



Viewer 3.0



BOSCH

en Operation Guide

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1 Introduction

1.1 About this Manual

This manual is intended for persons who will operate the Viewer program. The manual describes how to operate Viewer.

1.2 Conventions in this Manual

In this manual, the following symbols and notations are used to draw attention to special situations:



CAUTION!

Security instructions where non-compliance can result in loss of data are marked with this symbol.



NOTICE!

This symbol indicates special features and provides tips and information for easier, more convenient use of the software.

Terms that you can find in the program, such as menu options or commands, are written in **bold**.

1.3 Viewer

Viewer is a piece of software that is used to show digital video sequences. Viewer displays video data from several cameras on the PC monitor, allowing the data to be monitored centrally from a single workstation.

Without a license, it can be used with up to 16 connected cameras. This setup makes Viewer suitable for protecting small retail businesses.

1.4 System Requirements

Operating system	Windows XP Home Windows XP Professional Windows Vista
CPU	Pentium IV, 3.0 GHz or faster
RAM	256 MB or more
Graphics card	NVIDIA Quadro NVS 290 PCIe NVIDIA Quadro FX 370 PCIe ATI FireGL V5600 PCIe NVIDIA Quadro FX 1700 PCIe NVIDIA Quadro FX 3700 PCIe or better
Network adapter	100 Mbps
Sound card	Recommended

1.5 Additional Documentation

Once Viewer has been installed, this document is also available as online Help within the program. Depending on the configuration of your system, the following documentation may also be useful:

- **Configuration Manager**
This configuration program is part of every Viewer installation.
- **Camera documentation**
You obtain separate documentation for each camera from the manufacturer.
- **VideoJet, VIP, etc.**
You obtain documentation for each device from Bosch. This explains the typical device settings.

2 Installation and Starting

2.1 Installation

Viewer is installed as a component of the Bosch BVIP Lite Suite. Configuration Manager is also installed in conjunction with these programs.

1. Close all other applications before beginning the installation.
2. Insert the installation CD into the computer's CD-ROM drive. The CD runs automatically.
If the CD does not run automatically, open the `index.html` page from the root.
3. Select the required language for the user interface.
4. Click one of the entries under **Installation Packages** to start installing the relevant installation package. You will be guided through the installation of each individual package.
5. When installing individual packages, several installation processes will run one after the other where necessary. During installation, you will be prompted to select target directories for the programs. It is advisable to accept the defaults.

When selecting components, a description for each one is displayed when you hover the mouse cursor over them.

If individual programs are already installed on your PC, you can exclude these from the installation in the **Choose Components** dialog.

Please note that the Configuration Manager program is needed to set up a Viewer workstation.

After successful installation, you will find icons on your desktop for:

- Viewer
- Archive Player
- Player
- Configuration Manager

In the start menu, these entries appear under Bosch BVIP Lite Suite.

2.2 Starting the Program

After successful installation, you will find the following icon on your desktop:



► Double click this icon to start the program.

Viewer can also be started via the Windows **Start menu** or from within the Configuration Manager program.

You can use Configuration Manager to set up user administration. A login dialog appears, where applicable.

Before you can start the program, you must log in here using your user name and the associated password.

2.3 Deinstallation

If you no longer want to use Viewer on your PC, uninstall the program.

1. Click **Start > Settings > Control Panel**.
2. Double-click **Add or Remove Programs**.
3. Select the **Bosch Viewer** entry.
4. Click **Remove**.

2.4 License

You can use the Viewer program with up to 16 video channels without a license. A video channel is defined as any directly connected IP camera and any video input integrated via a video encoder. A four-channel encoder therefore occupies four Viewer channels, even if only one camera is connected to it. If you wish to integrate more than 16 video channels into your system, you will require a license.

License management for Viewer is carried out using the Configuration Manager program on the PC that is to be licensed.

1. Start the Configuration Manager program on the PC you want to license.
2. Click **Help > Online Help....**
3. In the **About Configuration Manager** dialog box, click the **Licenses** tab and then **License Viewer....**
You will see the **License Viewer** window.
4. Make a note of the **Installation Code (Code 2)** entry – the copy-and-paste function is supported. You will need this to generate the activation keys for your license.

NOTICE!

