Tree

Main window >  >  tab
or
Main window >  >  tab
You can add each item of the *Logical Tree* to the Favorites Tree. This allows you to define your own subset of the Logical Tree.
To add an item:
▶ Right-click an item and click **Add To Favorites**.

7.2 Creating/editing views

Main window >  >  tab
or
Main window >  >  tab
After having assigned cameras, maps, and HTML files to *Image panes*, you can save this assignment and the Image pane pattern in a *View*.
To create a new View:
1. Arrange the cameras in the *Image window* in Live Mode and in Playback Mode.
   If desired, use the digital zoom and select an image section.
   When displaying a View, the live image of the camera is displayed in Live Mode and the recorded video of the camera is displayed in Playback Mode.

2. In the Image window toolbar, click  .

   A new View  is added. Enter a name for the new View.

To display a View:

▶ Double-click the View. The assignment saved in this View is displayed in the Image window.

Note: You can also right-click the View and click **Load Cameo View** to display.

To edit a View:

1. Double-click the View  which you want to edit.
2. Make the required changes, e.g., assign cameras to Image panes.
3. Right-click the required View and click **Update Cameo View**.

To rename a View:

1. Right-click the required View  and click **Rename**.
2. Enter the name of the View and click press ENTER.

To delete a View:

▶ Right-click the View and click **Remove**.
The View is removed from the Favorites Tree.

7.3 Saving a bookmark

Main window >  >  tab > Assign desired cameras to Image panes

To add a bookmark:

1. Using the Hairline, select the time period on the *Timeline*.
2. Click  .
   The **Edit Bookmark** dialog box is displayed.
   The selected time period is copied to the appropriate fields.
   Make changes if required.
3. Click **OK**. The *bookmark* is saved in the Bookmark Tree.

7.4 Editing a bookmark

Main window >  >  tab

To edit a bookmark:

1. Right-click a *bookmark* and click **Edit Clip Mark**.
   The **Edit Bookmark** dialog box is displayed.
   Make changes if required.
2. Click **OK**. The bookmark is saved in the Bookmark Tree.

7.5 Displaying a bookmark

Main window >  >  tab

To display a bookmark:

▶ Drag a *bookmark* to the *Image window*. The entire Image window layout saved in the bookmark is displayed in the *Timeline*. The Hairline is positioned at the start time of the bookmark.
The previous *Image window* is overwritten.

8 Managing recorded videos

This chapter provides information on how to manage recordings.
Some of the features described in this chapter can be deactivated for your user group.

8.1 Using the Timeline

Main window >  >  tab
You can access a specific time in the *Timeline* via the Hairline.

To navigate in the Timeline:

▶ Click somewhere in the Timeline.
The images of the selected point in time are displayed in the *Image window*.

Or:

1. In the date and time field, enter the required values.
2. Click  .
The Hairline jumps to this time. The images of the entered point in time are displayed in the Image window. Use a Timeline control for the required playing option.

You can select a time period in the Timeline using the Hairline. You can use this selection for further tasks such as for exporting video data.

▶ Drag the bottom handles of the Hairline to select a time period or to change this selection.
Drag the upper handles to move the hairline or selection.

8.2 Playing a specific recording mode

Main window >  >  tab
You can play specific recordings like alarm or video loss recording.

To play a specific recording mode:

▶ In the list of recording modes, select the required one.
The Hairline jumps to this time. The images of the entered point in time are displayed in the Image window.

Click  to jump to the previous change of the recording mode, or click  to jump to the next change of the recording mode.

8.3 Playing recorded videos

Main window >  >  tab

Note:
Bosch Allegiant cameras are not recorded within Bosch Video Management System.

To play recorded videos:

1. Assign a camera to an *Image pane*.
2. Use a *Timeline* control for the required playing option.

8.4 Authenticating video data (for NVR recordings only)

Main window >  >  tab

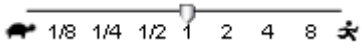
The authenticity of all the cameras displayed in the *Image window* is checked to see whether they have been changed. You can only check the authenticity of DiBos and Bosch VMS NVR cameras. Other cameras are ignored.

If non-authentic data is found, the process stops and the date and time of theses data is displayed.

To authenticate several images:

1. Using the Hairline, select the time period on the *Timeline*.
2. Right-click this time period and click **Verify Authenticity...**.
   The **Verify Authenticity** dialog box is displayed.
   The current Hairline value in the Timeline is copied to the **Start:** and **End:** lists. If required, change the values.
3. Click **Verify** to start authentication.
   A message shows you whether the video data is authentic.

8.5 Changing the playback speed

Main window >  >  tab > 

To change the playback speed for playing a video forward or reverse:

▶ Move the slider to the left to decrease the playback speed, and to the right to increase the playback speed.
A system alarm is triggered if the video cannot be played at the set speed. The playback speed is then automatically reduced.

8.6 Protecting video

Main window >  >  tab

You can protect the images of the displayed cameras against being overwritten.

1. Using the Hairline, select the time period on the *Timeline*.
2. Right-click this time period and click **Protect Video...**.
   The **Protect Video** dialog box is displayed.
   The selected time period is copied to the **Start:** and **End:** fields.
   If required, change the values.
3. Click **Protect**.
   The video data is protected.

Note:
To remove the protection, select the protected period in the Timeline, right-click and click **Unprotect Video...**.

8.7 Deleting video data

Main window >  >  tab

Note: You cannot restore deleted video data.

You can delete video data from the beginning of the recording to the position of the hairline. The video data of all cameras available in the Timeline are deleted.

VRM recordings: Protected recordings are not deleted.

NVR recordings: When protected recordings are available, the deleting is not started.

To delete video:

1. Move the Hairline to the desired position on the *Timeline*.
   On the **Timeline** menu, click **Delete Video...**.
   The **Delete Video** dialog box is displayed.
2. Make the appropriate settings.

For detailed information on the various fields, see the Online Help for the appropriate application window.

3. Click **Delete**.
   Confirm the warning message.
   When deleting is finished, click **Done**.

8.8 Exporting video data

Main window > 

You can export video and audio data to a local drive, a CD/DVD drive, a network drive, or a USB drive.

Note: If you use a USB drive, use a performant USB device to avoid failures.

The data is exported in native (Bosch VMS Archive Player) or ASF format. When you export a video in native format, you can add Bosch VMS Archive Player as a viewer. Data in ASF format can be played with standard software such as Windows Media Player.

You export the video and audio data of the displayed cameras.

Note: You need a permission for each camera that you want to export.

Note: If burning on a CD/DVD drive was not successful, the exported video data is stored in a temporary directory on the computer with the CD/DVD drive. If burning was successful, the video data is deleted.

If exporting video data on a hard drive was not successful, the already exported video data is deleted.

To export a time period:

1. Click the  tab.
2. Using the Hairline, select the time period on the *Timeline*.
3. Click  .
   The **Export Video** dialog box is displayed.
   The selected time period is copied to the **Start:** and **End:** fields.
4. Make the appropriate settings.

For detailed information on the various fields, see the Online Help for the appropriate application window.

5. Click **OK**. The files are exported to the selected data medium.

You can export single search entries. If you want to export several entries, you must export them one by one.

To export a single search entry:

1. Perform a search for video data.

2. Click the  tab or the  tab.
3. Click an entry in the search result list.
4. Click  .
   The **Export Video** dialog box is displayed.
5. Make the appropriate settings.

For detailed information on the various fields, see the Online Help for the appropriate application window.

6. Click **OK**. The entry is exported to the selected data medium.

8.9 Importing video data

Main window > 

Exported audio and video files can be imported to display their saved images.

1. On the **Timeline** menu, click the **Load Exported Video...** command.
   The dialog box for opening export files is displayed.
2. Select the required file and click **Open**.
   The imported video is displayed in the **Export Tree** window.

   For playing the imported video, expand the entry and drag  to an *Image pane*.

   The Export Tree entries are removed when you exit the Operator Client.

   For removing the exported video, right-click  and click **Unload Export**.

8.10 Performing a Forensic Search (only VRM recordings)

Main window >  >  tab > Select an Image pane

You can check the video in the selected *Image pane* for motion. Forensic Search allows you to search for specific properties.

NOTICE!
Forensic Search must be licensed and it must be enabled on your workstation.

1. Select the Image pane where you want to find motion.
2. Using the Hairline, select the time period on the *Timeline* and select the corresponding Image pane.
3. Click  .
   The **Forensic Search** dialog box is displayed.
   The selected time period is copied to the **Start:** and **End:** fields.

   If required, change the values. Click  .
4. In the **Algorithm:** list, select an *IVA* entry.
5. In the **Surveillance Tasks** field, configure your Forensic Search.
   See the Online Help of the IVA version that you use.

6. Click **Search** to start the Forensic Search.

   The  window with the matching entries is displayed.
7. For playing the corresponding video, double-click the entry. The corresponding video is displayed.

8.11 Finding motion (only NVR recordings)

Main window >  >  tab > Select an Image pane
You can check the video in the selected *Image pane* for motion.

To find motion:

1. Select the Image pane where you want to find motion.
2. Using the Hairline, select the time period on the *Timeline*.
3. Click  .
   The **Motion Search** dialog box is displayed.
   The selected time period is copied to the **Start:** and **End:** fields.
   If required, change the values.
4. If required, select **Display Grid**. A grid is placed above the image. You can select every cell in the grid for searching.
5. Select the cells you want to check for motion. To select the cells, drag an area.
   The selected area is displayed in half transparent yellow.
   To clear a selected area, drag the selected area again.
6. Click **Start Search**. The search results for the selected Image pane are listed in the  window.
7. For playing the corresponding video, double-click the entry. The corresponding video is displayed.

8.12 Finding Logbook entries

Main window > **Tools** menu > **Find in Logbook...** command > **Select Search Parameters** dialog box
In the *Logbook*, you can search for particular events, alarms, devices, and strings of events. You can save the search criteria as a filter.

To find Logbook entries:

1. In the **Filter** list, select a pre-defined filter if available.
   A filter contains all the settings that you make in this dialog box.
   You can save, load, and delete the selected filter. You can reset the settings of the selected filter.
2. In the **Date and Time** field, enter start date and time and end date and time for the search process.
3. In the **Result Count** list, limit the number of matching entries that result from the search.
4. Click **Add Event** to limit the search to specific events.
5. Click **ATM / POS** to enter search criteria for these devices.
6. Click **Virtual Inputs** to enter search criteria for these devices.
7. In the **Alarms** field, select search criteria to limit the search to specific alarms.
8. Click **Add Device** to limit the search to specific devices.

9. In the **Details:** field, type a search string. You can use * as a wildcard.
10. In the **User:** field, type a user name to search for.

For detailed information on the various fields, see the Online Help for the appropriate application window.

11. Click **Search**.
    The **Logbook Results:** dialog box with the matching entries is displayed.

Notes:
You can remove events or devices from the search.

8.13 Finding recorded video data

Main window >  > **Tools** menu > **Find Video...** command > **Select Search Parameters** dialog box
For detailed information on the various fields, see the Online Help for the appropriate application window.

To find video data:

1. Enter or select the required search criteria.
2. Click **Search**.

   The  window with the matching entries is displayed.
3. For playing the corresponding video, double-click the entry. The corresponding video is displayed.

9 Handling alarms

This chapter provides information on how to handle alarms.
Some of the features described in this chapter can be deactivated for your user group.

NOTICE!
A map displayed in an Alarm Image pane is optimized for display and contains only the initial view of the basic `.dwf` file.

9.1 Accepting an alarm

Main window > > tab
or
Main window > > tab
You can accept a single alarm or multiple alarms for clearing or starting a workflow.
To accept an alarm:

1. Select the desired alarm entry and click .
2. For returning to the *Image window*, click .

When an alarm is accepted, several things happen simultaneously:
– The alarm is removed from Alarm Lists of all other users.
– If not already displayed, an *Alarm Image window* replaces the Live Image window on the monitor that has been enabled for alarms.
– The alarm content (live video, *instant playback* video, or site maps) is shown in a row of Alarm Image panes in the Alarm Image window.
– If there is a workflow associated with the alarm, the workflow button is enabled. You can now clear the alarm or start a workflow. If the alarm has been configured to "force workflow", then you must complete the workflow before you can clear the alarm.

To display an alarm camera on an analog monitor:
▶ Drag the camera image from its Alarm Image pane to an analog monitor group.

9.2 Adding comments to an alarm

Main window > > tab > Select the desired alarm >
or
Main window > > tab > Select the desired alarm >
You can only comment an alarm after you have accepted it.
To add a comment to an alarm:

1. Click .
   The Workflow dialog box is displayed for entering a comment and displaying the action plan for this alarm. If no action plan is assigned to the alarm, the dialog box only displays the **Comment:** field.

2. In the **Comment:** field, type your comment.
3. Click **Close**.
4. Clear the alarm.
   The comment is added as a separate entry in the *Logbook* and added to the alarm entry in the Logbook.

9.3 Clearing an alarm

Main window >  >  tab
or

Main window >  >  tab

To clear an alarm:

▶ Select the desired alarm entries

and click  .

If the alarm has the Comment or Force Workflow attribute, you cannot clear the alarm directly. In these cases you must first display the action plan and enter a comment.

The alarm is cleared and removed from your Alarm List.

If no other alarms are currently being displayed, the *Alarm Image window* is closed and the *Image pane* is displayed.

9.4 Customizing the Alarm List window

Main window >  >  tab
or

Main window >  >  tab

To sort the table:

1. Click a column heading.
   The arrow in the column heading indicates whether the table is sorted in ascending or descending order.
2. To change the sorting order, click the column heading again.

