



**BOSCH**

# **BVMS**

**en**

User Manual



## Table of contents

<b>1</b>	<b>Using the Help</b>	<b>6</b>
1.1	Finding information	6
1.2	Printing the Help	6
<b>2</b>	<b>Introduction</b>	<b>8</b>
<b>3</b>	<b>System overview</b>	<b>10</b>
3.1	Hardware requirements	10
3.2	Software requirements	10
3.3	License requirements	10
<b>4</b>	<b>Concepts</b>	<b>11</b>
4.1	BVMS design concepts	11
4.1.1	Single Management Server System	11
4.1.2	Unmanaged site	12
4.2	Viewing modes of a panoramic camera	13
4.2.1	360° panoramic camera - floor- or ceiling mounted	14
4.2.2	180° panoramic camera - floor- or ceiling mounted	16
4.2.3	360° panoramic camera - wall mounted	17
4.2.4	180° panoramic camera - wall mounted	18
4.2.5	Cropped view on a panoramic camera	19
4.3	SSH Tunneling	20
<b>5</b>	<b>Getting started</b>	<b>21</b>
5.1	Starting BVMS Viewer Operator Client	21
<b>6</b>	<b>Displaying camera images</b>	<b>22</b>
6.1	Selecting a time zone	22
6.2	Displaying a camera in an Image pane	23
6.3	Displaying a panoramic camera	23
6.4	Switching the viewing mode of panoramic camera	24
6.5	Displaying a dual thermal/optical camera	24
6.6	Changing the number of Image pane rows	25
6.7	Arranging and resizing Image panes	26
6.8	Starting a pre-configured camera sequence	26
6.9	Starting an automatic camera sequence	27
6.10	Using one channel audio mode	28
6.11	Using multichannel audio mode	28
6.12	Saving a single image	28
6.13	Printing a single image	28
6.14	Switching to full-screen mode	29
6.15	Displaying or hiding the Image pane bars	29
6.16	Enabling video content analysis (VCA)	29
6.17	Showing video content analysis (VCA) rules	29
6.18	Starting instant playback	30
6.19	Using audio mode	30
6.20	Connecting to an unmanaged site	31
<b>7</b>	<b>Using maps and the PTZ cameras</b>	<b>32</b>
7.1	Controlling PTZ cameras	32
7.2	Using in-window control of a camera	32
<b>8</b>	<b>Using favorites and bookmarks</b>	<b>34</b>
8.1	Adding items to the Favorites Tree	34
8.2	Creating/editing views	35

8.3	Adding a bookmark	36
8.4	Editing a bookmark	37
8.5	Loading a bookmark	37
8.6	Exporting bookmarks	37
8.6.1	Export Bookmark dialog box	38
8.6.2	Export Multiple Bookmarks dialog box	39
9	<b>Managing recorded videos</b>	<b>41</b>
9.1	Selecting a time zone	41
9.2	Playing recorded videos	42
9.3	Using the Timeline	42
9.4	Changing the playback speed	42
9.5	Restricting or unrestricting video	43
9.5.1	Restrict Video dialog box	43
9.5.2	Unrestrict Video dialog box	44
9.6	Protecting or unprotecting video	44
9.6.1	Protect Video dialog box	45
9.6.2	Unprotect Video dialog box	45
9.7	Deleting video data	45
9.8	Exporting video data	46
9.8.1	Exporting a time period	48
9.8.2	Exporting a single search entry	48
9.8.3	Exporting into a single file	49
9.8.4	Export Video dialog box	49
9.8.5	Export dialog box	50
9.9	Loading exported video	50
9.10	Enabling video content analysis (VCA)	51
9.11	Performing a Forensic Search	51
9.12	Forensic Search Results window	52
9.13	Searching for text data	52
9.14	Connecting to an unmanaged site	53
10	<b>User interface</b>	<b>55</b>
10.1	Live Mode	55
10.2	Playback Mode	56
10.3	Icons used	58
10.4	Menu commands	62
10.5	Options dialog box	64
10.5.1	Control tab	64
10.5.2	Display tab	64
10.6	Logical Tree window	65
10.7	Favorites Tree window	65
10.8	Bookmarks window	66
10.9	Image window	66
10.10	Image pane	67
10.11	Search box	67
10.12	Exports window	67
10.13	PTZ Control window	68
10.14	Timeline window	68
11	<b>Keyboard shortcuts</b>	<b>70</b>
11.1	General controls	70

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<b>11.2</b>	Playback controls	<b>70</b>
<b>11.3</b>	Image window controls	<b>70</b>
	<b>Glossary</b>	<b>71</b>
	<b>Index</b>	<b>74</b>

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# 1 Using the Help



## Notice!

This document describes some functions that are not available for BVMS Viewer.

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

### To use the Contents, Index, or Search:

- ▶ On the **Help** menu, click **Display 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:
<b>Contents</b>	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.
<b>Index</b>	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.
<b>Search</b>	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.

### 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.



## Notice!

This symbol indicates a potential risk of property damage or data loss.

## 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:**

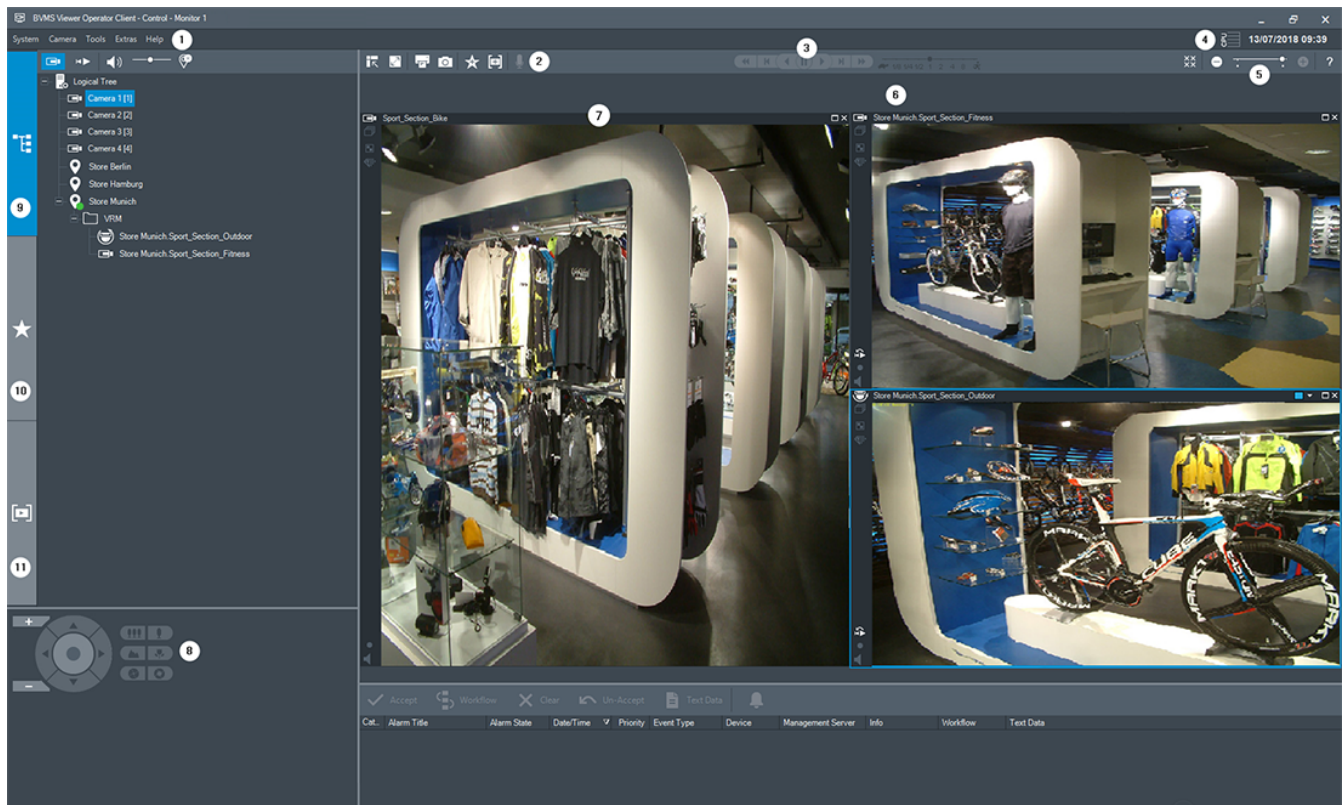
1. Right-click in the right pane and select **Print**.  
The **Print** dialog box opens.
  2. Click **Print**.
- ✓ The topic is printed to the specified printer.

## 2 Introduction



Covered by one or more claims of the patents listed at [patentlist.hevcadvance.com](http://patentlist.hevcadvance.com). The BVMS Viewer is an IP video security application for live viewing and playback video of Bosch network attached cameras and recorders. The software package consists of an Operator Client for live viewing and playback of video and a Configuration Client. The BVMS Viewer supports the current Bosch IP video product portfolio as well as legacy Bosch video devices.

Click the link to access the Open Source Software licenses used by BVMS Viewer:  
<http://www.boschsecurity.com/oss>.



1	Menu bar
2	Toolbar
3	Instant playback control
4	Performance meter
5	Controls for Image panes
6	Image window
7	Image panes
8	PTZ Control window
9	Logical Tree window
10	Favorites Tree window



11	Bookmarks window
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## 3 System overview

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**Notice!**

This document describes some functions that are not available for BVMS Viewer.

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Refer to the Release Notes of the current BVMS 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 BVMS can be installed.

The BVMS software modules can optionally be installed on one PC.

### 3.1 Hardware requirements

See the data sheet for BVMS. Data sheets for platform PCs are also available.

### 3.2 Software requirements

Viewer cannot be installed where any other BVMS component is installed.

### 3.3 License requirements

See the data sheet for BVMS for the available licenses.

## 4 Concepts



**Notice!**

BVMS Viewer offers only basic features. Advanced features are included in BVMS Professional. Visit our website [www.boschsecurity.com](http://www.boschsecurity.com) for more information.

This chapter provides background information on selected issues.

### 4.1 BVMS design concepts

**Single Management Server System, page 11**

A single BVMS Management Server System provides management, monitoring and control of up to 2000 cameras/encoders.

**Unmanaged site, page 12**

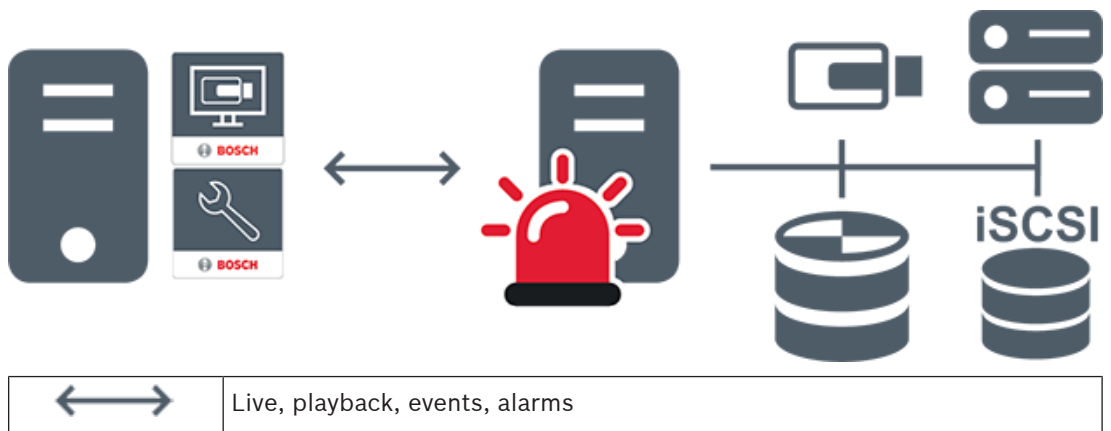
Devices can be grouped to unmanaged sites. Devices under unmanaged sites are not monitored by the Management Server. The Management Server provides a list of unmanaged sites to the Operator Client. The Operator can connect on demand to the site and gets access to live video data and recorded video data. Event and alarm handling is not available in the unmanaged site concept.







#### 4.1.1 Single Management Server System

- A single BVMS Management Server can manage up to 2000 channels.
- A BVMS Management Server provides management, monitoring, and control of the entire system.
- The BVMS Operator Client is connected to the Management Server and receives events and alarms from the BVMS Management Server and shows live and playback.
- In most cases all devices are in one local area network with a high bandwidth and a low latency.