When you purchase products that require a license, you will receive a separate authorization number for each license and workstation; you will also need this number to generate the relevant activation keys.

5. Open the following Website from any PC:
<https://activation.boschsecurity.com/>
The Bosch Security Systems **Software License Manager** user interface will appear. The page appears in English only.
6. If you already have an account, log in.
You can create a new account if you wish. The benefit of an account is that you can list all of your previous license activations.
Once you have logged in, the welcome dialog will appear. You can also continue the process without logging in.
Next, you will see the **License Activation** screen.
7. Generate the required activation keys.
8. Return to Configuration Manager.
9. Reopen the **License Viewer** window as described in steps 2 and 3.
10. Click **Activation Key** and enter the first activation key (**Activation Key 1**) – the copy-and-paste function is supported.

11. Click **OK** to save the activation key.
12. Repeat this process to save the second activation key (**Activation Key 2**).

This releases the license version.

You can use the License Viewer at any time to determine which license version is active on the PC in question.

**CAUTION!**

The license is linked to your PC. If you have uninstalled Viewer and then want to reinstall it on a different PC, you will need to request a new activation key.

2.5 Configuration with Configuration Manager

The Configuration Manager program is installed along with the Viewer program. You can use Configuration Manager to integrate devices into the system and to configure devices and cameras.

**NOTICE!**

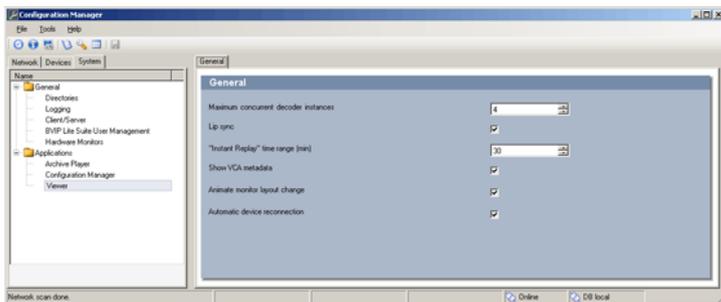
Viewer can only access cameras and devices that have been integrated into the system using the Configuration Manager program.

The Configuration Manager program comes complete with extensive documentation containing information about the use of the program.

The Configuration Manager program also includes the following settings, which affect Viewer:

1. In the **Configuration Manager** program, click the **System** tab on the left-hand side.

2. In the tree structure, select **Applications > Viewer**:



You will find the following configuration options on the right-hand side:

- **Maximum concurrent decoder instances**
Here you can set how many video streams can be shown simultaneously in real time in Viewer. You can also open further monitors and add connections; however, these are only displayed as preview screens. In this way, you can limit the network load.
- **Lip sync**
If this option is activated, audio and video data is synchronized, meaning that there may be a delay when transferring audio data, depending on the connection.
- **Instant Replay time range (min)**
Here, you enter the time for which you want instant replay to be displayed.
- **Show VCA metadata**
When a video is displayed in Viewer, the video content analysis metadata, such as object outlines, is also displayed if this option is activated.
- **Animate monitor layout change**
This function is switched on and off here.
- **Automatic device reconnection**
If this option is activated, all the connections that were last enable are automatically restored when Viewer is restarted.

3. In the tree structure, select **General > Directories**.

You will find the following configuration options on the right-hand side:

- **Screenshot folder**

Select the storage location for screenshots that you make with Viewer.

- **Recording folder**

Select the storage location for video recordings that you make with Viewer.

If you do not enter anything here, the following default settings are used:

- %current user%\My Documents
 \Bosch\VIDOS\Snapshots
 and
- %current user%\My Documents
 \Bosch\VIDOS\Recordings

4. In the tree structure, select **General > Client/Server**.

On the **iSCSI Media** tab, enter the password for accessing recordings. This is necessary to enable instant replay with Viewer.

5. In the tree structure, select **General > Hardware Monitors**.

Hardware monitors are video monitors that are integrated into the system via video decoders. Software monitors are the monitors displayed in the Viewer playback window.

You can use this matrix to permanently connect hardware and software monitors to one another. This means that as soon as a software monitor that is connected in this way is activated in Viewer, the image is also displayed on the associated hardware monitor.

For details on this function, see the *Configuration Manager* documentation.

