



# Operator's Guide

PSIM 2.0 (english)

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# 1 List of terms used

In the *Axxon PSIM Operator's Guide* the following terms are used.

1. System – video surveillance and audio monitoring digital system based on the *Axxon PSIM* software system.
2. Software – *Axxon PSIM* software system.
3. Screen – virtual object that displays various dialog boxes (monitors, audio players, PTZ control panels etc.) that assist the Operator to work with the software.
4. Video surveillance monitor – interface window for displaying and controlling surveillance windows.
5. Surveillance window – interface window which displays the video image that comes from the surveillance camera. The surveillance window includes interface elements, used to control and display data messages.
6. Audio player – interface window containing elements that allow monitoring and recording the microphone audio signal.
7. Backup archive – function module used to work with the backup archive.
8. Map – on-line graphical chart of the distributed system used to monitor and control external system devices (cameras, microphones, beams, relays).
9. Universal PTZ control panel – interface window used to control System PTZ units (e.g. surveillance camera equipped with PTZ and connected to the System). User's dialog box – interface window with user's set of control elements used to control various system devices and modules.
10. The alarm notification window – interface window used to inform the Operator of registered alarm and system events.
11. Event log – interface window used to display data on events, registered by System (with data event type filtration).
12. Object list – interface window used to control object status on Location Map.
13. Client – computer with **Client** type of *Axxon PSIM* software.

## 2 Operator's Guide. Introduction

### On the page:

- [Axxon PSIM software function](#)
- [General recommendations on Axxon PSIM software based security system applications](#)
- [Personnel skills requirements](#)

### 2.1 Axxon PSIM software function

*Axxon PSIM* software is designed to build industrial scalable and flexible (adaptable) integrated security systems based on video surveillance and audio monitoring digital systems.

*Axxon PSIM* software is to be used as a basic software environment with the following functionality:

1. Building video surveillance and audio monitoring digital systems and integration with joint data systems, various types of security equipment, auxiliary 3rd party application software via integrated OMI.
2. Compatibility with a wide range of security devices and data security systems, particularly fire alarms, access control, surveillance cameras, data systems for object (event) analysis, recognition and identification on video.
3. Central recording and processing of events, notification generating and various functions control on the base of flexible algorithms.
4. Exclusive scaling features, adaptation to actual task, resources used redistribution according to actual number and content of the protected facilities monitoring tasks.

### 2.2 General recommendations on Axxon PSIM software based security system applications

The following is recommended for correct application of *Axxon PSIM* software based security systems:

1. to follow duty instructions;
2. to use the system only for its intended purpose;
3. not to use 3rd party application software if it is not a software component on basic computers with *Axxon PSIM* software.

### 2.3 Personnel skills requirements

For correct Software application, Operator shall meet qualifying requirement to *Axxon PSIM* software Operator.

## 3 General description of Axxon PSIM

*Axxon PSIM* is the multifunctional open PSIM platform that allows creating integrated security solutions of any scale. The basic distribution package contains the core and the modules that provide general and service functions.

The full list of features and technical specifications can be found in [Axxon PSIM functionality](#) and [Axxon PSIM restrictions](#).

General description of *Axxon PSIM* main features can be found in this section.

### **Axxon PSIM core**

*Axxon PSIM* core transfers information and interconnects all integrated subsystems and *Axxon PSIM* software components. The core is the base that is complemented with functional modules in order to build the complex security system.

### **Video surveillance and audio control**

Video surveillance and audio control are the main functions performed by *Axxon PSIM*-based security systems. *Axxon PSIM* video subsystem offers all advantages of distributed architecture, comprises powerful video analytics functions, guarantees high-quality video image as well as operation stability and usability and allows connecting PTZ devices.

### **Multistreaming**

Several video streams incoming from a camera are supported in the *Axxon PSIM*-based security system — multistreaming.

*Axxon PSIM* supports up to 4 video streams that can be used:

- To be displayed on the local monitor as well as transferred to the remote workstations;
- To be recorded to the archive;
- For video analytics.

### **Managing streams in the network**

*Axxon PSIM* performs important digital stream processing functions using the GreenStream technology:

- Auto adjusting the video resolution depending on the display mode;
- Auto adjusting the video stream FPS depending on the network bandwidth;
- Parallelizing digital streams using the Videogate module.

### **GreenStream technology**

Streams transmitted by IP cameras can have multiple resolutions and FPS. Video from cameras is not always displayed with the highest resolution at Remote Client. The system automatically selects the stream with the resolution sufficient for displaying.

### **Access via web browser and mobile apps**

Remote access to the system via the browser and the mobile client (iOS and Android platforms) boosts the monitoring functions making it possible to monitor security systems even when your PC or laptop is unavailable or far away.

### **Analog and IP cameras**

*Axxon PSIM* platform is integrated with wide range of equipment including IP cameras and IP Servers by more than 120 vendors. IP cameras support in *Axxon PSIM*-based video surveillance system is implemented through the Drivers Pack module that was specially developed by AxxonSoft. The support for new IP devices is added regularly to the Drivers Pack module.

Drivers Pack allows adding the support for new IP devices to *Axxon PSIM* without waiting for the release of the next *Axxon PSIM* version. It is not necessary to reinstall *Axxon PSIM*.

**ONVIF**

AxxonSoft is a member of [ONVIF](#) (Open Network Video Interface Forum). ONVIF is an organization dedicated to the development and promotion of the international interface standards for the security and surveillance network systems. ONVIF is supported in all versions of Drivers Pack, starting from the 3.1.3 version.

**Notification systems**

SMS and MMS notifications, e-mails with attached video fragments, Telegram bot notifications and voice messages notify persons in charge in case of emergencies and other accidents.

**Smart functions**

*Axxon PSIM* performs smart functions — automatic and partly automatic scripts of reactions to the events as well as powerful video analytics functions. Smart functions optimize security service performance making it more productive.

**Extended functionality**

Extra functional modules are capable of performing a wide range of tasks such as ACS/FAS integration, control over point-of-sale and ATM transactions, license plate and railcar number recognition and more.

## 4 Axxon PSIM software operation

### 4.1 Axxon PSIM start and shutdown

#### On the page:

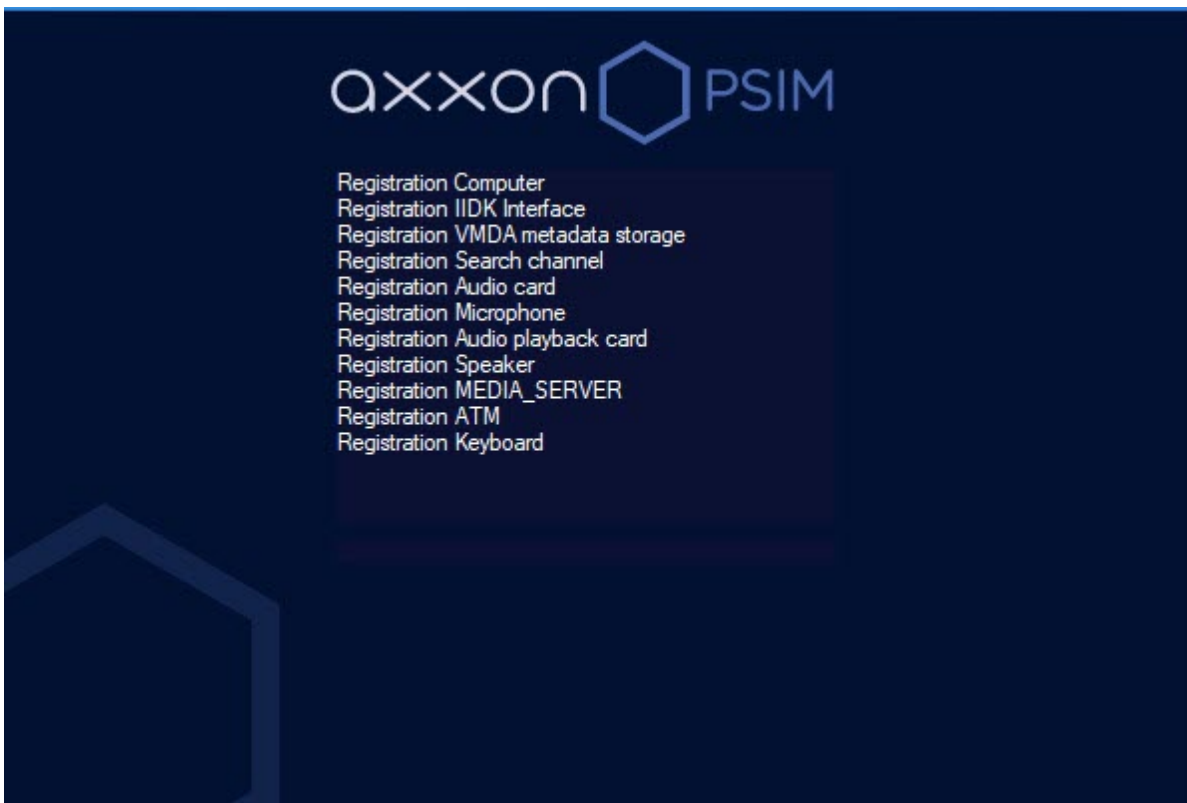
- [Start](#)
- [Confirmation by supervisor](#)
- [Password change at logging in](#)
- [Two-factor authentication](#)
- [Shut down](#)

#### 4.1.1 Start

Before start working with the software it is recommended to make sure that all system units: connections, cameras, microphones etc. are functional.

The software can be started:

1. Automatically. The software starts automatically as Windows starts.
2. Manually. To start the program manually, select the **Client workstation** item in the Windows Start Menu (**Start** → **Axxon PSIM** → **The Client workstation**) or use the shortcut on the desktop.



**Note**

If there is no license key and *Axxon PSIM* is started in the demo mode, then there is the login attempt can be made in 60 seconds.

The number of attempts to enter the password and the timeout for the next attempt can be changed using the URAttempts and URDelay registry keys—see [Registry keys reference guide](#).

Login and password are not required when Windows account information is used. To start *Axxon PSIM*, click the **Registration** button. The **Login** and **Password** fields must be empty.

#### 4.1.2 Confirmation by supervisor

Confirmation by supervisor is required when the user logs in to the system, and the authorization by four-eyes rule is configured in the system. After clicking the **Registration** button, you will be prompted to enter the supervisor login and password. After entering the supervisor password, click the **Registration** button again.



### 4.1.3 Password change at logging in

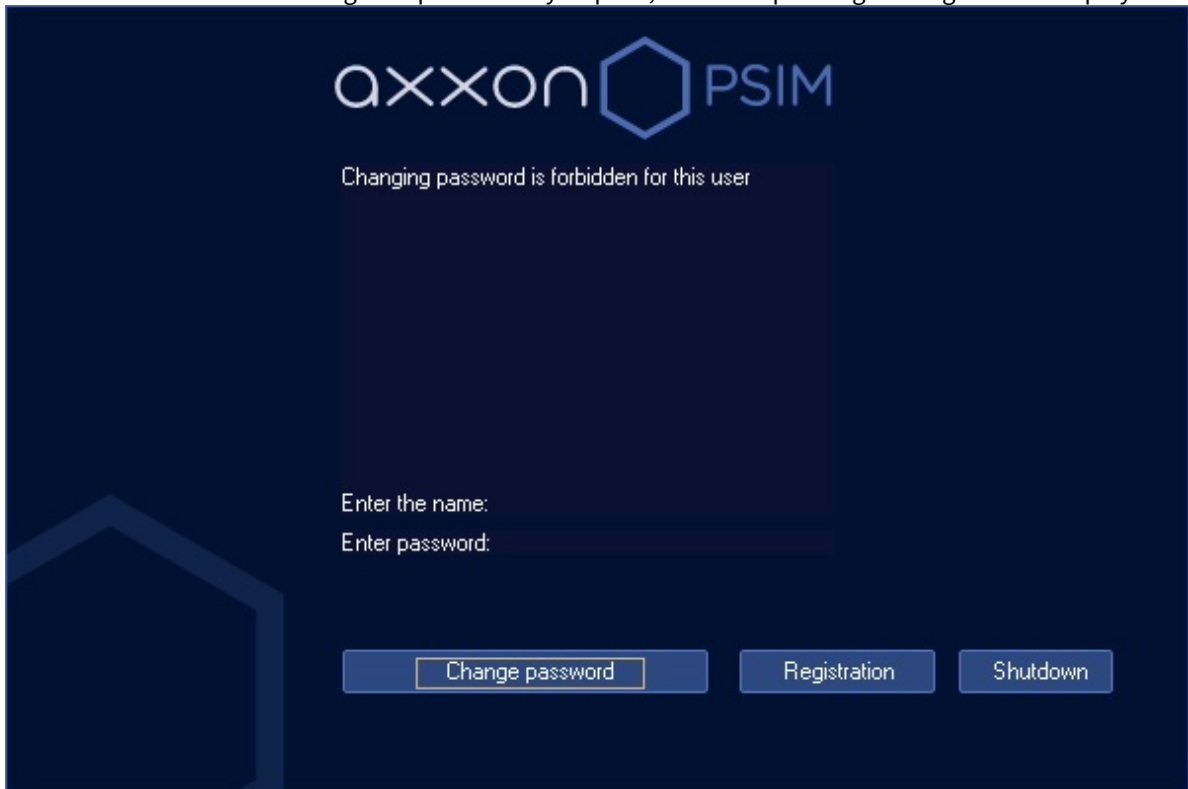
The password change may be required if *Axxon PSIM* is configured accordingly. It may occur at the first user login to the system or after the current password time-out. In this case, after you click the **Registration** button, you will be prompted to enter and confirm the new password.

The password can be changed by user request if *Axxon PSIM* is configured accordingly. In this case, click the **Change password** button and then enter and confirm the new password.



**Note**

If the user is forbidden to change the password by request, the corresponding message will be displayed:



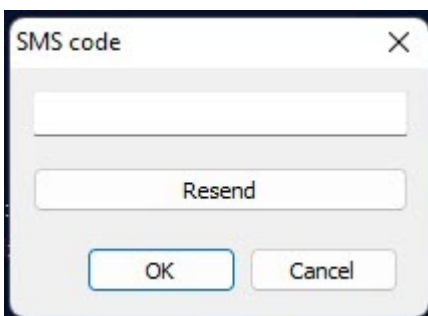
**⚠ Attention!**

The new password shouldn't coincide with the old one.

To start *Axxon PSIM* after entering the new password, click the **Registration** button.

#### 4.1.4 Two-factor authentication


The two-factor authentication function can be configured in *Axxon PSIM* requiring login confirmation by SMS code—see [Configuring two-factor authentication](#). In this case, after entering the login and password and clicking the **Registration** button, a short message with the code will be sent to the user's phone number. Enter this code in the **SMS code** box that opens, and then click the **OK** button.




If the message with the code is not delivered, you can click the **Resend** button to send the code again but not less than in 10 seconds after the previous resend.

## 4.1.5 Shut down

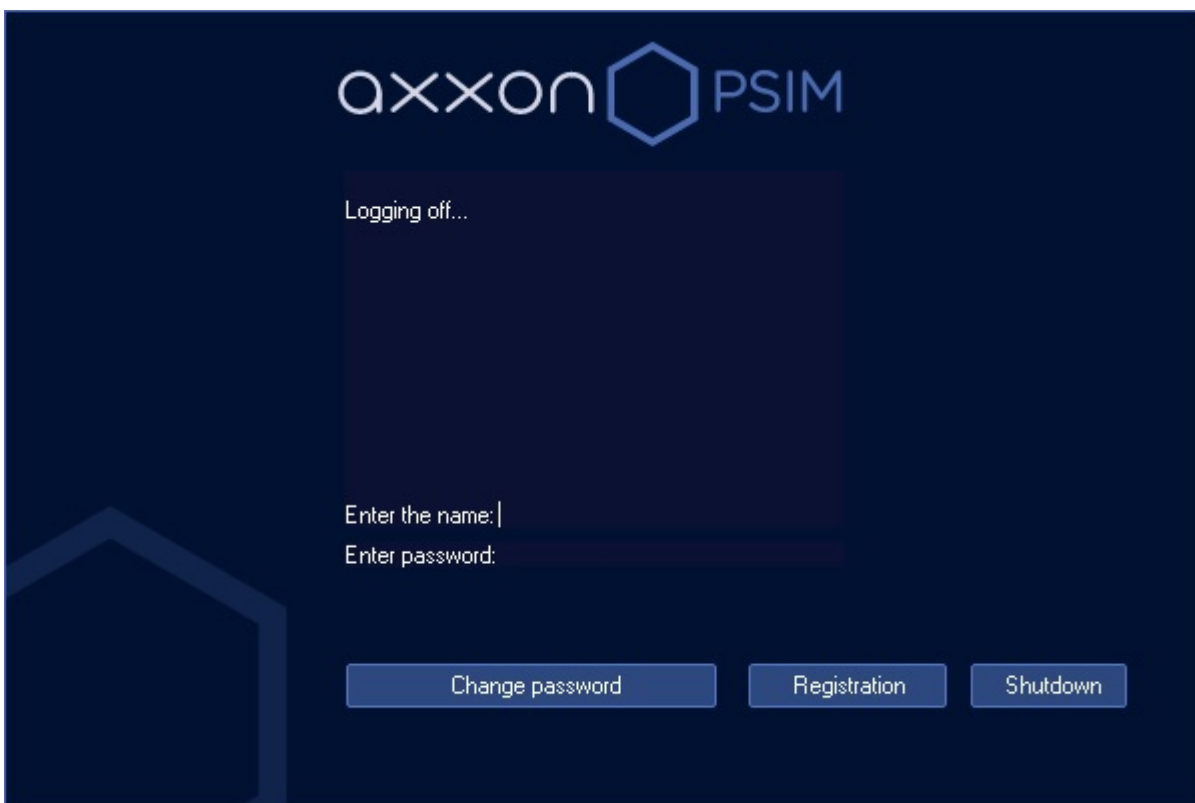
To finish *Axxon PSIM* operation, do the following:

1. Move the cursor to the top right corner of the program window, then the main program control panel will appear.
2. Click the  icon on the software main control panel.
3. Choose the **Log Off (User Name)** option in the menu.

### Note

The **Log off (User Name)** item is also available from the menu which is opened by clicking the  icon with the left mouse button in the Windows system tray.  
User name may not display if User permissions are not configured in *Axxon PSIM*.

Program exit will start, and the system can be configured to request a password again.



### Note

When shutting down *Axxon PSIM* in Client configuration in a way that somehow differs from one listed above, particularly when restarting the computer without shutting down *Axxon PSIM*, the interface parameters may remain unsaved. For example, the data about saved layouts on the Video Monitor can be lost.

**Note**

In some configurations *Axxon PSIM* shutdown (logging off) may be forbidden. Then no **Log Off (User Name)** option will be displayed in the menu.



Launching the Remote Client is described on the [Operations using the Client](#) page.

## 4.2 Axxon PSIM software user interface

### 4.2.1 Main control panel

#### On the page:

- [Function](#)
- [Functions](#)
- [Interface description](#)

#### Function

The main control panel is a basic element of *Axxon PSIM* control interface.

#### Functions

The main control panel provides access to the following program functions:

1. System operation startup and completion;
2. Program settings;
3. Control of the program interface windows display;
4. Displaying service messages;
5. Manual launching macros;
6. Displaying data on the current program version.

#### Interface description

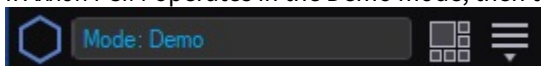
The main control panel is placed in the top right corner of the screen.



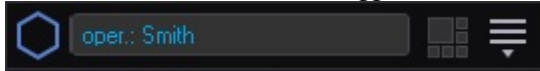
In a dormant state, the panel is automatically removed from the screen. To return it, simply move the cursor to the top right corner, then the main program control panel will appear on the screen.

Elements of the main panel interface of *Axxon PSIM* are described below.

1. Information box. The information window is used for prompts on program operation and error messages. If *Axxon PSIM* operates in the Demo mode, then there will be the corresponding message in this box.



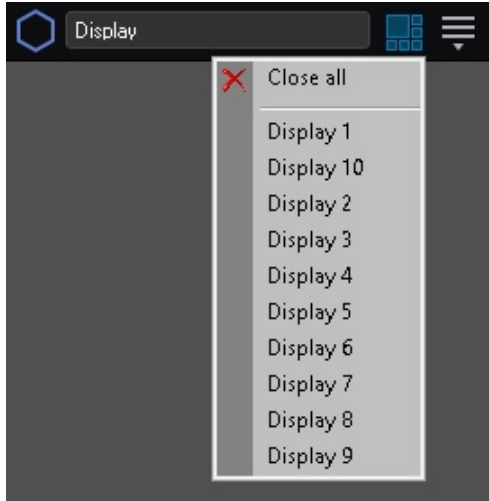
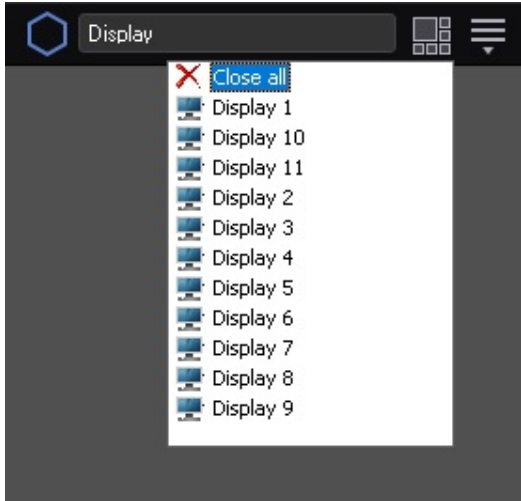
If *Axon PSIM* runs with a user logged in, the user's last name is displayed in the information box.