Responsibilities:

- Configuring data
- Event log (logbook)
- User profiles
- User priorities
- Licensing
- Event- and alarm-management



	Management Server
	Operator Client / Configuration Client
	Cameras
	VRM
	iSCSI
	Other devices

### 4.1.2

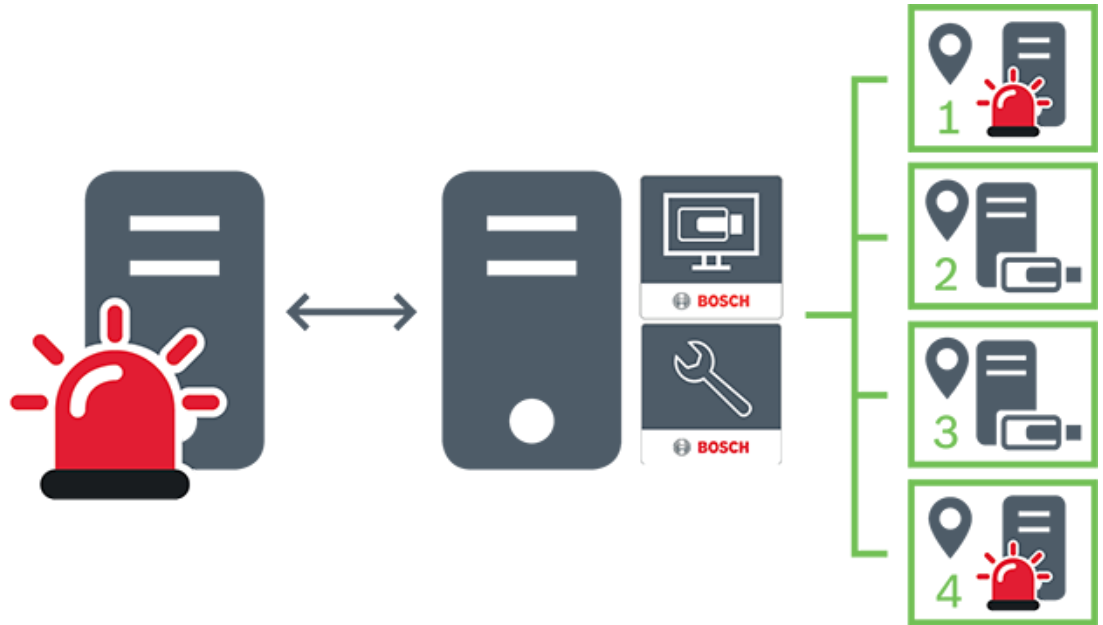
#### Unmanaged site

- A system design option in BVMS with a large number of small subsystems.
- It allows to configure up to 9999 locations in one BVMS Management Server
- Operators can access live and recorded video data from up to 20 sites simultaneously.
- For an easy navigation sites can be grouped in folders or can be placed on maps. Predefined username and password allow operators to quickly connect to a site .

The unmanaged site concept supports IP based BVMS system as well as analog DVR solutions:

- Bosch DIVAR AN 3000 / 5000 analog recorders
- DIVAR hybrid recorders
- DIVAR network recorders
- DIP 3000/7000 units IP based recording
- Single BVMS Management Server System

Adding a site for central monitoring only requires a license per site and is independent of the number of channels in the site.



	Live, playback, events, alarms
	On demand live and playback video traffic
	Management Server
	Operator Client / Configuration Client
	site
	DVR

## 4.2 Viewing modes of a panoramic camera

This chapter illustrates the viewing modes of a panoramic camera which are available in BVMS.

The following viewing modes are available:

- Circle view
- Panorama view
- Cropped view

Panorama and cropped view modes are created by the dewarping process in BVMS. Edge dewarping is not used.

The administrator must configure the mounting position of a panoramic camera in Configuration Client.

You can resize the Image pane of a camera as required. The Image pane ratio is not restricted to the 4:3 or 16:9 aspect ratio.

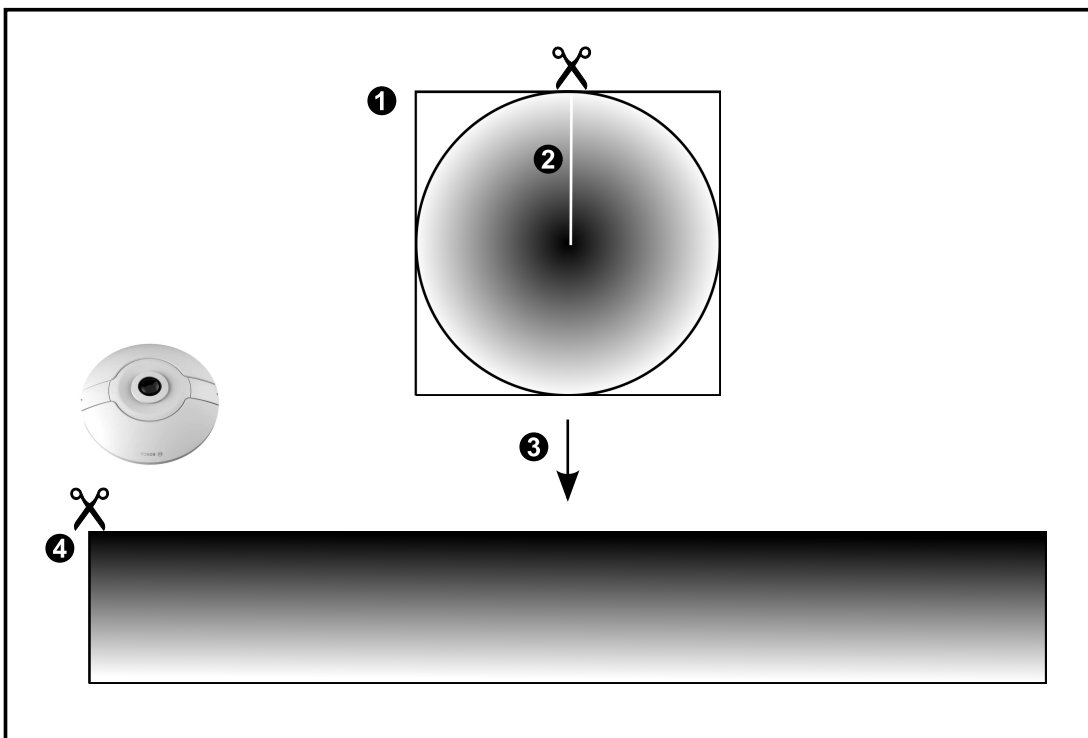
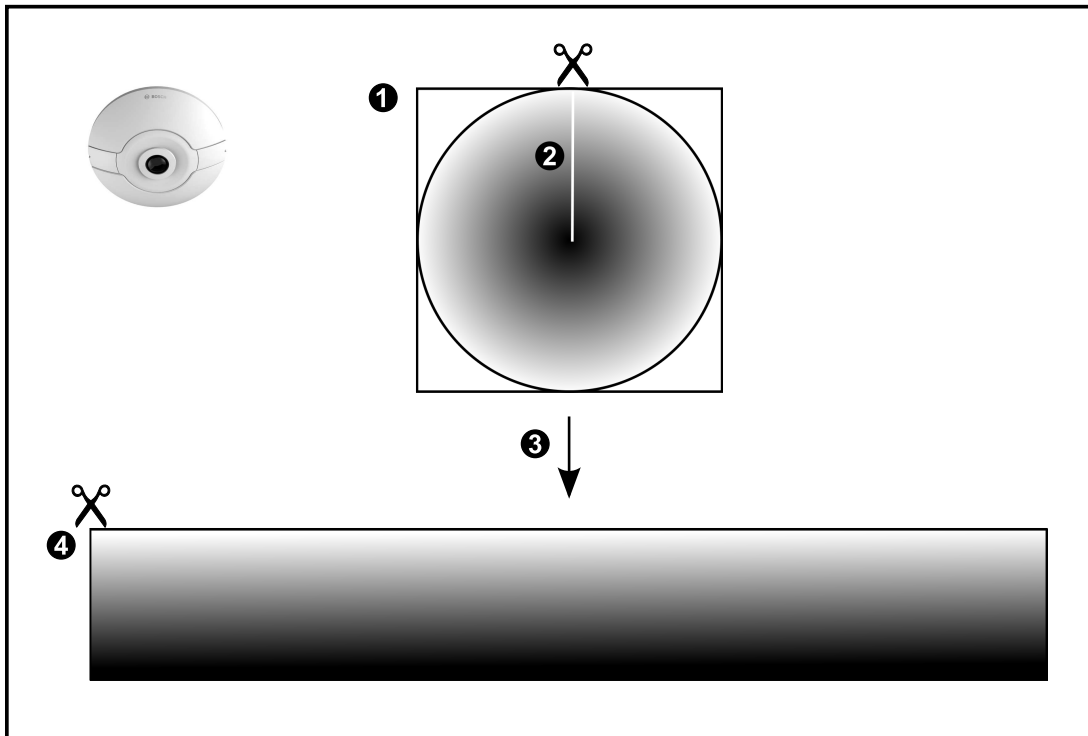
**Refer to**

- *Displaying a panoramic camera, page 23*
- *Switching the viewing mode of panoramic camera, page 24*
- *Arranging and resizing Image panes, page 26*

### 4.2.1

#### **360° panoramic camera - floor- or ceiling mounted**

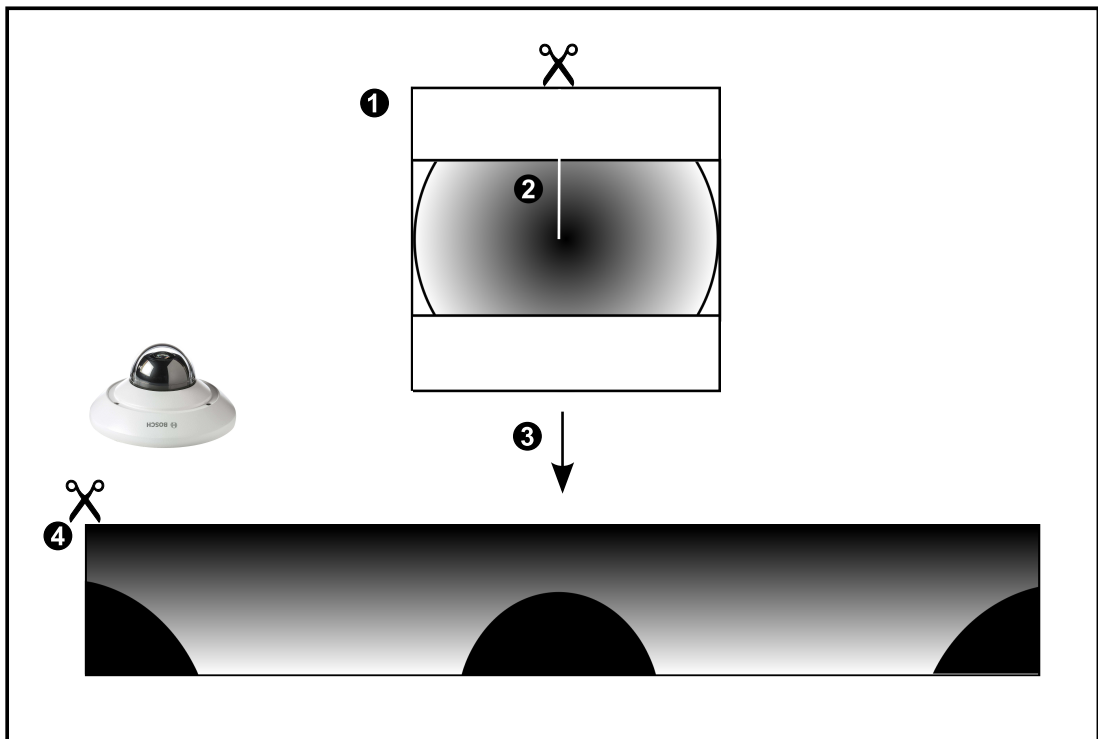
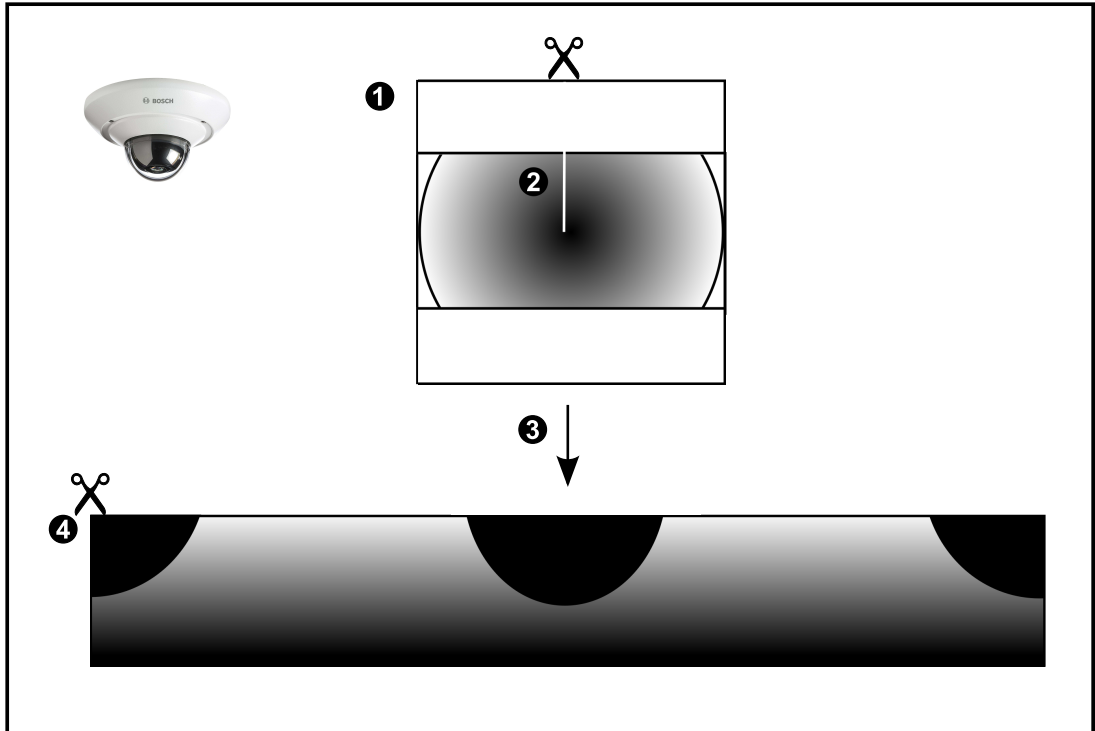
The following figure illustrates the dewarping of a 360° camera which is floor- or ceiling mounted.



1	Full circle image	3	Dewarping
2	Snipping line (operator can change its position when not zoomed in)	4	Panorama view

### 4.2.2 180° panoramic camera - floor- or ceiling mounted

The following figure illustrates the dewarping of a 180° camera which is floor- or ceiling mounted.