6. In the tree structure, select **Applications > Configuration Manager**.

On the **Appearance** tab, you can activate the **Prefix device name to camera name** option. In the case of cameras that are integrated into the system via video encoders, the

encoder device name is also displayed before the camera name in the camera list.

The encoder name can therefore be included when you are filtering the camera list (see: *Section Tree Filter, page 20*).

Grouping Cameras

Configuration Manager allows you to arrange cameras into clear groups. You can then see the grouping in Viewer.

For details on this function, see the *Configuration Manager* documentation.

Configuring Devices

Use Configuration Manager to configure devices integrated into the system. The settings include:

- Device and camera name
- Passwords for device access
- Display stamping (alarm, camera name, time stamp)
- Device network settings, IP address
- Encoder parameters
- Alarm settings
- Recording settings
- Camera controller

2.6 Preparing for the Exchange of Encrypted Data

To enable playback of encrypted data with Viewer, you must adapt the settings for the relevant sender using Configuration Manager.

1. Select the **Devices** main tab in the Configuration Manager program and highlight the appropriate senders.
2. Make sure the **File > Advanced Mode** option is active.
3. Select the **Network** tab from the display area, or the **Advanced Network** tab for devices with firmware version 4.0 and better.

Activate the **Automatic key interchange** option under **Encryption**.

Click  to save the settings.

4. Select the **Unit Access** tab.
Select the **HTTPS** setting from the **Protocol** list field under **Device access**.

Click  to save the settings.

3 Operation

In the Viewer program, you have access to all cameras that have previously been integrated into the system using Configuration Manager. Configuration Manager allows you to combine cameras into groups, for example according to location. For more information, please see the *Configuration Manager* documentation.

Viewer is an easy and intuitive program to operate; it can be used to control cameras in a CCTV system and display live video data on the PC monitor. Video sequences or screenshots can be recorded locally. Virtual tours (camera tours) can be created to automate surveillance.

Use Archive Player to view and export the available recordings.

3.1 User Interface



- 1  Joystick panel
(see: *Section 3.4 Joystick Panel, page 24*)
- 2  Software zoom
(see: *Section 3.5 Software Zoom, page 30*)
- 3  Camera tours
(see: *Section 3.6 Camera Tours, page 31*)
- 4  Instant replay
(see: *Section 3.7 Instant Replay, page 34*)
- 5 Playback window with monitors
The active monitor is outlined in green.
- 6  Switches to Archive Player
- 7  Switches to Configuration Manager

- 8  Gradually adjusts the volume
- 9  CPU load display
- 10 Current date and time
- 11 Filter for the camera list (can be displayed if required)
(see: *Section Tree Filter, page 20*)
- 12 Camera list
The popup menu allows you to copy the camera list to the clipboard.
- 13 Display and operating field for the digital inputs and outputs of the remote station of the currently active monitor (can be displayed if required)
- 14 List of alarm messages
- 15  Opens the folder for recordings in Windows Explorer
- 16  Opens the folder for screenshots in Windows Explorer
- 17  Allows you to select another monitor layout
(see: *Section Changing the Monitor Layout, page 22*)

To hide or show the buttons for individual monitors, press the **F9** key (see: *Section Functions on the Monitor, page 22*).

You can increase the space for the playback window by placing the mouse at the bottom edge of the playback window until the cursor changes into the following symbol:



With the mouse button held down, drag the bottom edge of the playback window up or down. The alarm message list is increased or decreased and the size of the playback window changes accordingly. The number of monitors being displayed is also adjusted variably. All monitors that can still be displayed in full screen view on the PC monitor are shown in light gray.

3.2 Main Menu

Below are the lists of commands available in the main menu. Some of the functions can also be called up via key combinations or function keys.

3.2.1 File

Exit	Closes the program
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3.2.2 Edit

Save Screenshots (P)	Saves screenshots from all connected monitors in the specified folder
Print Screenshots... (Alt+P)	Saves screenshots from all connected monitors in the specified folder and prints them on the PC's default printer
Send Screenshots...	Saves screenshots from all connected monitors in the specified folder and sends them to the selected e-mail addresses
Record Active Monitor (Alt+E)	Starts or stops the recording of the active monitor. Once a recording reaches 2 GB in size, it is automatically stopped.