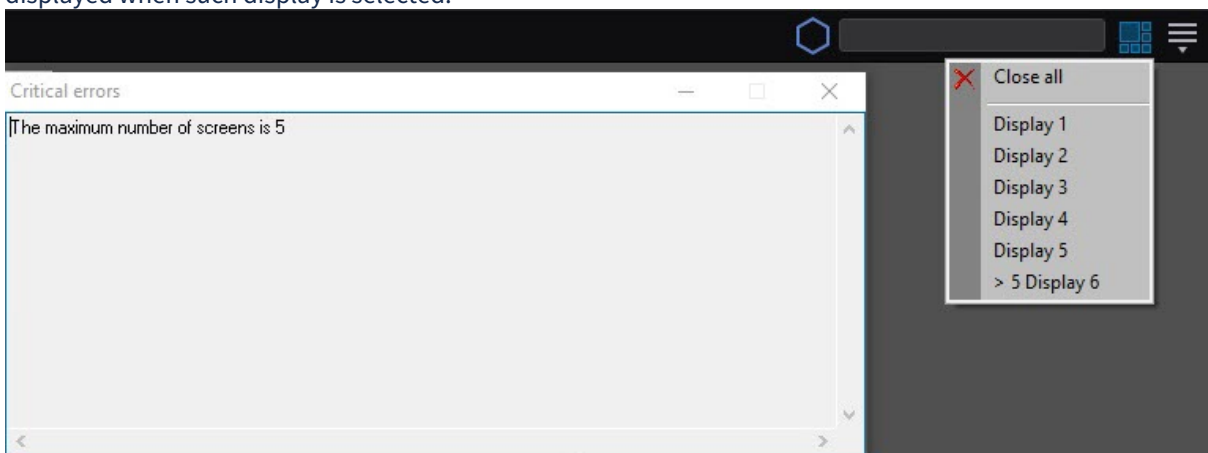
The messages in the information box change every several seconds.


- The **Interfaces** button . It is used to select and display interface windows on the desktop. The **Close all** item hides all visible program windows.

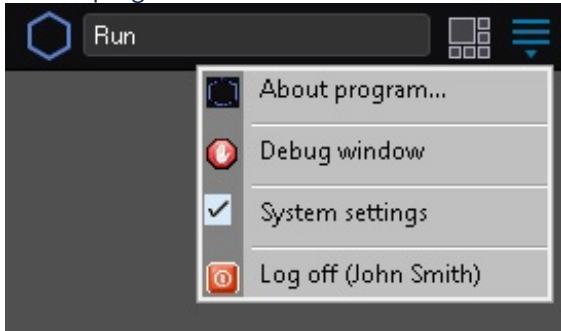
The list may appear in two different ways depending on the number of the displays: if there are more than 50 of them, the list changes giving the ability to scroll itself by mouse wheel. Use the `max_disp_menu_items` registry key to change the threshold value (see [Registry keys reference guide](#)). On the figures below, see the list of screens with `max_disp_menu_items = 10` and the number of screens 10 and 11, respectively.

	
<p>There are 10 displays in the list, so mouse scroll is not available</p>	<p>There are 11 displays in the list, so mouse scroll will be available if the list size exceeds the size of the computer monitor</p>

Also, the `DISPLAY_MAX_NUM` registry key may limit the number of displays assigned to one computer (500 by default). In this case, when more displays are assigned to the computer than allowed by the key, some of the screens are marked with **> N** in the list, where N is the maximum number of displays; the error message is displayed when such display is selected:



3. The **Execute** button . Provides access to various program control functions: startup, logging out, program settings, manual launching of macros, calling up the debug window and displaying data on the current program version



Description of hot keys which are used when the Main panel operation is given in the following table.

**Note**

These hot keys can be disabled using the RegisterF10andF11 registry key—see the [Registry keys reference guide](#).

Key	Description
<b>F10</b>	Functions if all screens are hidden. The last displayed screen is shown when clicking the button
<b>F11</b>	Functions if a screen is displayed when clicking the button. Hides screen when clicking. Clicking this hot key is similar to selecting the <b>Hide all</b> item in the <b>Execute</b> menu of the Main control panel

## 4.2.2 Video surveillance monitor

**On the page:**

- [Function](#)
- [The functions list](#)
- [Interface description](#)

### Function

The **Video surveillance monitor** is used for displaying and managing the **Surveillance windows**. The Surveillance windows display video from the specified **Cameras**.

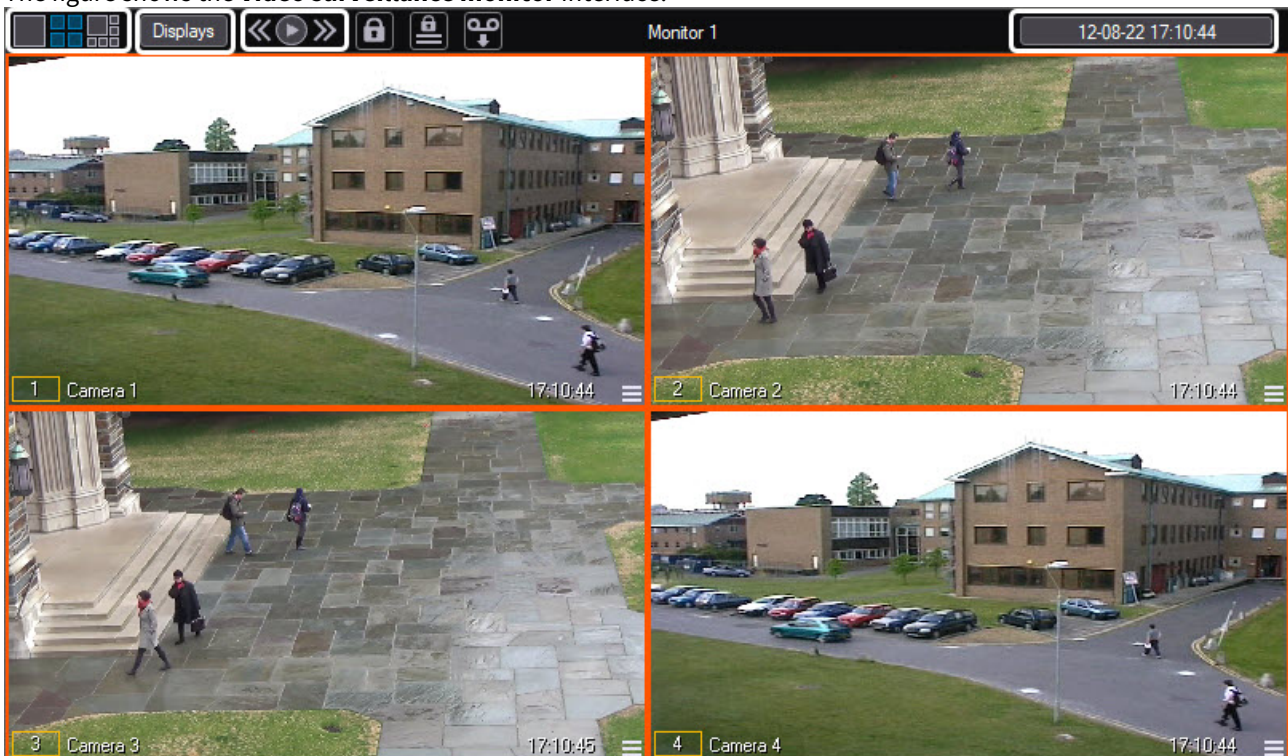
## The functions list

The **Video surveillance monitor** implements the following functions:


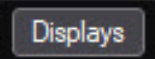

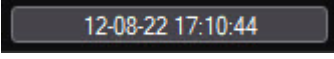
1. Display images from the video surveillance cameras.
2. Manage the surveillance modes.
3. Graphically process the images from the video surveillance cameras.
4. Manage video recording from the video surveillance cameras.
5. Work with video archives.
6. Display video camera status data.

## Interface description

The figure shows the **Video surveillance monitor** interface.



The **Video surveillance monitor** window consists of a field for displaying the **Surveillance windows** and the toolbar above it with the following items:

1. The  buttons are used to change the number of the displayed Surveillance windows on the Video surveillance monitor.
2. The  button is used to manage the layouts.
3. The  buttons are used to switch the Surveillance windows.
4. The  field displays the current time and date.

### Note

You can change the format for displaying the archive date and time. To do this, go to the **Security zone** object on the **Date and time format** tab (see [The Settings panel of the Security zone object](#)). After you select the required format, it is necessary to restart *Axxon PSIM*.  
 If the **Debug mode** is enabled in *Axxon PSIM* (see [The Debug window](#)), then information about the transmitted video stream is displayed instead of the date and time (see [Frame rate settings](#)).

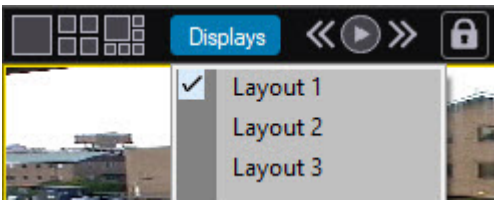
Every **Surveillance window** has function menu to access such functions as arming and disarming video camera, image processing, video recording managing, frame exporting and printing, etc. The **Surveillance window** can also display the **Buttons** for performing the specified actions when you click them:



Left click the video camera number in the **Surveillance window** to display the function menu (see the figure below).



When hovering over the control elements in the **Video surveillance monitor**, the tooltips are displayed. The period of their display can be set using the TT\_INITIAL and TT\_AUTOPOP registry keys (see [Registry keys reference guide](#)).



The keyboard shortcuts ("hotkeys") for convenient **Video surveillance monitor** and **Surveillance windows** operation are listed in the table.

Keyboard shortcuts ("hotkeys")	Function	Comments
<b>0 .. 9</b> Num (numeric keyboard)	Select an active Surveillance window with the camera ID in the range from 0 to 9	The sequence number of the Surveillance window corresponds to the key digit
<b>Ctrl + 0 .. 9</b> Num (numeric keyboard)	Select an active Surveillance window with the camera ID in the range from 10 to 19	To enable the cameras with the ID 10-19, press Ctrl and the key corresponding to the low-order digit. For example, CTRL+0 enables the camera 10, CTRL+9 enables the camera 19
<b>Ctrl + 10</b> or more on numeric keyboard	Select an active Surveillance window with a sequence number from 10	To enable the camera with the two-digit ID, press Ctrl and sequentially enter the digits. For example, CTRL+2+3 to enable the camera 23
<b>F1 .. F6</b>	Select the number of the displayed Surveillance windows	<p><b>F1</b>—1 window</p> <p><b>F2</b>—4 windows</p> <p><b>F3</b>—9 windows</p> <p><b>F4</b>—16 windows, etc.</p> <p><i>Note. The documentation can also be opened by pressing the F1 key if Axxon PSIM is set up accordingly (see <a href="#">The Settings panel of the Security zone object section in Administrator's Guide</a>)</i></p>
<b>F7</b>	Display all Surveillance windows on the Video surveillance monitor. This key can only be used if there are more than 36 Surveillance windows in the Video surveillance monitor	

Keyboard shortcuts ("hotkeys")	Function	Comments
<b>F8</b>	<p>In the archive mode — select the date and time for searching records. Long press — display the <b>Execute</b> menu of the Main control panel</p> <p>In the video surveillance mode — display the <b>Execute</b> menu of the Main control panel</p>	<p>This hotkey can be disabled using the DisableF8 registry key (see <a href="#">Registry keys reference guide</a>)</p>
<b>F9</b>	Display the function menu of the Surveillance window	
<b>Ctrl + R</b> <b>Ctrl + T</b>	Manage video recording	<p><b>Ctrl + R</b>—video recording start</p> <p><b>Ctrl + T</b>—video recording stop</p>
<b>Shift + LeftClick/ RightClick</b>	Image scaling in the Surveillance window	<p><b>Shift + LeftClick</b>—step-by-step zoom in</p> <p><b>Shift + RightClick</b>—step-by-step zoom out</p>
<b>Tab</b>	Switch the active Surveillance window into the archive mode and back	<p>See <a href="#">Working with video archives</a></p> <p>By default, pressing <b>Tab</b> redirects the user to the main archive of the Server. If the user should be redirected to the external archive, it is necessary to use the EnterEdgeStorageDirect key (see <a href="#">Registry keys reference guide</a>)</p>
<b>Ctrl + / (on numeric keyboard NumPad)</b> <b>Spacebar</b> <b>Ctrl + * (on numeric keyboard NumPad)</b> <b>Left/Right arrow</b>	Manage archive playback (playback control panel)	<p><b>Ctrl + / (on numeric keyboard NumPad)</b>—playback</p> <p><b>Spacebar</b>—stop</p> <p><b>Ctrl + * (on numeric keyboard NumPad)</b>—pause</p> <p><b>Left/Right arrow</b>—previous/next frame (in pause mode)</p>
<b>Ctrl + A/D</b>	Camera arming	<p><b>Ctrl + A</b>—camera arming</p> <p><b>Ctrl + D</b>—camera disarming</p>

Keyboard shortcuts ("hotkeys")	Function	Comments
<b>Ctrl + E/P</b>	Operations with individual frames	<b>Ctrl + E</b> —behaviour depends on the state of the camera. If the camera is not in the archive, or in the archive but paused, the frame is exported. Otherwise the video is exported. When the video is exported, the exported frames are played back <b>Ctrl + P</b> —frame printing
<b>Ctrl + W</b>	Increase image contrast	Maximum contrast is set. To return to the previous value, press the hotkeys again
<b>Ctrl + S</b> <b>Ctrl + H</b>	Set camera mask	<b>Ctrl + S</b> —show camera mask <b>Ctrl + H</b> —hide camera mask See <a href="#">Use of basic video detection tools</a>
<b>Ctrl + L</b>	Enable/disable PTZ control using the mouse	See <a href="#">Mouse PTZ control</a>
<b>Home</b>	Switch to the first fragment of the video recordings list in the archive view mode	
<b>End</b>	Switch to the last fragment of the video recordings list in the archive view mode	

### 4.2.3 Audio player

#### On the page:

- [Function](#)
- [Functions](#)
- [Interface description](#)

#### Function

The audio player is used to operate the audio monitoring subsystem, that provides audio monitoring and recording for protected facilities.

## Functions

Audio player provides:

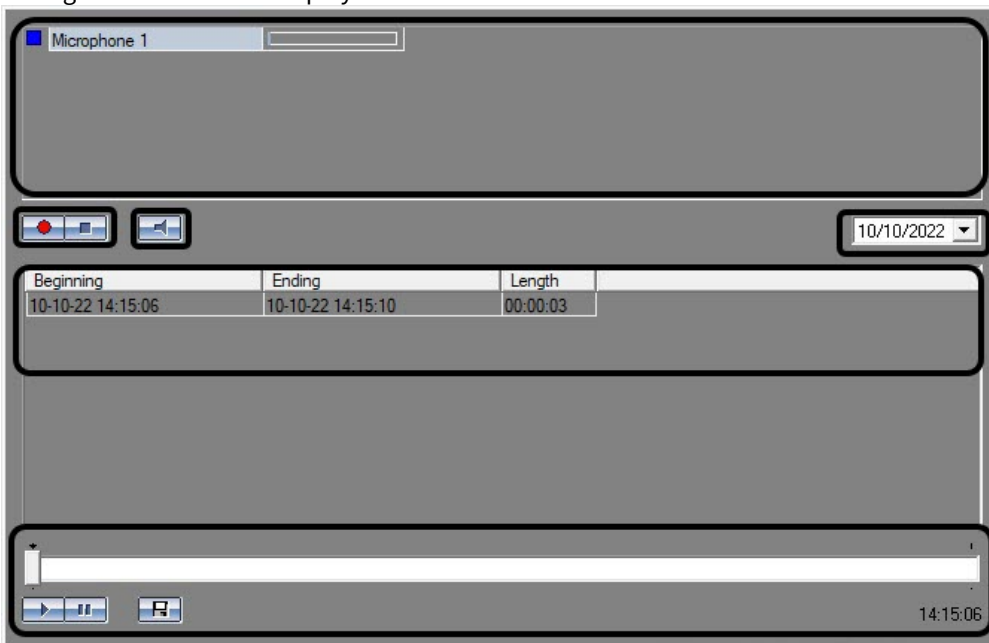
1. Realtime monitoring of the event audio component;
2. Recording of the event audio component;
3. Playback of the recorded event audio component;
4. Saving the recorded event audio component as a standard Windows wave file.

**Note**

Audio player operation requires headphones or speakers to be connected to the PC soundcard.

## Interface description

The figure shows the audio player interface.



The upper part of the audio player window displays the list of attached microphones. Each microphone has a status indicator (to the left) and microphone signal level dynamic scale (to the right) (see also [Microphone status indication](#)).

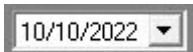


In the middle part of the audio player window the  recording control buttons are displayed (also used for microphone arming and disarming) and the  button used for switching of real time monitoring and the list of recordings made from a given microphone on a certain day.

Beginning	Ending	Length
10-10-22 14:15:06	10-10-22 14:15:10	00:00:03




Each audio recording has a from/to time and duration marks.

To choose available recordings to be viewed, enter its date in the field above the recordings list.



The tape transport panel is placed below the audio recordings list.



The  and  buttons are used for selected recording playback control, the  button is used to export the recording into the file.

#### 4.2.4 Universal PTZ control panel

**On page:**

- [Function](#)
- [Functions](#)
- [Interface description](#)

##### Function

Universal PTZ control panel is used to control System PTZs (e.g., surveillance camera PTZ).

##### Functions

PTZ control panel universal window provides:








1. Control of camera PTZ units;
2. Lens zoom control (Fig. magnification);
3. Focus adjustment;
4. PTZ user's settings.

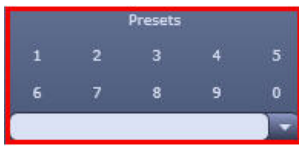
## Interface description



The figure shows the PTZ control panel universal window interface.



Elements of PTZ control panel universal window interface are described below.

1.  Minimizing PTZ control panel universal window (minimizes the client's window , leaving the header only)
2.  Choosing the camera number, whose PTZ unit is to be controlled.
3.  Setting of relative camera rotation speed
4.  Camera orientation control
5.  Lens zoom control (Fig. magnification)
6.  Focus adjustment. If a camera supports auto focus function, then this feature is enabled when you click 



7.  PTZ user settings
8.  Changing the size of the PTZ control panel

## 4.2.5 User's dialog box window

**On page:**

- [Function](#)
- [Functions](#)
- [Interface description](#)

### Function

The user dialog box window is used to control various system devices and modules.

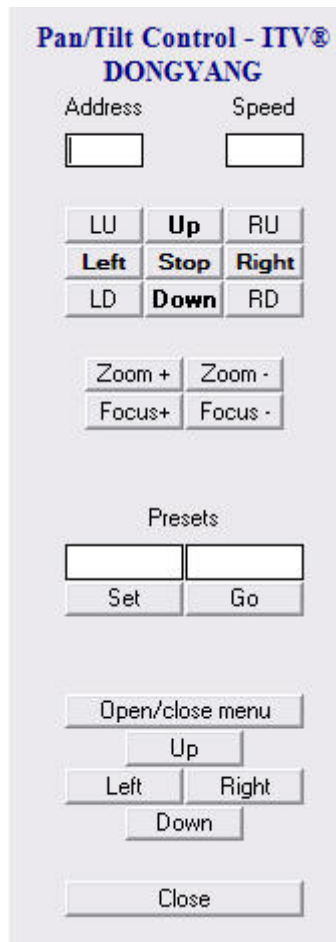
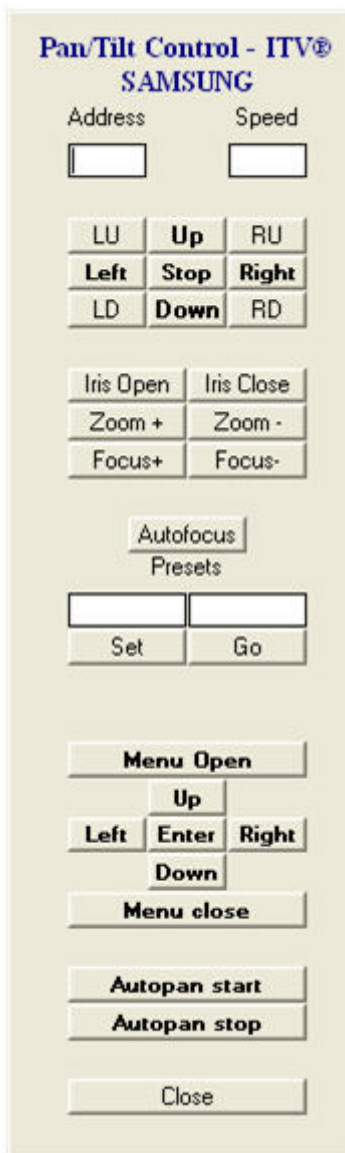
### Functions

The user dialog box window provides:

1. Control of various system devices and modules;
2. Access to System user functions.

### Interface description

The user dialog box window is the interface frame used to perform user specified functions with a user's set of elements, selected by the program administrator whilst setting up the program. Examples of user dialog box windows are shown in figures.



#### 4.2.6 Backup archive panel

**On the page:**

- [Function](#)
- [List of features](#)
- [Interface description](#)

#### Function

The Backup archive panel is used to control and manage the Backup archive.

## List of features

The Backup archive panel performs the following functions:

1. Monitoring of the Backup archive;
2. Manual video archiving;
3. Automatic video archiving;
4. Selection of the camera for which you need to perform backup archiving.
5. Setting the time interval of video recordings for archiving (for each camera individually).

## Interface description

The figure shows the interface of the Backup archive panel.

**Backup archive panel 1**

Monitoring **Schedule**

Archive beginning date

Archive end date

	Status	Object	ID	Current time	Finish on	Remaining	
<input checked="" type="checkbox"/>	⚠	Camera 1	1				
<input type="checkbox"/>	⚠	Camera 2	2				

Select all

Backup archive panel 1

Monitoring Schedule

	Camera	Initial date	Final date	Start archiving on	
<input checked="" type="checkbox"/>	Camera 1	6/4/2025 2:32:15 PM	6/4/2025 2:32:19 PM	6/4/2025 2:32:36 PM	
<input type="checkbox"/>	Camera 2				

Select all Save

The **Monitoring** tab is used to monitor and control the Backup archive, and the **Schedule** tab is used to specify the Backup archiving parameters in automatic mode.

The **Monitoring** tab contains the following elements:

1. The **Start** and **Stop** buttons for manual archiving;
2. Fields for specifying the time period of archiving;
3. Table for selecting cameras and state of archiving progress;
4. The **Select all** checkbox is used to select (deselect) all cameras at a time.

The **Schedule** tab contains the following elements:

1. Table for selecting cameras and state of archiving progress;
2. The **Select all** checkbox is used to select (deselect) all cameras at a time.
3. The **Save** button is used to save the archiving schedule.