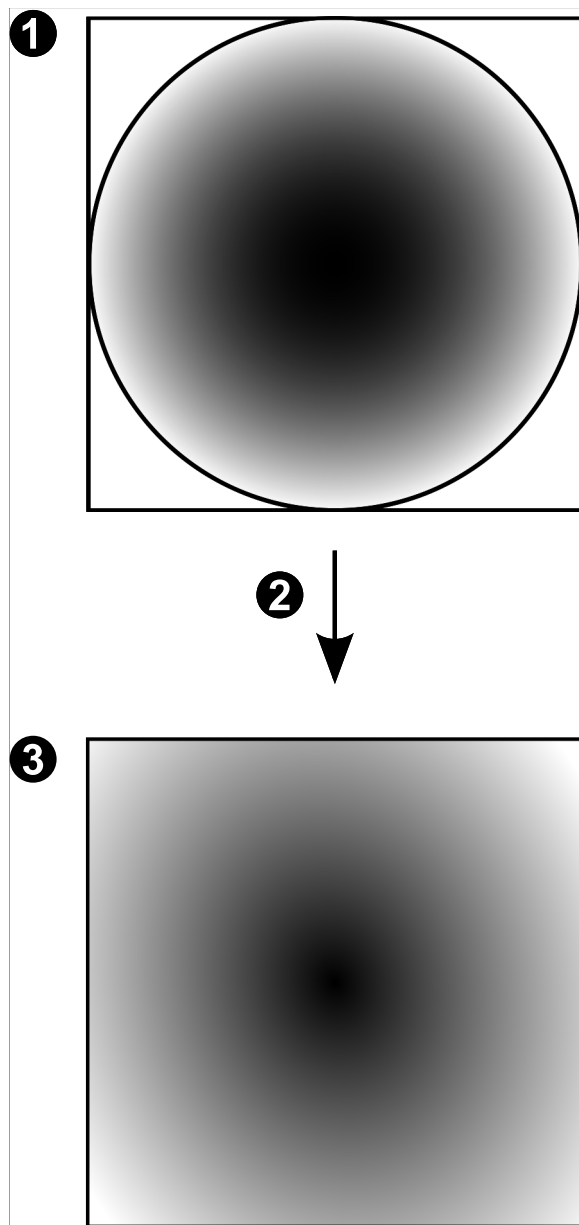
1	Full circle image	3	Dewarping
2	Snipping line (operator can change its position when not zoomed in)	4	Panorama view



### 4.2.3

### 360° panoramic camera - wall mounted

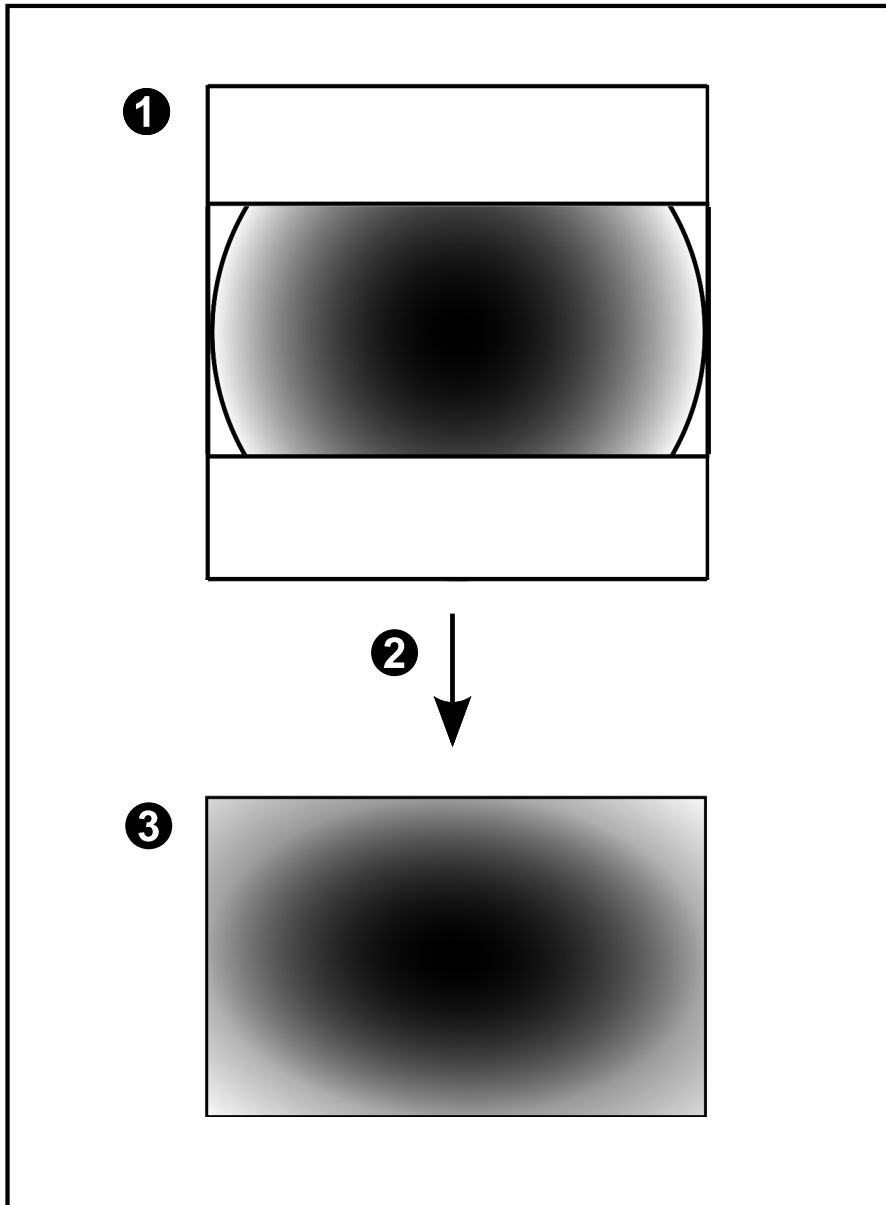
The following figure illustrates the dewarping of a 360° camera which is wall mounted.



1	Full circle image	3	Panorama view
2	Dewarping		

### 4.2.4 180° panoramic camera - wall mounted

The following figure illustrates the dewarping of a 180° camera which is wall mounted.

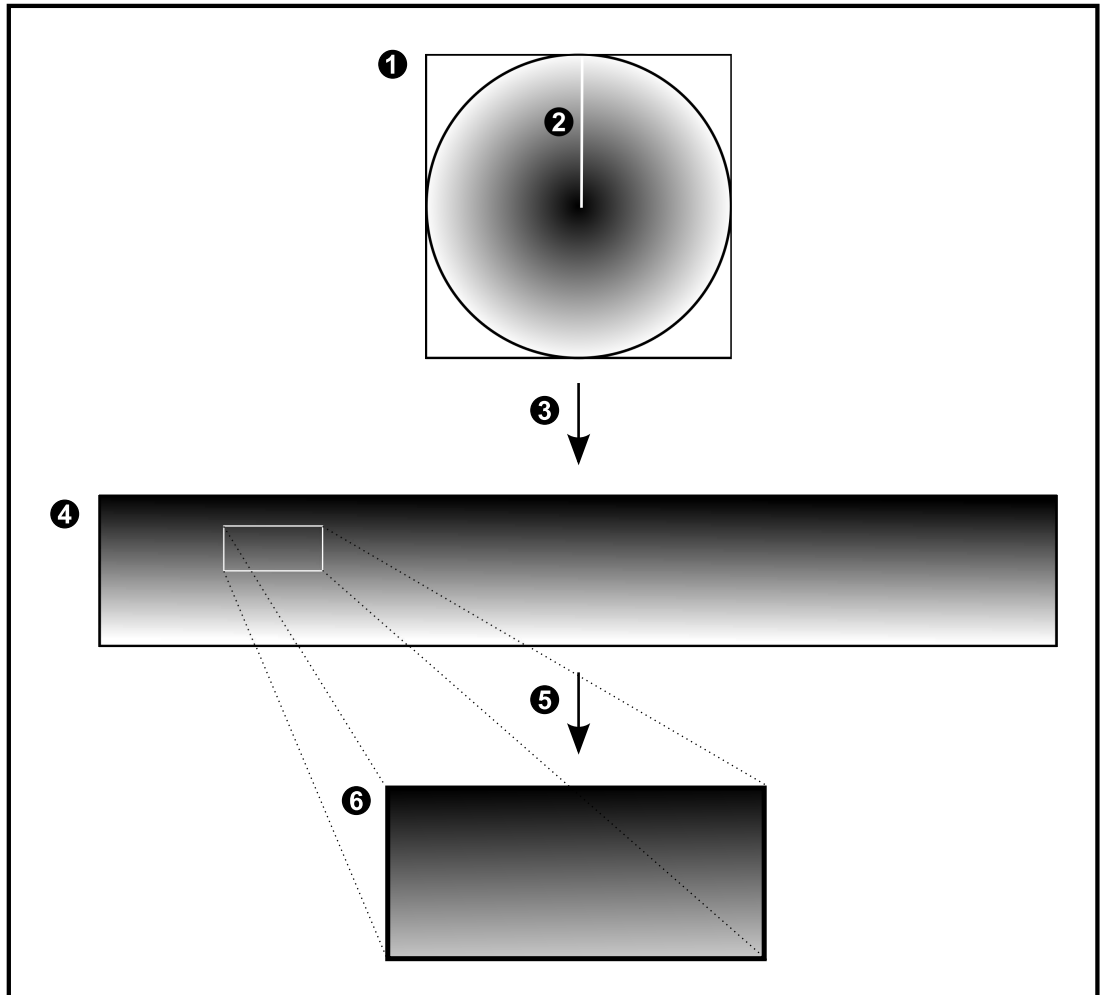


1	Full circle image	3	Panorama view
2	Dewarping		

### 4.2.5 Cropped view on a panoramic camera

The following example figure illustrates the cropping of a 360° camera which is floor- or ceiling mounted.

The rectilinear section used for cropping is fixed. You can change the section in the cropped Image pane using the available PTZ controls.



1	Full circle image	4	Panorama view
2	Snipping line (operator can change its position when not zoomed in)	5	Cropping
3	Dewarping	6	Cropped Image pane

## 4.3 SSH Tunneling

BVMS provides remote connectivity utilizing Secure Shell (SSH) tunneling.

SSH tunneling constructs an encrypted tunnel established by an SSH protocol/socket connection. This encrypted tunnel can provide transport to both encrypted and un-encrypted traffic. The Bosch SSH implementation also utilizes Omni-Path protocol, which is a high performance low latency communications protocol developed by Intel.

### Technical aspects and restrictions

- SSH tunneling utilizes port 5322. This port cannot be modified.
- The SSH Service must be installed on the same server as the BVMS Management Server.
- (Enterprise) user accounts must have a configured password. (Enterprise) user accounts without a password cannot log on utilizing a SSH connection.
- Local storage cameras do not support SSH connection.
- Configuration Client cannot connect remotely via SSH. Configuration Client connection must be done via port mapping.
- Operator Client checks connection with SSH service every 15 seconds. If the connection is interrupted, Operator Client retests the connection every minute.

### Port mapping

- ▶ Configure one port forwarding for the BVMS Management Server to utilize port 5322 for both internal and external connections.  
This is the only port mapping entry that you need to make for the entire system.  
BVMS port mapping is not required.

### Encrypted communication

After the connection is established via a SSH tunnel, all communications between the BVMS Management Server and a remote client are encrypted.

## 5 Getting started

This chapter provides information on how to get started with BVMS Viewer.

### 5.1 Starting BVMS Viewer Operator Client

To start the BVMS Viewer Operator Client:

1. From the **Start** menu, select **Programs** > BVMS Viewer > Operator Client or double click the Operator Client icon.



The Login window of the BVMS Operator Client is displayed.

2. Fill in the following fields:
  - **User Name:** type your user name.  
When you start the application for the first time, enter Admin as user name, no password is required.
  - **Password:** type your password.
  - **Connection:** select BVMS Viewer to log on to BVMS Viewer.  
**Note:** In the **Connection:** list, by default the local BVMS Viewer is selected. Select **<New...>** to add the IP address of a BVMS Management Server and log on directly to a BVMS Management Server.  
**Note:** If you use a SSH connection, select **<New...>** and enter the address in the following format: **ssh://IP or servername:5322.**  
To use a SSH connection user accounts must have a configured password (see *SSH Tunneling, page 20*)

## 6 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.



### Notice!

This document describes some functions that are not available for BVMS Viewer.

### 6.1 Selecting a time zone

Main window




### Notice!

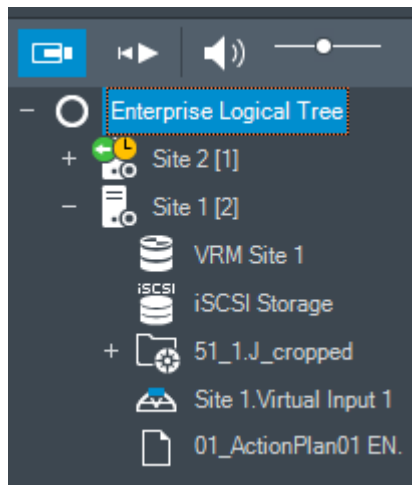
Ensure that the time on all computers of your system is set correctly according to each time zone where the computers are located.

Management Server or unmanaged site and all connected devices including encoders, decoders, VRM Server computers, DiBos and DVR devices must be in the same time zone. Operator Client computers (including Client SDK and Cameo SDK) and Configuration Client computers can be in other time zones than the Management Server or unmanaged site. If your Operator Client is located in another time zone than one or more connected Management Server or unmanaged site, you can select one of the following time displays:

- Your local time
- UTC
- Time zone of the Management Server or unmanaged site you are connected to

The Image panes displaying a camera (live and playback) always show the time of the corresponding Management Server or unmanaged site.