3.2.3 View

Record Active Monitor F9	Hides or shows the buttons for the individual monitors
Single View F10	Switches between the current monitor layout and a layout with only one monitor, namely the active one
Full Screen F12	Switches between full screen display and window view

Layout	Allows you to select another monitor layout (see: <i>Section Changing the Monitor Layout, page 22</i>)
Watermarking	Switches the display of additional information on or off on all monitors

3.2.4 Option

Digital I/O	Hides or shows the display and operating field for the digital inputs and outputs of the remote station below the camera list (see: <i>Section Digital I/O, page 21</i>)
Tree Filter	Hides or shows the filter above the camera list (see: <i>Section Tree Filter, page 20</i>)

3.2.5 Help

Online Help...	Opens the online Help
About...	Provides information about the software version

3.3 The Monitors

Viewer makes one or more software monitor windows available. These can be displayed in various layouts in the playback window.

Each one of these monitors corresponds to a software decoder. To avoid overloading the network and PC, it is possible to limit the number of simultaneous decoding instances in Configuration Manager (see: *Section 2.5 Configuration with Configuration Manager, page 10*).

The number specified here does not limit the number of monitors. It defines the number of connections that can be transmitted in real time. For each connection exceeding the specified number, the monitor simply displays regularly updated preview screens for the connected camera.

Displays in the various tabs and commands that are triggered via the tabs (for example, camera control via the joystick panel) are always related to the active monitor.

To activate a monitor, click it with the mouse.

The active monitor is indicated by the green outline.

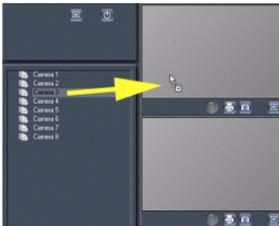
The monitor has a flashing red outline when an alarm event is triggered.

3.3.1 Connection between Camera and Monitor

After starting Viewer, you must connect individual monitors with cameras.

All cameras integrated into the system are displayed in the camera list. You can make the display clearer by using the name filter (see: *Section Tree Filter, page 20*)

1. Select a camera from the camera list.
2. Hold the left mouse button down and drag the camera onto one of the monitors:



While the connection is being established, a status message to that effect appears on the monitor.

Tree Filter

This input field is hidden or displayed via **Option > Tree Filter**. Here you can filter by camera name, to limit the display in the camera list to certain cameras.

1. Enter a search combination in the input field, using letters, numbers and spaces.
Only cameras with this combination in their name will be displayed.

2. Click  to display all available cameras again.

In Configuration Manager, you can specify that when the camera is connected via a video encoder, the name of this

device is automatically placed before the camera name (see: *Section 2.5 Configuration with Configuration Manager, page 10*).

Digital I/O

Select **Option** > **Digital I/O** to hide or show the display field for the digital inputs and outputs of the remote station below the camera list. The display relates to the active monitor. The number of inputs and outputs displayed depends on the device and its configuration.



The round alarm icons (in the top row of the example) indicate the status of an alarm input for information purposes. If an alarm exists, the corresponding icon lights up. The configuration of the remote station determines whether alarms are displayed or not.

Triggering Relay

The square relay icons (in the bottom row of the example) can be used to switch connected devices (for example, lights or door openers).

► To activate it, click the icon for the corresponding relay. The icon will be green when the relay is activated.

Audio Function

If the remote station that belongs to the active monitor supports audio, Viewer can send and receive audio. All connected users receive audio signals sent from the remote station.

Only the user who first connected to the unit can send audio signals to the remote station.

1. Hold down the **F4** key to establish a voice connection with the remote station.

2. Release the **F4** key when you want to stop sending audio signals to the remote station.

3.3.2 Additional Information and Controls

Functions on the Monitor

The following buttons are available for each monitor:



Starts the recording of the video data currently being displayed on the monitor.

The appearance of the icon changes when it is clicked:



In this form, it indicates that the data is recorded locally. The recording is saved in the file defined using Configuration Manager (see: *Section 2.5 Configuration with Configuration Manager, page 10*).

When it is clicked again, it stops the recording.

Once a recording reaches 2 GB in size, it is automatically stopped. You must then start a new recording where necessary.