**Note**

By default, the information about the current state of the Backup archive isn't sent to the server. If it is necessary to send the events to the server, use the ArchStatus=1 parameter of the HKEY\_LOCAL\_MACHINE\SOFTWARE\Wow6432Node\AxxonSoft\Axxon PSIM\Video registry key (see [Registry keys reference guide](#)); for the information on how to work with the registry, see [Working with Windows OS registry](#)). When you use the ArchStatus=1 parameter of the HKEY\_LOCAL\_MACHINE\SOFTWARE\Wow6432Node\AxxonSoft\Axxon PSIM\Video registry key, the window

of the Backup archive settings panel looks like this:

Backup archive panel 1

Monitoring **Schedule**

Archive beginning date 04.06.25 14:42:40

Archive end date 04.06.25 14:42:40

	Status	Object	ID	Current time	Finish on	Remaining	
<input checked="" type="checkbox"/>	⚠	Camera 1	1		6/4/2025 2:42:00 PM	Everything loaded	
<input type="checkbox"/>	⚠	Camera 2	2		6/4/2025 2:42:00 PM	Everything loaded	

Select all

Archiving video recordings to the Backup archive

## 4.2.7 Alarm Message Window

### On page:

- [Function](#)
- [Functions](#)
- [Interface description](#)

### Function

The Alarm Message Window is used to inform the Operator about registered alarm and system events.

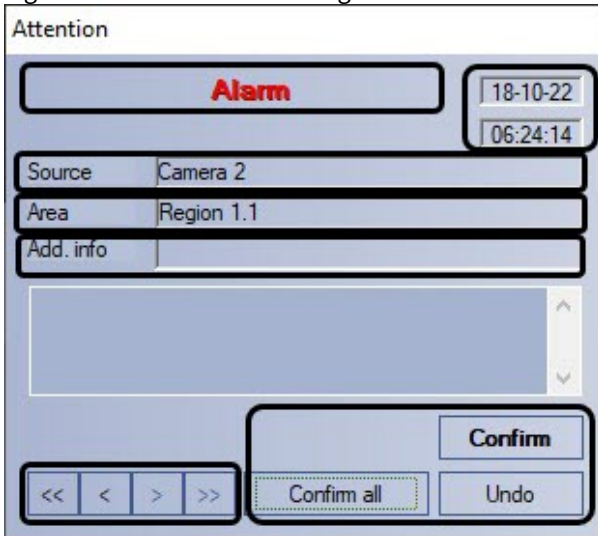
### Functions

The Alarm Message Window provides:

1. Auto notification to Operator of registered system events;
2. Auto notification to Operator of registered alarm events;
3. Operator control of processing registered alarm and system events.

## Interface description

Figure shows the Alarm Message Window interface.



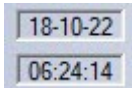
### Note

The Alarm Message Window is not displayed by default – only if the system had registered an alarm or system event is it displayed over all other windows of the program user interface. If an alarm event occurs, the notification window appears on the screen, even if no other UI elements are visible at that time.

Elements of an alarm event window interface are described below.



Event name



Date and time of event registration.



Event source object.



Virtual area (section) of event source location.



Additional information on event.



Control elements block for event processing



Control elements block for event navigation

## 4.2.8 Event viewer

### On the page:

- [Purpose](#)
- [Functions](#)
- [Interface description](#)

### Purpose

**Event viewer** is used to display data on events registered by the system (with the possibility of data filtering by event type).













### Functions

**Event viewer** has the following functions:

1. Showing the list of all events registered in the system.
2. Showing the list of events registered in the system according to the preset filter.
3. Showing data on a displayed event: event source, name, section, date and time of event registration, additional information on event.
4. Forming and printing a report on registered events.
5. Switching to event source location on the **Map**.
6. Playing back the video from the source camera in the child window of the **Event viewer**.

## Interface description

The interface of the **Event viewer** is shown in the figure.

Event viewer 1 [~12]					
<input type="checkbox"/> Show filters					
Source	Event	Region	Add. info	Card	Date and time
 Camera 3	Alarm end				8/8/2022 3:16:14 PM
 Camera 2	Alarm end				8/8/2022 3:16:14 PM
 Camera 4	Alarm end				8/8/2022 3:16:15 PM
 Camera 3	Alarm				8/8/2022 3:16:15 PM
 Camera 2	Alarm				8/8/2022 3:16:15 PM
 Camera 4	Alarm				8/8/2022 3:16:16 PM
 Camera 3	Alarm end				8/8/2022 3:16:45 PM
 Camera 2	Alarm end				8/8/2022 3:16:45 PM
 Camera 4	Alarm end				8/8/2022 3:16:45 PM
 Camera 3	Alarm				8/8/2022 3:16:46 PM
 Camera 2	Alarm				8/8/2022 3:16:46 PM
 Camera 4	Alarm				8/8/2022 3:16:46 PM



All displayed events are listed in the event table depending on the selected filters.

Column name	Comments
Source	Event source object
Event	Event name
Region	Virtual area (region) of event source location
Add. info	Additional information on event
Card	Code of the card for the events related to access (for example, ACCESS_IN)
Date and time	Date and time of event registration

The **Show filters** checkbox displays the list of event filters created when configuring the system (see [Configuring event filters for displaying in the Event viewer](#)). To activate the filter, set the checkbox next to its name. Several filters can be activated at the same time.

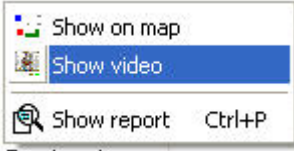
Events of different types are highlighted in different colors depending on the system settings.

The icon next the event source shows the information on the event. For example, for the **Camera** event source object the following icons are used in the **Event viewer**:

1. The  icon is displayed for the Record on disk stopped, Alarm end, Hard disk rec and Record off events.
2. The  icon is displayed for the Alarm and Armed events.

- The  icon is displayed for the Disarmed event.

For every event in the table there is a function context menu that you can access by right-clicking the line with the name of the corresponding event in the table. The particular items of the function menu depend on the event source object type. For example, the function menu of the **Camera** type event source object is shown in the figure.



The **Clear** button is used to clear the list of events in the **Event viewer**.

**Note**

After the **Event viewer** is cleared, and you want to display hidden events again, then restart *Axxon PSIM* with the **Load protocol** checkbox set (see [The parameters of the Event viewer](#)).

## 4.2.9 Operator protocol

**On page:**

- [Function](#)
- [Functions](#)
- [Interface description](#)
  - [The Current events tab](#)
  - [The Search in events archive tab](#)
  - [The Create report tab](#)
  - [The Create event tab](#)

### Function

The **Operator protocol** is used to process events registered by alarm objects and to search events in the archive.

### Functions

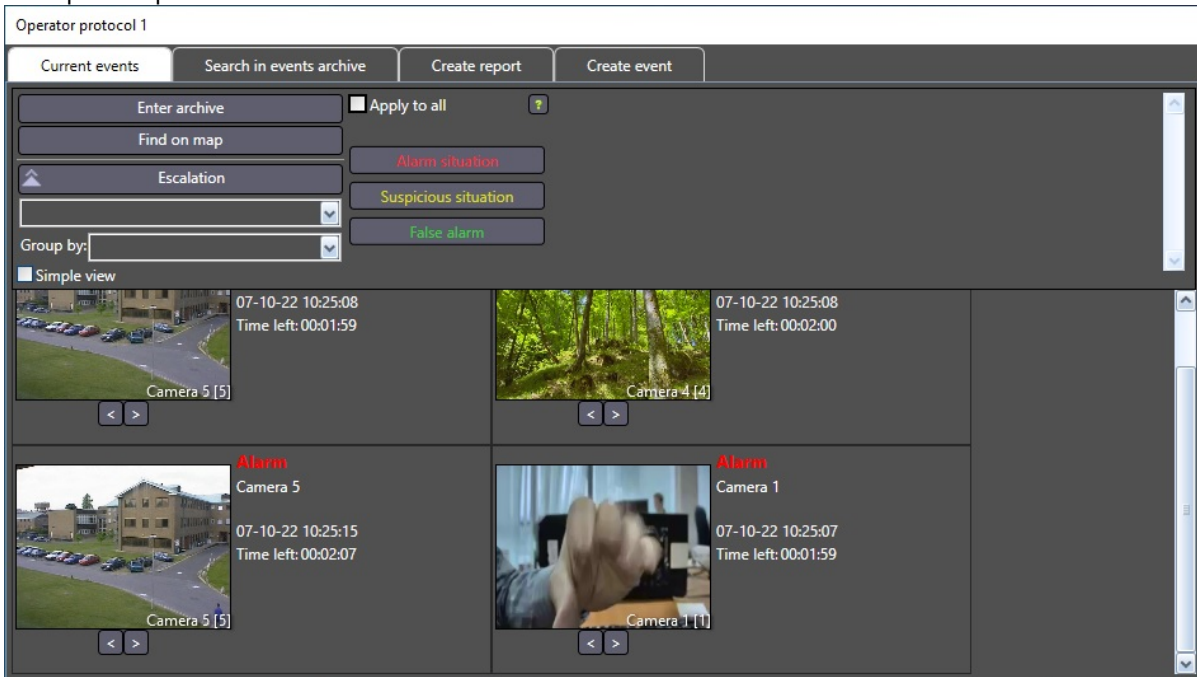
Operator protocol provides:

1. Displaying events registered by alarm objects;
2. Assigning a status (type) to the registered event;
3. Adding a comment to an event;
4. Event recording to the archive;
5. Searching for events in the archive;
6. Viewing event recording;
7. Escalating non-processed events to the operator protocol of a higher level.

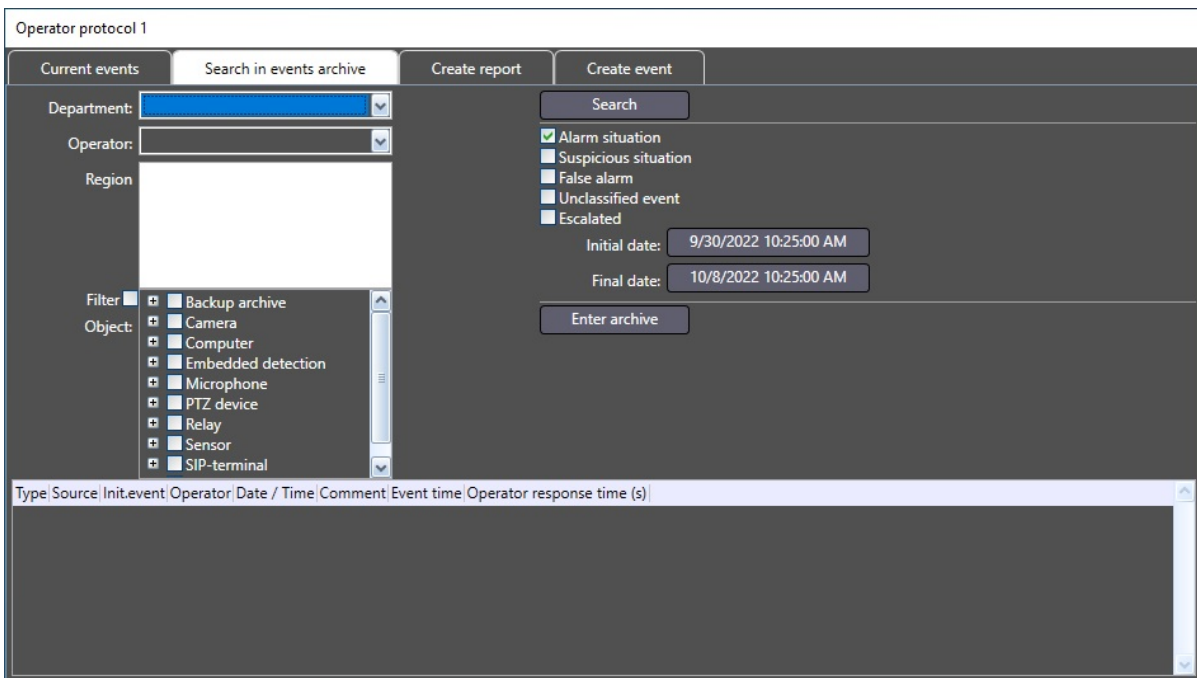
### Interface description

The operator protocol interface is shown in the following figures.

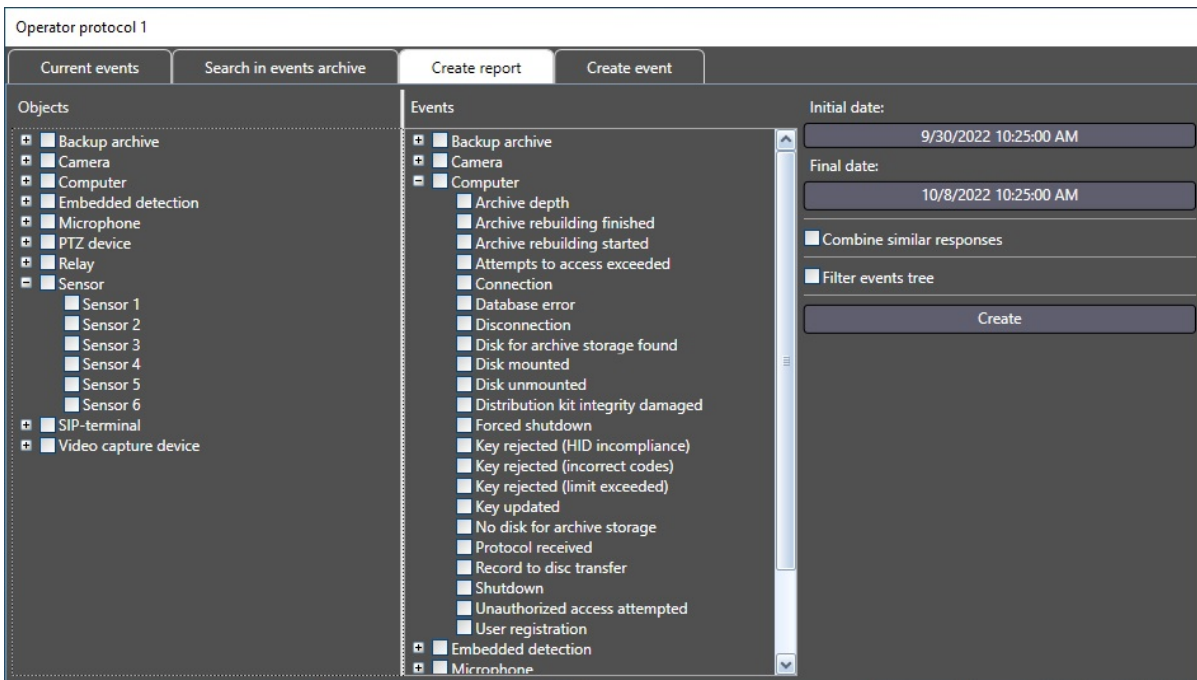
The operator protocol interface. The **Current events** tab:



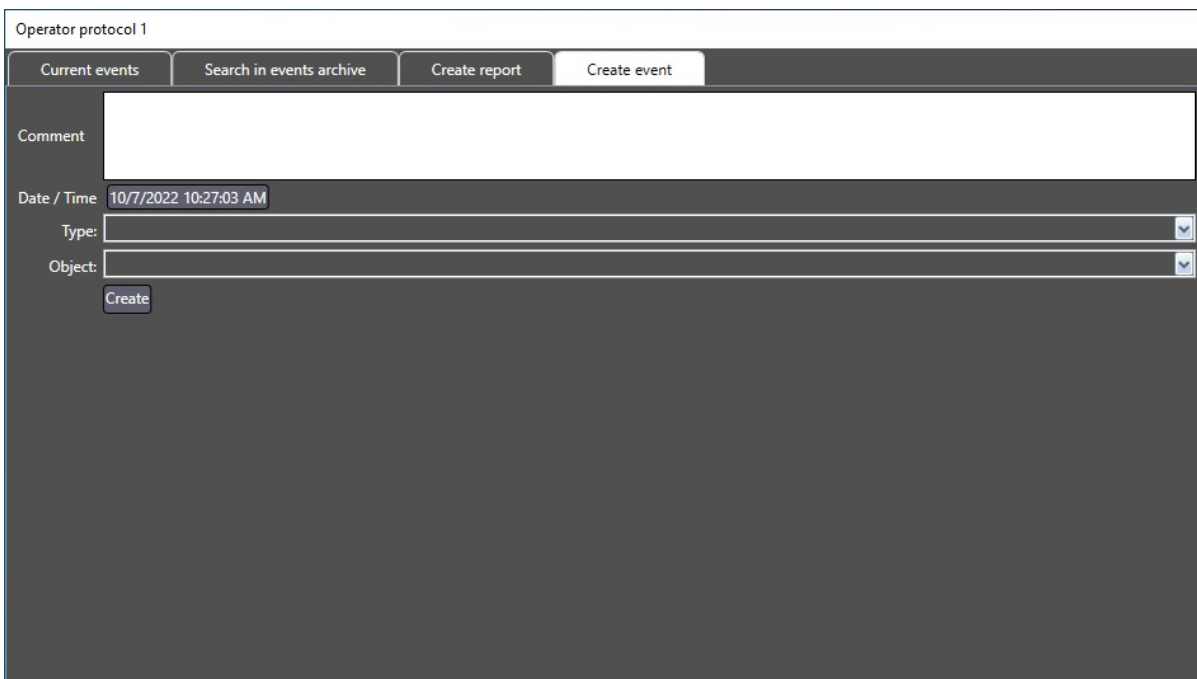
The operator protocol interface. The **Search in events archive** tab:



The operator protocol interface. The **Create report** tab:



The operator protocol interface. The **Create event** tab:



Interface elements of the operator protocol are described below.

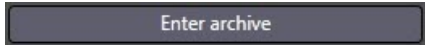
The **Current events** tab

The event control panel is at the top of the **Current events** tab. The following elements can be found on this panel:

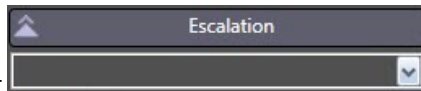
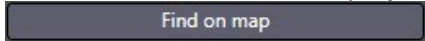
 **Note**

The **Enter archive**, **Find on map**, **Escalation** and **Delay** buttons can be inactive if their use was not configured when configuring the Operator protocol object - see [Setting the options for handling events in the Operator protocol](#) section of [Administrator's Guide](#).

1. The button to switch to the archive to view and export video of the event



2. The button to switch to the map layer where there is the source of the even



3. The button to escalate the event

**Note**


If the event has got the **Escalated** status, then this event will be displayed in the interface of the operator protocol of the higher level. If the **Escalation** button is disabled, it means that no superior interface is assigned to the current Operator.

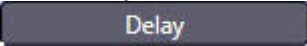
Several superior interfaces can be assigned to the Operator protocol but escalation is performed to one of them. If more than one superior interfaces is assigned, then before clicking the **Escalation** button select the required Operator protocol of the higher level in the dropdown list that can be found below the **Escalation** button.


4. A drop-down list  to group the events display by region, event, or object.

5. A checkbox  **Simple view** to enable a simple display of events at the bottom of the **Current events** tab.



6. The buttons to assign the type (status) to the event . The buttons for event processing may not be available until a comment is entered if the corresponding setting is enabled. The button names can be changed during the Operator Protocol configuration. Also, if configured accordingly, the buttons may be absent when the line with the name of the event grouping is highlighted.

7. The  **Delay** button enables delaying event processing once for a time period specified when configuring the Operator protocol.

8. The  button to open the helping guide about the event processing.

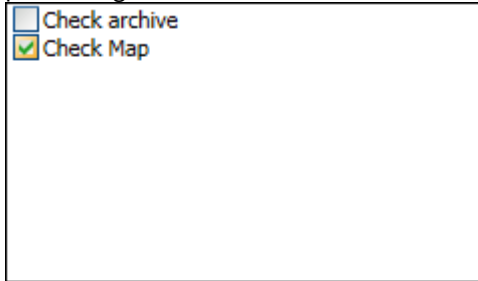
9. The field to enter a comment.



The comment field also contains the information about the completed tasks from the checklist (see below).

10. When enabling the  **Apply to all** checkbox, the type assigned to the corresponding event is applied to all events in the **Current events** tab.

11. The  **Set bookmark** checkbox is used for auto creation of the bookmark in the archive when the event is processed by the operator. The entered comment will be used as the bookmark name.
12. The checklist contains the list of actions that must be performed by the Operator during the event processing.

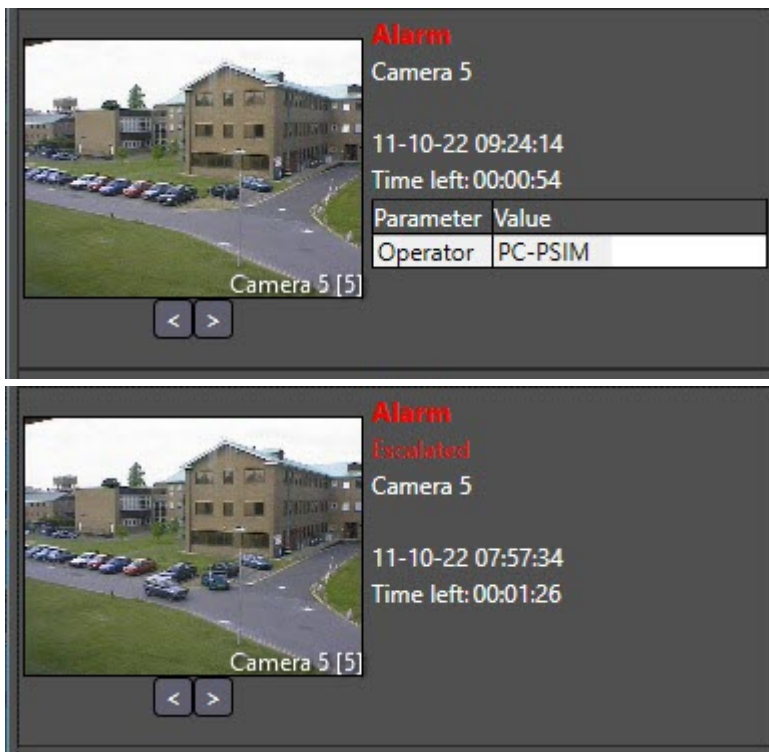


The events are displayed at the bottom of the **Current events** tab. The display type depends on the settings configured on the control panel. The display options:

1. If no **Group by** value is selected and if the **Simple view** option is disabled, then the bottom of the **Current events** tab displays the cells, each of which corresponds to one event. The number of horizontal cells is determined by the **Operator protocol** window width. The information on the event and the frames from the camera linked to the object from which the event is received are displayed in the cell (see [Connection of objects with cameras](#) in [Administrator's Guide](#)). The name of the corresponding camera is displayed on the frame. If there are several cameras linked to the object, you can use the   buttons to browse the screenshots.

**Note**

There is no need to configure connection between the embedded detection tool and camera in order to show the frame by events from embedded camera detection tools.