In the Logical Tree,  is displayed on the device icon of each server or unmanaged site that do not share the time zone that is currently selected in the Operator Client:



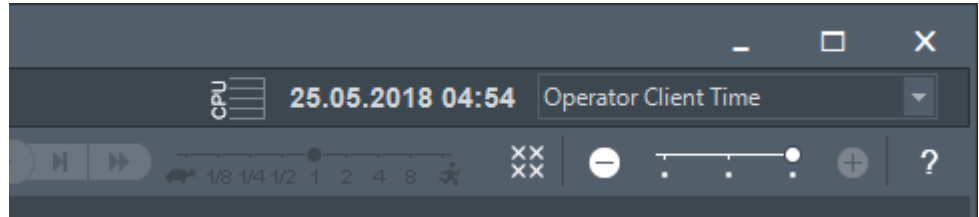
You can select the time zone of a server or unmanaged site for displaying this time zone in Operator Client.

#### To select the time zone:

1. In the Logical Tree, right-click a server icon to select the time zone of this server.
2. In the time zone selector list, select the desired entry.
  - **Operator Client Time:** Operator Client

- **UTC**
- **UTC-x**: time zone of each available Management Server

The time based on the selected time zone is displayed in the menu bar:



#### Refer to

- *Logical Tree window, page 65*

## 6.2 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 **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:

- ▶ Rotate the wheel button forward or backward to zoom in or zoom out.

#### Refer to

- *Logical Tree window, page 65*
- *Image window, page 66*
- *Image pane, page 67*

## 6.3 Displaying a panoramic camera

Main window

You can display panoramic cameras. The original full image circle of a panorama camera is automatically dewarped when displayed in an Image pane.


You can display panoramic cameras and use PTZ in Live Mode and Playback Mode

You can select a point of interest of the panorama image for display in another Image pane.

This Image pane displays the cropped image. Cropping and using PTZ in a cropped image is possible in Live and Playback Mode.

The Image window allows a flexible resizing of the Image pane that displays a panoramic camera or any other camera.

**To display a panoramic camera:**

1. Drag a camera with the  icon to an Image pane.  
The camera image is displayed in panorama view.
2. Use the available control elements in the Image pane for navigating in the image.

**To display a cropped image:**

1. Display a panoramic camera in panorama view.
2. Press and hold the CTRL-key.  
The mouse pointer changes accordingly.
3. Click and hold a point of interest.
4. Drag the selected point to another Image pane and drop it. Release the CTRL-key.  
A section of the panorama view around the selected point is displayed.  
You can create another cropped image from this cropped image with the same procedure.  
We recommend displaying maximum 10 cropped Image panes simultaneously.
5. Use the available control elements in the Image pane for navigating in the image.

**Refer to**

- *Switching the viewing mode of panoramic camera, page 24*
- *Arranging and resizing Image panes, page 26*
- *Viewing modes of a panoramic camera, page 13*




## 6.4

### Switching the viewing mode of panoramic camera

A panoramic camera must be configured in the Logical Tree for this user.

You can switch the viewing mode for a panoramic camera displayed in an Image pane.

The following modes are available:

-  **Circle view**
-  **Panorama view** (initial view)
-  **Cropped view**

**To switch:**

- ▶ In the title bar of an Image pane displaying a panoramic camera, click the **Switch panoramic mode** icon and select the desired entry.

When the Image pane for this camera is closed and opened again, the **Panorama view** mode is displayed.

**Refer to**

- *Displaying a panoramic camera, page 23*
- *Viewing modes of a panoramic camera, page 13*
- *Image pane, page 67*

## 6.5



### Displaying a dual thermal/optical camera

In Operator Client you can display the thermal and optical mode of a dual camera either separately or simultaneously.

**To display the desired viewing mode of the camera:**

- ▶ Drag the camera to an Image pane  
or  
Select an Image pane and in the **Logical Tree** window, double-click the desired camera.  
The selected camera image is displayed in the Image pane.  
The viewing mode is displayed in the title bar of the Image pane:



-  **Optical**
-  **Thermal**

**To switch the viewing mode of the camera:**

- ▶ In the title bar of the Image pane displaying the camera, select the desired viewing mode.

**To display the thermal and optical mode of the camera simultaneously:**

1. Select the Image pane displaying the camera.
2. Press the CTRL-key and drag and drop the camera image to another Image pane.  
The second viewing mode of the camera is displayed in the new Image pane.

## 6.6 Changing the number of Image pane rows


Main window

You can change the number of Image pane rows displayed in the Image window.

**To show fewer image pane rows:**


- ▶ On the **Tools** menu, click **Show fewer Image pane rows**  
or


Move the **Change image pane rows** slider  to the left  
or

Click   
or  
Press F7.

**To show more Image pane rows:**

- ▶ On the **Tools** menu, click **Show more Image pane rows**  
or


Move the **Change image pane rows** slider  to the right  
or

Click   
or  
Press F8.


**Notice!**

The maximum number of Image pane rows displayed in the Image window is configured in the BVMS Configuration Client.

If you have reached this number, the **Show more Image pane rows** menu command and the

 button are disabled.

If the maximum number of Image pane rows has been set to 1, the **Change image pane rows**

slider  is not displayed.



**Notice!**

This limitation does not affect the BVMS Export Player.



## 6.7 Arranging and resizing Image panes

Main window

### To arrange Image panes:

1. 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.
2. Drag a camera from one Image pane to another, if required.

### To resize an Image pane:

1. Point to a border or corner of an Image pane. The pointer appears as a double-headed arrow.  
You can resize diagonally, vertically or horizontally.  
The resulting size of the Image pane is limited to the grid of the select Image pane pattern.  
The Image pane ratio is not restricted to the 4:3 or 16:9 aspect ratio.
2. Drag to resize the Image pane.

### Refer to

- *Image window, page 66*

## 6.8 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 is configured to use more than one Image pane in Operator Client or on the monitor wall. If there are not enough Image panes or monitor panes to display the whole sequence, only those panes are displayed which fit into the Image window. The remaining 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 or to a monitor wall.  
  
The sequence is displayed indicated by the  symbol when running in an Image pane.
2. When running in an Image pane: Click a playback control icon of the Image window toolbar to control the sequence.

**Refer to**

- *Image pane, page 67*

## 6.9 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** 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.

**Refer to**

- *Options dialog box, page 64*

## 6.10 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.

**Refer to**

- *Options dialog box, page 64*

## 6.11 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.


**Refer to**

- *Options dialog box, page 64*

## 6.12 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.

If you logged on to an Enterprise Management Server, the camera name is displayed with the name of this camera's Management Server as a prefix.

**Refer to**

- *Image pane, page 67*

## 6.13 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.  
 If you logged on to an Enterprise Management Server, the camera name is displayed with the name of this camera’s Management Server as a prefix.

**Refer to**


– *Image pane, page 67*

## 6.14 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.



**Refer to**

– *Image window, page 66*

## 6.15 Displaying or hiding the Image pane bars

Main window

**To display / hide the toolbars:**

- ▶ Click  to display the toolbars of the selected image pane.
- ▶ Click  to hide the toolbars of the selected image pane.

**Refer to**

– *Image window, page 66*

## 6.16 Enabling video content analysis (VCA)

Main window

**To enable:**

- ▶ Right-click an Image pane with a camera assigned and click **Enable Content Analysis**.  
 The VCA overlays are displayed. This setting is retained after the next restart or re-logout of Operator Client or after closing the camera and displaying it again in an Image pane.

**To disable:**

- ▶ Right-click an Image pane with a camera assigned and click **Disable Content Analysis**.  
 The VCA overlays disappear.

## 6.17 Showing video content analysis (VCA) rules

Main window

**To show VCA rules:**

- ▶ Right-click an Image pane with a camera assigned and click **Show Content Analysis rules**. The VCA rules are displayed. This setting is not persistent after the next restart or re-logout of Operator Client or after closing the camera and displaying it again in an Image pane.

**To hide VCA rules:**

- ▶ Right-click an Image pane with a camera assigned and click **Hide Content Analysis rules**. The VCA rules disappear.

## 6.18 Starting instant playback

Main window > 


You can view the recordings of a camera in an Image pane in the Live Mode.


If configured you can change the recording source.

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.
3. Switch to the desired recording source if available.
  - Note:** After switching the recording source the rewind time can deviate from the configured value.


- ▶ 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.

The rewind time for instant playback is configured in the *Control tab, page 64*.

**To start/stop loop playback:**

- ▶ Click  .

The duration of looped instant playback in the live image pane is the rewind time backwards plus the rewind time forwards from the time you click  .

**Refer to**

- *Control tab, page 64*
- *Image pane, page 67*
- *Options dialog box, page 64*

## 6.19 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.

**Refer to**

- *Image pane, page 67*
- *Options dialog box, page 64*


## 6.20 Connecting to an unmanaged site


**Main window**


You can connect to an unmanaged site. All available devices of all video network devices of this site are then displayed in the Logical Tree. As soon as you log off or exit Operator Client, this connection is terminated.


**To connect:**

1. Right-click .
2. Click **Connect to Site**.

As long as the device is connecting,  is displayed.

After the connection is successfully established,  is displayed. All available devices of this site are displayed in the Logical Tree.

If not all devices belonging to this site can be connected,  is displayed. You can later try to connect the remaining devices that were not connected now.


**Tip:** You can also double-click  to connect.

**To connect remaining devices:**


1. Right-click .
2. Click **Retry Connection**.

**To disconnect a single site:**

1. Right-click  or .
2. Click **Disconnect from Site**.

The icon changes:   
 All Image panes with devices belonging to this site are automatically closed.

**To disconnect all sites:**

- ▶ Click .
- All sites are disconnected. Partially connected sites are not disconnected.  
 All Image panes with devices belonging to this site are automatically closed.

**Refer to**

- *Unmanaged site, page 12*

## 7 Using maps and the PTZ cameras



### Notice!

This document describes some functions that are not available for BVMS Viewer.

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.

You can activate that the map of the camera in the selected Image pane is automatically getting the focus. This map is displayed in the **Map** window of the **Control** monitor.

Some of the features described in this chapter can be deactivated for your user group, your Enterprise User Group or your Enterprise Account.

### 7.1 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.



### Notice!

When controlling a MIC 500 PTZ camera, focus near and focus far are permuted. You can switch the behavior directly on the device.

#### 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.

#### To move to a preposition of a PTZ camera on a map:

1. Display a map containing a PTZ camera hot spot in an Image pane.
2. Right-click a PTZ camera located on a map, point to **PTZ positions**, and then click the desired preposition command.

The camera moves the focus to the selected preposition.

#### To lock the control of a PTZ camera on a map:

1. Display a map containing a PTZ camera hot spot in an Image pane.
2. Right-click a PTZ camera located on a map and click **Lock**.

The PTZ control of this camera is locked for other users.

3. To unlock: Right-click the locked PTZ camera and click **Unlock**.

#### Refer to

– *PTZ Control window, page 68*

### 7.2 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 the pan and tilt function:**

1. Move the cursor on the Image pane which displays a PTZ camera.

The cursor changes to .

2. Press and hold the mouse button.

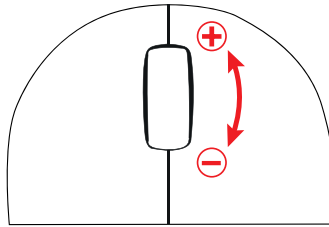
The cursor changes to .

To pan and tilt the image slowly, move the mouse slightly in the desired direction.

To pan and tilt more quickly, move the mouse further.

**To use the optical zoom function:**

- To zoom in, rotate the wheel button forward.
- To zoom out, rotate the wheel button backward.

**Refer to**

- *Image pane, page 67*

## 8 Using favorites and bookmarks

This chapter provides information on how to use the Favorites Tree and the Bookmark Tree.

### Favorites Tree


You can add every item of the Logical Tree to a view in the Favorites Tree to create your own subset of the Logical Tree. At any time you can display the view or add or delete devices in a view.

When saving a view in the Favorites Tree, you save the following settings:

- The assignment of cameras or other objects to Image panes
- The Image pane pattern
- The current setting of the digital zoom
- The image section
- The selected stream (only available for Live Mode)

### Bookmark Tree

You can save a time period of live view or a recording in a bookmark. A bookmark saves a start and an end time, the cameras assigned to Image window at this time, and the entire Image

pane pattern. A time period of 0 seconds is possible. Bookmarks are saved in the  pane. 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.

If you have logged on to an Enterprise Management Server, the camera name is displayed with the name of this camera's Management Server as a prefix.

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



#### Notice!

This document describes some functions that are not available for BVMS Viewer.

#### Refer to

- *Favorites Tree window, page 65*

### 8.1 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**.

#### Refer to

- *Logical Tree window, page 65*

- Favorites Tree window, page 65


## 8.2 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 in the Favorites Tree.

### To create a new view:

1. Arrange the cameras in the Image window in Live Mode and in Playback Mode.
2. 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.
3. In the Image window toolbar, click .

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

**Limitation for unmanaged sites:** You can create a view of cameras from maximum 20 unmanaged sites.

### To display a view:

- ▶ Double-click the view or right-click the view and click **Load Image pane view**.  
The assignment saved in this view is displayed in the Image window.



### Notice!

The maximum number of Image pane rows displayed in the Image window is configured in the BVMS Configuration Client. If this number has been changed since the last log off from Operator Client and the number of Image pane rows in the saved view exceeds the maximum set by system parameter, the saved view cannot be displayed and a warning is displayed. You can display the view without the excess rows.

### Displaying a view for unmanaged sites

When you load a view for cameras from unmanaged sites, the assignment saved in this view is displayed in the Image window and the unmanaged sites are connected automatically. If the connection takes more than 3 seconds the **Connecting** dialog box is displayed showing the connection progress.

- ▶ To cancel the connection process, click **Cancel**.  
No further unmanaged sites are connected and no further camera images are loaded. The unmanaged sites which have already been connected remain connected and the camera images which have already been loaded remain open.