Saves a screenshot from the associated monitor in the specified folder



Saves a screenshot from the associated monitor in the specified folder and sends it to the selected e-mail addresses



Saves a screenshot from the associated monitor and prints it on the PC's default printer



Ends the connection between the camera and monitor

Press the **F9** key to hide or show these buttons for the individual monitors.

Changing the Monitor Layout

Viewer offers various layouts for the monitors. The monitor layout does not depend on the number of connected cameras. Select **View > Layout** to change the monitor layout.

Alternatively, you can use the buttons under the playback window:



1. Click .

All possible layouts are displayed:



2. Select the required layout.

The layout in the playback window is adjusted accordingly.

In Configuration Manager, you can specify under **Animate monitor layout change** that monitor layout changes should be animated. This allows you to trace the position changes of individual monitors (see: *Section 2.5 Configuration with Configuration Manager, page 10*).

To change the layout of individual monitors, hold the mouse button down and drag a monitor to a different position.

Full Screen Display

Press **F12** to switch between the program interface and full screen display.

Depending on the selected display, up to 25 camera images are also displayed in full screen display.

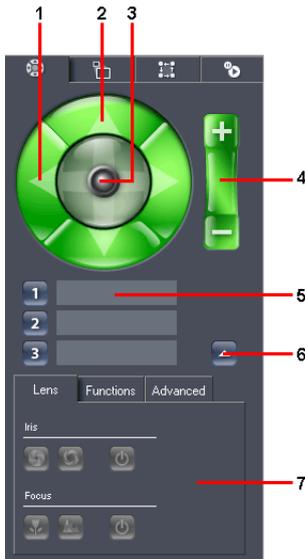
In full screen display, you can also control the camera with the mouse. In addition, it is possible to print, save or send a screenshot, or to start a recording.

3.4 Joystick Panel

Controllable cameras are moved and controlled directly from Viewer. This requires the selected camera to be correctly connected and appropriately configured. If the camera is connected via a video encoder, the appropriate controller must be selected in Configuration Manager (details can be found in the separate *Configuration Manager* documentation).

3.4.1 Controlling the Camera with the Joystick Panel

The joystick panel offers a range of functions for camera control. The scope depends on what functions the camera supports.

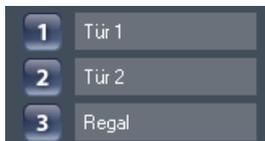


- 1 Panning direction keys
- 2 Tilting direction keys
- 3 Joystick
- 4 Zoom
- 5 Presets
- 6 Hide/show advanced options
- 7 Advanced camera control options

1. Display the joystick panel in the top left-hand corner of the screen.
2. Click one of the green direction keys.
The camera moves in the appropriate direction for as long as the key remains pressed.
3. Hold the joystick with the mouse and control the camera intuitively.
4. Click  or  to maximize or minimize the scene (zoom).
A short click near the edge of the joystick just moves the camera a fraction.

Accessing Presets

Presets are fixed camera positions. Presets can be saved (see: *Section Functions Tab, page 26*). The list of presets is shown under the joystick panel.



- ▶ Click ,  or .

The camera moves to the preset position.

Presets are saved separately for each camera. If you select a monitor to which another camera is allocated, other presets will be displayed.

Additional Options

You can configure further camera control settings under the joystick panel.

- ▶ Click .

The additional options are shown.

Lens Tab



The options only have an effect on the image display if the selected camera supports these options.

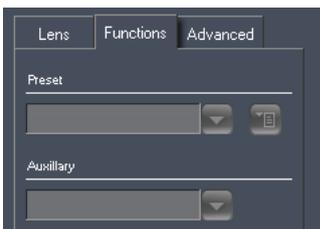
Iris

-  Closes the camera iris (image becomes darker)
-  Opens the camera iris (image becomes lighter)
-  Activates the automatic iris

Focus

-  Focus on objects in close-up range
-  Focus on objects in the distance
-  Activates the auto focus

Functions Tab



You save presets here. These settings are defined once and saved; they can then be directly accessed at a later time by clicking on them (see: *Section Accessing Presets, page 25*). You can also use this tab to access other functions offered by the camera.

1. Pan the camera to the required position.
If you configure zoom settings, these are also saved.

2. Click .

The **Preset Editor** appears:



3. Select the number of an existing preset to overwrite it or enter a new number to add further presets.
4. Click .
5. Give the preset a name.
6. Click .