To add or remove columns:

▶ Right-click the column heading and click a marked entry to remove the corresponding column or click an unmarked entry to add the corresponding column.

To change the sequence of columns:

▶ Drag a column title and move it to the required position.

To change the column width:

▶ Point to the right border of the column heading. The pointer becomes a double-headed arrow ✣. Drag the column border to the left or the right.
or

▶ To quickly make the column wide enough to show all of its contents, double-click the right border of the column heading.

9.5 Displaying the Live Image window

Main window >  > Alarm Image window
or

Main window >  > Alarm Image window
You can switch to the Live or Playback *Image window* when the *Alarm Image window* is displayed.

To display the Image window:

▶ In an Alarm Image window,

click  . The Image window is displayed.

9.6 Starting a workflow

Main window >  >  tab
or

Main window >  >  tab

To start a workflow:

1. Select the required alarm entry and click  .
   If this alarm has been configured to force a workflow, the action plan is displayed (if configured for this alarm). Additionally you can enter a comment if this is configured.
2. Perform the required actions.
3. Clear the alarm.

9.7 Un-accepting an alarm

Main window >  >  tab
or

Main window >  >  tab
When you recall the acceptance of an alarm, it returns to Active state in your Alarm List, and it reappears in the Alarm Lists of all users that originally received the alarm.

To "un-accept" an alarm:

▶ Select the accepted alarm entry

and click  .
The alarm is displayed as active again.

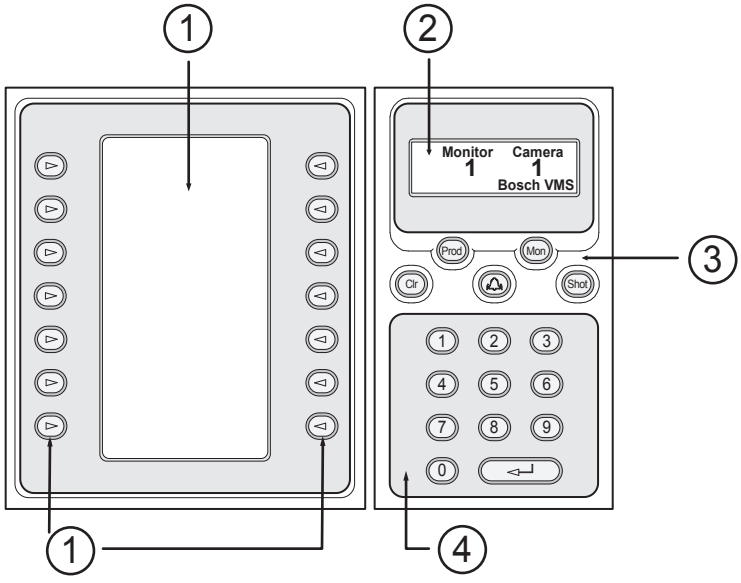
10 Using a CCTV keyboard

This chapter describes how to use Bosch Video Management System with a CCTV keyboard. The language of display texts in the keyboard is English.

10.1 CCTV keyboard user interface

NOTICE!
Every input on the keyboard is cleared after some seconds if no further input is made.

This chapter describes the user interface of the CCTV keyboard.
The following illustration shows the various interface elements of the keyboard:



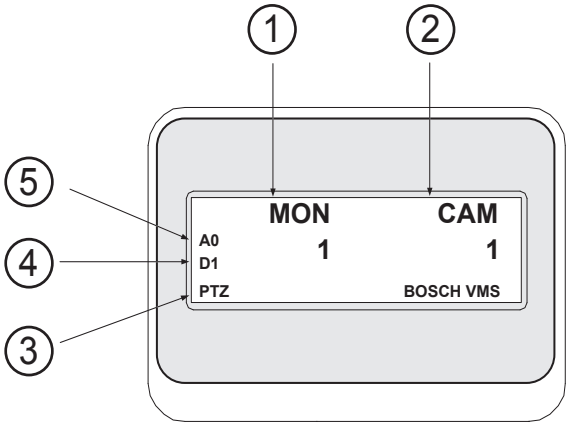
1	Softkeys and softkey display	Allow you to use a fixed set of commands or to control the Logical Tree. The commands displayed in the softkey display change depending on the operation mode.
2	Status display	Changes dynamically and displays information on the current operation mode.

3	Function keys	Allow you to control certain functions directly. **Prod**: Starts a scan process to find the connected workstation. If scanning is successful: In the softkey display, **Terminal** and **Keyboard Control** menus are displayed. For selecting Bosch Video Management System, press the **Terminal** softkey. **Mon**: Allows you to enter a monitor number (digital or analog monitor). **Clr**: Clears any numeric entry or has a Back-function.  : Currently not supported. **Shot**: Allows you to select a camera pre-position or to leave Selection mode.
4	Numeric keypad with ENTER key	Allows you to enter logical numbers. The number is displayed in the status display. Unless preceded by pressing the **Mon** or **Shot** key, a numeric entry is interpreted as a logical camera number. The camera with the entered number is displayed in an Image pane or an analog monitor.

10.1.1 Status display

The status display changes dynamically to display information about the keyboard's present mode of operation.

The following illustration shows the various elements of the status display:



1	Monitor	Displays the selected analog monitor or Image pane number.
2	Camera	Displays the selected camera number.
3	*PTZ* / JOGSHUTTLE	Displays the current operation mode.
4	D1	Displays the selected computer monitor number.
5	A0	Displays the selected analog monitor number.

10.2 Using a keyboard connected to a workstation

A keyboard connected to a Bosch Video Management System workstation offers a wide variety of features. Both the analog and the digital mode are available.

If the keyboard is connected to a decoder, the feature set is reduced. Only the analog mode is available.

10.2.1 Starting the keyboard

The keyboard must be connected to a COM port of a workstation.

1. Start the Operator Client on the workstation.
2. Press the **Prod** button.
   The keyboard scans for connected devices.
3. Press the **Terminal** softkey.
   The Selection Mode is displayed.

10.2.2 Entering operation modes

You can use the keyboard in the following modes:

– Selection Mode
  This mode allows you to select an Image pane by moving the joystick in the desired direction.
– *PTZ* Mode
  This mode allows you to control fixed and PTZ cameras, maps, and documents in Live Mode.
– Jogshuttle Mode
  This mode allows you to control cameras in instant playback or in Playback Mode.

To enter Selection Mode:

▶ Start the Operator Client and the keyboard.
  or
▶ Press ENTER to leave PTZ or Jogshuttle Mode and to return to Selection Mode.

To enter PTZ Mode:

1. Select a PTZ camera.
2. Press **Shot**.
   To start a preposition, press **Shot** again, press the number of a preposition, and press ENTER.

To enter Jogshuttle Mode:

1. Start Playback Mode.
2. Press **Shot**.

To leave PTZ or Jogshuttle Mode:

▶ Press ENTER to leave PTZ or Jogshuttle Mode and start Selection Mode again.

10.2.3 Displaying cameras

Enter a numeric command to display the camera with this logical number in the active Image pane or analog monitor.

Toggling between analog mode and workstation mode

▶ Press **Mon** twice.

Displaying a camera in a computer monitor

1. Switch to a digital mode.
2. Press **Mon**, press 1 - 4 to select the desired workstation monitor, press the number of the desired Image pane and press ENTER.
   The numbering of Image panes is from left to right and top to bottom.

3. Press the desired number of the camera and press ENTER.
   The desired camera is displayed.
   Example: Press **Mon**, 412, and ENTER. Then press 7 and ENTER. Camera 7 is displayed on the 12th Image pane on workstation monitor 4.

Displaying a camera in an analog monitor

1. Switch to analog mode.
2. Press **Mon**, press the number of the desired monitor, and press ENTER.
   Monitor numbers are configured in the Configuration Client.
3. Press the desired number of the camera and press ENTER.
   The desired camera is displayed.
   Example: Press **Mon**, 3, and ENTER. Then press 4 and ENTER. Camera 4 is displayed in the 3rd analog monitor.

NOTICE!
When you call up a *PTZ* camera by a numeric command, the system automatically enters PTZ mode.

10.2.4 Using the joystick

In Selection Mode, the joystick allows you to use the following features:
- Tilt the joystick to select an Image pane.

In PTZ Mode, the joystick allows you to use the following features:
- Twist the joystick to zoom in and out.
- Tilt the joystick to pan and tilt a PTZ camera.
- Use **Focus** and **Iris** buttons for a PTZ camera.

In Jogshuttle Mode, twist the joystick to use the following features:
- Play forward/backward as long as you twist.
- Change the playback speed: Speed depends on the degree of rotation.
- Stop a video when playing.

In Jogshuttle Mode, tilt the joystick to use the following features:
- Tilt up / down when video is stopped: Play forward / backward.
- Tilt up / down when video is playing: Set the playback speed.
- Tilt right / left: Pause and step forward / backward.

In Jogshuttle Mode, the **Focus** and **Iris** buttons allow you to use the following feature:
- Press **Focus** or **Iris** to move the hairline in the Timeline forward or backward. **Focus** moves the hairline for a larger amount of time forward or backward, **Iris** moves the hairline for a smaller amount of time forward or backward.
- To lock the system in the current playback speed, press the **Shot** button while twisting the joystick.

10.2.5 Using softkeys

The following operation modes are available:
- Tree Mode
  You use this operation mode to control devices that are available in the Logical Tree of the Operator Client.
- Command Mode
  You use this operation mode to send commands like switch to Playback Mode.

To toggle between Tree Mode and Command Mode:

- In the Tree Mode: Press the left **Level Up** softkey as often as needed to display the root level and then press the **Exit** softkey to display the Command Mode.
  or
- In the Command Mode: Press the **Tree Mode** softkey.

To use the Logical Tree mode:

- Switch to the Tree Mode.

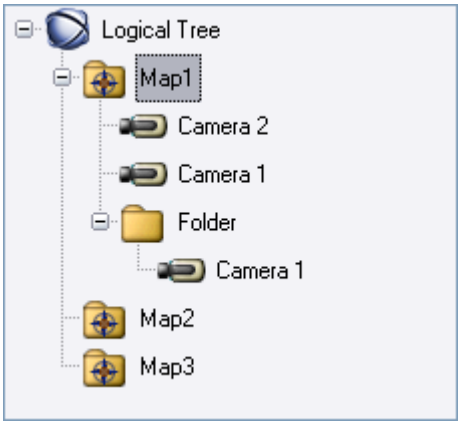
Right side of the softkey display:

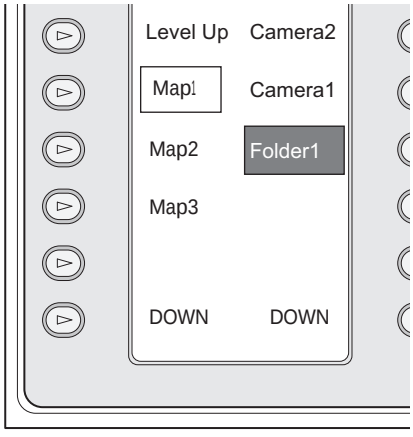
- Press a softkey to control the item (e.g. display a camera or switch a relay).
  When you press a map or a folder (black background), it moves to the left side. The right side displays the its content.

Left side of the softkey display:

- Press a softkey on the left side to select a folder or a map and to display its content on the right side of the softkey display.
  To display a map, press the softkey once to mark it (with a rectangle) and press the softkey again to display it in the selected Image pane.
- Press **Level Up** to enter the next upper level of the Logical Tree.
- Press **UP** to move the selection upward or **DOWN** to move downward.

The following figures show an example of a Logical Tree and its representation on the softkey display of the keyboard.





To use the Command Mode:

1. Switch to the Command Mode.
2. Press a softkey to execute the desired command.

The following commands are available:

– : Load a sequence. In the **Status Display**, enter the sequence number.

– : Sequence play, pause

– / : Sequence step forward / backward

– : Maximize / restore selected Image pane

– : Close selected Image pane

- 

: Toggle between Live Mode and Playback Mode
- 

: Toggle selected Image pane between Live Mode and instant playback
-  /  : Show more Image panes / less Image panes
- 

/

: Start /stop alarm recording
-  : Audio on / off
- 

/ 

/ 

/ 

: Trigger a user event (1-4)
-  : Image pane bars on / off
-  : Full-screen on / off

10.3 Using a keyboard connected to a decoder

A keyboard connected to decoder gives you access to the Central Server without Operator Client software. Hence, you must log on. Only the analog mode is available.

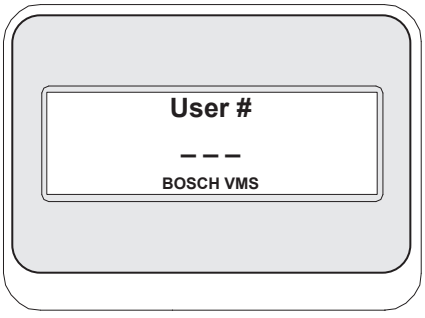
10.3.1 Starting the keyboard

After starting the keyboard you must log on to the Central Server.

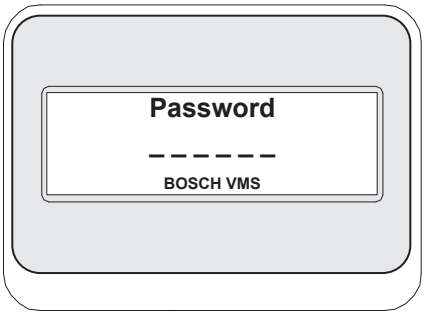
NOTICE!
Only Bosch Video Management System users with number-only user names and number-only passwords can use the analog mode of a CCTV keyboard.
The user must have access rights for the decoder connected to the CCTV keyboard.