If there are connection problems, the unmanaged sites which could not be connected are displayed in the **Connecting** dialog box.

- ▶ After the connection process has finished, click **OK**.

If the number of already connected unmanaged sites and unmanaged sites assigned to the Favorite view exceeds the maximum number of 20 connected sites, a warning message is displayed.


- ▶ Click **No** to cancel.

Or


Click **OK** to continue.

If you continue, the unmanaged sites which are already connected but are not assigned to the Favorite view are disconnected and only unmanaged sites which are assigned to the Favorite view are connected.

#### To edit a view:

1. Double-click the view  which you want to edit.
2. Make the required changes, for example assign cameras to Image panes.
3. Right-click the required view and click **Update Image pane view**.

#### To rename a view:

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

#### To delete a view:

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

#### Refer to

- *Favorites Tree window, page 65*


## 8.3

### Adding a bookmark

Main window >  > Assign desired cameras to Image panes  
or

Main window >  > Assign desired cameras to Image panes

#### To add a bookmark:

1. Using the Hairline, select the time period on the Timeline.
  2. In the toolbar, click .  
The **Add Bookmark** dialog box is displayed.  
If you logged on to an Enterprise Management Server, the camera name is displayed with the name of this camera's Management Server as a prefix.
  3. The selected time period is copied to the appropriate fields.
  4. Make changes if required.
  5. Click **OK**.
- ✓ The bookmark is saved in the Bookmark Tree.

#### Add Bookmark dialog box

##### Name

Edit the name of the bookmark.

**Start Time**

In the lists, select date and time.

**End Time**

In the lists, select date and time.

**Sources**

Displays the cameras that belong to this bookmark.

### 8.4 Editing a bookmark


Main window >  >  tab  
or

Main window >  >  tab

**To edit a bookmark:**

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

### 8.5 Loading a bookmark

Main window >  >  tab  
or

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.

**Notice!**



The maximum number of Image pane rows displayed in the Image window is configured in the BVMS Configuration Client. If this number has been changed since the last log off from Operator Client and the number of Image pane rows in the saved bookmark exceeds the maximum set by system parameter, the saved view cannot be displayed and a warning is displayed.

You can display the view without the excess rows.

**Refer to**

- *Bookmarks window, page 66*

### 8.6 Exporting bookmarks

**To export bookmarks:**

1. Click the  tab.
2. Right-click a bookmark.


3. To export a single bookmark click **Export bookmark**.  
The **Export bookmark** dialog box is displayed.  
Or  
To export multiple bookmarks click **Export multiple bookmarks**.  
The **Export Video** dialog box is displayed.
4. Make the appropriate settings.  
If you want to encrypt the exported files, type in a password and confirm this password.
5. Click **Export**.  
The size of the recordings to be exported is estimated. Overlappings of recordings are subtracted. If free space is not enough, an error message is displayed.  
The authenticity of the export is automatically verified.  
The recordings are exported to the selected data medium.
6. If available, click **Verification Details** to display the **Authenticity Verification Result** dialog box. If no authentication issues were found, the **Verification Details** button is inactive.

#### Refer to

- *Timeline window, page 68*

### 8.6.1

#### Export Bookmark dialog box

Main window >  > Right-click a bookmark > **Export bookmark** command > **Export bookmark** dialog box

Allows you to export video data of a bookmark in native (BVMS Export Player), MP4 or MOV format. You can change the time period for the export. For each camera, a subfolder is created in the target folder. For detailed information on different export locations, refer to *Exporting video data, page 46*.

#### Name

If required, type a name for the exported file or keep the default name.

#### 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.

#### Include Export Player

When you export a video in native format, you can add the BVMS Export Player as a viewer. Click to select, if you want to include the BVMS Export Player.

#### MOV (Fast and compatible with Media Player)

Click to select the MOV format (compatible for example with QuickTime from Apple).

#### MP4 (most commonly used to store video and audio)

Click to select the MP4 format (compatible for example with VLC media player or Windows Media Player).

#### Include audio

Click to select, if you want to include audio.

#### Encrypt Export

Click to select encryption for this export.

#### Password

Type in a password for your encrypted export. Confirm this password in the **Confirm password** field.

**Remote Export**

Click to enable remote export. You can select a Management Server of your Enterprise System. On this Management Server the export is performed.  
Ensure that the desired storage media is available.

**Finalize Disk**

Click to select that the data medium is finalized after the successful burning process. After finalizing no further data can be burned on the data medium.


**Comment:**

Enter a comment for the export.

**Refer to**

– *Exporting bookmarks, page 37*

## 8.6.2 Export Multiple Bookmarks dialog box

Main window >  tab > Right-click a bookmark > **Export multiple bookmarks** command > **Export Video** dialog box

Allows you to export video data of multiple bookmarks in native (BVMS Export Player), MP4 or MOV format. This way you can export different time periods of the same or different cameras in one process. For each camera, a subfolder is created in the target folder. For detailed information on different export locations, refer to *Exporting video data, page 46*.

**Name**

If required, type a name for the exported file or keep the default name.

**Include Export Player**

When you export a video in native format, you can add the BVMS Export Player as a viewer. Click to select, if you want to include the BVMS Export Player.

**MOV (Fast and compatible with Media Player)**

Click to select the MOV format (compatible for example with QuickTime from Apple).

**MP4 (most commonly used to store video and audio)**

Click to select the MP4 format (compatible for example with VLC media player or Windows Media Player).

**Include audio**

Click to select, if you want to include audio.

**Encrypt Export**

Click to select encryption for this export.

**Password**

Type in a password for your encrypted export. Confirm this password in the **Confirm password** field.

**HDD**

Click to select a folder on a hard disk partition for exporting.

**CD/DVD/Blu-Ray**

In the list, select a writer device for exporting.

Enable **Finalize Disk**, if you do not want to burn further data on the data medium.

**Bookmarks**

In the list, select the bookmarks that you want to export.

**Finalize Disk**

Click to select that the data medium is finalized after the successful burning process. After finalizing no further data can be burned on the data medium.

**Comment:**

Enter a comment for the export.

**Refer to**

- *Exporting bookmarks, page 37*



# 9 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.



**Notice!**  
This document describes some functions that are not available for BVMS Viewer.

## 9.1 Selecting a time zone

Main window




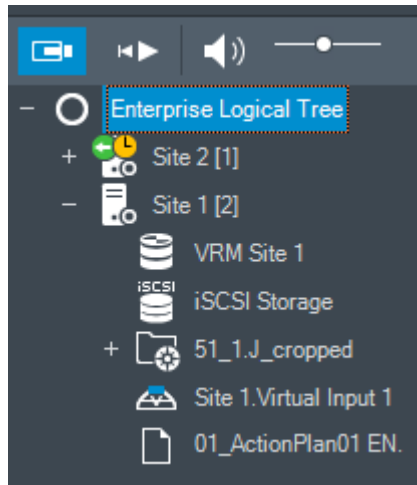
**Notice!**  
Ensure that the time on all computers of your system is set correctly according to each time zone where the computers are located.

Management Server or unmanaged site and all connected devices including encoders, decoders, VRM Server computers, DiBos and DVR devices must be in the same time zone. Operator Client computers (including Client SDK and Cameo SDK) and Configuration Client computers can be in other time zones than the Management Server or unmanaged site. If your Operator Client is located in another time zone than one or more connected Management Server or unmanaged site, you can select one of the following time displays:

- Your local time
- UTC
- Time zone of the Management Server or unmanaged site you are connected to

The Image panes displaying a camera (live and playback) always show the time of the corresponding Management Server or unmanaged site.

In the Logical Tree,  is displayed on the device icon of each server or unmanaged site that do not share the time zone that is currently selected in the Operator Client:



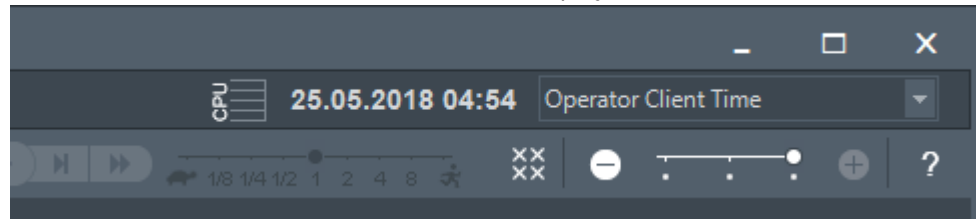
You can select the time zone of a server or unmanaged site for displaying this time zone in Operator Client.

**To select the time zone:**

1. In the Logical Tree, right-click a server icon to select the time zone of this server.
2. In the time zone selector list, select the desired entry.
  - **Operator Client Time:** Operator Client

- **UTC**
- **UTC-x:** time zone of each available Management Server

The time based on the selected time zone is displayed in the menu bar:



#### Refer to

- *Logical Tree window, page 65*

## 9.2 Playing recorded videos

#### Refer to

- *Timeline window, page 68*
- *Using the Timeline, page 42*

## 9.3 Using the Timeline

You can access a specific time in the Timeline via the Hairline.

#### To navigate in the Timeline:

1. Click somewhere in the Timeline.  
The images of the selected point in time are displayed in the Image window.
2. Scroll to zoom in and out.
3. Drag to move the timeline window to the right or to the left.

#### 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.

#### Refer to

- *Timeline window, page 68*
- *Playing recorded videos, page 42*

## 9.4 Changing the playback speed

#### 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.

**Note:** If you set the playback speed to 4x or higher, not all frames will be displayed.

#### Refer to



- *Timeline window, page 68*

## 9.5 Restricting or unrestricting video

Main window >  > **Timeline** menu  
 You can restrict (or unrestrict) the recordings of cameras connected to the following DIVAR devices:

- DIVAR AN 3000
- DIVAR AN 5000
- DIVAR hybrid
- DIVAR network

When restricted, an unauthorized user cannot display the recordings of these cameras.

The DIVAR devices can be connected to BVMS either locally under  or as an unmanaged site under .


For restricting and unrestricting you need the corresponding permission.



**Notice!**

Unrestricting / unprotecting a selected time period can possibly unrestrict / unprotect the entire contiguous restricted / protected time period of this camera, even outside the selected time period.

**To restrict:**

1. Using the hairline, select the time period of one or more DIVAR cameras on the timeline.
2. Right-click this time period and click **Restrict video...**  
 The **Restrict Video** dialog box is displayed.
3. Click **Restrict**.  
 A message box is displayed showing detailed information on the time period that is effectively restricted. Usually this time period is larger than the selected time period.  
 The video data is restricted. In the timeline, restricted video is indicated with dark grey diagonal stripes: 

**Note:**

To remove the restriction, select the restricted period in the Timeline, right-click, and then click **Unrestrict video...**

**Refer to**

- *Restrict Video dialog box, page 43*
- *Unrestrict Video dialog box, page 44*

### 9.5.1 Restrict Video dialog box

Main window >  > **Timeline** menu > **Restrict video...** command > **Restrict Video** dialog box

**Start:**

The current selection of the Hairline is displayed.  
 If you uncheck, all recordings until the specified end date are restricted.

**End:**

The current selection of the Hairline is displayed.  
 If you uncheck, all recordings beginning with the specified start date are restricted.

**Notice!**

Unrestricting / unprotecting a selected time period can possibly unrestrict / unprotect the entire contiguous restricted / protected time period of this camera, even outside the selected time period.

**Restrict**

Click to restrict the selected time period.

**9.5.2****Unrestrict Video dialog box**

Main window >  > **Timeline** menu > **Unrestrict video...** command > **Unrestrict Video** dialog box

**Start:**

The current selection of the Hairline is displayed.

If you uncheck, all recordings until the specified end date are unrestricted.

**End:**

The current selection of the Hairline is displayed.

If you uncheck, all recordings beginning with the specified start date are unrestricted.

**Notice!**

Unrestricting / unprotecting a selected time period can possibly unrestrict / unprotect the entire contiguous restricted / protected time period of this camera, even outside the selected time period.

**Unrestrict**

Click to unrestrict the selected time period.

**Refer to**

– *Restricting or unrestricting video, page 43*

**9.6****Protecting or unprotecting video**

Main window >  >  tab

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


**Notice!**

You cannot protect the data of a local storage device.

**Notice!**

Unrestricting / unprotecting a selected time period can possibly unrestrict / unprotect the entire contiguous restricted / protected time period of this camera, even outside the selected time period.

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. In the timeline, protected video is indicated with dark grey diagonal stripes: 

**Note:**

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

**Refer to**

- *Timeline window, page 68*

### 9.6.1 Protect Video dialog box

Main window >  > **Timeline** menu > **Protect video...** command > **Protect Video** dialog box

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.

### 9.6.2 Unprotect Video dialog box

Main window >  > **Timeline** menu > **Unprotect video...** command > **Unprotect Video** dialog box

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.

## 9.7 Deleting video data

Main window >  >  tab

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.



**Notice!**

You cannot restore deleted video data.



**Notice!**

You cannot delete the data of a local storage device.

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

**Delete Video dialog box**

Allows you to delete video data.

**Start:**

The current selection of the Hairline is displayed.

Enter the point in time when the deletion starts.

If you uncheck, all recordings until the specified end date are deleted.

**End:**

The current selection of the Hairline is displayed.

Enter the point in time when the deletion ends.

If you uncheck, all recordings beginning with the specified start date are deleted.

**Delete**

Click to delete the selected time period.

**Refer to**

- *Timeline window, page 68*

## 9.8

### Exporting video data



**Notice!**

You cannot export the data of a local storage device.

You can export video and audio data in native (BVMS Export Player), MP4 or in MOV format. For each exported camera, a subfolder is created in the target folder. The data can be exported to:

- a local drive
- a CD/DVD or Blu-Ray disk
- a network drive
- a USB drive

**Note:** Use a fast USB drive to avoid failures.

In an Enterprise System: you can select a remote Management Server to perform the export there. You can only export the recordings of the cameras that are managed by the selected Management Server.