The preset's number and name are saved.

The three default presets are always occupied and can be selected directly. From the fourth preset, saved camera positions are selected via the preset list of additional settings. Depending on the active camera, additional functions may be available; these can be called up via the **Auxiliary** list.

Advanced Tab

Further camera control options are offered here, depending on the currently connected camera. For example, with some cameras you can call up a screen menu with advanced options. For cameras with no additional options, this tab remains empty.

3.4.2 Controlling the Camera with the Mouse Cursor

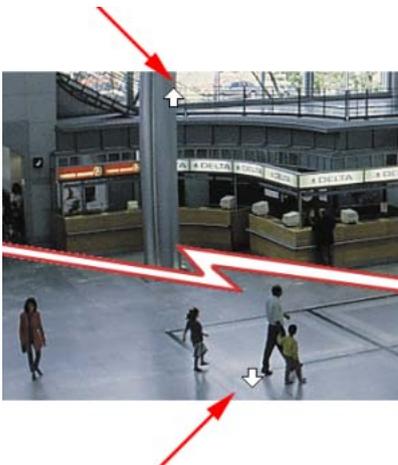
Alternatively, you can control cameras directly with the mouse cursor. This allows you to control the camera in the full screen display too, for example.

1. Click the monitor you require to activate it.
The active monitor is outlined in green.

2. Move the cursor to the right or left edge of the monitor.
The cursor changes into an arrow:



3. Click the mouse button for short movements
or
hold the mouse button down for longer range panning.
4. Move the cursor to the top or bottom edge of the monitor.
The cursor changes into an arrow:



5. Click the mouse button for short movements
or
hold the mouse button down for longer range tilting.
6. Move the cursor to a corner of the monitor. The cursor
changes into an arrow.

7. Click the mouse button for short movements
or
hold the mouse button down for longer diagonal camera movements.
8. Use the mouse scroll wheel to zoom in or out:
 - If you scroll the wheel up, the cursor changes into a magnifying glass with a plus sign, and the camera zooms in:

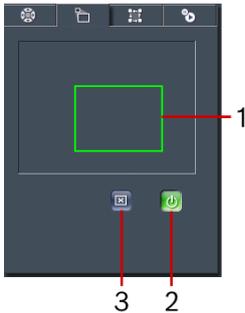


- If you scroll the wheel down, the cursor changes into a magnifying glass with a minus sign, and the camera zooms out:



3.5 Software Zoom

The digital zoom tool allows you to display an enlarged view of a view port.



- 1** View port displayed with active zoom
 - 2** Activate zoom/Deactivate zoom
 - 3** Reset view port
1. Click **Activate zoom** to use the software zoom on the image on the active monitor.
 2. Move the mouse into the green rectangle. When the mouse cursor changes, you can hold down the left mouse button and move the rectangle to display a different view port on the active monitor.
 3. Drag any corner or side of the rectangle with the left mouse button held down to change the size of the selection rectangle.
The view port on the active monitor changes accordingly.
 4. Click **Reset view port** to display the selection rectangle at the preset size and in the center.
 5. Click **Deactivate zoom** to show the entire image from the camera on the active monitor again.

You can display the data from the same camera several times by connecting the same camera with several monitors; this allows you to enlarge different extracts.

3.6 Camera Tours

A camera tour is the recording of a defined sequence of changing camera allocations to a single monitor. A camera tour is a virtual tour.

You can create up to eight camera tours in Viewer.



- 1 List of camera tours
- 2 Show/hide Camera Tour Editor
- 3 Camera Tour Editor

When a camera tour is called up, video data from different cameras is shown in sequence on the active monitor. This allows you to systematically supervise a large area monitored by several cameras.

Calling up a Camera Tour

1. Click the monitor you require to activate it.
The active monitor is outlined in green.
2. In the list, click the number before the camera tour you require.
The camera tour starts in the active monitor.