To start the keyboard:

1. Press the **Terminal** softkey.
   The following logon display is shown:



2. Enter the user name.



After successful logon, the **Terminal** and **Keyboard Control** softkeys are displayed in the softkey display.

10.3.2 Displaying cameras

1. Press **Mon**, press the number of the desired monitor, and press ENTER.
   Monitor numbers are configured in the Configuration Client.
2. Press the desired number of the camera and press ENTER.
   The desired camera is displayed.

   Example: Press **Mon**, 3, and ENTER. Then press 4 and ENTER. Camera 4 is displayed in the 3rd analog monitor.

   When the selected monitor displays a *PTZ* camera, the keyboard switches to PTZ mode automatically.

10.3.3 Using the joystick

The joystick allows you to use the following features:

– Twist the joystick to zoom in and out.
– Tilt the joystick to pan and tilt a *PTZ* camera.
– Use **Focus** and **Iris** buttons for a PTZ camera.

10.3.4 Using softkeys

The following operation mode is available:

– Command Mode

To use the Command Mode:

▶ Press a softkey to execute the desired command.

The following commands are available:

– Start /stop alarm recording
– Log off

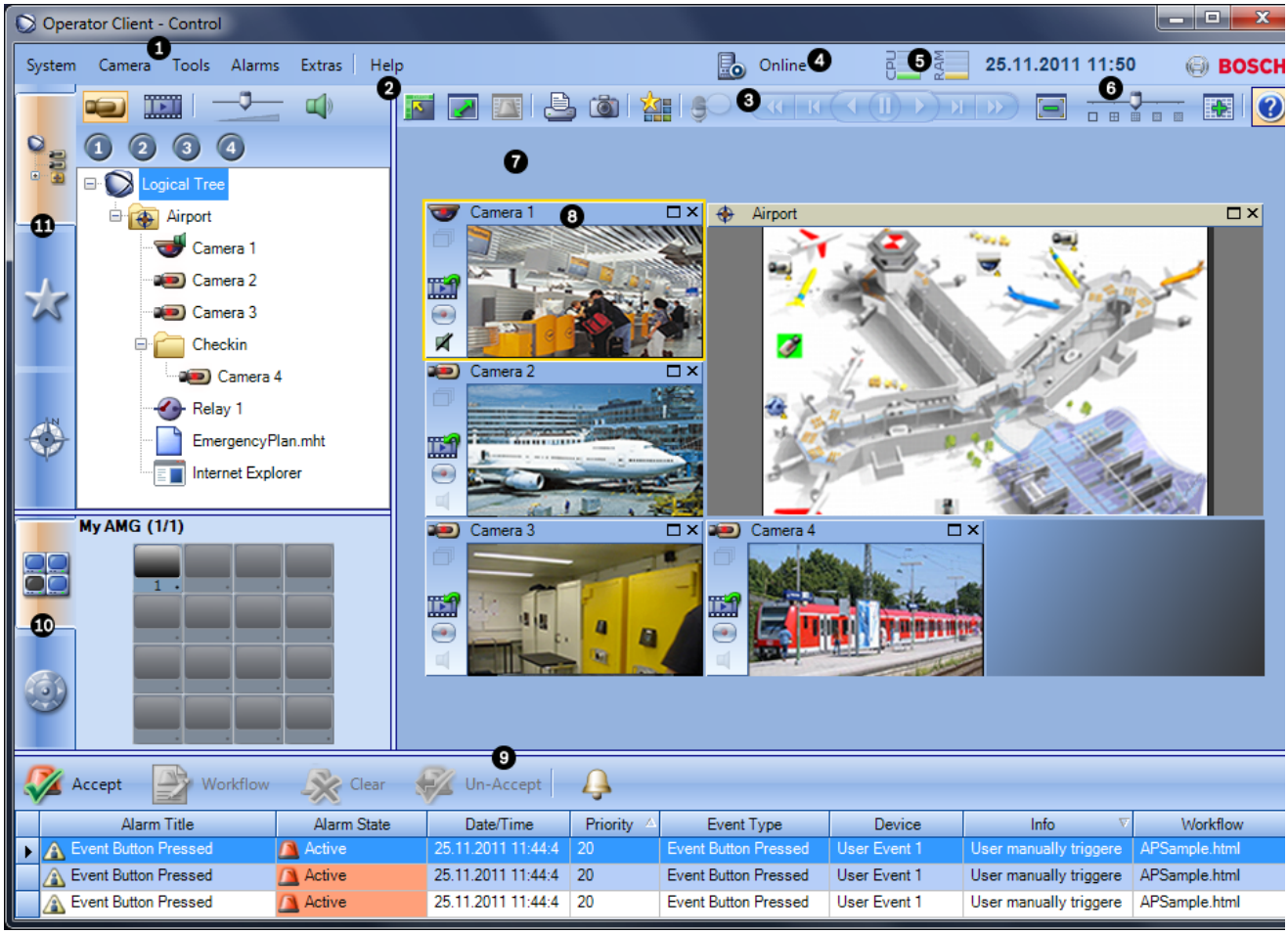
11 User interface

This chapter contains information on all windows available in the Operator Client of Bosch Video Management System.

11.1 Live Mode (Normal Display)

Main window > 
You automatically access Live Mode every time you log on.
Allows you to move, resize, or hide all control elements as required.
You can right-click to display the context menu.
If an incoming alarm has a lower priority than the currently displayed *Image window*, the

 tab starts blinking and indicates an alarm.
If an incoming alarm has a higher priority than the currently displayed Image window, the incoming alarm is automatically being displayed (automatic pop-up alarm).



1	Menu bar	Allows you to select a menu command.
2	Toolbar	Displays the available buttons. Point to an icon to display a tooltip.
3	Playback controls	Allows you to control instant playback or a camera sequence or alarm sequence.

4	Status indicator	Displays the current connection status to the Central Server. **Online**: Connection is established. **Offline**: Connection is lost. **Config available**: The configuration has been activated, but has not yet been accepted by the user of this Operator Client.
5	Performance meter	Displays the CPU usage and the memory usage.
6	Slider for Image pane pattern	Allows you to select the required number of Image panes.
7	Image window	Displays the Image panes. Allows you to arrange the Image panes.
8	Image pane	Displays a camera, a map, an image, a document (HTML file).
9	 **Alarm List** window	Displays all alarms that the system generates. Allows you to accept or clear an alarm or to start a workflow, for example, by sending an E-mail to a maintenance person.
10	 **Monitors** window (only available if at least one analog monitor group has been configured)	Displays the configured *analog monitor group*s. Allows you to switch to the next or previous analog monitor group if available.
	 **PTZ Control** window	Allows you to control a *PTZ* camera.
11	 **Logical Tree** window	Displays the devices your user group has access to. Allows you to select a device for assigning it to an Image pane.
	 **Favorites Tree** window	Allows you to organize the devices of the *Logical Tree* as required.
	 **Map** window	Displays a site map. Allows you to drag the map to display a particular section of the map.

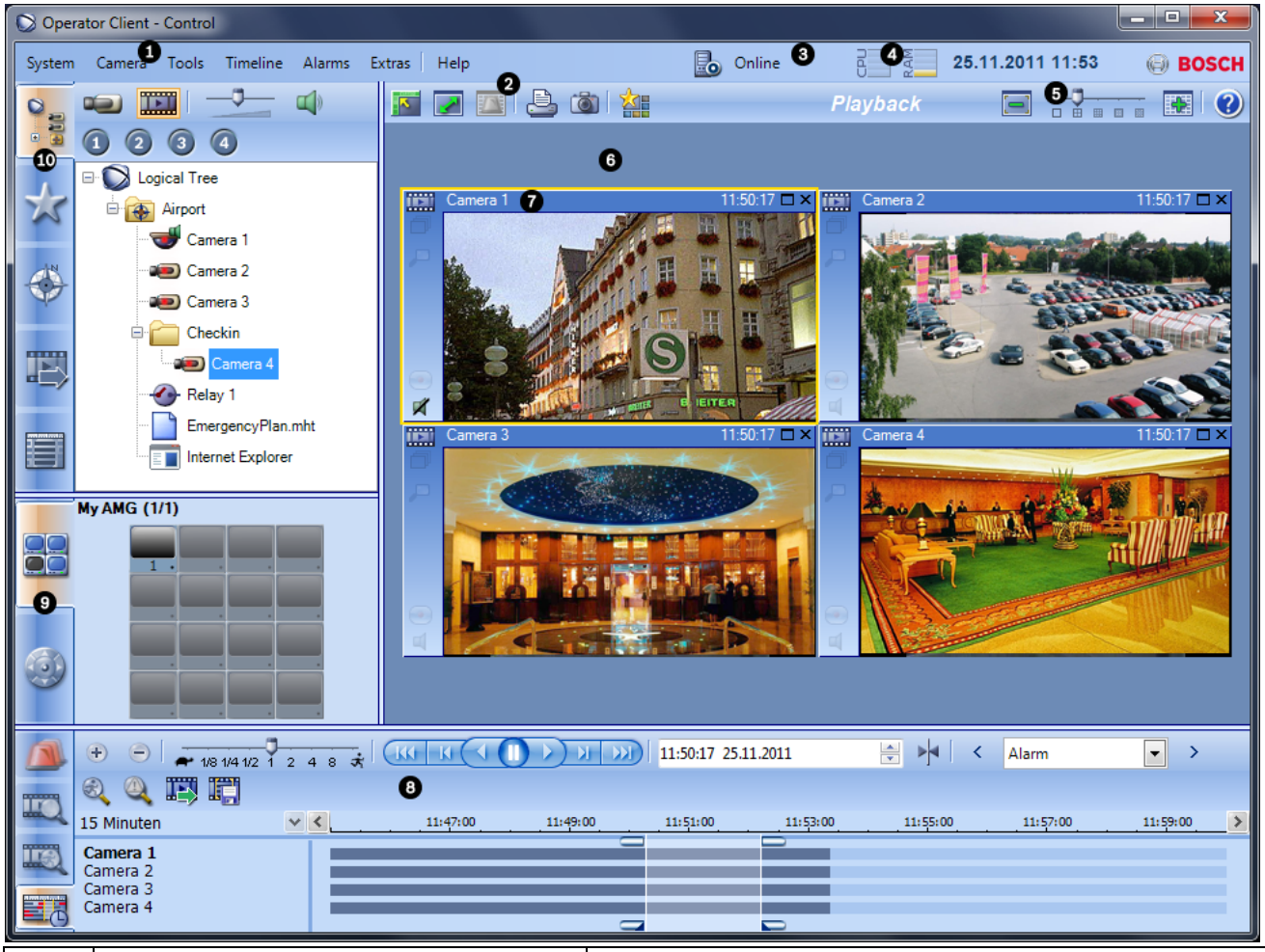
Detailed information:

- *Section 11.4 Menu commands, page 52*
- *Section 11.13 Logical Tree window, page 57*
- *Section 11.15 Favorites Tree window, page 58*
- *Section 11.18 Map window, page 59*
- *Section 11.19 PTZ Control window, page 59*
- *Section 11.20 Monitors window, page 60*
- *Section 11.21 Image window, page 60*
- *Section 11.22 Image pane, page 61*
- *Section 11.33 Alarm List window, page 68*

11.2 Playback Mode

Main window > 
You can right-click to display the context menu.
If an incoming alarm has a lower priority than the currently displayed *Image window*, the

 tab starts blinking and indicates an alarm.
If the incoming alarm has a higher priority than the Live or Playback *Image window*, the Alarm Image window is displayed automatically. The priorities are configured in the Configuration Client.



1	Menu bar	Allows you to select a menu command.
2	Toolbar	Displays the available buttons. Point to an icon to display a tooltip.
3	Status indicator	Displays the current connection status to the Central Server. **Online**: Connection is established. **Offline**: Connection is lost. **Config available**: The configuration has been activated, but has not yet been accepted by the user of this Operator Client.
4	Performance meter	Displays the CPU usage and the memory usage.
5	Slider for Image pane pattern	Allows you to select the required number of Image panes.

6	Image window	Displays the Image panes. Allows you to arrange the Image panes.
7	Image pane	Displays a camera, a map, an image, a document (HTML file).
8	 **Timeline** window	Allows to you to navigate through the recorded videos.
	 **Motion Search Results** window	Allows you to find motion.
	 **Video Search Results** window	Allows you to find recorded videos.
	 **Alarm List** window	Displays all alarms that the system generates. Allows you to accept or clear an alarm or to start a workflow, for example, by sending an E-mail to a maintenance person. The Alarm List is not being displayed, when the connection to the Central Server is lost.
9	 **Monitors** window (only available if at least one analog monitor group has been configured)	Displays the configured *analog monitor group*s. Allows you to switch to the next or previous analog monitor group if available.
	 **PTZ Control** window	Allows you to control a *PTZ* camera.
10	 **Logical Tree** window	Displays the devices your user group has access to. Allows you to select a device for assigning it to an Image pane.
	 **Favorites Tree** window	Allows you to organize the devices of the *Logical Tree* as required.
	 **Map** window	Displays a site map. Allows you to drag the map to display a particular section of the map.
	 **Export Tree** window	Allows you to load exported video data to display it or to search for particular data.
	 **Bookmark Tree** window	Allows you load or edit *bookmarks*.