The cell contains the following information:

- System name of the event;
- Object registered the event;
- Name of the **Region** object corresponding to the area where the event is registered;
- Date and time of event registration;
- Time left before the **Non-processed event** type is assigned to the event;
- Information about event escalation or optional parameters.

**Note**

The list of optional parameters is set when configuring the **Operator protocol** object (see [Administrator's Guide](#)).

- If no **Group by** value is selected and if the **Simple view** option is enabled, then the bottom of the **Current events** tab displays a simplified list of events without the frames from the camera:

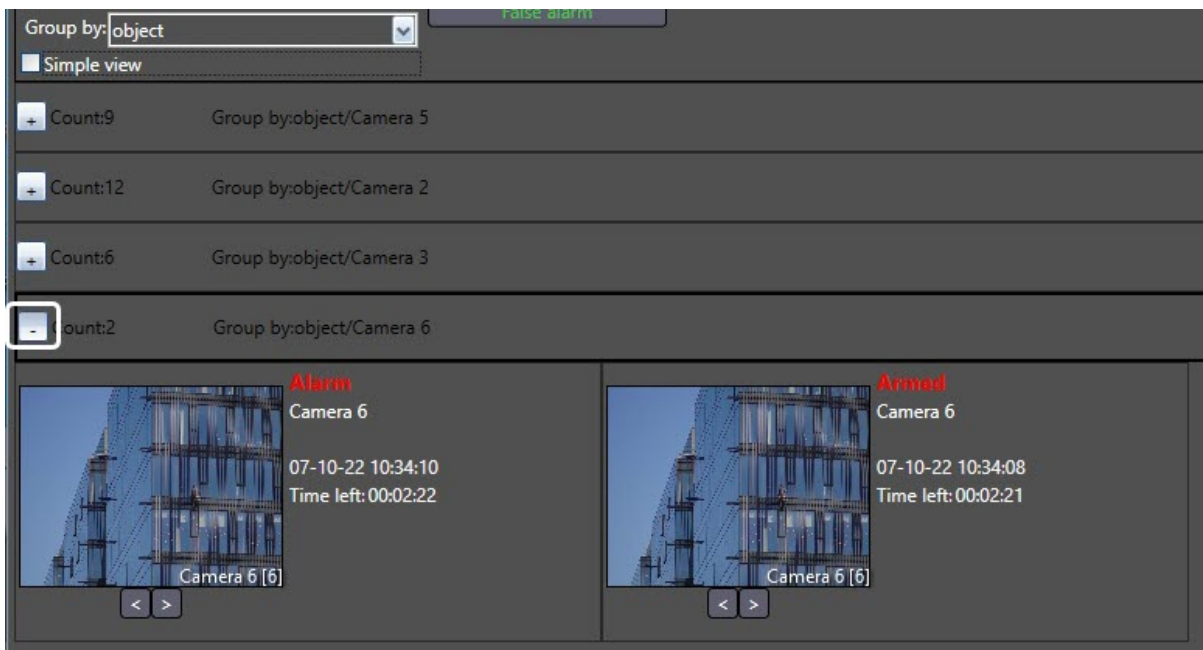
Event Type	Camera	Date and Time	Time Left
Alarm	Camera 5	07-10-22 10:30:42	Time left: 00:01:25
Alarm	Camera 5	07-10-22 10:31:13	Time left: 00:01:56
Alarm	Camera 2	07-10-22 10:31:14	Time left: 00:01:56
Alarm	Camera 2	07-10-22 10:31:15	Time left: 00:01:57
Alarm	Camera 2	07-10-22 10:31:17	Time left: 00:01:59
Alarm	Camera 5	07-10-22 10:31:21	Time left: 00:02:04
Alarm	Camera 1	07-10-22 10:31:22	Time left: 00:02:05
Alarm	Camera 1	07-10-22 10:31:23	Time left: 00:02:06
Alarm	Camera 5	07-10-22 10:31:27	Time left: 00:02:10
Alarm	Camera 2	07-10-22 10:31:30	Time left: 00:02:12
Alarm	Camera 3	07-10-22 10:31:36	Time left: 00:02:18
Alarm	Camera 3	07-10-22 10:31:37	Time left: 00:02:19
Alarm	Camera 2	07-10-22 10:31:42	Time left: 00:02:25

Each line corresponds to one event and contains the following information:

- a. System name of the event;
  - b. Object registered the event;
  - c. Date and time of event registration.
3. If any **Group by** value is selected, then the bottom of the **Current events** tab displays a list of groupings by the selected parameter. The list line contains the number of events in the grouping and the name of the parameter by which the events are grouped.



Grouping	Count	Group by
<input type="checkbox"/> +	Count:11	Group by:object/Camera 5
<input type="checkbox"/> +	Count:13	Group by:object/Camera 2
<input type="checkbox"/> +	Count:3	Group by:object/Camera 1
<input type="checkbox"/> +	Count:6	Group by:object/Camera 3

To view all events from the group, click on the  + button. To hide the grouped events, click the  - button:



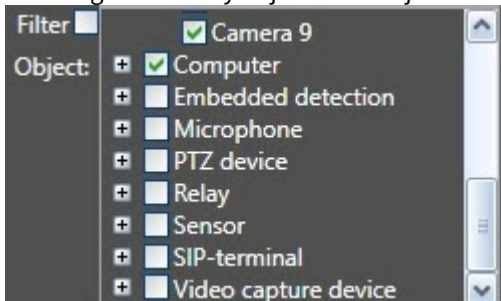
The content of the expanded group depends on whether the **Simple view** checkbox is set or not. If it is disabled, the events will be displayed as cells. If the **Simple view** checkbox is set, then a simplified list will be displayed.

The **Search in events archive** tab

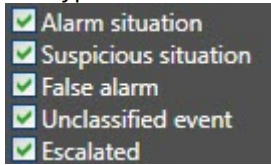
1.  The list to select the department which the operator belongs to. If the field is empty, than all operators are available to select.
2.  The list to select the operator.
3. Select the region the object corresponds to:



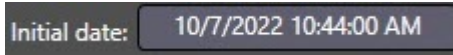
4. Enabling the filter by objects and object selection:



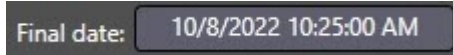
5. The types of events the search is performed by:



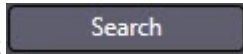
6. The button to set the initial date



7. The button to set the final date



8. The button of search start



9. The button to switch to the archive to view and export video of the event



There is the table containing the search results at the bottom of the **Search in events archive** tab.

Type	Source	Init.event	Operator	Date / Time	Comment	Event time	Operator response time (s)
Camera 5	Alarm	#1	User[PERSON] 1	10/11/2022 9:05:36 AM	User[PERSON] 1	10/11/2022 9:03:06 AM	151
Camera 5	Alarm	#1	User[PERSON] 1	10/11/2022 9:05:36 AM	User[PERSON] 1	10/11/2022 9:03:06 AM	151
Camera 5	Alarm	#1	User[PERSON] 1	10/11/2022 9:05:44 AM	User[PERSON] 1	10/11/2022 9:03:14 AM	151
Camera 5	Alarm	#1	User[PERSON] 1	10/11/2022 9:05:45 AM	User[PERSON] 1	10/11/2022 9:03:14 AM	152
Camera 5	Alarm	#1	User[PERSON] 1	10/11/2022 9:06:12 AM	User[PERSON] 1	10/11/2022 9:03:53 AM	138
Camera 5	Alarm	#1	User[PERSON] 1	10/11/2022 9:06:14 AM	User[PERSON] 1	10/11/2022 9:03:45 AM	149
Camera 5	Alarm	#1	User[PERSON] 1	10/11/2022 9:06:18 AM	User[PERSON] 1	10/11/2022 9:03:56 AM	142
Camera 5	Alarm	#1	User[PERSON] 1	10/11/2022 9:11:57 AM	User[PERSON] 1	10/11/2022 9:09:50 AM	127
Camera 5	Alarm	#1	User[PERSON] 1	10/11/2022 9:11:59 AM	User[PERSON] 1	10/11/2022 9:09:43 AM	136
Camera 5	Alarm	#1	User[PERSON] 1	10/11/2022 9:12:01 AM	User[PERSON] 1	10/11/2022 9:11:31 AM	30
Camera 5	Alarm	#1	User[PERSON] 1	10/11/2022 9:12:05 AM	User[PERSON] 1	10/11/2022 9:10:30 AM	95
Camera 5	Alarm	#1	User[PERSON] 1	10/11/2022 9:12:09 AM	User[PERSON] 1	10/11/2022 9:10:33 AM	97
Camera 5	Alarm	#1	User[PERSON] 1	10/11/2022 9:12:12 AM	User[PERSON] 1	10/11/2022 9:11:39 AM	33
Camera 5	Alarm	#1	User[PERSON] 1	10/11/2022 9:12:15 AM	User[PERSON] 1	10/11/2022 9:12:10 AM	4
Camera 5	Alarm	#1	User[PERSON] 1	10/11/2022 9:12:52 AM	User[PERSON] 1	10/11/2022 9:10:21 AM	151

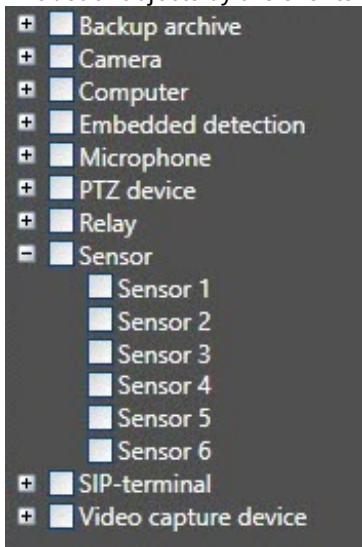
The description of the table is given below:

Column	Description
<b>Type</b>	The icon of event type
<b>Source</b>	Source object of the event
<b>Init.event</b>	Initial event or information that the event was created by the Operator on the <b>Create event</b> tab
<b>Operator</b>	Operator processed the event
<b>Date/Time</b>	Date and time when the event was processed
<b>Comment</b>	Operator's comment

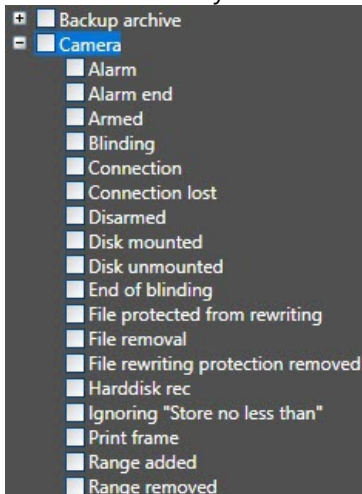
Column	Description
<b>Event time</b>	Date and time when the event was registered in the system
<b>Operator response time</b>	The time period in seconds between the registration of an event in the system and its processing by the operator.

The **Create report** tab

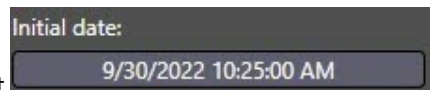
1. The list of objects by the events from which the report can be created:



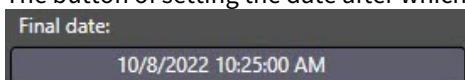
2. The list of events by which the report can be created:

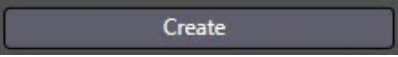


3. The button of setting the date after which events get into the report



4. The button of setting the date after which events do not get into the report

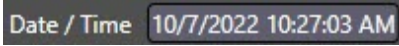





- The  **Combine similar responses** checkbox enables displaying an event in the report only once. If this checkbox is set unchecked, then one event will be displayed for each Operator protocol in the report.
- The  **Filter events tree** checkbox enables filtration of the events list on the right according to objects selected on the left (e.g., if only **Camera** objects are selected, then only **Camera** events are displayed).
- The button to create a report 

The **Create event** tab

- The field for description of the event:



- The button of setting the date and time of the event 
- The dropdown list to select the data source type 
- The dropdown list to select the source object of the event 
- The button to create an event 

## 4.2.10 Incident manager

**On this page:**

- [Purpose](#)
- [Functions](#)
- [Interface description](#)

### Purpose

The Incident manager is used for processing events and generating reports (see [Events control and processing using the Incident manager](#)).

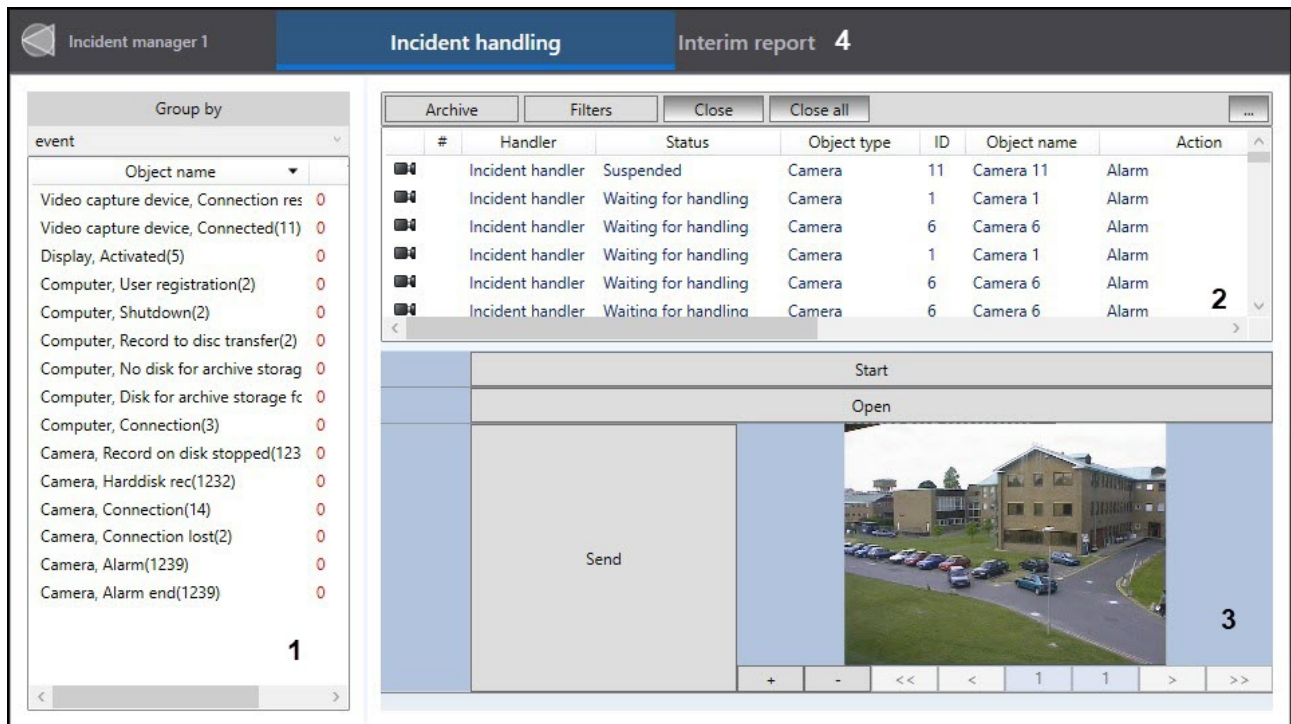
### Functions

The Incident manager provides the following features:

- Event handling according to a pre-configured script.
- Automatic execution of macros that are triggered by certain operator actions.
- Generation of a report on the event and operator actions.

## Interface description

The Incident manager interface is shown in the figure:



The Incident manager interface consists of three parts:

1. Events grouping panel (1). The events can be grouped by:
  - a. Object.
  - b. Event type.
  - c. Region.
  - d. No grouping — all events are displayed.
2. Table with a list of events (2). The following information is displayed for each event:
  - a. Indicator of the presence of the camera associated with the event.
  - b. Incident handler.
  - c. Event status.
  - d. Object type.
  - e. Object ID.
  - f. Object name.
  - g. Action — description of the event.
  - h. Time the event occurred.
  - i. Priority.
  - j. Time (sec) — the number of seconds since the event occurred.
  - k. Last comment entered while processing the event.
  - l. All comments entered while processing the event.
3. Event handling interface (3). The event handling logic is configured based on the requirements of the configured security system (see [Creating and configuring the logic of event handling](#)).

To go to the report at any time, click the **Interim report** button (4) on the top panel.

The report is built on the basis of the operator's actions during event processing. The report will be opened automatically after completing the entire chain of actions, if it is specified in the Incident manager settings.

Operator actions report - Preview report

File View Navigate Document Help


122 %

### Operator actions report

Event	
<b>Object</b>	Camera 10
<b>Name</b>	Alarm
<b>Time</b>	8/16/2022 1:48:37 PM

Operator	
<b>Name</b>	
<b>Surname</b>	

Operator actions		
Action description	User action	Time
	Start	8/16/2022 2:00:10 PM
	Open	8/16/2022 2:00:11 PM
	Images added : 1	8/16/2022 2:00:13 PM



	<b>Finish</b>	8/16/2022 2:00:15 PM
--	---------------	----------------------

Page 1 of 1 Zoom 122%

#### 4.2.11 Interactive map

**On the page:**

- [Function](#)
- [Functions](#)
- [Interface description](#)

##### Function

The map is used to monitor and control system devices (cameras, microphones, sensors, relays, etc.) and to launch macros.

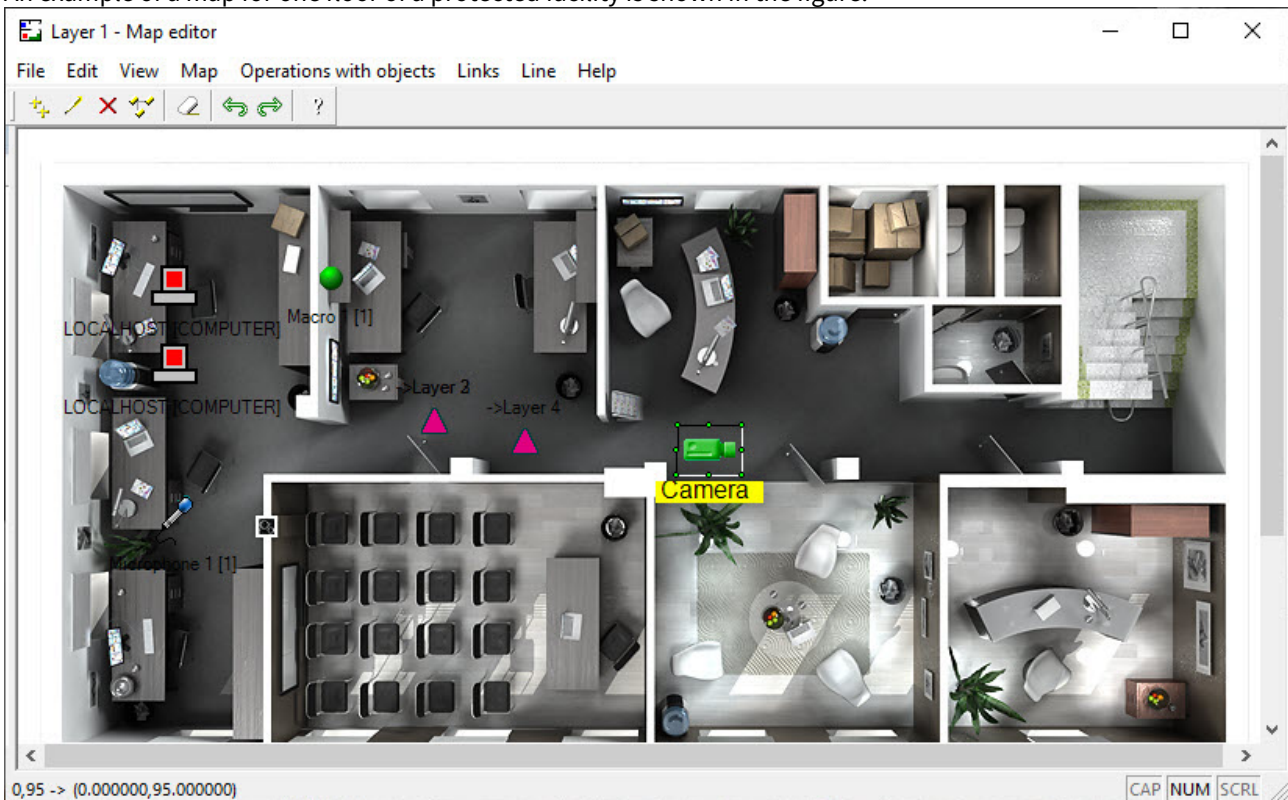
##### Functions

The map provides the following program functions:

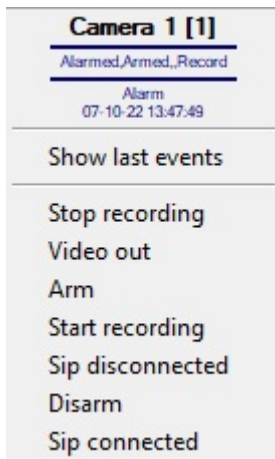
1. Multilevel hierarchical object mapping (graphical chart forming) of a protected facility;
2. On-line monitoring of the status of all system devices on the map;
3. Virtual subdividing of a protected facility;
4. Possibility of automatic switching and recursive structural event analysis;
5. Management of end devices;
6. Running macros.

## Interface description

The shape of the map depends on the protected facility structure; it is assigned during the system setup procedure. An example of a map for one floor of a protected facility is shown in the figure.



System devices on the map are displayed as icons. Each device has its status displayed, and access to its functions is performed via the device functions menu by right clicking on the device icon on the map. For example, the **Camera** type object has a feature menu shown in the figure.



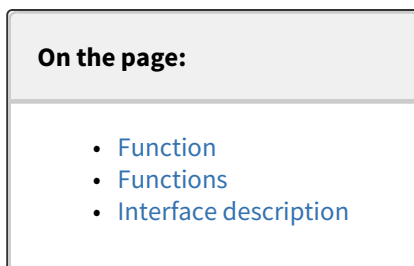
The map may have multiple layers (levels). Then an interlayer link icon is used to toggle the layers.



Interlayer link:

The map interlayer link indicates registered alarm events by any device on the appropriate layer.

#### 4.2.12 Video surveillance monitor for web browser



##### Function

The video surveillance monitor for web browser is intended for TCP/IP based remote video surveillance of the selected protected facilities via the web browser. Remote video surveillance requires no *Axxon PSIM* software system setup at the Operator's workstation (but the browser has to support Java).