Only one export at a time can run on a workstation.

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



**Notice!**

Remote exports are only possible to a USB drive, CD, DVD or Blu-Ray disk.

**Export in native format**

The table describes the differences between an unencrypted and an encrypted export of video data in native format.

Criteria	Unencrypted export	Encrypted export
Password protected	No	Yes
File extension	<i>.info</i>	<i>.encr</i>
User cancels the export process	All video data of the current export is deleted.	All video data of the current export is deleted.
Export was not successful	If multiple cameras are exported, all successful exports are saved. The unsuccessful export is deleted.	All video data of the current export is deleted.

**Export on multiple disks**

Encrypted exports and exports into a single ZIP file are not possible on multiple CDs/DVDs/Blu-Ray disks. If the export fits on a single CD/DVD/Blu-Ray disk, encrypted export on a CD/DVD/Blu-Ray disk is possible.

Recordings that were selected for export and exported to CD/DVD/Blu-Ray disks, are first written to the local hard drive and then written to one or more writeable disks.

Unencrypted export on multiple disks is only supported for native format. Exporting with MP4 or MOV format only works when it fits on one disk.

The first inserted disk determines the media type of all following disks.

If recordings were exported to multiple CD/DVD/Blu-Ray disks, and you must view all exported cameras in all exported time periods, copy the content of all disks to your hard drive. You can ignore all occurring overwrite warnings.

You can view the recordings exported to a single disk out of a group of disks that were created during an export.

If exporting video data on a CD/DVD/Blu-Ray disk was not successful or the user cancels the export, the already exported video data of this export process is retained.

When the verification of authenticity is enabled in Configuration Client, each export is automatically checked.

### Export of a panoramic camera

When you export the recordings of a panoramic camera you always export the full image circle. If you export multiple cropped Image panes of the same panoramic camera, the full image circle of this camera is exported only once. This also applies for the export of non-panoramic cameras.



#### Refer to

- *Export Bookmark dialog box, page 38*
- *Export Multiple Bookmarks dialog box, page 39*
- *Export Video dialog box, page 49*
- *Timeline window, page 68*

## 9.8.1

### Exporting a time period

#### 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.
 

If you want to encrypt the exported files, type in a password and confirm this password.
5. Click **Export**.
 

The size of the recordings to be exported is estimated. Overlappings of recordings are subtracted. If there is not enough free space, an error message is displayed.




The authenticity of the export is automatically verified.

The files are exported to the selected data medium.
6. If available, click **Verification Details** to display the **Authenticity Verification Result** dialog box.

## 9.8.2

### Exporting a single search entry

#### To export a single search entry:

1. Perform a search for video data.
2. Click the  tab.
3. Or click .
4. Click an entry in the search result list.
5. Click .
 

The **Export Video** dialog box is displayed.
6. Make the appropriate settings.
 

If you want to encrypt the exported files, type in a password and confirm this password.
7. Click **Export**.
 

The authenticity of the export is automatically verified.

The entry is exported to the selected data medium.
8. If available, click **Verification Details** to display the **Authenticity Verification Result** dialog box.



### 9.8.3 Exporting into a single file

or

You can export video recordings into a single ZIP file.

#### To export into a single file:

1. Enter the desired start and end times.
2. Click to select **Export as single ZIP file**.
3. Make the appropriate settings.  
If you want to encrypt the exported files, type in a password and confirm this password.
4. Click **Export**.  
The size of the recordings to be exported is estimated. If free space is not enough, an error message is displayed.  
The authenticity of the export is automatically verified.  
The recordings are exported and the export is added to a single ZIP file.
5. If available, click **Verification Details** to display the **Authenticity Verification Result** dialog box.



#### Notice!

You cannot load a ZIP export file in Operator Client.

#### Refer to

- *Export Video dialog box, page 49*

### 9.8.4 Export Video dialog box

or

#### Name

If required, type a name for the exported file or keep the default name.

#### 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.

#### Include Export Player

When you export a video in native format, you can add the BVMS Export Player as a viewer. Click to select, if you want to include the BVMS Export Player.

#### Encrypt Export

Click to select encryption for this export.

#### Password

Type in a password for your encrypted export. Confirm this password in the **Confirm password** field.

#### MOV (Fast and compatible with Media Player)

Click to select the MOV format (compatible for example with QuickTime from Apple).

#### MP4 (most commonly used to store video and audio)

Click to select the MP4 format (compatible for example with VLC media player or Windows Media Player).

#### Include audio

Click to select, if you want to include audio.

**Export as single ZIP file**

Select to store the exported files in a single ZIP file. You use the ZIP file format to store all exported files in a single file, compression of the data is not available.

On a FAT32 partition, the maximum file size of the ZIP file is 4 GB.

**Remote Export**

Click to enable remote export. You can select a Management Server of your Enterprise System. On this Management Server the export is performed.

Ensure that the desired storage media is available.

**Finalize Disk**

Click to select that the data medium is finalized after the successful burning process. After finalizing no further data can be burned on the data medium.

**Comment:**

Enter a comment for the export.

**Cancel**

Click to save the dialog settings until you start Operator Client the next time.

**Refer to**

- *Exporting video data, page 46*
- *Exporting into a single file, page 49*

**9.8.5****Export dialog box**

or

or

or

Allows you to view information on the performed export and to display the results of the authenticity verification that is automatically performed on every export.

**Verification Details**

Click to display the **Authenticity Verification Result** dialog box.

This button is only available if authentication issues were found.

**Refer to**

- *Exporting video data, page 46*
- *Exporting into a single file, page 49*

**9.9****Loading exported video****Notice!**

You cannot load a ZIP export file in Operator Client.

**Export formats**

- Block exports (info), created with the VRM eXport Wizard
- Not encrypted Export files (\*.info), created with the BVMS Operator Client
- Encrypted Export files (\*.encr) , created with the BVMS Operator Client
- Export files (\*.mp4), created with BVC

**Additional Information**

Video exports created with the VRM eXport Wizard are displayed as *info* file.

With the VRM eXport Wizard it is possible to export a large volume of data.

The VRM eXport Wizard is part of the BVMS release ZIP within the folder Bonus.

For more information see the VRM eXport Wizard Software Manual.

**Refer to**

- *Exports window, page 67*
- *Timeline window, page 68*

## 9.10 Enabling video content analysis (VCA)

Main window

**To enable:**

- ▶ Right-click an Image pane with a camera assigned and click **Enable Content Analysis**. The VCA overlays are displayed. This setting is retained after the next restart or re-logout of Operator Client or after closing the camera and displaying it again in an Image pane.

**To disable:**

- ▶ Right-click an Image pane with a camera assigned and click **Disable Content Analysis**. The VCA overlays disappear.


## 9.11 Performing a Forensic Search


Main window >  > Select an image pane >

Forensic Search allows you to search for specific properties in the video of the selected image pane. IVA-based Forensic Search is only available for VRM, local storage and Bosch Video Client recordings.

**To perform a Forensic Search:**

1. Select the Image pane where you want to find motion.
2. Using the Hairline, select the time period on the Timeline.

3. Select the  tab. The **Include audio** window is displayed.
4. In the **Type** list, select the appropriate entry.
5. Configure your Forensic Search.
6. Click **Search** to start the Forensic Search.

7. Select the  tab to find the matching entries.
8. For playing the corresponding video, double-click the entry. The corresponding video is displayed.

**To configure Motion+:**

1. Drag an area to select the cells you want to check for motion. The selected area is displayed in transparent yellow.
2. To clear a selected area, right-click the selected area and click **Clear all**.

**Forensic Search window**

Allows you to find video data with selecting a Forensic Search type, for example Motion+. You can search for motion only in the selected image pane.

**Presets**

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

**Note:** The latest configured Forensic Search settings are always saved automatically. If you select the **<current configuration>** entry, the Forensic Search settings that have been active during the selected time range are loaded.

**Save**

Click to save your configured Forensic Search preset settings. You can enter a descriptive name.

**Type**

Select the required analysis type, for example:

- Intelligent Video Analytics
- Intelligent Video Analytics Flow
- Motion+

**Note:** If you select one of these algorithms, you can set the corresponding parameters directly.

**Tasks**

Configure your Forensic Search. See the user documentation of the Intelligent Video Analytics version that you are using.

**Metadata Inspection**

See object properties of selected objects in the image pane and use these properties to refine your Forensic Search criteria in order to get better results.

**Search**

Click to start the Forensic Search.

For detailed information on video analysis, see the documentation for Video Content Analysis VCA.

**Refer to**

- *Timeline window, page 68*

**9.12****Forensic 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.

**Refer to**

- *Performing a Forensic Search, page 51*
- *Exporting video data, page 46*

**9.13****Searching for text data**

Main window >  >  > Click  > **Please select a Server** dialog box (if required) > **Search for Text Data** dialog box

The operator can search for text data to find the corresponding recordings. The text data must be stored in the Logbook.

Text data is delivered by systems like foyer card readers, automatic teller machines, virtual inputs, LPR devices and Person Identification devices. Text data contains textual transaction data like account numbers, bank routing codes, person names or license plate countries.

Text data of a device is recorded together with the corresponding video data.

**Limitations**

For searching recordings with text data, the text data must be configured to be stored in the Logbook.

The encoder for which you configure the recording text data function, must have firmware version 5.92 or later.

The text data of maximum 32 different devices can be recorded synchronously for one camera. Maximum 3000 bytes of text data can be stored on an encoder per event.

If you see problems with Logbook searches, display of additional data, or CSV exports of Logbook search results, the reason can be that the additional text data contains non-printable characters, for example x00-x1F.

**Search for Text Data dialog box**

You can find text data in recordings. You can refine your search by adding specific text data with a specific value.

Entries in the **Date and Time** fields, the **Data Field Name** field, and the **Comparative Value** field are retained after the next restart or re-logout of Operator Client.

**Sources**

In the list, click to select the desired cameras for searching.

**Date and Time**

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

**Search Conditions**

Add a search condition to refine your search.

**9.14**


**Connecting to an unmanaged site**


Main window


You can connect to an unmanaged site. All available devices of all video network devices of this site are then displayed in the Logical Tree. As soon as you log off or exit Operator Client, this connection is terminated.


**To connect:**

1. Right-click .
2. Click **Connect to Site**.

As long as the device is connecting,  is displayed.

After the connection is successfully established,  is displayed. All available devices of this site are displayed in the Logical Tree.

If not all devices belonging to this site can be connected,  is displayed. You can later try to connect the remaining devices that were not connected now.


**Tip:** You can also double-click  to connect.

**To connect remaining devices:**

1. Right-click .
2. Click **Retry Connection**.

**To disconnect a single site:**

1. Right-click  or .
2. Click **Disconnect from Site**.

The icon changes: 

All Image panes with devices belonging to this site are automatically closed.

**To disconnect all sites:**

- ▶ Click .

All sites are disconnected. Partially connected sites are not disconnected.

All Image panes with devices belonging to this site are automatically closed.

**Refer to**

- *Unmanaged site, page 12*

# 10 User interface



**Notice!**

This document describes some functions that are not available for BVMS Viewer.

**Refer to**

- *Live Mode, page 55*
- *Playback Mode, page 56*

## 10.1 Live Mode

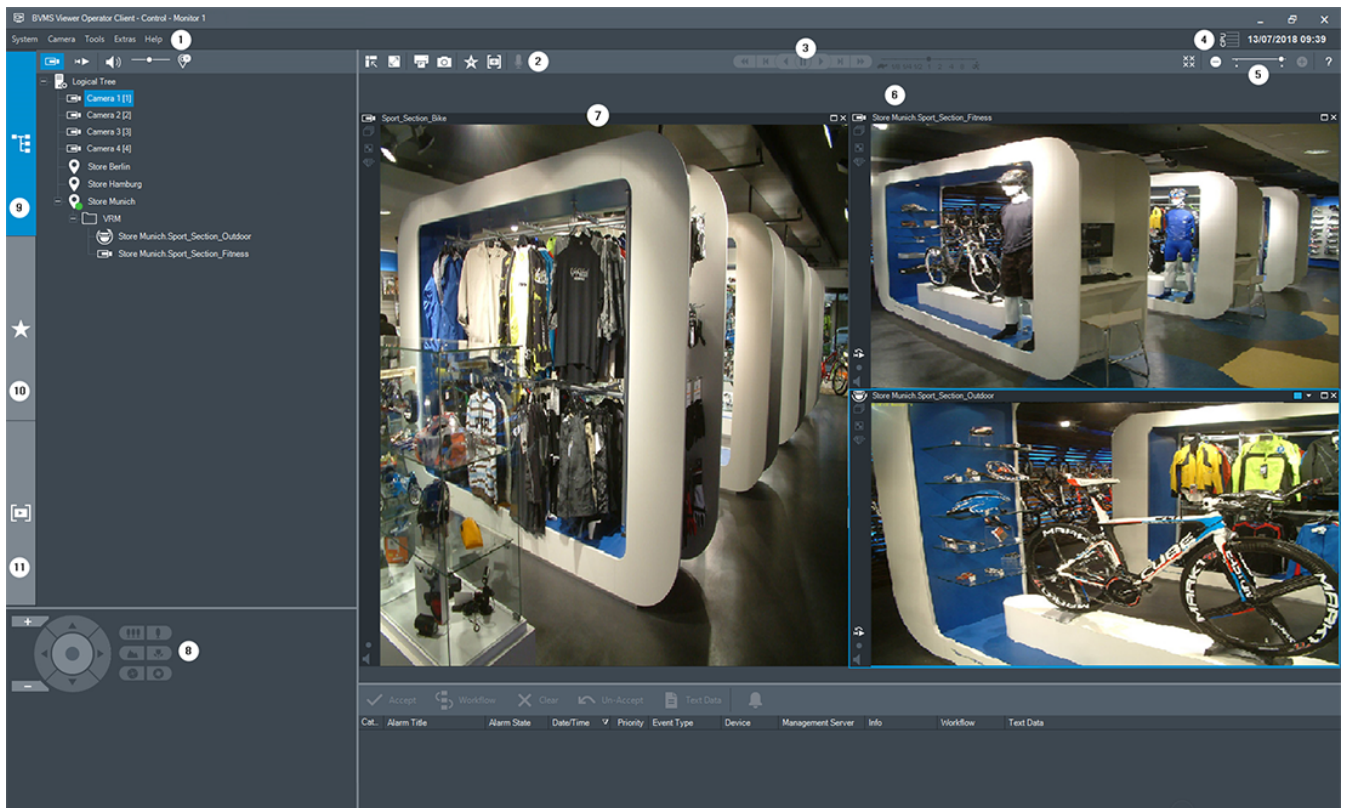


Main window >

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.