Detailed information:

- *Section 11.4 Menu commands, page 52*
- *Section 11.13 Logical Tree window, page 57*
- *Section 11.15 Favorites Tree window, page 58*
- *Section 11.17 Export Tree window, page 59*
- *Section 11.18 Map window, page 59*
- *Section 11.19 PTZ Control window, page 59*
- *Section 11.20 Monitors window, page 60*
- *Section 11.21 Image window, page 60*
- *Section 11.22 Image pane, page 61*
- *Section 11.23 Timeline window, page 62*
- *Section 11.31 Motion Search Results window, page 68*
- *Section 11.32 Video Search Results window, page 68*

– *Section 11.33 Alarm List window, page 68*

11.3 Alarm Mode (Alarm Display)

Main window > or > tab > Select an alarm >

The *Alarm Image window* displays live or *instant playback* video from a camera to be displayed in case of an alarm. It always has a 4:3 ratio. The Alarm Image window is displayed automatically if the incoming alarm has a higher priority than the Live or Playback *Image window*. The priorities are configured in the Configuration Client.

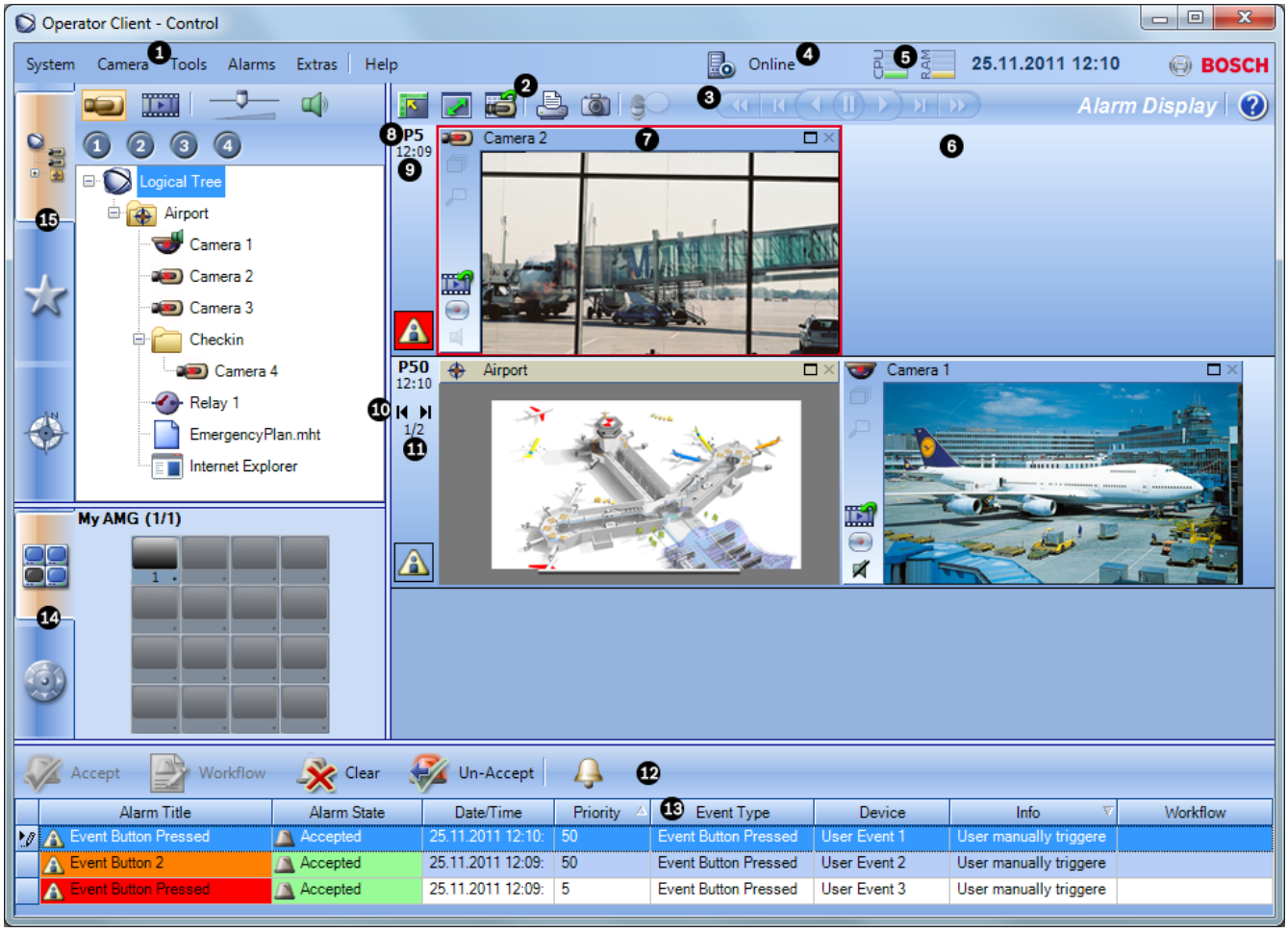
Allows you to view the alarm cameras. Alarm cameras are configured in the Configuration Client.

If an incoming alarm has a lower priority than the currently displayed Image window, the tab starts blinking and indicates an alarm.

When more alarms are displayed than Alarm Image rows are available, the display in the last row is sequenced. You can control the alarm sequence with the playback controls in the Alarm Image window toolbar. You cannot perform instant playback in the last row.

NOTICE!

A map displayed in an Alarm Image pane is optimized for display and contains only the initial view of the basic `.dwf` file.



1	Menu bar	Allows you to select a menu command.
2	Toolbar	Displays the available buttons. Point to an icon to display a tooltip.
3	Playback controls	Allows you to control instant playback or a camera sequence or alarm sequence.
4	Status indicator	Displays the current connection status to the connection to the Central Server. **Online**: Connection is established. **Offline**: Connection is broken. **Config available**: The configuration has been activated, but has not yet been accepted by the user of this Operator Client.
5	Performance meter	Displays the CPU usage and the memory usage.
6	Alarm Image window	Displays the Alarm Image panes.
7	Alarm Image pane	Displays a camera, a map, an image, a document (HTML file).
8	Alarm priority	Displays the *priority* value that was configured in the Configuration Client for the automatic display behavior.
9	Time	Displays the time when the alarm was triggered.
10	Alarm Sequence buttons	Click to display the previous or next Alarm Image pane.
11	Number of alarms	Displays the number of the currently displayed alarm and the number of all alarms.
12	**Alarm List** window	Displays all alarms the system generates. Allows you to accept or clear an alarm or to start a workflow, for example, by sending an E-mail to a maintenance person.
13	Event type	Indicates the type of event that triggered the alarm.
14	 **Monitors** window (only available if at least one analog monitor group has been configured)	Displays the configured *analog monitor group*s. Allows you to switch to the next or previous analog monitor group if available.
	 **PTZ Control** window	Allows you to control a *PTZ* camera.
15	 **Logical Tree** window	Displays the devices your user group has access to. Allows you to select a device for assigning it to an Image pane.
	 **Favorites Tree** window	Allows you to organize the devices of the *Logical Tree* as required.
	 **Map** window	Displays a site map. Allows you to drag the map to display a particular section of the map.

Detailed information:

- *Section 11.4 Menu commands, page 52*
- *Section 11.13 Logical Tree window, page 57*
- *Section 11.15 Favorites Tree window, page 58*
- *Section 11.18 Map window, page 59*
- *Section 11.19 PTZ Control window, page 59*
- *Section 11.20 Monitors window, page 60*
- *Section 11.21 Image window, page 60*

- *Section 11.22 Image pane, page 61*
- *Section 11.33 Alarm List window, page 68*

11.4 Menu commands

System menu commands		
	Playback Mode / **Live Mode**	Switches to Playback or Live Mode depending on the current state.
	Change Password...	Displays a dialog box for entering a new password.
	Logoff	Exits the program and displays the dialog box for logging on.
	Exit	Exits the program.
Camera menu commands		
	Save Image...	Displays a dialog box for saving an image of the selected camera.
	Print Image...	Displays a dialog box for printing an image of the selected camera.
	Audio On/**Audio Off**	Turns audio of the selected camera on or off.
	Record Camera	Starts recording of the selected camera. The Alarm recording Mode quality level is used.
	Instant Playback	Starts playback of the selected camera for the configured rewind time. (Not in Playback Mode)
	Reference Image...	Displays the **Reference Image** dialog box for the currently selected Image pane. (Not in Playback Mode)
	Show Metadata...	Displays the **Metadata** window with metadata if available. (Not in Live Mode)
	Close	Closes the selected Image pane.
Tools menu commands		
	Find in Logbook...	Displays the **Select Search Parameters** and the **Logbook Results:** dialog box.
	Find Video...	Available only in Playback Mode. Click to display the **Select Search Parameters** dialog box.
	Toggle Image Pane Bars	Hides or displays the Image pane bars.
	Show Less Image Panes	Decreases the number of displayed Image panes.
	Show More Image Panes	Increases the number of displayed Image panes.
Timeline menu commands (Playback Mode only)		
	First Recording	Moves the hairline to the oldest recording.
	Last Recording	Moves the hairline to the latest recording.
	Play	Plays forward starting from the current position of the hairline.
	Pause	Stops playback at the current position. Click **Play** to resume.

	Reverse Play	Plays backward from the current position of the hairline.
	Protect Video...	Displays the **Protect Video** dialog box.
	Unprotect Video...	Displays the **Unprotect Video** dialog box.
	Delete Video...	Displays the **Delete Video** dialog box.
	Verify Authenticity...	Displays the **Verify Authenticity** dialog box. (Only for *NVR* recordings)
	Export Video...	Displays the **Export Video** dialog box.
	Load Exported Video...	Displays a dialog box for selecting an export file. The exported file is then displayed in the **Export Tree**.
Alarms menu commands		
	Accept Selected Alarms	Sets all selected alarms to the alarm state **Accepted** and displays them in the Alarm Image window.
	Accept All New Alarms	Sets all new alarms to the alarm state **Accepted**.
	Clear All Accepted Alarms	Sets all accepted alarms to the alarm state **Cleared**. The entry is removed from the **Alarm List** and from the Alarm Image window.
	Clear Selected Alarms	Sets all selected alarms to the alarm state **Cleared**. The entry is removed from the **Alarm List** and from the Alarm Image window.
	Workflow...	Displays the action plan for the selected alarm if available.
Extras menu commands		
	Add Favorite	Saves the current Image pane pattern as a View in the **Favorites Tree**.
	Mute System	Turns off audio of the available Image panes and the alarm sound.
	Options...	Displays the **Options** dialog box.
	Default Settings	Restores the settings for monitor layout, user interface and options to the factory default settings.
	Last Settings	Restores the settings for monitor layout, user interface and options to the last loaded settings.
Help menu commands		
	Display Help	Displays the Bosch Video Management System Online Help.
	About...	Displays a dialog box containing information on the installed system, for example the version number.

11.5 Reference Image dialog box

Main window >  > Right-click an *Image pane* > **Reference Image...** command
Allows you to display and update the *Reference image*.

Camera view:
Displays the live view of the selected camera.

Reference image:
Displays the reference image after clicking **Update**.

Update
Click to set the reference image. The image of the time when you click **Update** is used.

11.6 Select Search Parameters dialog box

Main window > **Tools** menu > **Find in Logbook...** command
Allows you to define and save search criteria for finding entries in the *Logbook*. If you start this dialog box from within the Playback Mode, the time period selected in the **Timeline** is copied into the **Date and Time** fields.

Filter
Select a filter name with predefined search criteria or type a name for a new filter.

Delete
Click to remove the entry selected in the **Filter** list.

Load
Click to load the search criteria of the selected filter name.

Save
Click to save the search criteria with the selected filter name.

Reset
Click to clear all search criteria of the selected filter name.

Date and Time
Type the date and time to define the period you want to search.

Result Count
Select an entry in the list to limit the number of matches that result from the search.

Add Event
Click to display the **Event Selection** dialog box.

Remove Event
Click to remove a selected event entry.

Remove All Events
Click to remove all event entries.

ATM / POS
Click to display the **ATM/POS Options** dialog box.

Virtual Inputs
Click to display the **Select Virtual Inputs Filter Settings** dialog box.

Priority:
Select an alarm priority to search for.

Alarm state:
Select an alarm state to search for.

Record only
Click to select for searching record-only alarms.

Force workflow
Click to select for searching force workflow alarms.

Auto-clear
Click to select for searching auto-clear alarms.

Add Device
Click to display the **Device Selection** dialog box.

Remove Device
Click to remove a selected device entry.

Remove All Devices
Click to remove all device entries.

Details:
Type a string to search for. Some important events contain strings to better find them. For example, a particular SystemErrorEvent has the string **Server alarm queue capacity reached!**. You can use * as a wildcard. For example, enter `*triggered*` to find the string `An alarm was triggered by a network failure.*triggered` or `triggered*` will not find this string.

User:
Type a user name to search for.

Search
Click to start the search. The **Logbook Results:** dialog box is displayed.

Close
Click to close the dialog box. No search is executed. If you did not save your search criteria with a filter name, they get lost.

11.7 ATM/POS Options dialog box

Main window >  > **Tools** menu > **Find in Logbook...** command > **Select Search Parameters** dialog box > **ATM / POS** button
Allows you to select the appropriate *ATM*/*POS* search criteria for finding *Logbook* entries and recorded videos.

ATM Data
Click to search for ATM data.

POS Data
Click to search for POS data.

ATM number:
Type the number of the device.

Transaction number:
Type the appropriate transaction number.

Bank account:
Type the appropriate account number.

Bank routing code:
Type the appropriate bank routing code.

Amount:
Type the appropriate amount of withdrawn money.

POS String:
Type an appropriate search string.

11.8 Select Virtual Inputs Filter Settings dialog box

Main window >  > **Tools** menu > **Find in Logbook...** command > **Select Search Parameters** dialog box > **Virtual Inputs** button
Allows you to enter search criteria for virtual inputs.