##### Functions

The video surveillance monitor for the web browser supports:


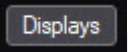


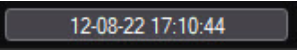
1. Remote video surveillance with no *Axxon PSIM* software system setup at the Operator's workstation;
2. Altering the number of surveillance windows present on the video monitor of the web browser;
3. Camera arming and disarming;
4. Camera detector control;
5. Recording of video sequences from surveillance cameras.

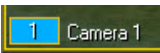
## Interface description

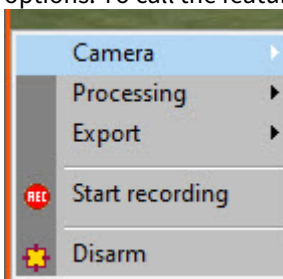
The following figure shows an interface of the video surveillance monitor for web browser.



The video surveillance monitor for the web server window consists of the field for viewing tiles and the tool panel with:



1.  buttons as to alter the number of viewing tiles on the monitor;
2.  button is to select the layout;
3.  and  buttons are to enter the archive viewing mode;
4.  field displaying current time/date.

Every viewing tile has the  feature menu that is used to select a camera and to access some camera options. To call the feature menu, left-click on the camera number in the viewing tile.



The colour of the video surveillance window border and camera name text indicates the camera status.

If there are any troubles with camera connection, there is an icon above the camera number. The icon indicates the existing trouble:

1. No video signal 
2. No camera connection 

Name	Description
No video signal	Appears above the 'camera number' icon when there is no video signal. This can happen if the camera is not connected or it is restarted.  <b>Note.</b> If there is no video signal, the latest image is displayed in the viewing tile or there is a blue screen (depending on the type of video capture card).
No camera connection	Appears if the incorrect type of video capture card was specified.

### 4.2.13 Panoramic video surveillance window

On page:
<ul style="list-style-type: none"> <li>• <a href="#">Function</a></li> <li>• <a href="#">Functions</a></li> <li>• <a href="#">Interface description</a></li> </ul>

#### Function

Panoramic video surveillance window is designed for creating and viewing the panoramic image. Panoramic video surveillance window is divided into two parts in accordance with its functions: video surveillance control panel and image viewport.

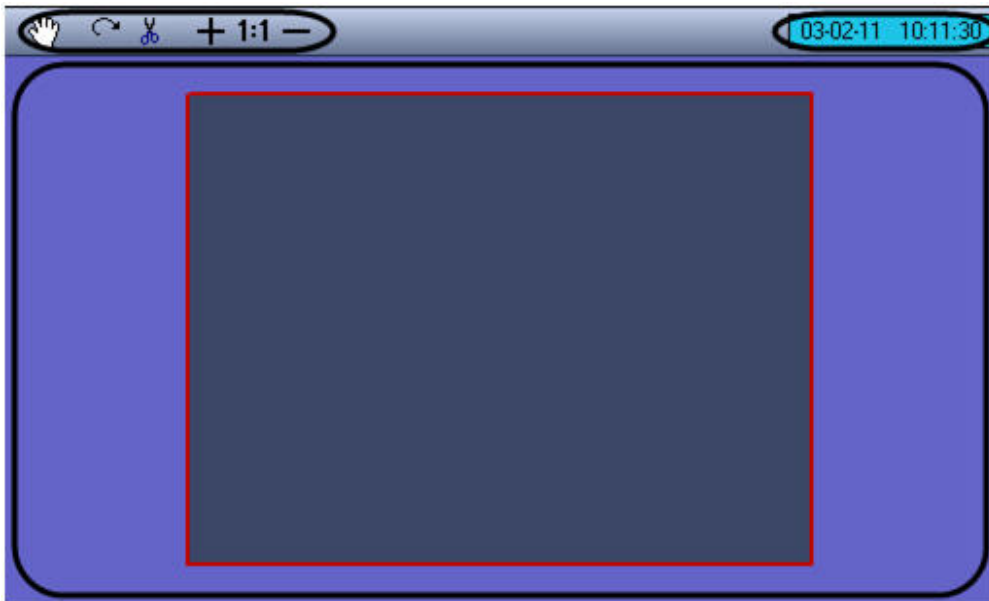
#### Functions

While using the panoramic video surveillance window the following modes of image processing are provided:



1. Navigation;
2. Perspective correction;
3. Restore;
4. Pan;
5. Cut borders;
6. Zoom in/Zoom out.

#### Interface description

Panoramic video surveillance window is shown in the figure.



Panoramic video surveillance window consists of the field for displaying video surveillance window and toolbar with the following elements:

1.  buttons serve to process images;
2. current date and time are displayed in the  field.

#### 4.2.14 Captions search



##### Function

The **Captions search** interface object is designed for searching information in the captions database.

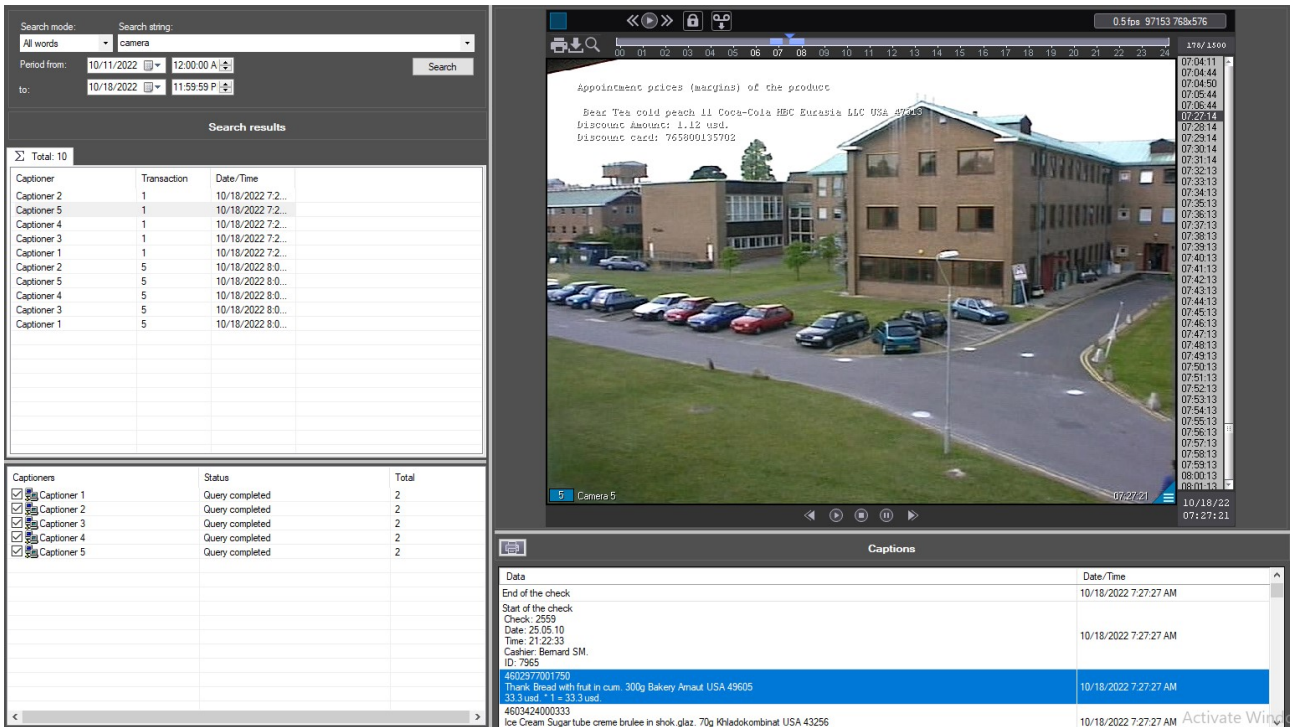
##### Functions

Search by captions allows:

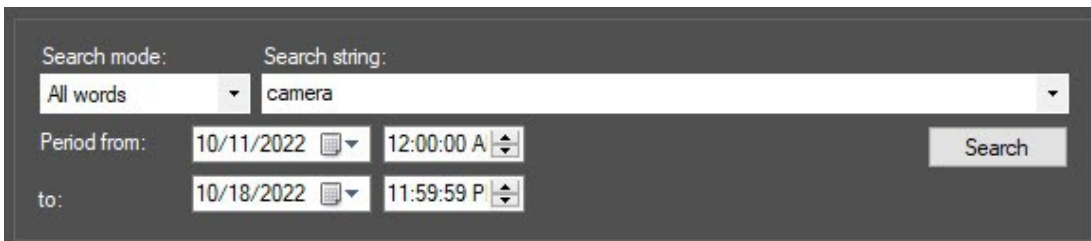
1. Searching in the captions database.
2. Viewing search results.
3. Printing the search results.

## Interface description

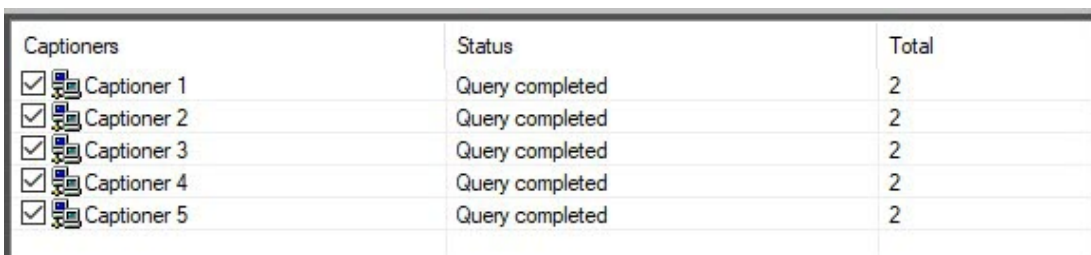
The figure shows an interface of the **Captions search box**.



There is a search substring and time search interval in the upper left corner of the box.




The captions databases are selected in the bottom left corner of the box.



The captions databases the results by which are to be viewed are selected in the Search results area.

Σ Total: 10		
Captioner	Transaction	Date/Time
Captioner 2	1	10/18/2022 7:2...
Captioner 5	1	10/18/2022 7:2...
Captioner 4	1	10/18/2022 7:2...
Captioner 3	1	10/18/2022 7:2...
Captioner 1	1	10/18/2022 7:2...
Captioner 2	5	10/18/2022 8:0...
Captioner 5	5	10/18/2022 8:0...
Captioner 4	5	10/18/2022 8:0...
Captioner 3	5	10/18/2022 8:0...
Captioner 1	5	10/18/2022 8:0...

Below the video display area there is a  button clicking which one can print out search results. Areas displaying search results and videos corresponding to these results are on the right.

Data	Date/Time
End of the check	10/18/2022 7:27:27 AM



The video player interface includes a control bar at the top with navigation icons (play, stop, previous, next), a search icon, and a progress bar. The video content shows a building with a parking lot. A search result is overlaid on the video, displaying the following text:

Appointment prices (margins) of the product  
 Bear Tea cold peach 11 Coca-Cola HBC Eurasia LLC USA 47616  
 Discount Amount: 1.12 usd.  
 Discount card: 765800135702

On the right side of the video player, there is a vertical list of timestamps from 07:04:11 to 08:01:13. The current video time is 07:27:21. The video title is '5 Camera 5'.

## 4.2.15 HTML interface

**On the page:**

- [Purpose](#)
- [List of functions](#)
- [Interface description](#)

### Purpose

The HTML Interface window is designed for displaying specified web-page or other files, including text and images. If there is video displaying or sound playing back on the web-page, it will be also available in the **HTML interface** window

### List of functions

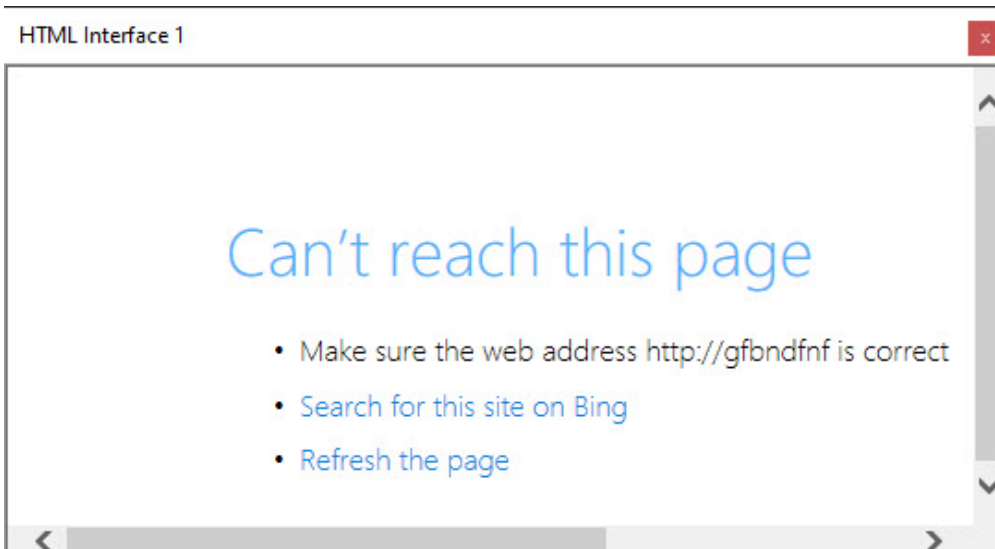
The HTML Interface window performs the following functions:

1. Display web-pages located as locally on computer, as on the Internet.
2. Display images and text files.
3. Display video data and play back sound from the displayed web-page.

### Interface description

View of the HTML Interface window entirely depends on settings (see [Administrator's Guide](#)).

View of the HTML Interface window containing HTML page created on default is shown in the figure.



The table describes hotkey combinations available for working with the HTML interface:

Hotkey/ hotkey combination	Performed action
Backspace	Back
Alt+left arrow	
Shift+Backspace	Forward
Alt+right arrow	
F5	Update page
Ctrl + + or -	Zoom in/out page

## 4.2.16 Display manager

On this page:
<ul style="list-style-type: none"> <li>• <a href="#">Purpose</a></li> <li>• <a href="#">Functions</a></li> <li>• <a href="#">Interface description</a> <ul style="list-style-type: none"> <li>• <a href="#">The Screen activation group</a></li> <li>• <a href="#">The Setting and activation of monitors group</a></li> </ul> </li> </ul>

### Purpose

The Display manager is designed for managing the video walls and attracting the Operator's attention.

### Functions

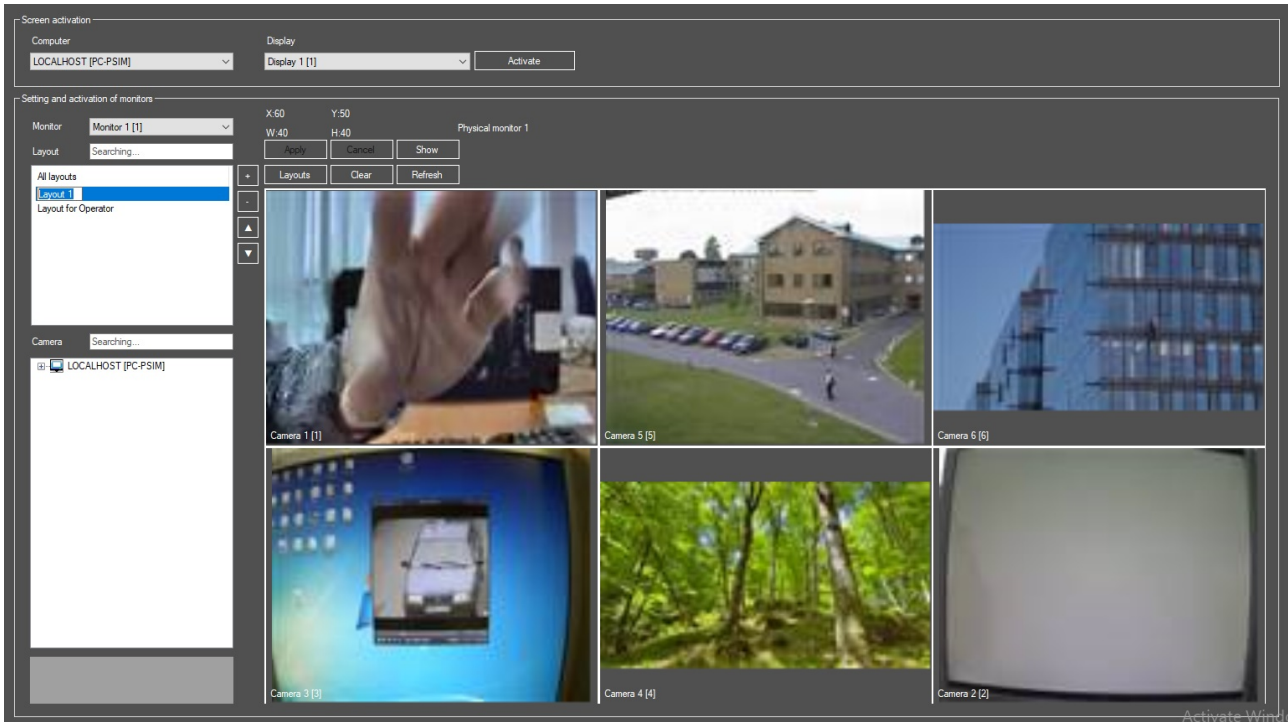
The Display manager provides the following features:

1. Managing the Video surveillance monitor added to the various computers' displays.
2. Creating, editing and deleting Video surveillance monitor layouts.

### 3. Creating temporary Video surveillance monitor layouts.

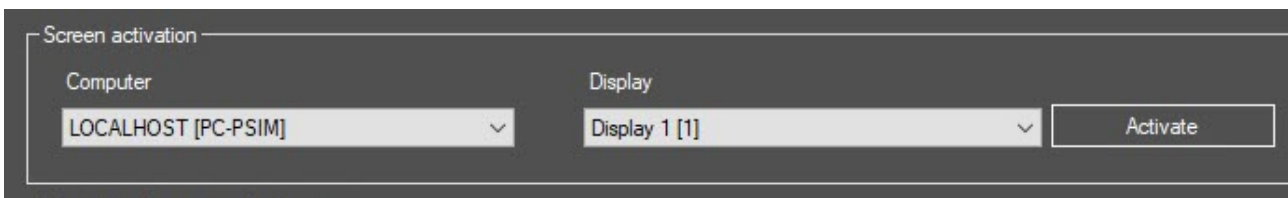
## Interface description

The Display manager interface is shown in the figure:



### The Screen activation group

The **Screen activation** group is used for selecting and activating the required Display.



The **Computer** drop-down list is used for selecting a computer to which the required display is assigned. The list of computers available in the **Computer** drop-down list is set during the system configuration - see [Configuring the Display manager](#).

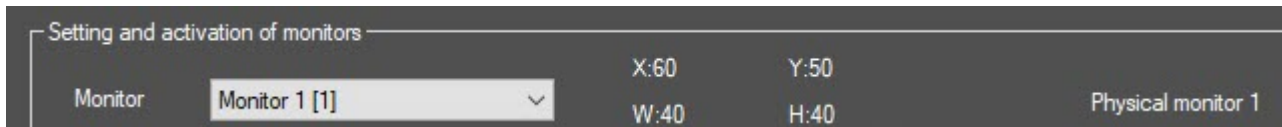
The **Display** drop-down list is used for selecting the required display. In order for the display to be available in this list, it should be assigned to a computer - see [Assigning the displays to the operator workstations](#).

The effect of clicking the **Activate** button is similar to the Screens button on the Main control panel (see [Main control panel](#)). When you click this button, the interface windows created on the basis of the selected Display object are displayed on the desktop.

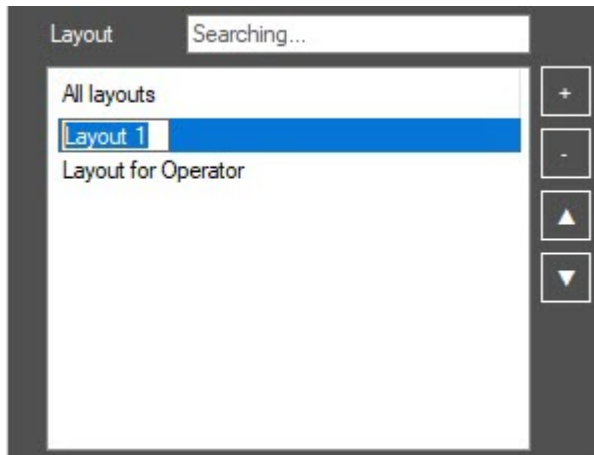
### The Setting and activation of monitors group

The **Setting and activation of monitors** group is used for configuring and applying the Video surveillance monitor layouts.

The **Monitor** drop-down list is used for selecting the required Video surveillance monitor, created on the basis of the **Display** object selected in the **Screen activation** group.

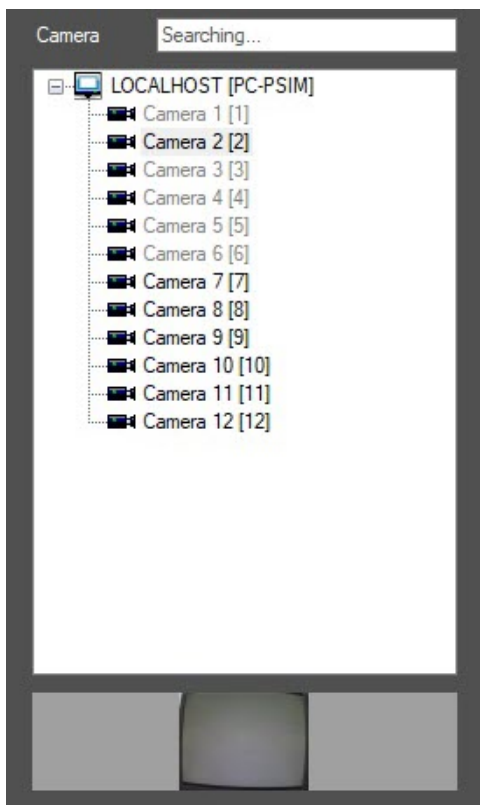


The layouts list is used for selecting the existing layouts, as well as deleting them and creating the new ones (buttons - and +, respectively). You can search for layouts by name using the **Layout** field. To change the order in which the layouts are displayed, use the ▼ and ▲ buttons.



The cameras list displays the available video cameras. You can search for a camera by name or ID using the **Camera** field. The cameras can be added to the layout only once. The cameras which are already added to the layout are highlighted in gray. You can drag the cameras from this list onto the layout using the left mouse button. When dragging the camera, the frame displayed on the camera at the moment when it was added to the layout will be displayed on the layout.

Below the cameras list, the camera preview is displayed.