1	Menu bar
2	Toolbar
3	Instant playback control
4	Performance meter
5	Controls for Image panes
6	Image window

7	Image panes
8	PTZ Control window
9	Logical Tree window
10	Favorites Tree window
11	Bookmarks window

### Refer to

- *Menu commands, page 62*
- *Logical Tree window, page 65*
- *Favorites Tree window, page 65*
- *PTZ Control window, page 68*
- *Image window, page 66*
- *Image pane, page 67*

## 10.2 Playback Mode



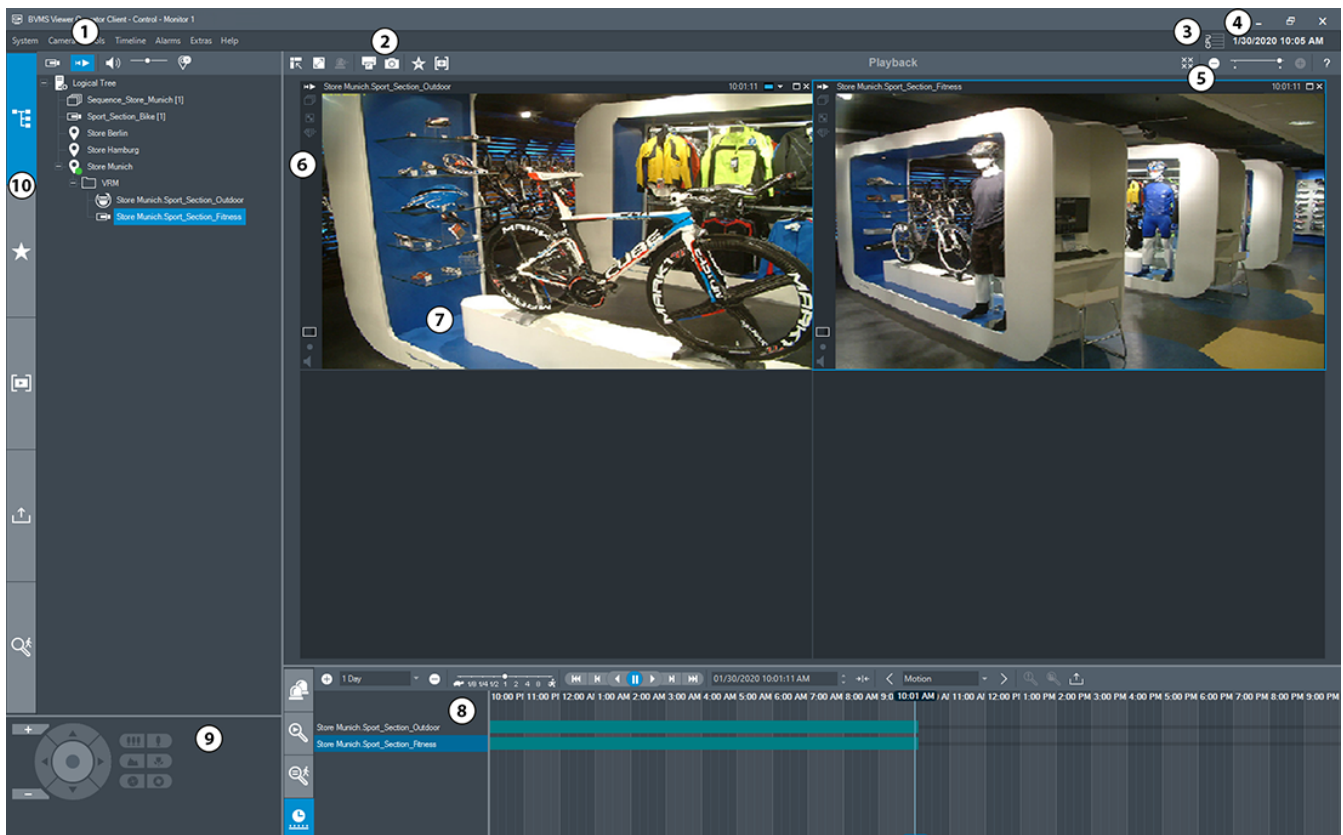
Main window >

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	Performance meter	Displays the CPU usage and the memory usage.
4	Time zone selector	Select an entry for the time zone to be displayed in most time related fields. Only available if at least one Management Server or unmanaged site in the Logical Tree is located in another time zone as your Operator Client.
5	Controls for Image panes	Allows you to select the required number of Image panes and to close all 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	 <b>Alarm List</b> 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 Management Server is lost.
	 <b>Video Search Results</b> window	Allows you to find recorded videos.
	 <b>Motion Search Results</b> window	Displays recordings that match the Forensic Search criteria.
	 <b>Timeline</b> window	Allows to you to navigate through the recorded videos.
9	 <b>PTZ Control</b> window	Allows you to control a PTZ camera.
10	 <b>Logical Tree</b> window	Displays the devices your user group has access to. Allows you to select a device for assigning it to an Image pane.
	 <b>Favorites Tree</b> window	Allows you to organize the devices of the Logical Tree as required.

	 <p><b>Map</b> window</p>	<p>Displays a site map. Allows you to drag the map to display a particular section of the map.</p> <p>If activated, a map is displayed automatically for each camera displayed in an Image pane. In this case, the camera must be configured on a map.</p>
	 <p><b>Bookmarks</b> window</p>	<p>Allows to manage bookmarks.</p>
	 <p><b>Exports</b> window</p>	<p>Allows you to load exported video data to display it or to search for particular data.</p>
	 <p><b>Include</b> <b>audio</b> window</p>	<p>Allows you to configure Forensic Search.</p> <p>Forensic Search allows you to search for specific properties in the video of the selected image pane.</p>

#### Refer to

- *Menu commands, page 62*
- *Logical Tree window, page 65*
- *Favorites Tree window, page 65*
- *Exports window, page 67*
- *PTZ Control window, page 68*
- *Image window, page 66*
- *Image pane, page 67*
- *Timeline window, page 68*
- *Forensic Search Results window, page 52*

## 10.3

### Icons used

The following table lists the icons used in Operator Client. For the icons used in the Timeline see chapter *Timeline window, page 68*.

Some of the following icons are not available in BVMS Export Player.



: Root node of the Logical Tree (user assigned name of the Logical Tree).



: Operator Client is connected to a Management Server.



: New configuration available. Log off and log on again to accept.



: Management Server has a previous version.



: Account is disabled. Log off and on again and change password.




: License not available





: Not connected





: Management Server is located in another time zone.


 : Click to close all open Image panes. This icon has the same function as the shortcut for closing all Image panes.


 : Indicates an unmanaged site which is not connected.


 : Indicates an unmanaged site in another time zone than the Operator Client computer.


 : Indicates an unmanaged site to which a connection is being established.


 : Indicates an unmanaged site which is completely connected. This means that all devices of this site are connected.


 : Indicates an unmanaged site which is partially connected. This means that not all devices of this site are connected.


 : Click to disconnect all connected unmanaged sites. Partially connected sites are not disconnected.


 : Intrusion panel.


 : Area configured in an intrusion panel.

 : Area is armed.

 : Area is disarmed.


 : Point configured in an intrusion panel and in the state unbypassed.


 : Point is in the state bypassed.


 : Point is in alarm state.


 : Reader


 : Door


 : Door is secured.

 : Door is locked.

 : Door is unlocked.

 : Door with unknown door states.

 : Primary VRM

 : Secondary VRM



: Secondary Failover VRM



: Indicates the source of the displayed recording: Primary VRM recording. On the Image pane toolbar, click to change the recording source (only available, if Secondary VRM or ANR is configured).



: Indicates the source of the displayed recording: Secondary VRM recording. On the Image pane toolbar, click to change the recording source.



: Indicates that ANR provides playback. On the Image pane toolbar, click to change the recording source.



: Indicates that the Primary Failover VRM provides playback. On the Image pane toolbar, click to change the recording source (only available, if Secondary VRM or ANR is configured).



: Indicates that the Secondary Failover VRM provides playback. On the Image pane toolbar, click to change the recording source.



: Indicates that the Encoder provides playback. On the Image pane toolbar, click to change the recording source (only available, if Secondary VRM or ANR is configured).



: Indicates that the Encoder provides playback. On the Image pane toolbar, click to change the recording source.



: Text data available



: Text data not available



: Unavailable. For a Management Server: No configuration available



: Disconnected



: Not authorized



: Live Mode



: Playback Mode



: Slider to adjust audio volume of all Image panes.



: Audio on / off



: Click to display / hide the toolbar of each Image pane.



: Click to display the Image pane in full-screen mode.



: Click to show fewer Image pane rows.







: Click to show more Image pane rows.














: Slider to change Image pane rows.



: Click to print an image of the selected Image pane.

-  : Click to save an image file of the selected Image pane.
-  : Click to add a Favorites View.
-  : Click to add a bookmark.
-  : 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.
-  : Folder containing various items
-  : Folder containing various items and having assigned a map
-  : Fixed, DVR, DiBos, local storage camera
-  : Panoramic camera
-  : Dome camera
-  : Matrix camera
-  : VSG camera
-  , for example  : Recording
-  , for example  : Connection lost
-  , for example  : Video loss
-  : Audio is configured
-  : State unknown
-  : Too bright
-  : Too dark
-  : Too noisy
-  : Too blurry
-  : Global scene change
-  : Reference check failed
-  : Relay
-  : Inputs
-  : Command Script
-  : Document

-  : Camera sequence
-  : Camera sequence is interrupted.
-  : Camera sequence is playing.
-  : Digital zoom
-  : Transcoding is enabled.
-  : Manual alarm recording
-  : Instant playback
-  : Root node of the Favorites tree.
-  : Click to display Live or Playback Mode again when the Alarm Image window is displayed.
-  : I-frame only playback
-  : Enabled content analysis

**Refer to**

– *Timeline window, page 68*

## 10.4

### Menu commands

Some of the following commands are not available in BVMS Export Player.

System menu commands		
	<b>Playback mode / Live mode</b>	Switches to Playback or Live Mode depending on the current state.
	<b>Change password...</b>	Displays a dialog box for entering a new password.
	<b>Logoff</b>	Exits the program and displays the dialog box for logging on.
	<b>Exit</b>	Exits the program.
Camera menu commands		
	<b>Save image...</b>	Displays a dialog box for saving an image of the selected camera.
	<b>Print image...</b>	Displays a dialog box for printing an image of the selected camera.
	<b>Audio on / Audio off</b>	Turns audio of the selected camera on or off.

	<b>Record camera</b>	Starts recording of the selected camera. The Alarm recording Mode quality level is used.
	<b>Instant playback</b>	Starts playback of the selected camera for the configured rewind time. (Not in Playback Mode)
	<b>Reference Image...</b>	Displays the <b>Reference Image</b> dialog box for the currently selected Image pane. (Not in Playback Mode)
	<b>Close</b>	Closes the selected Image pane.
<b>Tools</b> menu commands		
	<b>Toggle image pane bars</b>	Hides or displays the Image pane bars.
	<b>Show fewer image pane rows</b>	Decreases the number of displayed Image panes.
	<b>Show more image pane rows</b>	Increases the number of displayed Image panes.
<b>Timeline</b> menu commands (Playback Mode only)		
	<b>First recording</b>	Moves the hairline to the oldest recording.
	<b>Last recording</b>	Moves the hairline to the latest recording.
	<b>Play</b>	Plays forward starting from the current position of the hairline.
	<b>Pause</b>	Stops playback at the current position. Click <b>Play</b> to resume.
	<b>Reverse play</b>	Plays backward from the current position of the hairline.
	<b>Protect video...</b>	Displays the <b>Protect Video</b> dialog box.
	<b>Unprotect video...</b>	Displays the <b>Unprotect Video</b> dialog box.
	<b>Restrict video...</b>	Displays the <b>Restrict Video</b> dialog box.
	<b>Unrestrict video...</b>	Displays the <b>Unrestrict Video</b> dialog box.
	<b>Delete video...</b>	Displays the <b>Delete Video</b> dialog box.
	<b>Export video...</b>	Displays the <b>Export Video</b> dialog box.
	<b>Load exported video...</b>	Displays a dialog box for selecting an export file. The exported file is then displayed in the <b>Exports Tree</b> .
<b>Extras</b> menu commands		
	<b>Add favorite</b>	Saves the current Image pane pattern as a View in the <b>Favorites Tree</b> .
	<b>Add bookmark</b>	Displays the <b>Add Bookmark</b> dialog box.