11.9 Device Selection dialog box

Main window > **Tools** menu > **Find in Logbook...** command > **Select Search Parameters** dialog box > **Add Device** button
Allows you to select the appropriate devices for finding *Logbook* entries and recorded videos.

11.10 Event Selection dialog box

Main window > **Tools** menu > **Find in Logbook...** command > **Select Search Parameters** dialog box > **Add Event** button
Allows you to add *event*s for filtering purposes.

11.11 Logbook Results: dialog box

Main window > **Tools** menu > **Find in Logbook...** command > **Select Search Parameters** dialog box > **Search** button
Displays the results of a *Logbook* search.

Back to Filter
Click to display the **Select Search Parameters** dialog box.

Save Results
Click to display a dialog box for saving a text file with Logbook entries as CSV file.

NOTICE!
When you open such an exported CSV file in Microsoft Excel, it can happen that time related cells do not display seconds.
To change this behavior, change the formatting of these cells from `m/d/yyyy h:mm` to `m/d/yyyy h:mm:ss`

11.12 Options dialog box

Main window > **Extras** menu > **Options...** command
Allows you to configure parameters for using Bosch Video Management System.

Control tab

Dwell time for automatic sequences [s]:
Enter the required number of seconds a camera is to be displayed in an Image pane. This time is also valid for alarm sequences.

PTZ Control Speed
Move the slider to adjust the control speed for *PTZ* cameras.

Rewind time of instant playback [s]:
Enter the amount of seconds for the *rewind time* of *instant playback*.

Display tab

Image pane aspect ratio
For each connected monitor select the required aspect ratio for the Image panes in Operator Client. Use 16:9 for HD cameras. This setting overrides the setting that was made in Configuration Client for the initial startup of Operator Client.

Display Logical Number
Select to display the *logical number* of a camera in the Logical Tree.

Audio tab

Playback audio of the selected Image pane
Select to activate audio playback for the video in the selected *Image pane*.

Multichannel audio playback
Select to enable simultaneous audio playback for all videos displayed in the Image panes.

Alarm and event sound volume:
Move the slider to adjust the sound volume of alarm sounds.

Half Duplex
Select to enable half *duplex* mode for the *Intercom functionality*.

Full Duplex
Select to enable full *duplex* mode for the *Intercom functionality*.

Playback tab
Allows you to configure where to get playback information for all cameras that are assigned to an *Image pane* in Playback Mode. You use this setting when the VRM server is not available.

Primary VRM (default)
Select to enable retrieving recordings from the primary VRM.

Encoder
Select if the VRM server is not available.

11.13 Logical Tree window

Main window >  >  tab
or
Main window > >  tab

Displays the hierarchical structure of all the devices your *user group* has access to.
Only an administrator can create or change the *Logical Tree* in the Configuration Client.
Allows you to drag an item to the following elements of the user interface:
– Camera, map, document to an *Image pane*
– Each item to the **Favorites Tree** window
– Map to **Map** window
– Camera to the **Monitors** window

11.14 Search dialog box

Main window > > tab > Right-click the root node> Click **Tree Search**
or

Main window > > tab > Right-click an item > Click **Tree Search**
Allows you to find an item in the Logical Tree

Search for:
Type a search string representing the display name of an item. Use * and ? as wildcards.

Previous
Click to mark the previous item that matches the search string.

Next
Click to mark the next item that matches the search string.

Find
Click to mark the first item that matches the search string.

Close
Click to close the dialog box.

11.15 Favorites Tree window

Main window > > tab
or

Main window > > tab
You can save, organize, and delete devices of the *Logical Tree* and *Views* on *Image panes* in the **Favorites Tree** as required.
The current setting of the digital zoom and the image section are saved.

11.16 Bookmark Tree window

Main window > > tab
Note: Do not add more than 4 cameras in one bookmark to avoid performance issues when loading the bookmark.
You can save a time period of a recording in a *bookmark*. A bookmark saves a start and an end time, the cameras assigned to the *Image window* at this time, and the entire Image window

layout. A time period of 0 seconds is possible. Bookmarks are saved in the Bookmark Tree  . Deleting a bookmark does not affect the corresponding recordings. You cannot add or remove cameras from a bookmark. To change a bookmark, load it, make your changes and save it.
If a recording is deleted, the corresponding bookmark is not synchronized. If loaded, a black *Image pane* is displayed.

11.17 Export Tree window

Main window >  >  tab
You can import exported video data, display it in an Image pane, search for particular data in it, and unload it again.

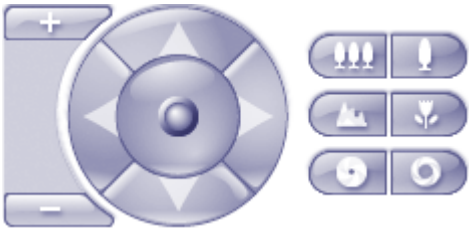
11.18 Map window

Main window >  > Drag a map from the  to the  tab
or

Main window >  > Drag a map from the  to the  tab
Displays a *site* map, it cannot display video content and is not limited to a 4:3 ratio.
If a map cannot be displayed completely in the **Map** window, you can drag the map. A special cursor is displayed.

11.19 PTZ Control window

Main window >  >  **PTZ Control** tab
The **PTZ Control** window becomes active when a *PTZ* camera or a swiveling/tilting camera is displayed in the selected *Image pane*.
Allows you to control a camera with the corresponding functions displayed in the selected Image pane.



 Click to zoom in or out digitally. These controls are active even when a non-PTZ camera is selected.


Click an arrow or drag the joystick in the center to swivel the camera in all directions.


Click to zoom in the picture angle (zoom angle) / zooming out the picture angle (wide angle).


Click to set the focus near / focus far.


Click to close the iris / open the iris.

Prepositions:
Select an entry to move the PTZ control to the predefined position.


Click to save the current position of the PTZ camera to the selected preposition entry.

AUX Commands:
Select an entry to execute this command.

11.20 Monitors window

Main window >  >  **Monitors** tab
Displays the available analog monitor groups. This tab is only visible if at least one analog monitor group is configured and the analog monitor group is assigned to this workstation. If the computer is not configured as a workstation, this assignment is not required.
Allows you to switch to the next or to the previous analog monitor group.
Allows you to switch to the previous or next alarm when there are more alarm cameras than available monitors.

11.21 Image window

Main window

Displays a variable number of *Image panes*. Minimum is 1 Image pane. You can display one camera in several Image panes simultaneously.
Allows you to perform the following tasks (not all tasks are available in Bosch VMS Archive Player):

- Setting the number of displayed Image panes.
- Arranging the Image panes with high flexibility, changing the pattern of the Image panes, and saving this arrangement as a *View* in the **Favorites Tree**.
- Toggling between Live Mode and Playback Mode (and Alarm Mode if alarms are available)
- Switching on/off all audio sources (application must be configured for multi-channel mode)
- Starting a sequence
- Switching on/off the Image pane toolbars
- Performing *instant playback*
- Using *Intercom functionality*

11.22 Image pane

Main window
Bosch VMS Archive Player offers only a restricted feature set.
Allows you to display:

- Live video from any video source (Live Mode only)
- *Instant playback* video
- Recorded video (Playback Mode only)

– Maps
– Documents (HTML files)

A yellow border indicates that this Image pane is selected, for example, for displaying a camera image in this Image pane. It always has a 4:3 ratio.
Cameras in the map are displayed as *hot spots*. You can activate a camera in the map by double-clicking, context menu, or dragging and dropping to an Image pane.
When a *PTZ* camera is displayed, you can use in-window control function.
Double-click a camera in the *Logical Tree* to display it in the next free Image pane.

1	Audio	Click to switch audio on or off.
2	Manual alarm recording	Click to start / stop manual recording.
3	Instant playback	Click to start instant playback.
4	Digital zoom	If activated, indicates that digital zoom has been applied.
5	Camera sequence	If activated, indicates that a camera sequence is playing.
6	Camera	Indicates the type of camera and its recording state.
7	Camera name	Displays the camera name.
8	No. of sequence step	Displays the number of the currently displayed camera sequence step and the number of all steps available in this sequence.
9	Minimize /Maximize	Click maximize or minimize the Image pane.
10	Close button	Click to close the Image pane.

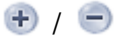
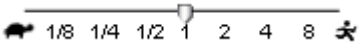
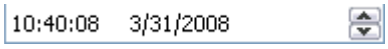
11.23 Timeline window

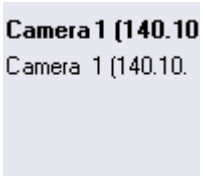
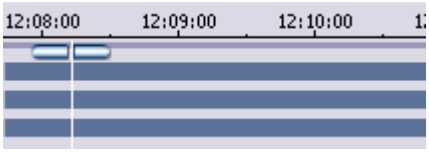
Main window >  >  tab

Allows you to control the playback of recorded videos. You can display several cameras simultaneously.
Audio playback is only possible when you play the video in normal speed.

If you are authorized to display recorded videos, you can also listen to the accompanying audio recording.
Allows you to navigate through recorded videos. The playback of all displayed *Image panes* is synchronized.
Many features enable the precise finding of scenes you are searching for.
The *Timeline* for *NVR* recordings in Operator Client and Bosch VMS Archive Player displays the following information indicated by a color or hatching:

NVR recording	**Color**
Continuous recording	Dark gray-blue
Alarm recording	Red
Pre-alarm recording	Light red
Motion recording	Yellow
Pre-event recording	Light yellow
Results of motion search	White
No video signal	Black
No recording	Light gray
Protected data	Diagonal stripes
Audio data available	Thin green line above the Timeline

	Click to zoom in or zoom out the Timeline.
	Move the slider to adjust the playback speed for the selected cameras.  *Section 8.5 Changing the playback speed*
	Use the controls to control the playback of the selected cameras. From left to right: – Jump to the oldest recording – Single frame backward no matter what frame type – Play backward, you can change the playback speed with the speed slider – Pause play or backward play – Play, you can change the playback speed with the speed slider – Single frame forward no matter what frame type – Jump to the newest recording
	Enter the time for rapid positioning the Hairline in the Timeline.  *Section 8.1 Using the Timeline*
	Click to move the Hairline to the time in the time field.  *Section 8.1 Using the Timeline*
	Select the desired recording mode where you want to jump to.
	Click to display the **Select Search Parameters** dialog box.  *Section 8.12 Finding Logbook entries*

	Click to display the **Motion Search** dialog box.  *Section 8.11 Finding motion (only NVR recordings)*
	Click to display the **Export Video** dialog box.  *Section 8.8 Exporting video data*
	Displays all cameras displayed in the Image window.
	Displays the Timelines of the cameras in the camera list. Allows you rapid time positioning for playing the corresponding videos.  *Section 8.1 Using the Timeline* *Section 8.8 Exporting video data* *Section 8.11 Finding motion (only NVR recordings)* *Section 8.13 Finding recorded video data* *Section 8.4 Authenticating video data (for NVR recordings only)* *Section 8.6 Protecting video* *Section 8.7 Deleting video data*

11.24 Edit Bookmark dialog box

Main window >  >  tab > Assign desired cameras to the *Image window* > 

Note: Do not add more than 4 cameras in one bookmark to avoid performance issues when loading the bookmark.

You can save a time period of a recording in a *bookmark*. A bookmark saves a start and an end time, the cameras assigned to the *Image window* at this time, and the entire Image window layout. A time period of 0 seconds is possible. Bookmarks are saved in the Bookmark Tree  . Deleting a bookmark does not affect the corresponding recordings. You cannot add or remove cameras from a bookmark. To change a bookmark, load it, make your changes and save it.

If a recording is deleted, the corresponding bookmark is not synchronized. If loaded, a black *Image pane* is displayed.

Start Time

In the lists, select date and time.

End Time

In the lists, select date and time.

Cameras

Displays the cameras that belong to this bookmark.

11.25 Motion Search dialog box

Main window >  >  tab 
Allows you to set up a search filter for motion in designated areas of a camera image. You select the zones where you want to detect motion. You can search for motion only in the selected Image pane.

Start:
Enter date and time for starting the search for motion. Clear the check box if you want the search start at the very beginning of the recording.

End:
Enter date and time for finishing the search for motion. Clear the check box if you want the search stop at the present point in time.

Select All
Click to select the whole image.

Clear Selection
Click to remove the selection.

Invert Selection
Click to invert the selection.

Display Grid
Click to select or clear for displaying a grid for defining the sensitive area where motion search is performed.

Start Search
Click to start the search. The results are displayed in the **Motion Search Results** window.

11.26 Export Video dialog box

Main window >  > **Timeline** menu > **Export Video...** command
Allows you to export video data in Bosch VMS Archive Player or ASF format.
You can export video and audio data to a local drive, a CD/DVD drive, a network drive, or a USB drive.
Note: If you use a USB drive, use a performant USB device to avoid failures.
The data is exported in native (Bosch VMS Archive Player) or ASF format. When you export a video in native format, you can add Bosch VMS Archive Player as a viewer. Data in ASF format can be played with standard software such as Windows Media Player.
You export the video and audio data of the displayed cameras.
Note: You need a permission for each camera that you want to export.
Note: If burning on a CD/DVD drive was not successful, the exported video data is stored in a temporary directory on the computer with the CD/DVD drive. If burning was successful, the video data is deleted.
If exporting video data on a hard drive was not successful, the already exported video data is deleted.

Name:
Type the name for the exported file.

Start:
Select the check box to set a start time for exporting.
In the lists, select date and time.

End:
Select the check box to set an end time for exporting.
In the lists, select date and time.

Native format
Click to select the Bosch VMS Archive Player format.

Export file viewer
Click to select that a setup for Bosch VMS Archive Player is stored in the location selected under **Data Medium**.