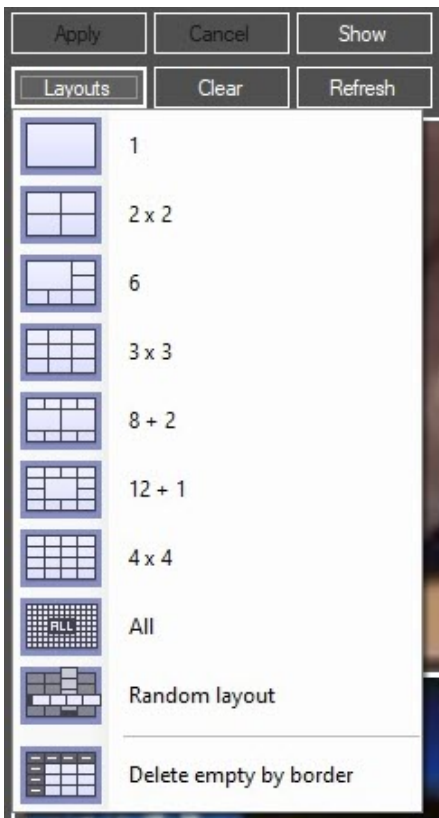
**Note**

If the camera was added to the Video surveillance monitor during the current Axxon PSIM session, then it is necessary to restart the *Axxon PSIM* to display this camera in this list.

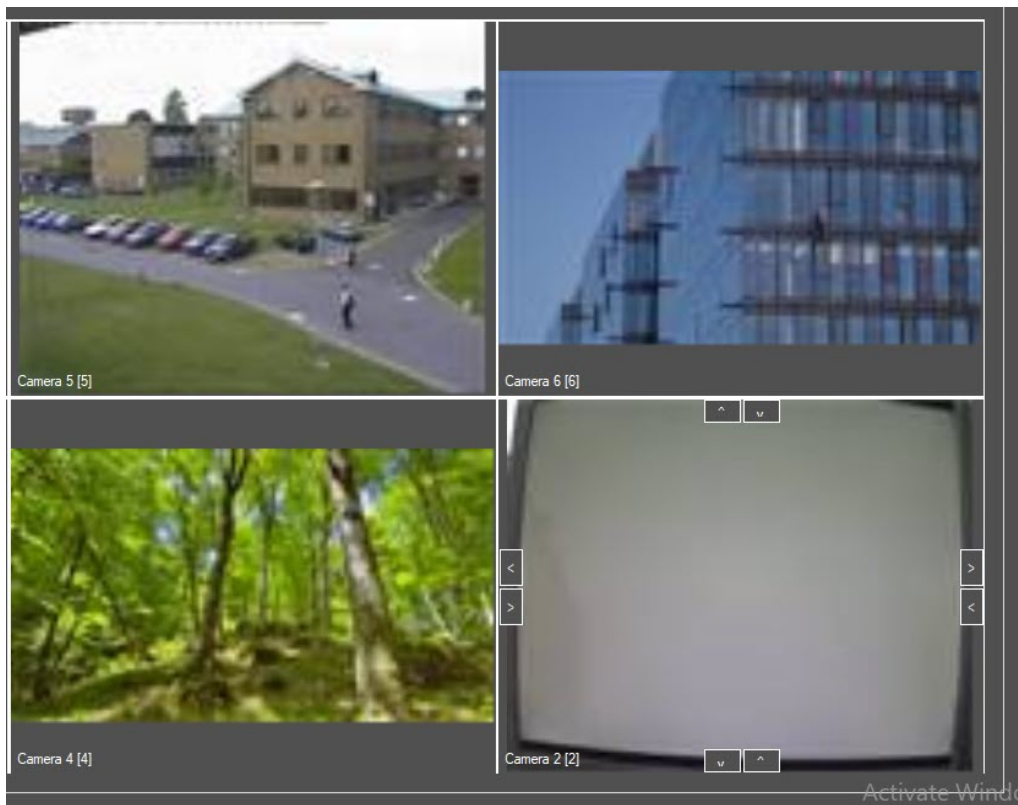
The buttons for managing the layouts:



- **Apply**—save changes in the layout.
- **Cancel**—cancel changes and go to the last saved layout.
- **Show**—display the selected layout on the Video surveillance monitor. The layout is shown in its last saved version and only if it needs to be displayed on the Computer selected for screen activation.
- **Clear**—remove all cameras from the layout.
- **Refresh**—refresh the frames in the camera preview windows on the layout.
- **Layouts**—select a standard layout from the list:



The layout creation panel allows you to get a visual idea of how the layout will look on the Video surveillance monitor. On this panel, you can drag the Surveillance windows, add new rows and columns, and resize the Surveillance windows using the >, <, ∨, ∧ buttons. If the layout was created using the Display manager, then the frames displayed on the camera at the moment when it was added to the layout will be displayed in the Surveillance windows. If the layout was created using the Video surveillance monitor, then in order to display these frames in the Surveillance windows, it is necessary to click on the **Refresh** button.



## 4.2.17 State statistics

### On this page:

- [Purpose](#)
- [Features](#)
- [Interface description](#)

### Purpose

State statistics is designed to monitor the number of objects in the specified states.

### Features

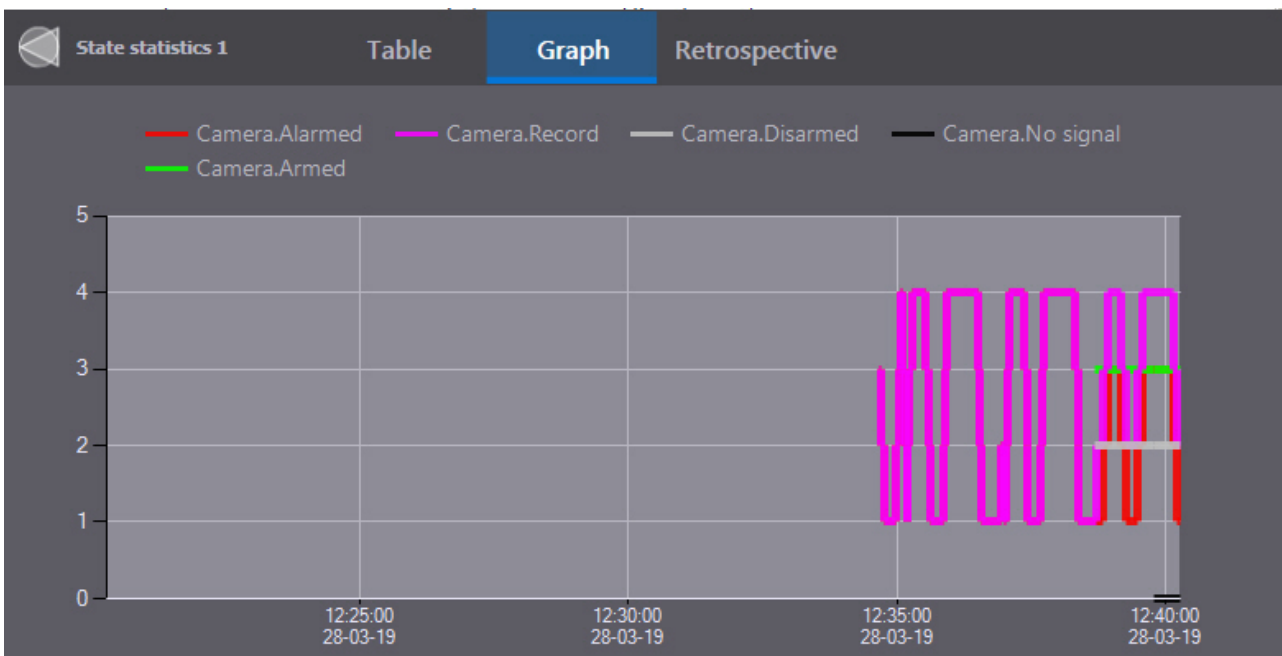
State statistics displays the number of objects of the selected type that are in a particular state, in a table and a graph.

### Interface description

The **State statistics** interface is shown in the figures:

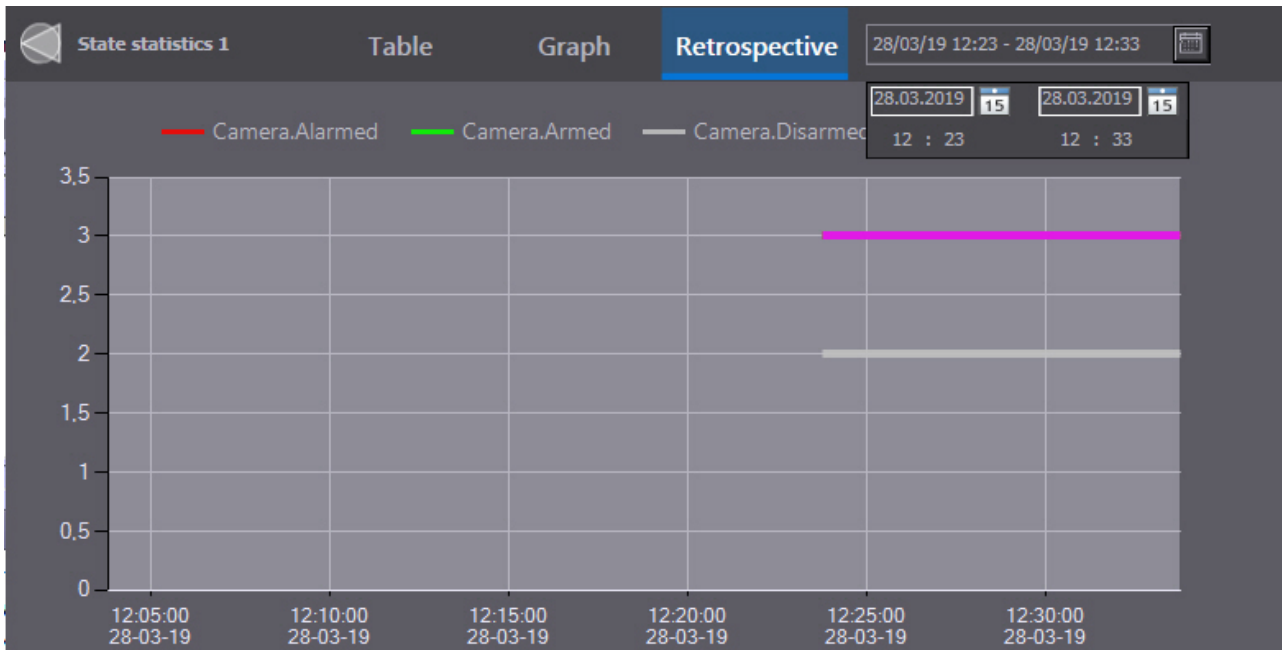
Object	State	Quantity
Camera	Alarmed	1
Camera	Armed	3
Camera	Record	2
Camera	Disarmed	2
Camera	No signal	0

The **Table** tab displays a list of states and the number of objects in each of these states.



The **Graph** tab displays the state statistics graph over time for the last 15 minutes. The displayed objects and the points number on the graph are configured during the system setup (see [Selecting the objects to be included in State statistics and configuring the pixels number](#)).

The time and date are marked on the horizontal axis, and the number of objects is marked on the vertical axis. The colors description is displayed on the top of the graph.



The **Retrospective** tab displays the chart of the states for the time period selected in the calendar in the upper right corner. The axes mark the same parameters as on the **Graph** tab.

## 4.2.18 Charts

### On this page:

- [Purpose](#)
- [Features](#)
- [Interface description](#)

### Purpose

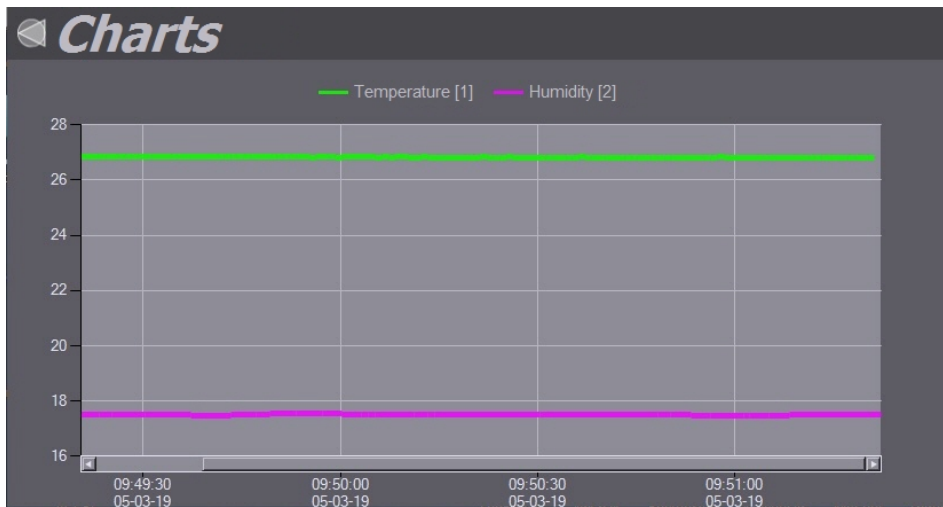
Charts are used to monitor the analog sensor readings, for example, temperature or humidity sensors, and so on.

### Features

Charts display the readings of the analog sensors selected when configuring the system.

### Interface description

The **Charts** interface is shown in the figure:



This window displays the chart of analog sensor readings. The number of points on the chart is configured during the system setup (see [Configuring the Charts to display analog sensor readings](#)). The time and date are marked on the horizontal axis, and the number of objects is marked on the vertical axis. The colors description is displayed on the top of the chart.

## 4.2.19 SIP-panel

### On this page:

- [Purpose](#)
- [Features](#)
- [Interface description](#)
  - [SIP-operator authorization window](#)
  - [The Call tab](#)
  - [The Incoming tab](#)
  - [The Archive tab](#)

### Purpose

SIP-panel is designed for making calls to numbers from the address book and/or to dialed numbers within the distributed system configuration.

### Features

SIP-panel provides the following functions:

1. Making single and group calls between operators and/or SIP-devices.
2. Viewing the log of calls received or made using the SIP-panel.
3. Viewing and/or listening to the archived calls received or made using the SIP-panel.

## Interface description

By default, all elements are displayed in the SIP-panel interface. If necessary, some interface elements can be disabled (see [Advanced settings of the SIP-panel interface object](#)). Below is an example when all interface elements are displayed.

The SIP-panel interface consists of three tabs. The **Call** tab allows receiving and making calls. The **Incoming** tab displays the list of incoming calls and the calls on hold. The **Archive** tab lists the incoming and outgoing calls that can be listened and/or viewed using the corresponding controls.

Depending on the operator **Default** settings, you may need to log into the SIP-operator authorization window when you first log into the SIP-panel.

### **Note**

The **Call**, **Incoming** and **Archive** tabs will not be available until the SIP-operator is authorized.

## SIP-operator authorization window

The SIP-operator authorization window contains a list of available SIP-operators (see [Operator settings of the SIP-panel interface object](#)). For authorization, you need to double-click the SIP-operator under which you will be logged in. The number of the current SIP-operator will be displayed in the upper right corner of the SIP-panel.

If the SIP-operator is already authorized in any SIP-panel, then this operator will be highlighted in red in other SIP-panels. You cannot log in under an already authorized SIP-operator.



ID	Name
1	SIP-operator 1
2	SIP-operator 2

After the Server/Remote Client reboot, the previously authorized SIP-operator will be logged in automatically. If you log off the current user in *Axxon PSIM* and log in again as the same user, you will need to be authorized again.

**Note**

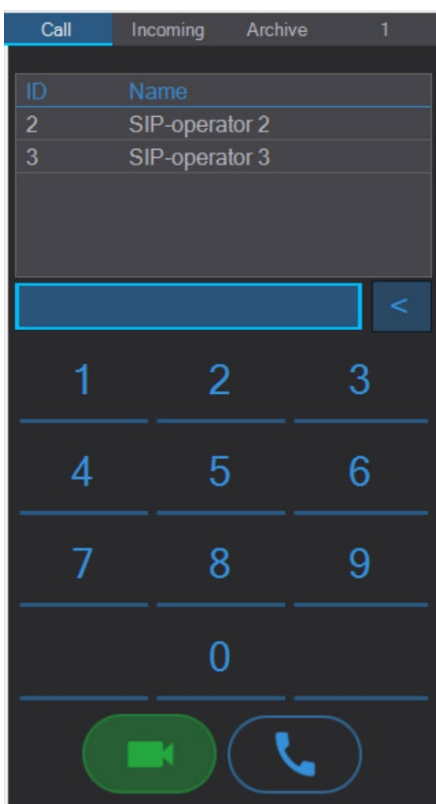
The authorization window may also open in the following cases:

- If during the Server/Remote Client reboot, the same SIP-operator was logged in on another Server/Remote Client.
- If the **User rights** mode is selected and the current registered *Axxon PSIM* user does not correspond to this mode (see [Operator settings of the SIP-panel interface object](#)).

If, while working with the SIP-panel, you need to log out of the current SIP-operator without unloading the Server/Remote Client, click on the operator number in the upper right corner.

**The Call tab**

The interface of the **Call** tab of the **SIP-panel** is shown in the figure:



The top of the **Call** tab displays the subscriber numbers from the address books added to the current SIP-operator during the SIP-terminal configuration stage. If the same subscriber number is added to several address books, then only one will be displayed on the SIP-panel.

**Note**

If the SIP-terminal was not specified at the SIP-panel configuration stage (see [Basic settings of the SIP-panel interface object](#)), then the subscriber numbers from the address books will not be displayed.

A dial pad is available in the middle of the window. For more information on dialing and making a call, see [Making calls using SIP-panel](#).

## The **Incoming** tab

The interface of the **Incoming** tab of the **SIP-panel** is shown in the figure:




The **Incoming** tab displays a list of incoming calls or calls on hold. The **Incoming** tab opens automatically for incoming calls or calls on hold.

### **Note**


If the **Switch to incoming** checkbox was not set at the SIP-panel configuration stage (see [Advanced settings of the SIP-panel interface object](#)), then the **Incoming** tab will not automatically open for incoming calls or calls on hold.

The calls in the list are sorted by the SIP-operators and SIP-devices priority, that was set at the system configuration stage. If several operators or devices have the same priority, the calls from them are sorted by the *receiving* time. By default, the new calls are added to the top of the list, but the sorting order can be changed during the system configuration, so that the new calls are added to the end of the list regardless of the operators and devices priority (see [Advanced settings of the SIP-panel interface object](#)).




The window with the call list is displayed on top of all windows during a call and a call on hold.

To enable the alternative mode of displaying the calls, click on the  icon at the top of the panel. After that, the **Incoming** tab interface will look as follows:



To disable the alternative mode of displaying the calls, click on the  icon.

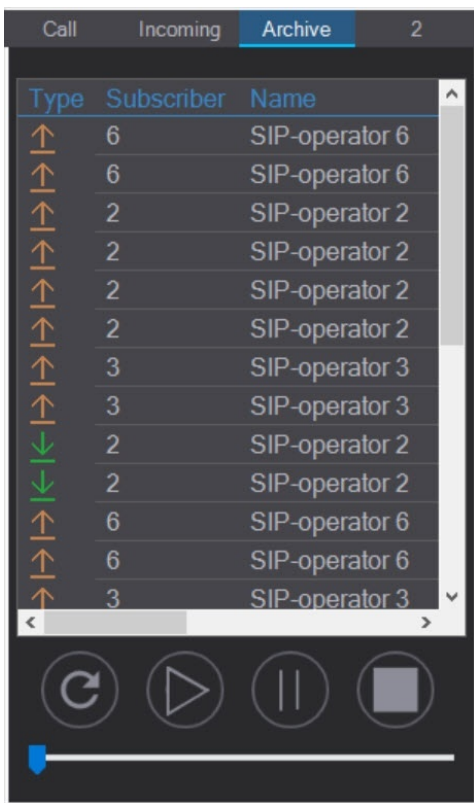
The buttons at the bottom of the panel manage the call:

-  – call with video and audio. If the camera, the microphone and the operator speaker were selected at the system configuration stage and the SIP-device supports the corresponding function, video and audio from the camera and audio from the operator microphone will be transmitted to the device.
-  – call with audio only.
-  – end of call.

If the incoming call is declined and there are no other calls in the list, the **Call** tab will open.



The **Archive** tab

The interface of the **Archive** tab of the **SIP-panel** is shown in the figure:



To ensure the correct playback of the archived calls, it is necessary to configure the audio and video archiving (see [Configuring video archiving](#) and [Configuring audio signals recording](#)).

The table includes the following information:

Column	Description
Type	Call type: incoming  or outgoing 
Subscriber	The subscriber number
Name	The subscriber name
Date and time	The call start and end time <i>Note. The group calls are displayed as several calls to different numbers at the same time (see <a href="#">Configuring numbers of SIP-terminal for details on group calls configuration</a>)</i>
Duration	The call duration

 **Note**

Left-click on a column name to sort the information in ascending/descending order of the values of the corresponding column.

Video and/or sound are played back when playing back the archived call depending on whether the subscriber (SIP-operator or SIP-device) has camera and/or microphone configured. The operator speaker (see [Selecting speaker, microphone and camera for SIP-operator](#)) is used for audio playback, and the **Monitor** selected when configuring the **SIP-panel** (see [Configuring the SIP-panel interface object](#)) is used to playback video.

Controls for playing back the archived calls are under the table:



– Update the call list.



– Playback the call selected from the list.



– Pause the playback.



– Stop the playback.



– Slider to display the playback and rewind process.



[Working with SIP-devices and SIP-operators from the Map](#)  
[Working with SIP-panel](#)

## 4.3 Video surveillance monitor operation

### 4.3.1 General information on Video Surveillance Monitor operation

The video surveillance subsystem allows video monitoring (event video component viewing) and video recording (event video component recording) by providing:

1. multiple video camera images simultaneously displayed on a PC screen (multiple windows displayed on a single monitor and multiple monitors used on a single physical PC screen);
2. priority-oriented displaying of active and alarm cameras video stream;
3. flexible split screen configuration, including the number of windows on the monitor;
4. colour coding of the camera state in the window (**Armed, Alarm, Recording**);
5. image burn-in option in the surveillance window: current time/date, camera ID and name;
6. displaying of alarm notification window;
7. image scaling;
8. automatic or manual windows slide show;
9. video recording can be performed:
  - a. if an alarm event is detected;
  - b. by Operator command;
  - c. pre- and post-alarm event recording;
  - d. pre-alarm event recording with post-alarm recording by Operator command.
10. single video frames storage and exporting;
11. freeze frame selection and viewing, without interrupting the video recording;
12. audio- and video-archives management;

13. remote access to audiovisual streams from any workstation with both a local and remote archive recording option;
14. viewing archive recordings with search and retrieve options on time, event type, camera ID criteria;
15. synchro playback of footage recorded by several cameras;
16. image processing option (digital zooming, image sharpening and contrast maximization, dynamic outlining of moving objects, removal of image fluttering);
17. web interface-based surveillance;
18. use of various types of intelligent motion detectors (motion detectors, face detector, lost items detector, focusing detector, video signal stability detector, background change detector, camera tampering, infrared detector);
19. use of independent detector zones;
20. detector masking.