	<b>Mute System</b>	Turns off audio of the available Image panes and the alarm sound.
	<b>Options...</b>	Displays the <b>Options</b> dialog box.
	<b>Default settings</b>	Restores the settings for monitor layout, user interface and options to the factory default settings.
	<b>Last settings</b>	Restores the settings for monitor layout, user interface and options to the last loaded settings.
<b>Help</b> menu commands		
	<b>Display help</b>	Displays the BVMS Online Help.
	<b>About...</b>	Displays a dialog box containing information on the installed system, for example the version number.

## 10.5 Options dialog box

Main window > **Extras** menu > **Options...** command

Allows you to configure parameters for using Operator Client.

### 10.5.1 Control tab

#### 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.

### 10.5.2 Display tab

#### 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.

##### IP address visible in print and save

Select to make the IP addresses of devices in the Logical Tree available in printed or saved images.

##### Text Data Position

Select the desired option for the location of the text data pane when clicking on .



**Prefer hardware acceleration**

After logon to Operator Client hardware acceleration is enabled by default. To disable hardware acceleration, clear the check box. This setting is retained after the next restart or re-logon of Operator Client.

**Show diagnostic information in Image panes (enable until logoff)**

Select to show decoding method in the Image pane. The decoding method is displayed in the title bar of all open Image panes. This setting is not persistent after the next restart or re-logon of Operator Client.

**10.6 Logical Tree window**



Displays the hierarchical structure of all the devices your user group has access to. If you logged on to an Enterprise Management Server, the server name is displayed as a prefix to the camera name.

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

**Refer to**

- *Arranging and resizing Image panes, page 26*
- *Displaying a camera in an Image pane, page 23*
- *Adding items to the Favorites Tree, page 34*
- *Starting a pre-configured camera sequence, page 26*

**10.7 Favorites Tree window**



You can add every item of the Logical Tree to a view in the Favorites Tree to create your own subset of the Logical Tree. At any time you can display the view or add or delete devices in a view.

When saving a view in the Favorites Tree, you save the following settings:

- The assignment of cameras or other objects to Image panes
- The Image pane pattern
- The current setting of the digital zoom
- The image section
- The selected stream (only available for Live Mode)

**Refer to**


- *Adding items to the Favorites Tree, page 34*
- *Creating/editing views, page 35*

**10.8****Bookmarks window**

Main window >  >  tab  
or

Main window >  >  tab

You can save a time period of live view or a recording in a bookmark. A bookmark saves a start and an end time, the cameras assigned to Image window at this time, and the entire Image

pane pattern. A time period of 0 seconds is possible. Bookmarks are saved in the  pane. 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.

If you have logged on to an Enterprise Management Server, the camera name is displayed with the name of this camera's Management Server as a prefix.

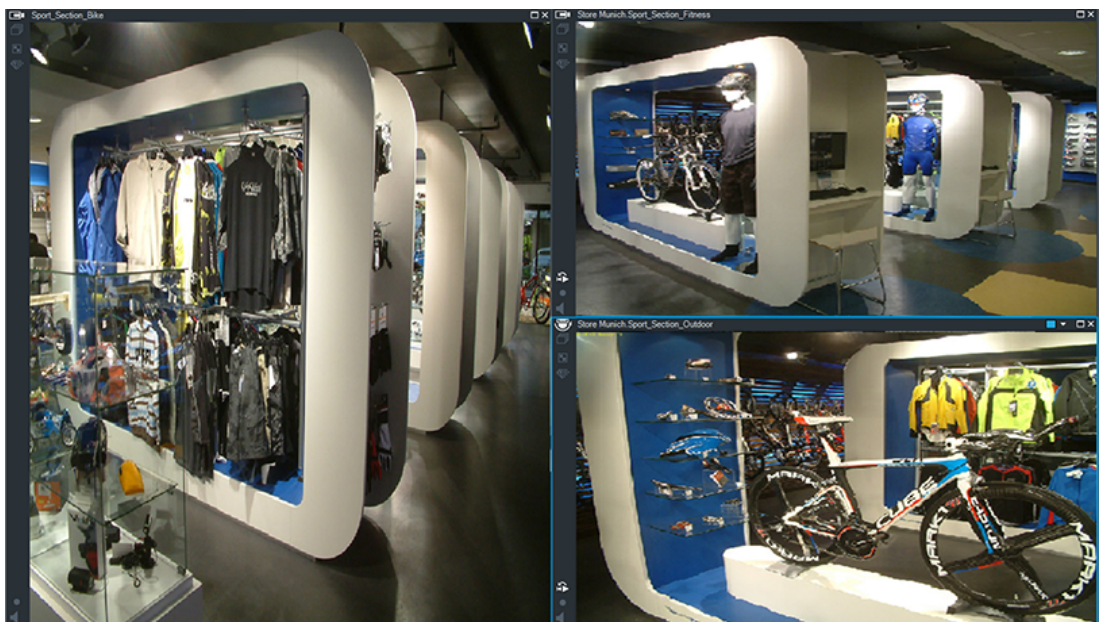
**Note:** Do not add more than 4 cameras in one bookmark to avoid performance issues when loading the bookmark.

**Refer to**

- *Editing a bookmark, page 37*
- *Loading a bookmark, page 37*

**10.9****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 BVMS Export Player):

- Changing 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.

**Refer to**

- *Changing the number of Image pane rows, page 25*
- *Arranging and resizing Image panes, page 26*

## 10.10 Image pane

Main window





BVMS Export Player offers only a restricted feature set.

**Refer to**




- *Icons used, page 58*

## 10.11 Search box

You can use the search box to search for an item in the Logical Tree, in the Favorites Tree and in the Bookmarks.

1. Main window >  >  or  or  tab > Right-click the desired root node or the desired item > Click **Tree search** Or:  
In the Logical Tree window, the Favorites Tree window or the Bookmarks window press Ctrl+F.

The search box is displayed .

2. Type a search string representing the display name of an item.  
The search is triggered immediately during typing and the first item that matches the search string is marked.  
If the search string is not found, the background color of the search box changes.
3. Click  or  to mark the previous or the next matching item.  
The search proceeds through all items in the tree that match the search string and not only through the items in the selected tree node.
4. Click  to close the search box.

## 10.12 Exports window

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

**Refer to**

- *Exporting video data, page 46*
- *Loading exported video, page 50*

## 10.13 PTZ Control window



The 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.

## 10.14 Timeline window

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.

If you select another time zone, the Timeline is changed accordingly.

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 recordings in Operator Client and BVMS Export Player displays the following information indicated by a color or hatching:

Recording	Color
Continuous recording	
Alarm recording	
Pre-alarm recording	
Motion recording	
Recording loss / no recording	
Protected recording	Dark grey diagonal stripes on the original color (for example:  )
Restricted recording	Dark grey diagonal stripes on the original color (for example:  )
Audio	
Data not yet loaded	
Search result	

#### Refer to

- *Changing the playback speed, page 42*
- *Using the Timeline, page 42*
- *Exporting video data, page 46*
- *Protecting or unprotecting video, page 44*
- *Restricting or unrestricting video, page 43*
- *Deleting video data, page 45*
- *Loading exported video, page 50*

## 11 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.

### 11.1 General controls

Function	Shortcut key
Display Online Help	F1
Rename (for example in favorites)	F2

### 11.2 Playback controls

Function	Shortcut key
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

### 11.3 Image window controls

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

Function	Shortcut key
Move selected Image pane	Cursor keys
Close Image pane	Delete,
Close all Image panes	Control + Delete
Show fewer Image pane rows	F7
Show more Image pane rows	F8*
Show / hide Image pane bars	F9
<p><b>*Note:</b> You cannot display more Image pane rows than the configured maximum, which is set by a parameter in the BVMS Configuration Client.</p>	

# Glossary

## ANR

Automated Network Replenishment. Integrated 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. 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 (1 + 1/backup speed). The resulting recording capacity is required because the continuous recording must continue during the copy process.

## area

A group of detection devices connected to the security system.

## authenticity

State of a recorded video that indicates its originality. That means, the recorded video is not manipulated.

## bookmark

Used for storing a time period of live or recorded video. This allows for tagging particular scenes for later investigation. Additionally you can share your investigation results with other users by exporting a bookmark.

## bypass

Selectively remove points from the security system. A point may be bypassed in order to arm the perimeter with a window open.

## 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.

## Dewarping

The use of software to convert a circular image from a fisheye lens with radial distortion to a rectilinear image for normal viewing (dewarping is the correction of distortion).

## Dwell time

Preset amount of time a camera is displayed in an Image window until the next camera is displayed during a camera sequence.

## Edge dewarping

Dewarping performed in the camera itself.

## 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.

## Enterprise Account

Enterprise Account is an authorization that enables a user of Operator Client to connect to the devices of a Management Server being part of an Enterprise System. In an Enterprise Account, all permissions for the devices of this Management Server are configured. Operator Client can simultaneously connect to all Management Server computers that are part of this Enterprise System. This access is either controlled by the membership to an Enterprise User Group, and is controlled by the device permissions configured in the Enterprise Account for this Management Server.

## Enterprise User Group

Enterprise User Group is a user group that is configured on an Enterprise Management Server. Enterprise User Group defines the users that are authorized to access multiple Management Server computers simultaneously. Defines the operating permissions available for these users.

## Failover VRM

Software in the BVMS environment. Takes over the task of the assigned Primary VRM or Secondary VRM in case of failure.

---

**Hotspot**

---

Mouse sensitive icon on a map. Hotspots are configured in Configuration Client. Hotspots can be for example cameras, relays, inputs. The operator uses it for localizing and selecting a device in a building. If configured, hotspots can display a blinking background color when a specific state event or alarm occurs.

---

**Image pane**

---

Used for displaying live and recorded video of a single camera, a map, or an HTML file.

---

**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.

---

**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).

---

**Management Server**

---

BVMS server managing devices.

---

**MOV**

---

File extension of the default video format used by QuickTime Player from Apple.

---

**MP4**

---

MP4 is a digital multimedia container format most commonly used to store video and audio, but it can also be used to store other data such as subtitles and still images. MP4 files are supported by most software media players.

---

**Panoramic camera**

---

Camera with a 360° or 180° view angle.

---

**Playback Mode**

---

Feature of Operator Client. Used to playback and search through archived videos.

---

**point**

---

A detection device connected to the security system. Points show on the keypad individually and with custom text. The text might describe a single door, motion sensor, smoke detector, or an protected space such as UPSTAIRS or GARAGE.

---

**PTZ camera**

---

Camera with pan, tilt, and zoom function.

---

**Rewind time**

---

Number of seconds when an Image pane is switched to instant playback.

---

**Secondary VRM**

---

Software in the BVMS environment. Ensures that the recording performed by one or multiple Primary VRMs is additionally and simultaneously performed to another iSCSI target. The recording settings can deviate from the settings of the Primary VRM.

---

**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.

---

**unmanaged site**

---

Item of the Device Tree in BVMS that can contain video network devices like Digital Video Recorders. These devices are not managed by the Management Server of your system. The user of Operator Client can connect to the devices of an unmanaged site on demand.



---

**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.

---

**UTC**

---

Universal Time Coordinated

---

**Video Streaming Gateway (VSG)**

---

Virtual device that allows integrating Bosch cameras, ONVIF cameras, JPEG cameras, RTSP encoders.

---

**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.

---

**VRM**

---

Video Recording Manager. Software package in Bosch Video Management System which manages storing video (MPEG-4 SH++, H.264 and H.265) with audio data and metadata 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 video data itself but distributes storage capacities on iSCSI devices to the encoders, while handling load balancing between multiple iSCSI devices. VRM streams playback from iSCSI to Operator Clients.

## Index

<b>A</b>		
accessing the Help	6	
add bookmark	36	
additional data		
text data	52	
area	59	
audio	28, 30	
authenticity	68	
automatic sequence	27	
<b>B</b>		
bookmark	34	
add	36	
display	37	
edit	34, 37, 66	
load	37	
save	36	
Bosch Video Management System		
Online Help	6	
BVMS Export Player	38, 39, 46	
<b>C</b>		
camera round	26, 27	
camera sequence	26, 27	
automatic	27	
pre-configured	26	
color	68	
<b>D</b>		
data sheet	10	
delete video	68	
digital zoom	35	
displaying		
screens	22	
dome camera	32	
<b>E</b>		
edit bookmark	37	
entire screen	29	
export		
split	47	
video	46, 68	
<b>F</b>		
Favorite	35	
find text data	52	
finding		
information in the Help	6	
Forensic Search	51	
full-screen mode	29	
<b>G</b>		
general settings	64	
<b>H</b>		
Hairline	68	
HD camera	64	
help	6	
HTML files	66	
<b>I</b>		
icons	58	
Image pane	23, 26, 29, 67	
in-window PTZ	32	
image section	35	
Image window	66	
instant playback	30	
instant replay	30	
intrusion panel	59	
in-window PTZ	32	
<b>L</b>		
Live Mode	55	
live video	55, 66	
<b>M</b>		
Management Server	10	
map	66	
multichannel	28	
<b>N</b>		
NVR	10	
<b>O</b>		
online application Help	6	
options	64	
<b>P</b>		
panoramic camera		
viewing modes	13, 24	
playback	56	
Playback Mode	56	
playback video	66	
point in time	68	
pre-configured sequence	26	
printing the Help	6	
protect video	68	
PTZ camera	32	
PTZ control	68	
<b>R</b>		
Release Notes	10	
remote export	46	
resize	26	
restrict video	43	

**S**

save bookmark	36
search for motion	68
search for text data	52
sequence	26, 27
shortcuts	70
smart motion search	68
sound	55
specific event	68
split export	47
switch	
panoramic viewing mode	24
system requirements	10

**T**

text data	
find	52
time zone	68
Timeline	56, 68
toolbar	29

**U**

used icons	58
------------	----

**V**

VCA	
disable	29, 51
enable	29, 51
video	
export	46
View	35
view camera	23
viewing	
screens	22
viewing modes of panoramic camera	13, 24

**Z**

ZIP export	49
------------	----







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