ASF (Media Player Compatible)
Click to select the ASF format (Windows Media Player compatible).
In the list, select an entry for the quality.

Disk:
Click **Browse** to select a hard disk partition for exporting.

CD/DVD - Burning Drive
In the list, select a CD/DVD writer for exporting.

11.27 Delete Video dialog box

Main window >  >  **Timeline** tab > Move the Hairline to the desired position > On the **Timeline** menu, click **Delete Video...**
Allows you to delete video data from the beginning of the recording to the position of the hairline.

Including:
The current selection of the Hairline is displayed. Change the value if required.

11.28 Forensic Search dialog box (only VRM recordings)

Main window >  >  **Timeline** tab > Select time period with Hairline > Click 
Allows you to find video data with selecting a Forensic Search type, for example *IVA*. You configure the Forensic Search in the **Surveillance Tasks** field. You can search for motion only in the selected Image pane.

Algorithm:
Select the required analysis algorithm. By default, only **MOTION+** is available – this offers a motion detector and essential recognition of tampering. The current alarm status is displayed for information purposes.

NOTICE!
Additional analysis algorithms with comprehensive functions such as *IVMD* and *IVA* are available.
If you select one of these algorithms, you can set the corresponding parameters directly.

Presets:
Select an entry to load Forensic Search settings that you have saved earlier.

Click to save the settings for the Forensic Search. You can enter a descriptive name.

Start:
The current position of the Hairline is displayed.
Enter the point in time when the search starts.
If you uncheck, all recordings until the specified end date are searched.

End:
The current position of the Hairline is displayed.
Enter the point in time when the search ends.
If you uncheck, all recordings beginning with the specified start date are searched.

Click to update the selection in the Timeline with the data of the **Start:** and **End:** fields. Only the selected video is managed.

Search
Click to start the Forensic Search.

11.29 Protect Video dialog box

Main window >  > **Timeline** menu > **Protect Video...** command
Allows you to protect the selected video data.

Start:
The current selection of the Hairline is displayed.
Enter the point in time when the protection starts.
If you uncheck, all recordings until the specified end date are protected.

End:
The current selection of the Hairline is displayed.
Enter the point in time when the protection ends.
If you uncheck, all recordings beginning with the specified start date are protected.

Protect
Click to protect the selected time period.

11.30 Unprotect Video dialog box

Main window >  > **Timeline** menu > **Unprotect Video...** command
Allows you to protect the selected video data.

Start:
The current selection of the Hairline is displayed.
Enter the point in time when the protection starts.
If you uncheck, all recordings until the specified end date are unprotected.

End:
The current selection of the Hairline is displayed.

Enter the point in time when the protection ends.
If you uncheck, all recordings beginning with the specified start date are unprotected.

Unprotect
Click to unprotect the selected time period.

11.31 Motion Search Results window

Main window >  >  tab
Displays entries for video data containing motion for the camera displayed in the selected *Image pane*. You can select an entry for playback, protection, authenticity checking, archiving, or export.
Displays the recordings that match the search criteria.

11.32 Video Search Results window

Main window >  >  tab
Displays entries for video data matching different search criteria. You can select an entry for playback, protection, authenticity checking, archiving, or export.
Allows you to play the recordings that match the search criteria.

11.33 Alarm List window

Main window >  >  **Alarm List** tab
or

Main window >  >  **Alarm List** tab
Displays all *event*s and *alarms* your *user group* is authorized to see.
Allows you to perform the following tasks:
- Customize the list to quickly find a particular entry.
- Accept or clear alarms
- Start a workflow, for example, by sending an E-mail to a maintenance person.
- Add comments to an alarm.
- Search for specific events or alarms.

Click to accept an alarm.
The alarm is removed from all Alarm Lists and alarm video displays of the other operators.

Click to display a dialog box displaying an action plan. If configured, you can enter a comment.

Click to clear an alarm.
You cannot clear an alarm that has the comment or force workflow attribute before you have displayed the action plan and entered a comment.
If the alarm is configured as an auto-clear alarm, the alarm is removed from the Alarm List after the auto-clear time (configured in the Configuration Client).

Click to revoke the acceptance of an alarm.

Click to turn alarm audio on / off.
The latest incoming alarm triggers an alarm sound.

Click to display the Alarm List.

11.34 Used icons

The following table lists the icons used in the Operator Client.

	New configuration available. Log off and log on again to accept.
	Operator Client is connected to Central Server.
	Operator Client is disconnected from Central Server.
	Live Mode
	Playback Mode
	Instant playback
	Slider to adjust audio volume of all Image panes.
	Root node (user assigned name of the *Logical Tree*)
	Folder containing various items
	Folder containing various items and having assigned a map
	Camera
 	Connection lost
	Recording camera
	Video loss
	Matrix camera
	Live only camera with local storage
	DiBos camera

	Recording DiBos camera
	State unknown
	Too bright
	Too dark
	Too noisy
	Reference check failed (for example because the camera was moved)
	Relay
 	Inputs
	Command Script
	Document
	Camera sequence
	Camera sequence is interrupted
	Camera sequence is playing.
	Digital zoom
	Root node of the Favorites tree
	Favorites View
	Click to display the *Alarm Image window* (only available if alarms are pending).
	Click to display Live or Playback Mode again when the Alarm Image window is displayed.
 	Click to display / hide the toolbar of each Image pane.
	Click to display the Image pane in full-screen mode.
	Click to print an image of the selected Image pane.
	Click to save an image file of the selected Image pane.

	Audio on / off
	Click and hold to speak on the loudspeakers of an *encoder* with audio configured. The button is active when an encoder with audio function is selected in an Image pane.

12 Keyboard shortcuts

This section lists the available keyboard shortcuts for a US keyboard layout.
+ indicates that each key must be pressed simultaneously (for example, Control+z means to press the Control key and the z key simultaneously).
On your Setup CD you find an Acrobat file for printing. The name of this file is `keyboard_layout_en.pdf`.

12.1 General controls

To	Press
Display Online Help	F1
Rename (for example in favorites)	F2

12.2 Playback controls

To	Press
Play / Pause	Space
Previous frame	,
Next frame	.
Set direction to forward	Enter
Set direction to backward	Backspace
Jump to oldest recording	Home
Jump to latest recording	End
Increase playback speed	Page Up
Decrease playback speed	Page Down

12.3 Image window controls

The following keyboard shortcuts only work when the Image window has the focus.

To	Press
Move selected Image pane	Cursor keys
Close Image pane	Delete,
Close all Image panes	Control + Delete
Show less Image panes	F7
Show more Image panes	F8
Show / hide Image pane bars	F9

13 Concepts

This chapter provides background information on selected issues.

13.1 Alarm handling

Alarms can be individually configured to be handled by one or more user groups. When an alarm occurs, it appears in the Alarm List of all users in the user groups configured to receive that alarm. When any one of these users starts to work on the alarm, it disappears from the Alarm List of all other users.
Alarms are displayed on a workstation's alarm monitor and optionally on analog monitors. This behavior is described in the following paragraphs.

Alarm flow

1. An alarm occurs in the system.
2. Alarm notifications appear in the Alarm Lists of all users configured for this alarm. Alarm video is immediately displayed on configured monitors. If it is an automatically displayed alarm (auto pop-up), the alarm video is also automatically displayed on the Operator Client workstation's alarm monitors.
   If the alarm is configured as an auto-clear alarm, the alarm is removed from the Alarm List after the auto-clear time (configured in the Configuration Client).
   On analog monitors, any quad views from VIP XDs are temporarily replaced by full-screen displays.
3. One of the users accepts the alarm. The alarm video is then displayed on this user's workstation (if it is not already displayed via auto pop-up). The alarm is removed from all other Alarm Lists and alarm video displays.
4. The user who accepted the alarm invokes a workflow that can include reading an action plan and entering comments. This step is optional - requirements for workflow can be configured by the administrator.
5. Finally, the user clears the alarm. This removes the alarm from his Alarm List and alarm display.
   On an *analog monitor group*, the monitors return to the cameras that were displayed before the alarm occurred.

Alarm Image window

1. To display alarm video, the *Alarm Image window* replaces the Live or Playback *Image window* on the monitor that has been configured for alarm display.
2. Each alarm gets a row of *Image pane*s. Up to 5 Image panes can be associated with each alarm. These Image panes can display live video, playback video, or maps.
   On an analog monitor group, each alarm can call up cameras on a row of analog monitors. The number of cameras in the row is limited by the number of columns in the analog monitor group. Monitors in the row that are not used for alarm video can be configured to either continue with their current display or to display a blank screen.
3. Higher priority alarms are displayed above lower priority alarms on both analog monitor rows and the Operator Client workstation display alarm rows.
4. If the Alarm Image window is completely full of Alarm Image rows and an additional alarm must be displayed, the lowest priority alarms "stack up" in the bottom row of the Alarm Image window. You can step through the stacked alarms with the controls at the left side of the alarm row.
   You can step through the alarm stacks on analog monitor groups with control buttons in the **Monitors** window of the Operator Client workstation display. Analog monitors in

alarm are indicated by red icons with blinking "LEDs".

The alarm title, time, and date can be optionally be displayed on all analog monitors, or only the first monitor in the alarm row.

5. For equal priority alarms, the administrator can configure the order behavior:
   - Last-in-First-out (LIFO) mode: in this configuration, new alarms are inserted *above* older alarms of the same priority.
   - First-in-First-out (FIFO) mode; in this configuration, new alarms are inserted *below* older alarms of the same priority.
6. An alarm's Image row can appear in the Alarm Image window in one of two ways:
   - When it is generated (auto pop-up). This occurs when the alarm priority is higher than display priority.
   - When the alarm is accepted. This occurs when the alarm priority is lower than display priority.

Auto pop-up alarms

Alarms can be configured to automatically display (pop up) in the Alarm Image window, based on the alarm priority. Each user group's live and playback displays are also assigned priorities. When alarms are received with priority higher than that of the user's display, the alarm automatically displays its alarm row in the Alarm Image window. If the Alarm Image window is not currently displayed, it automatically replaces the Live or Playback Image window on the alarm-enabled monitor.

Although auto pop-up alarms are displayed in the Alarm Image window, they are not automatically accepted. They can be displayed on multiple users' displays simultaneously. When a user accepts an auto pop-up alarm, it is removed from all other users Alarm Lists and alarm displays.

13.2 Allegiant CCL commands supported in Bosch VMS

To use the CCL commands you need the CCL User Guide. This manual is available in the Online Product Catalog in the document section of each LTC Allegiant Matrix.

Supported command	Description	Remarks
Switching/Sequence		
LCM	Switch Logical Camera to Monitor	LCM, LCM+ and LCM- are equivalent.
LCMP	Switch Logical Camera to Monitor with Pre-position Call	
MON+CAM	Switch Physical Camera to Monitor	
MON-RUN	Run Sequence by Monitor Number	
MON-HOLD	Hold Sequence by Monitor Number	
SEQ-REQ	Sequence Request	
SEQ-ULD	Sequence Unload	
Receiver/Driver		
R/D	Basic Control commands	
REMOTE-ACTION	Simultaneous Pan/Tilt/ Zoom Control commands	
REMOTE-TGL	Toggle Pan/Tilt/Zoom Control commands	
PREPOS-SET	Set Pre-position	
PREPOS	Call Pre-position	
AUX-ON AUX-OFF	Auxiliary Control commands – Auxiliary On – Auxiliary Off	
VARSPEED_PTZ	Variable Speed Control commands	
Alarm		Used to control virtual inputs. For example "+alarm 1" closes virtual input 1, "-alarm 1" opens virtual input 1
+ALARM	Activate an alarm	Opens a virtual input in Bosch VMS.
-ALARM	Deactivate an alarm	Closes a virtual input in Bosch VMS.
System		
TC8x00>HEX	Set Hexadecimal Mode	
TC8x00>DECIMAL	Set Decimal Mode	

14 Troubleshooting

This chapter contains information on how to handle known problems using Bosch Video Management SystemOperator Client.

Problems with playing recorded videos

CAUTION!
Do not attempt to play recorded videos exported with Bosch Video Management System V.1.1 with Archive Player from Bosch Video Management System V.1.0. This can result in data loss.

Issue	Cause	Solution
Archive Player cannot play recorded videos.	Archive Player is from Bosch Video Management System V.1.0. Recorded video data has been exported with Bosch Video Management System V.1.1.	Update Archive Player to Bosch Video Management System V.1.1. See *Section 14.1 Updating an old Bosch VMS Archive Player version, page 76*.

Problems with the settings in the recording control of your soundcard

Issue	Cause	Solution
Feedbacks occur when using a microphone for *Intercom functionality*.	In the recording control of your soundcard the microphone must be selected, not the stereo mix (or something else). Operator Client checks its configuration file during startup and changes the settings in the recording control accordingly. This configuration file contains a default entry which might not match your system configuration. This setting is restored during each start of Operator Client.	Change the setting in the configuration file of Operator Client to microphone. See *Section 14.2 Fixing the recording setting for Intercom functionality, page 77*.

Crashing Operator Client

Issue	Cause	Solution
Operator Client crashes.	DiBos Web client is installed and has been started on the computer where Operator Client is installed.	Uninstall the DiBos Web client.

14.1 Updating an old Bosch VMS Archive Player version

To update:

▶ Export video data (see *Section 8.8 Exporting video data, page 30*).
In the **Export Video** dialog box, select **Native format** and **Export file viewer**.
A setup for installing Bosch VMS Archive Player is stored in the selected location.