### 4.3.2 Viewing video sequences from surveillance cameras

Viewing of video sequences from surveillance cameras is performed with the surveillance monitor. Several solutions are possible for the monitor:

1. The video monitor is a Windows interface window, built in screen object of the *Axxon PSIM* system (see the [Video surveillance monitor](#) section).
2. Cross-platform solution with surveillance via a web browser (see the [Video surveillance monitor for web browser](#) section).
3. The video monitor of a mobile client – see [AxxonSoft mobile Clients. Documentation](#).

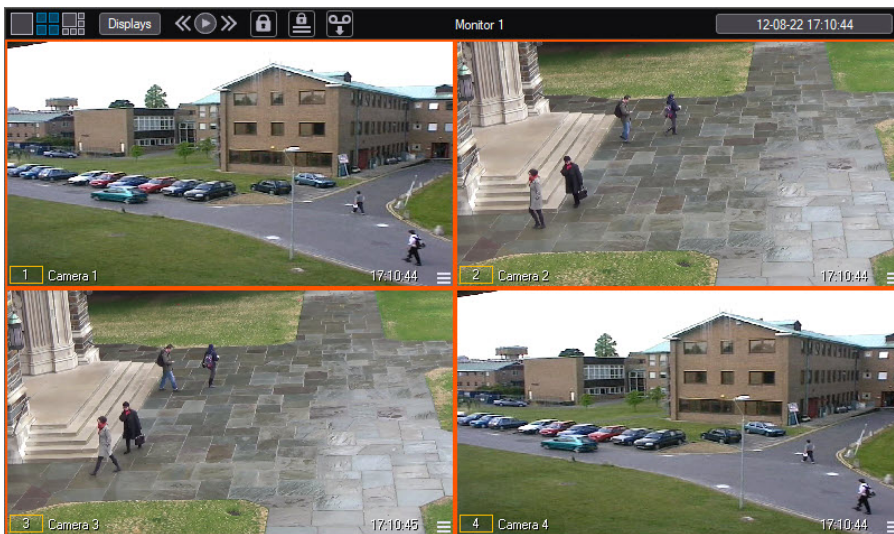
### 4.3.3 Surveillance windows operation


#### Changing the number of Surveillance windows


By default, a single **Video surveillance monitor** displays all **Surveillance windows** related to it. The buttons on the top left side of the toolbar are used for changing the number of the **Surveillance windows** displayed on the **Video surveillance monitor**.

#### Note

If the display of the **Control panel** is disabled (see [Setting the parameters of the Monitor interface window](#)), then the **Surveillance windows** will be positioned automatically in such a way as to fill the area of the **Monitor** interface window. Moreover, if the **Keep camera ratio** parameter is disabled, then the video image in the **Surveillance windows** will be "stretched" or "compressed" to the width of the **Monitor** interface window.



The one-fold button  is used to display a single selected **Surveillance window**, other buttons are used to simultaneously display a certain number of windows (4, 6, 9 or 16) on the **Video surveillance monitor**. The set of displayed buttons changes automatically depending on the maximum number of video cameras corresponding to this **Video surveillance monitor**.

There is a special layout with six **Surveillance windows** featuring one **Surveillance window** larger than other five. This layout has certain restrictions mentioned below. The special six-fold layout can only be displayed by the  button if the toolbar is enabled in the **Video surveillance monitor**. See the figures below for examples of the six-fold layout with the toolbar enabled and disabled.



Double left click in the **Surveillance window** on any layout, except for the six-fold layout, allows increasing the size of the **Surveillance window**, while some **Surveillance windows** will be hidden on the **Video surveillance monitor**. Double right click on the video image allows returning to the original layout.

Managing the number of the **Surveillance windows** with the mouse can be changed with the registry keys (see [Registry keys reference guide](#)). When using the MaximizeCameraOnDbIClk registry key, double left click switches the **Surveillance window** to the one-fold layout from any layout, including the six-fold layout. Also, the switching to the one-fold layout and back can be enabled with the UseOneClkToMaximizeOrMinimizeCamera key.

The MaximizeCameraOnDbIClk, MinimizeCameraOnDbIClk and UseOneClkToMaximizeOrMinimizeCamera keys features are described in the table:

Key values	Action on mouse double click
MaximizeCameraOnDbIClk = 0 MinimizeCameraOnDbIClk = 0 or 1 UseOneClkToMaximizeOrMinimizeCamera = 0 or 1	Standard behavior, the number of the windows doesn't increase in the six-fold layout

<p>MaximizeCameraOnDbClk = 1                  MinimizeCameraOnDbClk = 0                  UseOneClkToMaximizeOrMinimizeCamera = 0 or 1</p>	<p>The six-fold layout switches to the one-fold layout with left double click. The one-fold layout switches to the six-fold layout with right double click</p>
<p>MaximizeCameraOnDbClk = 1                  MinimizeCameraOnDbClk = 1                  UseOneClkToMaximizeOrMinimizeCamera = 0</p>	<p>The current layout switches to the one-fold layout with left double click. The layout switches to the smaller window size with right or left double click</p>
<p>MaximizeCameraOnDbClk = 1                  MinimizeCameraOnDbClk = 1                  UseOneClkToMaximizeOrMinimizeCamera = 1</p>	<p>The current layout switches to the one-fold layout with left or right click. The layout switches to the smaller window size with right or left click</p> <p><i>Note. The first mouse click in the <b>Surveillance window</b> enables the camera, so if the window isn't initially active, two clicks will be required to enlarge</i></p>

In addition, the number of the **Surveillance windows** can be changed using the custom layouts (see [Windows layout on the monitor](#)). However, left double click always enlarges the **Surveillance window** to the entire **Video surveillance monitor**. Moreover, if the custom layout is selected, the layout mode icons are disabled, regardless of the number of the **Surveillance windows** displayed on the selected layout.

If GreenStream is configured (see [Configuring automatic selection of video stream for display](#)), then when changing the number of the **Surveillance windows** and scaling the video image, the video streams used for their display can be automatically changed.

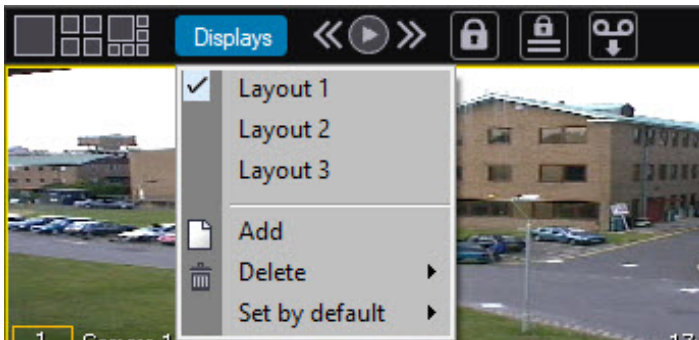
**Note**

The **Video surveillance monitor** toolbar can be unavailable if the system is configured accordingly. If the **Overlay 1** mode is enabled during the system configuration, then the **Surveillance window** scaling by left double click is disabled, and the **Surveillance windows** layout cannot be changed.

### Windows layout on the monitor

The layout defines the number and location of windows on the monitor. To change the location of windows on the monitor, drag them with the mouse. The operator can compose custom window layouts if he (she) is given permissions to control the **Monitor** object.

To control the layout, use menu, called up by the **Screens** button on the video monitor tools panel.



**Note.**

The layouts can also be managed using the Display manager - see [Configuring and activating the layouts](#).

## Creating and deleting layouts

To develop a new layout:

1. Click the **Screens** button on the video monitor.
2. Select the **Add** option in the menu.
3. Enter the name of the new layout in a dialog box.

Then a new layout will appear in the layout list.

To select a layout, click its name in the list. To delete an existing layout, use the **Delete** menu command.

**Note.**

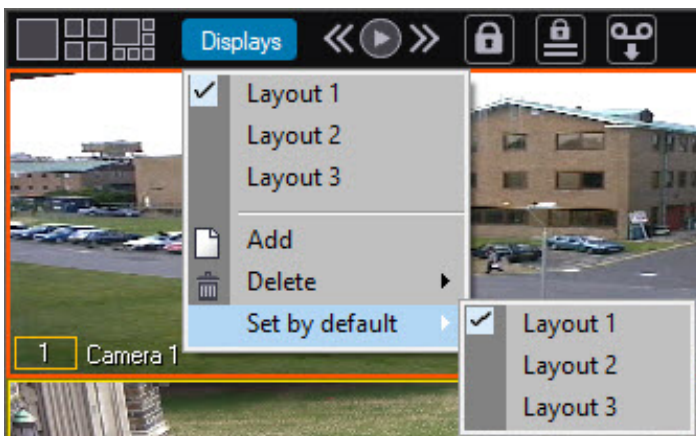
If the **Overlay 1** mode is chosen during the system setup, and the monitor displays six surveillance windows, the surveillance windows layout cannot be changed. Changing the location of windows on the monitor with mouse can also be prohibited by the DisableReplaceCam registry key – see [Registry keys reference guide](#).

The **Add** and **Delete** functions may not be available depending on the permissions (see [Limiting access to administration, control, and monitoring](#)).

## Default layouts

The **Screens** menu also allows assigning default layouts. The default layout will be displayed when *Axxon PSIM* is launched. Use the UseDefaultLayoutOnlyAtStartup registry key to display the default layout each time the corresponding screen with the Video surveillance monitor is displayed (see [Registry Keys Reference Guide](#)).



Select **Screens - Set by default**, then select a layout to be set by default.

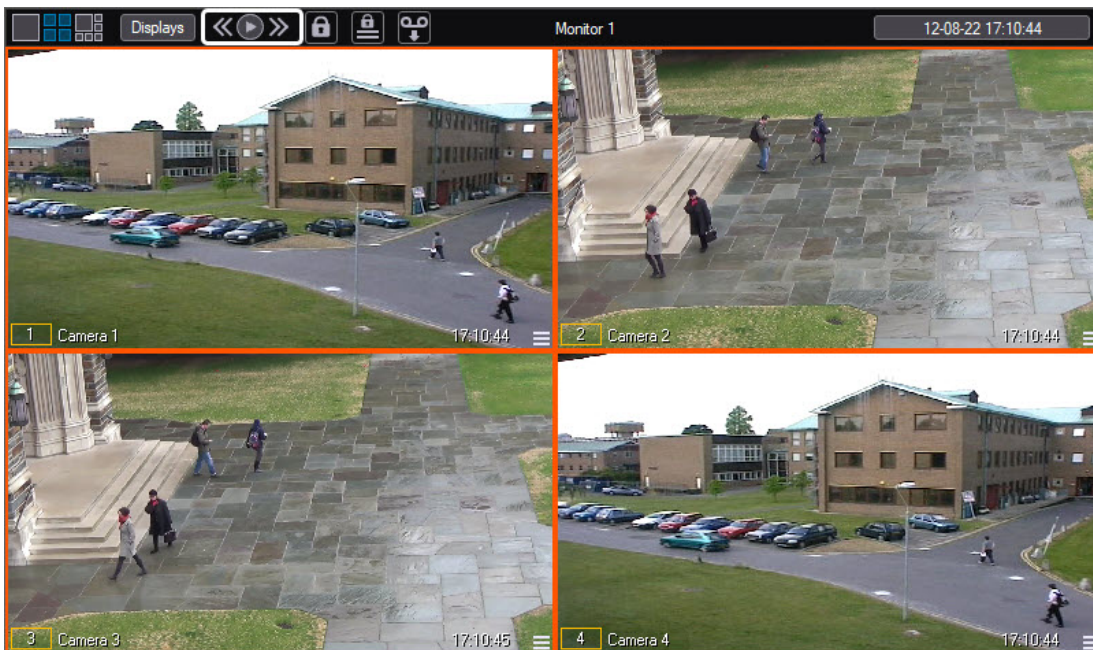



The default layout is highlighted in bold.


## Scrolling through surveillance windows

If the total number of cameras, attached to a given monitor is more than the number of surveillance windows, displayed on a monitor simultaneously, the slide show option is used.

For a slide show the ,  and  buttons are used on the video monitor tools panel.



The first two buttons are used for paging one screen forward/backward. The  button is used to automatically switch on and off the slide show with a pre-defined time value.

When the automatic scrolling mode is enabled, the appearance of the button changes to .

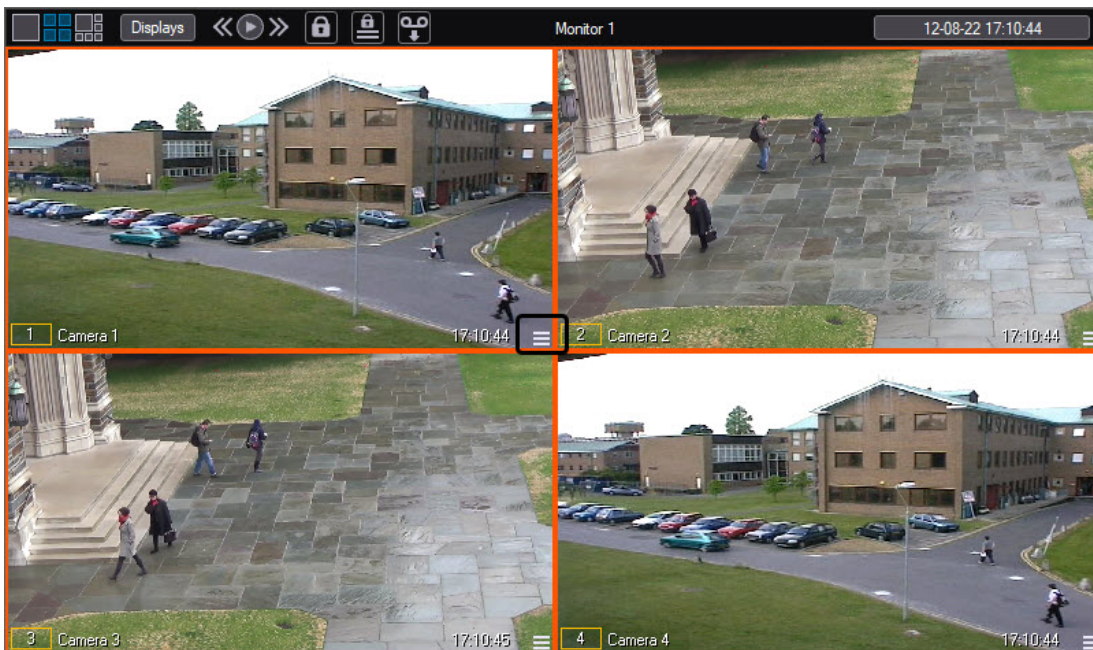
When the automatic scrolling is enabled, the button for opening the camera menu and the button for opening the archive with the left mouse button become inactive. In this case, the button for opening the archive with the right mouse button can be used.

 **Note.**

You can change the standard way of scrolling so that when you click the scroll buttons, the layouts created in the **Surveillance monitor** are scrolled. To do this, set the CycleByLayouts registry key to **1** on the computer where **Surveillance Monitor** is displayed (see [Registry keys reference guide](#)). Note that if the CycleByLayout=1 key is set, the settings of the Quad splitter will be ignored (see [Setting the parameters of the Monitor interface window](#)).

### Active Surveillance window

The Surveillance window can be in two states — active or inactive. The active **Surveillance window** is a window that is in focus at the moment. Other windows are considered inactive. You can move the focus by clicking on other **Surveillance windows**.



The distinctive feature of the active Surveillance window is a button (in the right bottom corner) to access the archive recordings. The archive stores the recordings from the camera of this **Surveillance window**. Another distinctive feature of the active Surveillance window is the light blue background of the **Surveillance window** number.

**Note**

If there are too many **Surveillance windows**, the button to access the archive recordings may not be displayed.

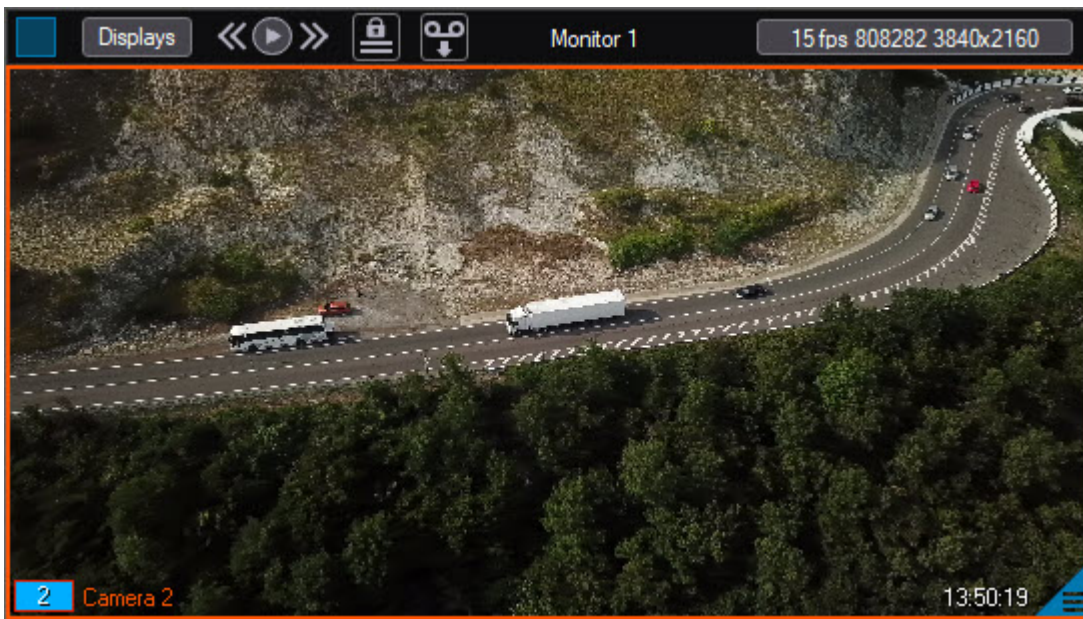
The Video surveillance monitor with the enabled **Active camera** mode (see [Configuring the display mode of camera windows](#)) is called the Active Monitor. In case both Active Monitor and GreenStream are configured (see [Configuring automatic selection of video stream for display](#)), the video stream in this Video surveillance monitor will depend on the Active Monitor window size.

### Video image scaling in Surveillance window

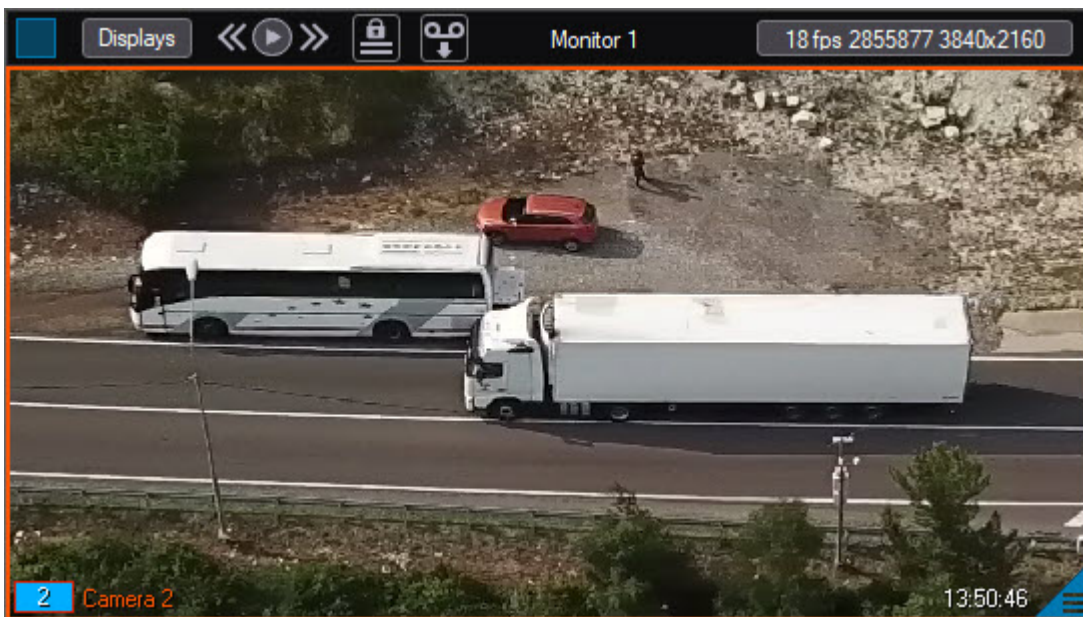
The software has the option of video image scaling in the Surveillance windows.

To zoom in or zoom out the image in an active Surveillance window, use the mouse wheel (see the figures below).

Scaling the video image in the Surveillance window (initial state):

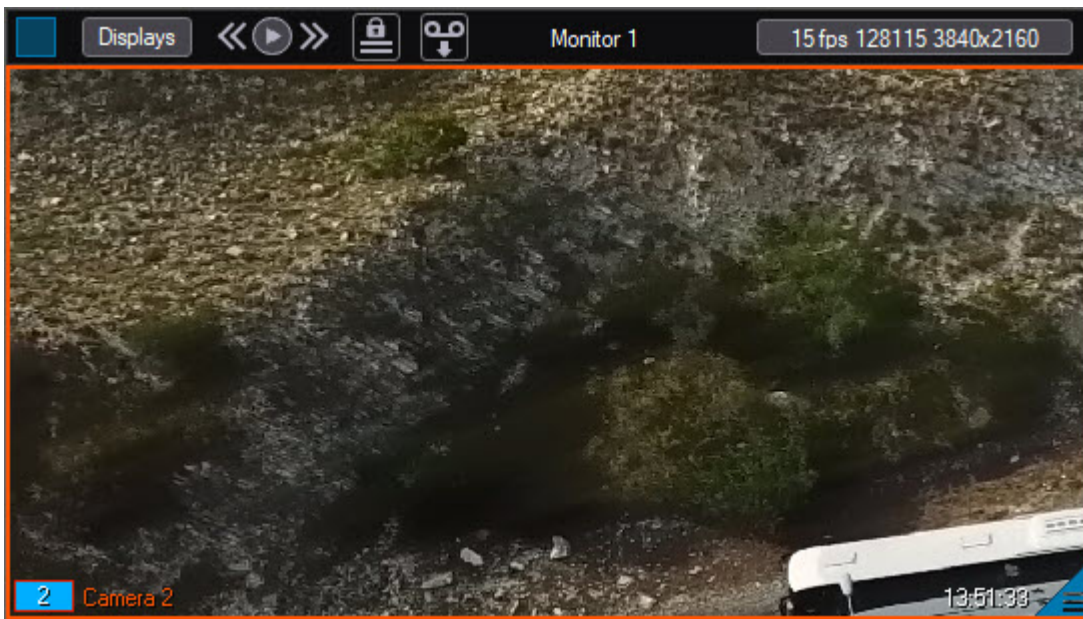


Scaling the video image in the Surveillance window (post scaling state):



In addition, there are other ways of video image scaling (see [Image processing](#)).