Creating a Camera Tour

1. Click .
The additional options containing the settings for recording and editing camera tours are shown.
2. Click the **Learn** tab.
3. In the list, click the number before the camera tour you require.
The camera tour number remains lit up in green and the name of the selected camera tour appears in the **Name** field.
4. Give the camera tour a new, descriptive name.
5. Enter a value (in seconds) for **Delay**.
This value determines the length of time the camera tour displays the transmitted images from the camera concerned. If you do not enter anything here, the default value (10 seconds) will be used.
6. Start the recording. To do this, click  on the **Learn** tab.
During recording, the camera tour number flashes green.
7. Hold the right mouse button down and drag a camera from the camera list to the active monitor.
The number of the next step of the camera tour is displayed under **Status**.
8. Repeat the process until all camera tour steps you require have been set up.
9. End the recording. To do this, click  again.
10. Click  if you want to cancel the recording.

Editing a Camera Tour

1. In the advanced settings, click the **Edit** tab.
2. Click .
This stops all camera tours and switches to editing mode.
3. In the list, click the number before the camera tour you require.
The camera tour number remains lit up in green.
4. Make all the required changes.
Here, you have the following options:
 - You can change the name of the camera tour.
 - You can change the duration for individual steps.
 - You can connect other cameras for individual steps.
5. Click  or  to go to the previous or the next step.
The name of the camera being used in the current step is displayed under the active monitor.
6. After each change, click  to save it (the button is only active if the camera tour has been changed)
or
click  to cancel the edits made to this camera tour.
7. Repeat steps 3 to 6 until all the required changes have been made.
8. Click .
This exits editing mode.

3.7 Instant Replay

On the Instant Replay tab, you can display the most recently saved video data from the camera connected to the active monitor in parallel to the live view.

Remote station recording is configured in the Web browser view of the device concerned or using Configuration Manager.



- 1 Timeline with playback marker
- 2 Save screenshot
- 3 Print screenshot
- 4 Control wheel (fast forward/rewind)
- 5 Next frame
- 6 Previous I-frame
- 7 Pause/Play

Provided that the relevant password is saved in Configuration Manager, instant replay will start in the small window as soon as you open the tab. The scope of the time period played back depends on the settings in Configuration Manager (see: *Section 2.5 Configuration with Configuration Manager, page 10*). Various playback controls are located under the window showing the recording:

Timeline

The timeline is used to navigate within the recorded data. The green playback marker indicates the time at which the image currently displayed was created. Periods for which a recording is available are displayed in light gray.

- ▶ Click any point on the timeline.
The playback marker jumps to the position you clicked and playback begins at this point.

The period displayed in the timescale can be changed:

- You can move the period displayed by moving the mouse along the timescale with the left mouse button held down.
- You can broaden or refine the time period displayed by placing the mouse cursor in the timescale above the timeline and scrolling (only possible if the mouse has a scroll wheel).

Further Controls



Control wheel (fast forward/rewind)

Fast forward or rewind the recording.

To do this, drag the control wheel to the left or right with the mouse button held down. The further you drag, the faster the recording is fast forwarded or rewound.



Pause/Play

Use this button to pause playback of the selected recording and click again to resume playback.



Previous I-frame

Jumps back to the previous I-frame.

An I-frame is a complete picture produced regularly in a video stream, while the individual frames between them only record the changes. The frequency of I-frames is set on the video sender (details can be found in the manual for the relevant device).



Next frame

Jumps forward to the next frame.

**Save screenshot**

Saves a screenshot from the recording being played back in the specified folder

**Print screenshot**

Saves a screenshot from the recording being played back and prints it on the PC's default printer

3.8 Exiting the Program

Select **File > Exit** from the main menu when you want to exit Viewer.

4 Appendix

Troubleshooting

If you are unable to resolve a malfunction, please contact your supplier or systems integrator, or go directly to Bosch Security Systems Customer Service.

The following table is intended to help you identify the causes of malfunctions and correct them where possible.

Malfunction	Possible causes	Recommended solution
No connection established	Incorrect installation or configuration of Viewer	Use the Configuration Manager program to correctly integrate devices
	Incorrect IP address	
No additional allocation of devices possible	License expired	Purchase a license for more video channels
Monitor shows screenshots instead of video	Decoding instances limited by user	Use Configuration Manager to increase the number of possible decoding instances
Camera cannot be moved	No controller selected	Use Configuration Manager to select a controller for the camera you require
Camera can only be moved slowly; images transmitted with a delay	Network overloaded	Decrease the number of network accesses, for example by reducing the number of possible decoding instances via Configuration Manager

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