14.2 Fixing the recording setting for Intercom functionality

To fix the recording setting:

1. Start Operator Client.
2. View the newest Operator Client log file:
   `C:\Documents and Settings\All Users\Application Data\Bosch\VMS\Log\BvmsClientLog.*`
3. Edit the Operator Client configuration file:
   `C:\<Bosch installation directory>\Bosch\VMS\bin\OperatorClient.exe.config`
4. Look for a line like the following:
   `<add key="MicrophoneInputNr" value="2"/>`
   Change the number for the microphone. Try 0, 1, 2 or another value greater than 2. Perform the next step and check the feature until it is working correctly.
5. Restart Operator Client.
   Now the microphone is used as input source.

Glossary

0...9

802.1x	The IEEE 802.1x standard provides a general method for authentication and authorization in IEEE-802 networks. Authentication is carried out via the authenticator, which checks the transmitted authentication information using an authentication server (see RADIUS server) and approves or denies access to the offered services (LAN, VLAN or WLAN) accordingly.

A

Alarm	Event that is configured as an alarm. This is a particular situation (motion detected, doorbell rung, signal lost, etc.) that requires immediate attention. An alarm can display live video, playback video, an action plan, a web page, or a map.
Alarm Image window	Image window for displaying one or more Alarm Image panes.
Alarm List	Window in Bosch Video Management System used to display a list of active alarms.
Alarm priority	Each alarm is assigned a priority. Alarms can be configured to automatically display (pop up) in the Alarm Image window, based on the alarm priority. Each user's live/playback display is also assigned a priority. When alarms are received with priority higher than that of the user's display, the alarm automatically displays its alarm row in the Alarm Image window. If the Alarm Image window is not currently displayed, it automatically replaces the Live or Playback Image window on the alarm-enabled monitor.
Allegiant	Bosch family of analog matrix switching systems.
Analog monitor	External composite video monitor requiring a video decoder to view video streams and archives.
Analog monitor group	A set of analog monitors connected to decoders. The analog monitor group can be used for alarm processing in a given physical area. For example, an installation with three physically separated control rooms might have three monitor groups. The monitors in an analog monitor group are logically configured into rows and columns and can be set to full-screen or quad view.
ANR	Automatic Network Replenishment; software process that copies missing video data from a video transceiver to the network video recorder after a network failure. The copied video data exactly fills the gap that occurred after the network failure. For proper working ANR needs the information when the network failure started, when it was fixed again, and the recorded video data on the video transceiver. Hence the transceiver needs any kind of local storage. The recording capacity on this local storage is calculated with the following formula: (network bandwidth x estimated network downtime + safety margin) x 2. Doubling this recording capacity is required because the continuous recording must continue during the copy process.
ASF	Advanced Systems Format; Microsoft Windows media audio and video format.
Asynchronous replay	Simultaneous playback of archived videos without regard to synchronization of time between them.

ATM	Automatic Teller Machine
Audio decoder	Device or software that decodes compressed audio streams for playback.
Audio encoder	Device or software that encodes audio streams using a video compression algorithm.
Authentication	Process of verifying the authenticity of a video stream. The user can start an authentication process. If non-authentic data is encountered, a message is displayed.
Auto pop-up alarm	Event that is configured as an alarm which is displayed in the Alarm Image window of Operator Client automatically.

B

B-Frame	Bidirectional frame. Part of a video compression method.
BIS	Building Integration System
Bit rate	Number of bits that are transferred between devices in a specified amount of time, expressed in kilobits per second (Kbps).
Bookmark	Used for saving a time period of a recording. This allows you to flag particular scenes for later investigation. Additionally you can share your investigation results with other users.
Bosch ATM/POS Bridge	Receives string via serial cable / COM interface and forwards these strings via Ethernet cable (TCP/IP). The strings are usually POS data or transactions from ATMs.
Broadcast	Receiver-unspecific transmission over a network.

C

Camera control	Provides scroll (pan/tilt) and zoom functions. It works on the selected Image window.
Camera sequence	A list of cameras that are displayed one after the other. Each camera is displayed for a specific time (dwell time). There are two types of sequences: predefined and automatic. Predefined sequences are defined by the administrator. Icons for these sequences are located in the Logical Tree. Automatic sequences are created when you drag a multiple selection or a folder from the Logical Tree to an Image pane or a decoder. All cameras in this folder or selection sequences in the Image pane. You can create your own sequences by creating a folder in your Favorites Tree.
CCL	Command Console Language. Set of commands that is used to control the functions of a Bosch Allegiant device.
Central Server	Computer in the Bosch Video Management System environment for central management.
CIF	Common Intermediate Format. Describes the lines and pixels a video image consists of. See Video resolution.
Client workstation	Computer in the Bosch Video Management System environment for viewing live and playback video and for configuration tasks.

Command Script	Macro, that the administrator can program to build an automatic action like positioning a PTZ camera or send E-mails. For that functionality Bosch Video Management System provides a specific set of commands. Command Scripts are divided into Client Scripts and Server Scripts. Client Scripts are used on client workstations to execute certain tasks that can run on a client workstation. Server Scripts are executed automatically by an event that was triggered in the system. They get arguments provided by the event like date and time. A Command Script can consist of several scriptlets. You can create a Command Script using the following scripting languages: C#, VB.Net. Command Scripts are executed in response to events or alarms automatically according to a schedule (Server Scripts only), manually from the Logical Tree, or manually from icons or on maps.
Compound Event	Combination of different events. The combination uses Boolean expressions, i.e. AND and OR. You can combine only state changes, for example the change of a connection state to disconnected or the activation of a schedule.
Compression	See Video compression.
Configuration Client	Application used to configure Bosch Video Management System.

D

Database	Collection of data that is organized so that its contents can easily be accessed, managed, and updated.
Debounce time	Time period starting with the occurrence of an event. During this time period no other event of the same type is accepted as a new event. This prevents for example that a switching sensor creates a large number of events. After the debounce time is elapsed, the current event state is registered. If it has been changed during the debounce time, a new event is triggered. Example 1: The Motion Detected event occurs and its configured debounce time starts. During this time another Motion Detected event occurs. This Motion Detected event is not accepted as a new event. For events with several states, you can configure priority settings. Example 2: The Motion Detected event occurs and its configured debounce time starts. During this time the Motion Stopped event with the same priority occurs. The Motion Stopped event is not accepted as a new event. Example 3: The Motion Detected event occurs and its configured debounce time starts. During this time the Motion Stopped event with a higher priority occurs. The Motion Stopped event is accepted as a new event.
Decoder	Changes a digital stream to an analog stream, e.g., to display digital video on a analog monitor.
Detection zone	Motion detection zone. A user defined template that watches for motion in a specific part of the video image, as opposed to simply detecting motion anywhere in the image.
Device	Hardware component such as encoder/decoder, NVR, DiBos, analog matrix, ATM / POS bridge.

Device family	Bosch encoders / IP cameras can belong to one of the following device families: - VIPX (H.263 or H.264) - ARM SD (standard definition) - ARM HD (high definition) Each device family uses another platform with different functionality. ARM HD is the latest platform and provides extended support for H.264 and HD video resolution.
Device Tree	Hierarchical list of all the available devices in the system.
Digital input	An external device that interfaces with Bosch Video Management System providing an on/off signal to the application. Bosch Video Management System can then use the digital input to associate it with a pre-determined action. Digital input sources can include devices like door contacts, motion detectors, card readers, etc.
Digital zoom	Software manipulation of an image whereby the image is cropped and enlarged creating pixels through interpolation.
DNS	Domain Name System. A DNS server converts a URL (`www.myDevice.com`, for example) into an IP address on networks that use the TCP/IP protocol.
Dome camera	See PTZ camera.
Dual authorization	Security policy that requires two different users to log on to the Operator Client. Both the users must be member of a normal Bosch Video Management System user group. This user group (or these user groups if the users are members of different user groups) must be part of a dual authorization group. A dual authorization group has its own access rights within Bosch Video Management System. This dual authorization group should have more access rights than the normal user group that the user belongs to. Example: User `A` is member of a user group called `Group A`. User `B` is member of `Group B`. Additionally a dual authorization group is configured with `Group A` and `Group B` as members. For the users of `Group A`, dual authorization is optional, for users of `Group B` it is mandatory. When user `A` logs on, a second dialog box for confirming the logon is displayed. In this dialog box, a second user can log on if he is available. If not, user `A` can continue and start the Operator Client. He then has only the access rights of `Group A`. When user `B` logs on, again a second dialog box for logging on is displayed. In this dialog box, a second user must log on. If not, user `B` cannot start the Operator Client.
Dual streaming	Dual streaming allows an incoming data stream to be encoded simultaneously according to two different, individually configured settings. This creates two data streams: one for live and pre-event recording, the other for continuous, motion, and alarm recording.
Duplex	Term used to define the direction of data transmission between two parties. Half-duplex allows data transmission in both directions but not simultaneously. Full-duplex allows simultaneous data transmission.
Dwell time	Preset amount of time a camera is displayed in an Image window until the next camera is displayed during a camera sequence.
DWF	Design Web Format. Used to display technical drawings on a computer monitor.
DynDNS	Dynamic Domain Name System. A DNS host service that holds IP addresses ready in a database. Dynamic DNS allows you to connect to the device via the Internet using the host name of the device. See DNS.

E

Encoder	Changes an analog stream to a digital stream, e.g., to integrate analog cameras in a digital system like Bosch Video Management System. Some encoders can have a local storage like a flash card, a USB hard disk, or they can store their video data on iSCSI devices. IP cameras have an encoder built in.
Event	A circumstance or state that is linked to an alarm and/or an action. Events can arise from many sources such as cameras, archivers, directories, digital inputs, etc. They can include start-recording states, loss of signal states, disk full messages, user logons, digital input triggers, etc.

F

Failover NVR	Computer in the Bosch Video Management System environment. Takes over the tasks of a Primary NVR in case this server fails. This takeover can happen even when the Central Server is not working. Now the Failover NVR records all the cameras of the Primary NVR. When the Primary NVR is fixed and online again, the recordings are again stored on this NVR, the cameras are switched back automatically. The Failover NVR stops recording. The recordings of the down time of the Primary NVR stay on the Failover NVR.
FIFO	First in first out. Mode in the alarm handling of Bosch Video Management System that defines the order of active alarms with the same priority.
Frame	A single video image.
Frame rate	See IPS.

G

GOP	Group of Pictures; GOP length is the number of images in a compressed video file between two I-Frames.
GSM	Global System for Mobile Communication. Standard for digital mobile phones.
GUID	Global unique identifier.

H

H.264	Standard for encoding (compressing) digital audio and video for multimedia applications. This standard includes different profiles that can be manufacturer-dependent. The following profiles are available: Baseline, Baseline+, Main Profile. Baseline (not used in Bosch Video Management System) supports 2 CIF. Baseline+ supports 4 CIF and provides a better image quality than Baseline. Main Profile supports 4 CIF and provides a high efficient compression algorithm called CABAC (Context-adaptive binary arithmetic coding). This serves for high quality encoding for storage.
Half-duplex	See Duplex.
Hot spot	Mouse sensitive icon in map that is configured in Configuration Client. Hot spots are cameras, relays, Command Scripts. The user uses it for localizing and selecting a device in a building.
HTML	Hypertext Markup Language

I

I-Frame	Intra Frame. Part of a video compression method. Contains the information of a complete image, unlike P- or B-Frames that contain information of the changes compared to the previous or next frame.
IIS	Internet Information Server
Image pane	Used for displaying live and recorded video of a single camera, a map, or an HTML file.
Image pane bar	Toolbar of an Image pane.
Image pane pattern	Arrangement of Image panes.
Image window	Container for Image panes, structured by an Image window pattern.
Instant playback	Plays the recorded image of the selected camera in an Image pane on the live screen. The start time (number of seconds in the past, or rewind time) can be configured.
Intercom functionality	Used to talk on the loudspeakers of an encoder. This encoder must have audio-in and audio-out. The Intercom functionality can be granted per user group.
IPS	Images per second. Number of video images transmitted or recorded per second.
IQN	iSCSI Qualified Name. The initiator name in IQN format is used for provisioning addresses for both iSCSI initiators and targets. With IQN mapping you create an initiator group that controls the access to the LUNs on an iSCSI target and you write the initiator names of each encoder and the VRM into this initiator group. Only the devices whose initiator names are added to an initiator group are permitted to access a LUN. See LUN and see iSCSI.
iSCSI	Internet Small Computer System Interface. Protocol that manages storage via a TCP/IP network. iSCSI enables access to stored data from everywhere in the network. Especially with the advent of Gigabit Ethernet, it has become affordable to attach iSCSI storage servers simply as remote hard disks to a computer network. In iSCSI terminology, the server providing storage resources is called an iSCSI target, while the client connecting to the server and accessing the resources of the server is called iSCSI initiator.
IVA	Intelligent Video Analysis. Algorithm that detects specific properties and the behavior of objects in a scene monitored by a video camera and from this generates alarm events that, in turn, can be processed in a CCTV system. Recording with IVA settings activated is a precondition to be able to selectively and quickly search through video material later. IVA makes it possible to capture and evaluate directional movement of objects in such a way that false alarms are prevented to a large extent. IVA adapts automatically to changing environmental conditions and is therefore largely non-sensitive to perturbing influences such as rain and tree movement. Especially when used for forensic search, IVA allows for filtering moving objects by their color specifications. With the aid of IVA algorithm extensive video material can be searched selectively for objects with specific color properties.
IVMD	Intelligent Video Motion Detection. Software algorithm that detects moving objects within an environment monitored by a video camera and generates alarm events that can be processed

	further in Bosch Video Management System. IVMD makes it possible to capture and evaluate directional motion of objects, thereby largely preventing false alarms. IVMD adapts automatically to changing environmental conditions and is therefore non-sensitive to perturbing influences such as rain and moving plants.

K

Kbps	Kilobits per second, a measure of data transfer speed.
Key frame	See I-Frame

L

LAN	Local Area Network.
LDAP	Lightweight Directory Access Protocol. Network protocol running over TCP / IP that allows accessing directories. A directory can be for example a list of user groups and their access rights. Bosch Video Management System uses it to get access to the same user groups as MS Windows or another enterprise user management system.
LIFO	Last in first out. Mode in the alarm handling of Bosch Video Management System that defines the order of active alarms with the same priority.
Local Storage	On encoders with local storage, recording is performed block-wise, i.e. the data is stored in blocks that are pre-allocated. When one block is filled up, the device continues to write the next block. When all blocks are filled up, the blocks are overwritten. Local storage devices support multiple partitions of arbitrary size that are considered as blocks. A block is divided into two parts, one for pre-alarm and alarm recording, the other one for continuous recording. The alarm recording part is organized in 1 to 128 tracks. If the system switches from continuous to alarm recording, the data is stored in one of the tracks. Per alarm a single track is used. A track has a fixed size on the disk. The size of the alarm track is determined by the bit-rate and the pre- and alarm-duration that you configure. These settings are used to calculate the size of an alarm track.
Logbook	Container for logging all events in Bosch Video Management System.
Logical number	Logical numbers are unique IDs assigned to each device in the system for ease of reference. Logical numbers are only unique within a particular device type. Typical use of logical numbers are Command Scripts.
Logical Tree	Tree with a customized structure of all the devices. The Logical Tree is used in the Operator Client to select cameras and other devices. In the Configuration Client, the "Full Logical Tree" is configured (on the **Maps and Structure** page) and tailored for each user group (on the **User Groups** page).
LUN	Logical Unit Number. Used in the iSCSI environment to address an individual disk drive or a virtual partition (volume). The partition is part of a RAID disk array (the iSCSI target).

M

Map window	Used for displaying either maps or documents, it cannot display video content and is not limited to a 4:3 ratio.
Master Control Software	Software used as interface between Bosch Video Management System and an Allegiant device. Version 2.8 or greater is used.
Metadata	Data of a POS or ATM like date and time or bank account number stored with the corresponding video data to provide additional information for evaluation.
MHT	Also called 'Web Archive'. File format that can save all HTML and image files of an Internet site in one file. To avoid problems we recommend to create MHT files with Internet Explorer 7.0 or higher only.
MIB	Management Information Base. Term in the SNMP environment for a table containing state and control data for a network device. Every entry in a MIB is identified by its OID. The MIB is stored in the device. A MIB file is used for importing the MIB data into a MIB.
Motion detection	Software component that watches for changes in the video image. The threshold for the amount of change required to identify motion can be configured.
MPEG-4	Motion Picture Expert Group. Standard for encoding (compressing) digital audio and video for multimedia applications.
MSS	Maximum Segment Size. The largest amount of data, specified in bytes, that a computer or communications device can handle in a single, unfragmented piece.
MTU	Maximum Transmission Unit. Describes the maximum amount of data (in bytes) that can be transferred without being fragmented.
Multi-unicast	Communication between a single transceiver and multiple receivers on a network by duplication of the data stream in the device with subsequent distribution to a number of receivers.
Multicast	Communication between a single transceiver and multiple receivers on a network by distribution of a single data stream on the network to a number of receivers in a defined group. Requirement for multicast operation is a multicast compliant network with implementation of the UDP protocol and the IGMP protocol.

N

Network monitoring	Measurement of network related values and evaluation of these values against configurable thresholds.
No-touch deployment	Method for automatic downloading, installing and running .NET applications without changing the registry or shared system components. With Bosch Video Management System, no-touch deployment is used for updating the Operator Clients from the Central Server. The update takes place if a new version is stored on the Central Server and when each user is logging on to the Operator Client. If you work with one Operator Client against multiple Central Servers, no-touch deployment uses only the software version stored on the Central Server the Operator Client has last

	logged on to successfully. When you try to log on to another Central Server with a different application version, this one displays **Central Server not online** because the software versions do not match.
NTP	Network Time Protocol is a protocol designed to synchronize the clocks of computers over a network. NTP version 3 is an internet draft standard, formalized in RFC 1305. NTP version 4 is a significant revision of the NTP standard, and is the current development version, but has not been formalized in an RFC (see RFC, SNTP).
NVR	Bosch Network Video Recorder; computer in the Bosch Video Management System storing audio and video data, acting as Failover NVR, or as Redundant NVR. This NVR is different from the VIDOS NVR which can be integrated in Bosch Video Management System.

O

OID	Object Identifier. Term in the SNMP environment. Determines a MIB variable.
OPC	OLE for Process Control.
OPC Server	Server that fires events and receives commands as defined in the OPC specification.
OSD	On-screen Display: Menus are shown on the display monitor.
Output relay	Electrical contact that can be opened under software control. It can be useful for creating actions such as turning on a light, ringing an alarm, etc.

P

P-Frame	Predicted Frame. Part of a video compression method.
Payload	Describes the portion of a packet of transmitted information that carries user traffic. It is effectively what remains in a packet if all headers or trailers are discarded.
Playback Mode	Used to playback and search through archived videos.
Port	1) On computer and telecommunication devices, a port (noun) is generally a specific place for being physically connected to some other device, usually with a socket and plug of some kind. Typically, a personal computer is provided with one or more serial ports and usually one parallel port. 2) In programming, a port (noun) is a "logical connection place" and specifically, using the Internet protocol, TCP/IP, the way a client program specifies a particular server program on a computer in a network. Higher-level applications that use TCP/IP such as the Web protocol, Hypertext Transfer Protocol, have ports with preassigned numbers. These are known as "well-known ports" that have been assigned by the Internet Assigned Numbers Authority (IANA). Other application processes are given port numbers dynamically for each connection. When a service (server program) initially is started, it is said to bind to its designated port number. As any client program wants to use that server, it also must request to bind to the designated port number. Port numbers are from 0 to 65535. Ports 1 to 1023 are reserved for use by certain privileged services. For the HTTP service, port 80 is defined as a default and it does not have to be specified in the Uniform Resource Locator (URL).
POS	Point of sale.
Post-alarm time	See Post-event time.

Post-event time	Time period after an event has happened. The system stores the recorded video for this period.
Pre-alarm time	Time period before an alarm happens. The system stores the recorded video for this period.
Pre-event time	Time period before an event. The system can store the recorded video for this period.
Primary NVR	Computer in the Bosch Video Management System environment. A Primary NVR stores audio and video data.
PTZ camera	Camera with pan, tilt, and zoom function.

Q

QCIF	Quarter CIF. See Video resolution.

R

RADIUS server	Remote Authentication Dial-In User Service: a client/server protocol for the authentication, authorization and accounting of users with dial-up connections on a computer network. RADIUS is the de-facto standard for central authentication of dial-up connections via Modem, ISDN, VPN, Wireless LAN (see 802.1x) and DSL.
RAID	Redundant array of independent disks. Used for organizing two or more hard disks as if they were one drive. On such a drive data is shared or replicated. This is used to achieve greater capacity, reliability, and speed.
Recording quality	An adjustable setting for encoders (cameras). The slider range reflects the degree of compression used by the encoder when encoding/compressing the video signal. Setting the slider to the left lets the encoder use as much compression as possible (reducing the bandwidth requirements, file sizes and picture quality). Setting the slider to the right lets the encoder use as little compression as possible (increasing the bandwidth requirements, file sizes and picture quality).
Recording Schedule	Used for scheduling recording and for scheduling some events like starting backup or limiting log on. Recording Schedules cannot have gaps or overlaps. It also determines the video recording quality.
Recording settings	Can be set in dependency on the Recording Schedule and the state of the camera. The following states are possible: recording disabled, manual recording, continuous recording, motion recording, alarm recording
Redundant NVR	Computer in the Bosch Video Management System environment. Records the same video and audio data as the Primary NVR. A Primary NVR can have maximum one Redundant NVR.
Reference image	A reference image is continuously compared with the current video image. If the current video

	image in the marked areas differs from the reference image, an alarm is triggered. This allows you to detect tampering that would otherwise not be detected, for example if the camera is turned.
Rewind time	Number of seconds in the past when an Image pane is switched to instant playback.
RFC	Request for Comment. One of a long-established series of informal informational documents and standards that guide the development of the Internet.
RMon	Remote Monitoring. Standard for collecting statistical data from network devices for network management purposes.
RTSP	Real Time Streaming Protocol. A network protocol which allows to control the continuous transmission of audio-visual data or software over IP-based networks.

S

Silent alarm	Alarm that puts cameras into alarm recording mode but causes no other alarm responses.
Site	User-created entity for grouping related system resources together for ease of viewing and management. Typically, a site corresponds to a physical location, like a building or a floor, but it may be used to represent any concept.
SNMP	Simple Network Management Protocol. IP based protocol that allows to get information from networking devices (GET), to set parameters on network devices (SET) and to be notified about certain events (EVENT).
SNTP	Simple Network Time Protocol is a simplified version of NTP (see NTP). SNTP can be used when the ultimate performance of the full NTP implementation described in RFC 1305 is not needed or justified. SNTP version 4 is described in RFC 2030 (see RFC).
SSL	Secure Sockets Layer. Protocol used to secure applications that need to communicate over a network.
Subnet mask number	Combined with the IP address number used to identify the network segment your computer is on. A subnet mask is a 32-bit number written in dotted decimal notation, e.g. 255.255.255.192.
Synchronous replay	Simultaneous playback of archived videos that are synchronized in time.

T

Task	User-programmed behavior that is triggered by specific events (motion detected, doorbell rung, alarm triggered, etc.) Tasks can be: Control of PTZ cameras, relay outputs, camera sequences, start of an alarm recording. Typical tasks are for example: An event triggers an alarm; event executes a Command Script; event is logged; user login is allowed only from 8 a.m. to 5 p.m; execution of a Command Script at 11 p.m.
Task Schedule	Used for scheduling events which can occur in Bosch Video Management System, for example executing a Command Script. In **Events** you assign Task Schedules to events. For scheduling events you can also use Recording Schedules. With a standard Task Schedule you configure time periods for every day of the week, for holidays, and for exception days. With a recurring

	Task Schedule you configure recurring time periods. They can recur every day, every week, every month, or every year.
TCP/IP	Transmission Control Protocol / Internet Protocol. Connection-oriented protocol used to transmit data over an IP network.
Timeline	Part of the Bosch Video Management System user interface. Displays lines as graphical representations of the recordings of the selected cameras. The Timeline allows you to navigate through recorded videos.
Trap	Term in the SNMP environment for an unrequested message from a monitored device (agent) to the network monitoring system (manager) about an event in this device.
Trunk line	Analog outputs of an analog matrix that are connected to an encoder device. Thereby matrix video sources can be used in the Bosch Video Management System.

U

UDP	User Datagram Protocol. A connection less protocol used to exchange data over an IP network. UDP is more efficient than TCP for video transmission because of lower overhead.
Unicast	Communication between a single transceiver and a single receiver over a network.
User group	User groups are used to define common user attributes, such as permissions, privileges and PTZ priority. By becoming a member of a group, a user automatically inherits all the attributes of the group.
User privilege	Particular operations that a user has been granted the right to perform.
User profile	List of information concerning a particular user, such as user type, E-mail, etc. Each user profile is identified by a unique user name.
User tree	See Logical Tree.

V

Video compression	Method for reducing the size of video files. The higher the compression, the lower the quality. Video compression reduces the spatial and the temporal redundancy in video data. For reducing spacial redundancy, image compression is used. The frame of a single point in time is compressed as an image file. For reducing temporal redundancy, motion compensation is used. Motion compensation uses the fact, that two consecutive frames are nearly identical. Hence, only one frame is stored completely. For the next one, only the difference is stored. This is repeated after a given number of frames (GOP).
Video format	Resolution of the video. There are typically four video resolutions available: QCIF, CIF, 2CIF and 4CIF. See Video resolution.
Video resolution	Specification of horizontal and vertical pixels transferred with video signals. PAL: 1CIF = 352 x 288 2CIF = 704 x 288 4CIF = 704 x 576 QCIF = 176 x 144 NTSC

	1CIF = 352 x 240 2CIF = 704 x 240 4CIF = 704 x480 QCIF = 176 x120 HD 720p = encoded 1280 x 720 1080p = encoded 1920 x 1080
VIDOS NVR	VIDOS Network Video Recorder. Software that stores the audio and video data of IP encoders on a RAID 5 disk array or any other storage medium. VIDOS NVR provides functions for playback and retrieval of the recorded video. You can integrate cameras in your Bosch Video Management System that are connected to a VIDOS NVR computer.
View	Collection of cameras assigned to Image panes that you can recall for instant live viewing. Image panes with maps or HTML files can be part of a View. Sequences cannot be part of a View.
Virtual input	Used for forwarding events from third-party systems to Bosch Video Management System.
VRM	Video Recording Manager. Software package in Bosch Video Management System which manages storing video (MPEG-4 SH++ and H.264) and audio data on iSCSI devices in the network. VRM maintains a database containing the recording source information and a list of associated iSCSI drives. VRM is realized as a service running on a computer in the Bosch Video Management System network. VRM does not store data itself but distributes storage capacities on iSCSI devices to the encoders, while handling load balancing between multiple iSCSI devices. VRM streams playback video and audio data from iSCSI to Operator Clients.

W

WAN	Wide Area Network.
WatchDog	Application used to monitor the other Bosch VMS services. Should a service fail, the WatchDog is responsible for re-starting services as well as notifying the user by E-mail or event log of the reason and time of the crash.

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