The zoomed in image can be moved in the Surveillance window by dragging with the left mouse button. You can also use the Up and Down keyboard keys to move the video image up and down respectively.



If the **restorezoom** registry key is specified, then after the specified time, the scaling will be reset if idle (see [Registry keys reference guide](#)). If the key is absent, then the specified scaling ratio and the scaling area of the video image are retained even after restarting *Axxon PSIM*.

**Note**

The possibility to scale and move the scaling area can be blocked using the **blocking** registry key (see [Registry keys reference guide](#)).

If the additional Video surveillance monitor is configured and has the **Active camera** mode enabled (see [Configuring the display mode of camera windows](#)), and if the automatic video stream selection is configured (see [Configuring automatic selection of video stream for display](#)), then when scaling the video image in this Video surveillance monitor, the video streams will be switched. However, if the maximum resolution video stream is used initially, the video stream will not be switched.

**Note**

The maximum possible video image size is achieved when a single Surveillance window with this video image is displayed on a single Video surveillance monitor. If multiple Surveillance windows are displayed, their sizes may be automatically reduced to fit into a single Video surveillance monitor.

**Note**

In the archive view mode the mouse wheel can also scroll through the video recordings list, if you left click on the video recordings list beforehand. In this case, you need to left click in the Surveillance window to scale the video image with the mouse wheel.

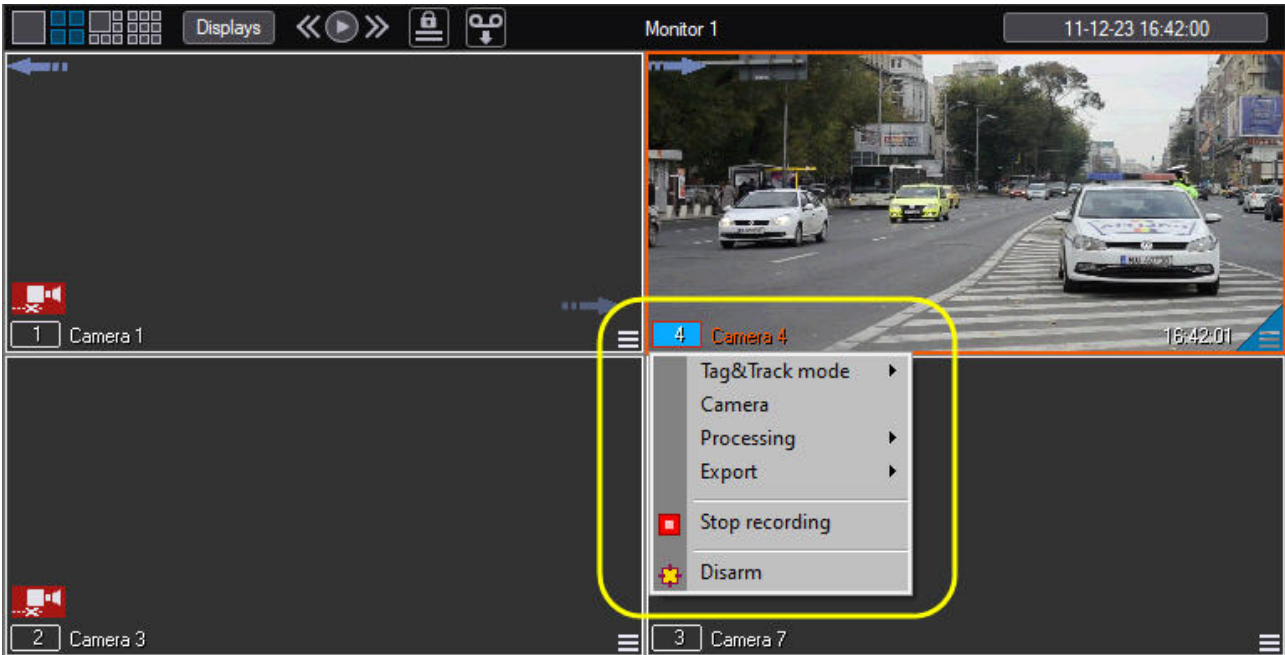
**Note**

If the lens type was specified when configuring the camera, then instead of scaling the video image when you scroll the mouse wheel, the fisheye conversion of the video image will be performed (see also [Enabling fisheye](#)).

### Selecting camera to display in Surveillance window

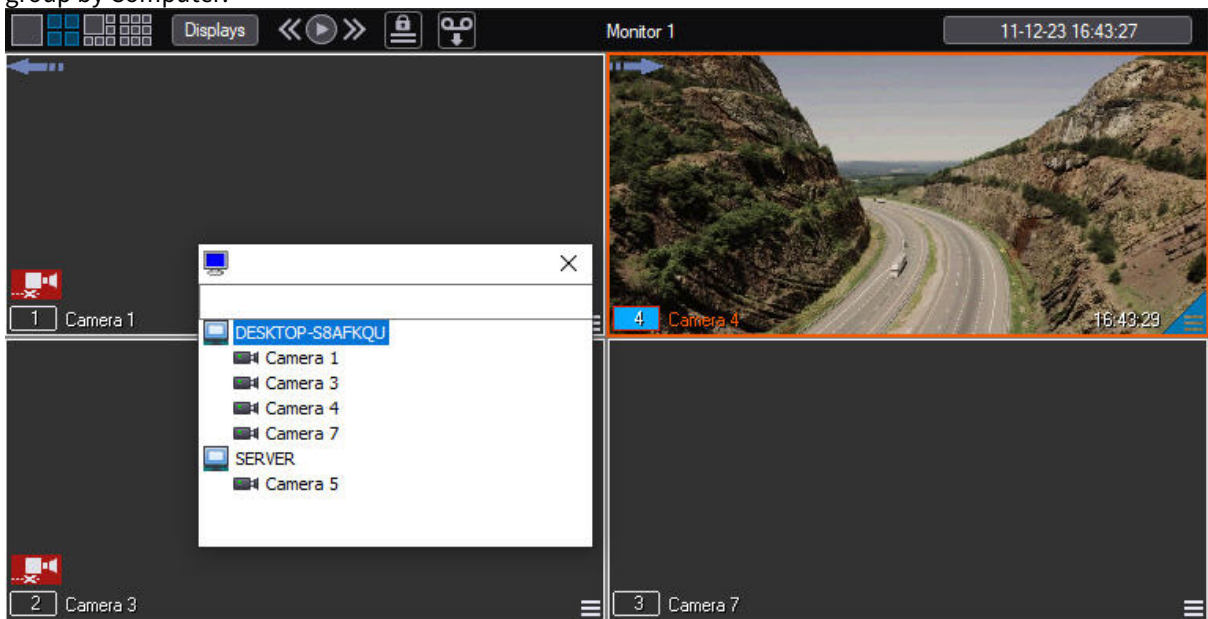
If the layout doesn't display all available windows in the **Video surveillance monitor** (for example, you added nine cameras to the Monitor and selected the six-fold layout), you can change the camera displayed in the **Surveillance window**.

You can change the displayed camera in the menu that opens when you click the camera number:



The selection depends on the **Monitor** settings (see [Setting the parameters of the Monitor interface window](#)):

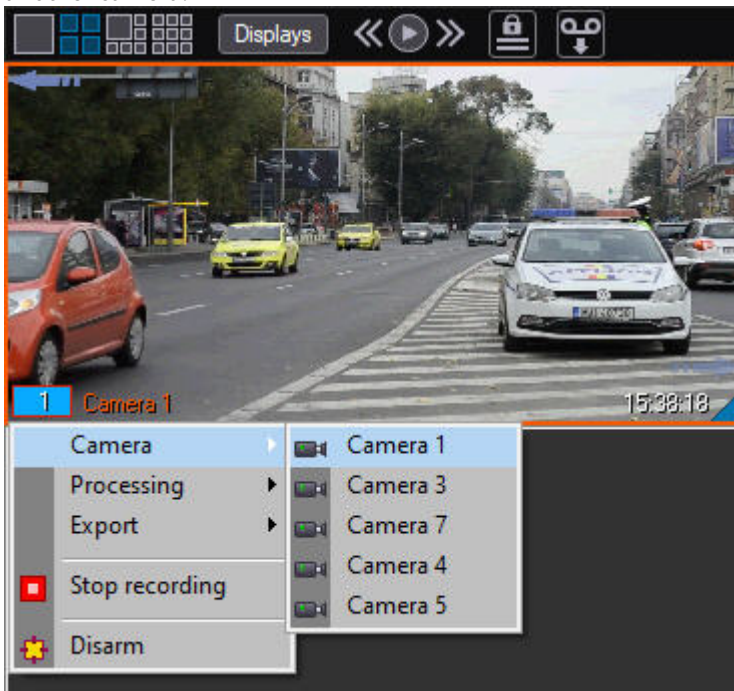
1. If grouping and search is enabled, when you click a **Camera**, a camera selection will open in the dialog window with the possibility of searching by camera name in the top line. In the dialog window, cameras are group by Computer:



**Note**

- You can enter the number, name or part of the camera name in the search line.
- You can disable grouping by computer using the **ActivateVirtualSlave** registry key (see [Registry keys reference guide](#)).

2. If grouping is disabled, when you click a **Camera**, a submenu will open with the possibility of selecting another camera:



You must select a camera from the suggested cameras (all cameras available for the **Video surveillance monitor** are displayed in the list), and a video from the selected camera will be displayed in the **Surveillance window**.

### Viewing video from fisheye camera


Video from fisheye cameras can be converted in the Video surveillance monitor in one of the following ways: **Panorama** (see Surveillance window 1) and **PTZ** (see Surveillance window 2).


**Note.**

See initial video from fisheye camera is displayed in the surveillance window 3 on the screenshot.



See how to enable fisheye conversion in the [Enabling fisheye](#) section. Information on how to configure fisheye cameras can be found in [Configuring fisheye cameras](#) section in [Administrator's Guide](#).

When fisheye conversion is enabled, the  icon is displayed in the Surveillance window of the corresponding camera. It is used to enable and disable video control features in the Surveillance window (see the table below).

When video control features are disabled, the icon looks like this .

Action	Function
Left-click and hold moving the mouse pointer	Changing orientation of virtual camera lens towards the mouse pointer direction
Scrolling up/down	Digital zoom in/out

### Running macros from the Surveillance window

Each camera added to the Video Surveillance Monitor can be assigned with two macros (see [Selecting and configuring video cameras](#) and [Creating and using macros](#)).

Run the macro from the Video Surveillance Window functional menu:



Those menu items may not display if no macros were added to the camera when adding it to the Video Surveillance Monitor.

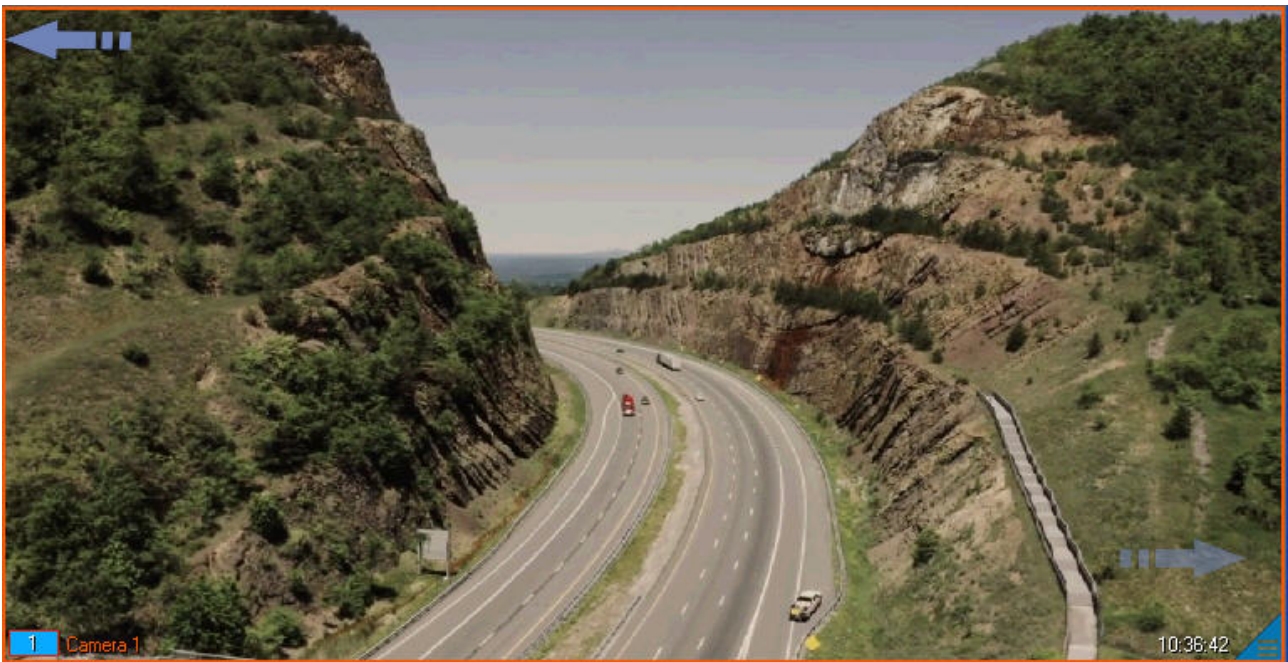
### The Button object in the Surveillance window

The **Button** object can be attached to any **Camera** added to the **Video surveillance monitor**. The **Button** is displayed in the **Surveillance window** over the video image from the camera. The actions when clicking such a **Button** are the following:

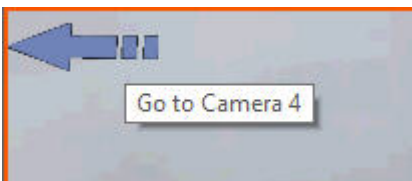
1. Switching to another camera. If only one **Surveillance window** is displayed in the **Monitor** (one-fold layout), then when you click the button in the current **Surveillance window**, the **Camera** will change and the video from it will be displayed. If there is more than one **Surveillance window** in the **Monitor** (multiple folds layout), the video images from the current **Camera** and the camera specified in the **Button** settings will swap.
2. Running a macro: when you click the button, the macro specified in the **Button** settings will start running.

The **Button** can also perform no actions. The appearance of the **Button** and the specified action depend on its settings (see [Configuring a button to display in the Video surveillance monitor](#)). The number of **Buttons** is unlimited.

Example of displaying two **Buttons**:



If you hover the mouse pointer over the **Button**, a tooltip (its caption configured by the settings) will be displayed:



### 4.3.4 Camera arming and disarming

#### General information on camera arming and disarming

Analysis of the scene obtained from the surveillance camera is performed with the activity detector: Activity detectors are intelligent sensors with various functions: motion detection within the observed scene, face detection, camera tampering etc.

Each camera has its main activity detector. By default, camera arming/disarming means the main activity detector is switched on/off. An alarm event by the main detector takes place (and is registered by the system), when motion within the observed scene begins. If a camera is disarmed, the alarm event is not registered.

Moreover, special auxiliary detectors are available. Such detectors, unlike the main one, register not only the beginning of some motion in the camera, but lens closure and tampering, camera rotation, face recognition and so on.

Main and auxiliary detection zones can be masked. Mask is the scene image area with no scene control (for example, if you mask the detector main zone, there is no scene control in progress inside the mask).

## Indication of camera status

### Frame colors of camera number and **Surveillance window**

#### **Attention!**

This section describes the default parameters of the color indication of the **Surveillance window** border. They can be changed during the system configuration—see [Configuring the interface of the Surveillance window](#).

The color of the **Surveillance window** border indicates the current camera status.

Color of the Surveillance window border	Camera status
Green	Camera disarmed
Yellow	Camera armed
Red	Camera is armed, alarm event occurred on camera. OR Camera is disarmed, but one or more detection areas are alarmed and an alarm event is detected in them—see also <a href="#">Indication of detection tool status</a>

The color of the camera number indicator border in the **Surveillance window** indicates the current status of the video recording from the camera.

Color of the camera number border	Camera status
Green	No video recording, camera is disarmed
Yellow	No video recording, camera is armed
Red	Video recording

The combinations of the **Surveillance window** border color and the color of the camera number border are described in the following table.


Color of the Surveillance window border	Color of the camera number border	Camera status
Yellow	Yellow	Camera is armed, no video recording is performed

Red	Red	Alarm event occurred on the camera or in the alarmed detection area. Video recording is started by an alarm event, or the recording, started by Operator's command before the alarm event, continues
Green	Red	Camera is disarmed, but there is recording by Operator's command or post-alarm recording
Yellow	Red	Camera is armed, recording by Operator's command or post-alarm recording is done
Green	Green	Camera is disarmed, no video recording is performed
Red	Yellow	Alarm event occurred on camera or in the alarmed detection area, but no video recording by alarm is done

**Note**


If the auxiliary camera detector zone has been armed or disarmed, the border around the **Surveillance window** retains its color, but after an alarm event in the auxiliary zone the **Surveillance window** border becomes red. So, there is no indication of auxiliary detector zone arming and disarming for the camera by the frame of the **Surveillance window**. See also [Indication of detection tool status](#).


Icons next to the camera number

The icon of video signal absence  appears below the icon of "video camera number" only when there is no video signal. It can be in two cases: video camera is not connected or there is camera restart.

**Note**

The last video frame or blue screen (depending on the video capture card) is displayed in the **Surveillance window** if there is no video signal.

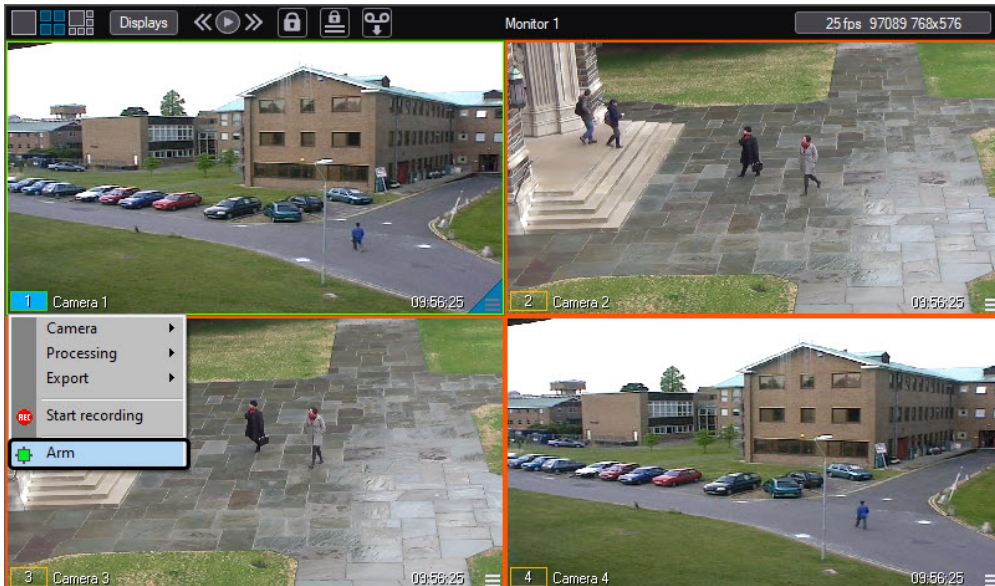
The icon of the selected disk absence  appears above the icon of "video camera number" if disk for archive storing is not selected (see [Selecting the disks for video archive storage](#)).

The icon of the overloaded disk  appears above the icon of "video camera number" if there are frames skipped during archive recording (it means, the FRAME\_SKIPPED events are received, see [CAM Camera](#)). You can enable the indication of frames skipping with the ShowFrameSkippedStatus key, see [Registry keys reference guide](#).

When incorrect camera type is given, the icon of disconnect with the camera  appears above the icon of "video camera number" and the frame of **Surveillance window** turns black.

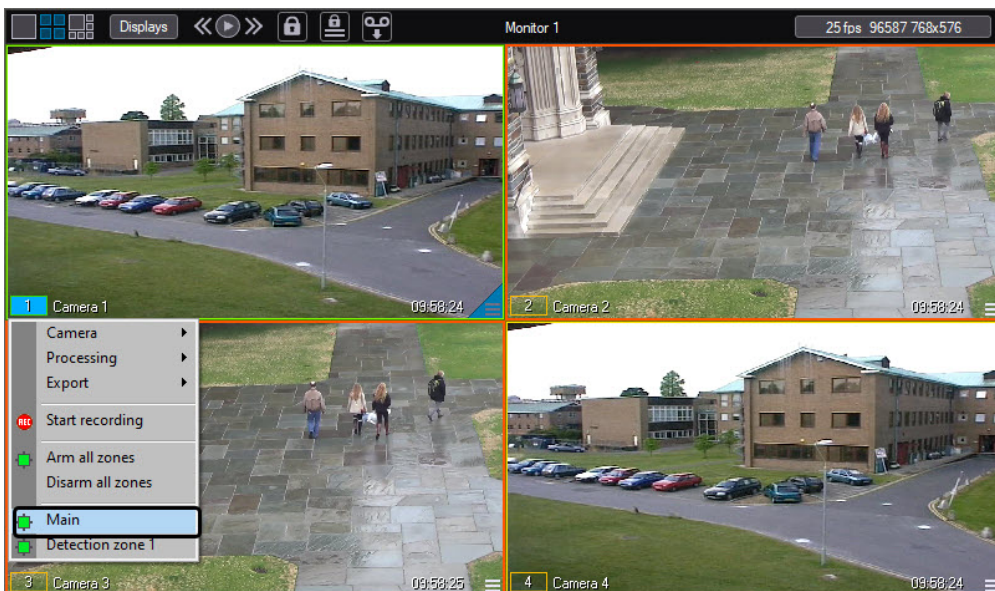
## Camera arming

To arm the camera by the main detector zone, select the **Arm** option in the functions menu in the required camera window.



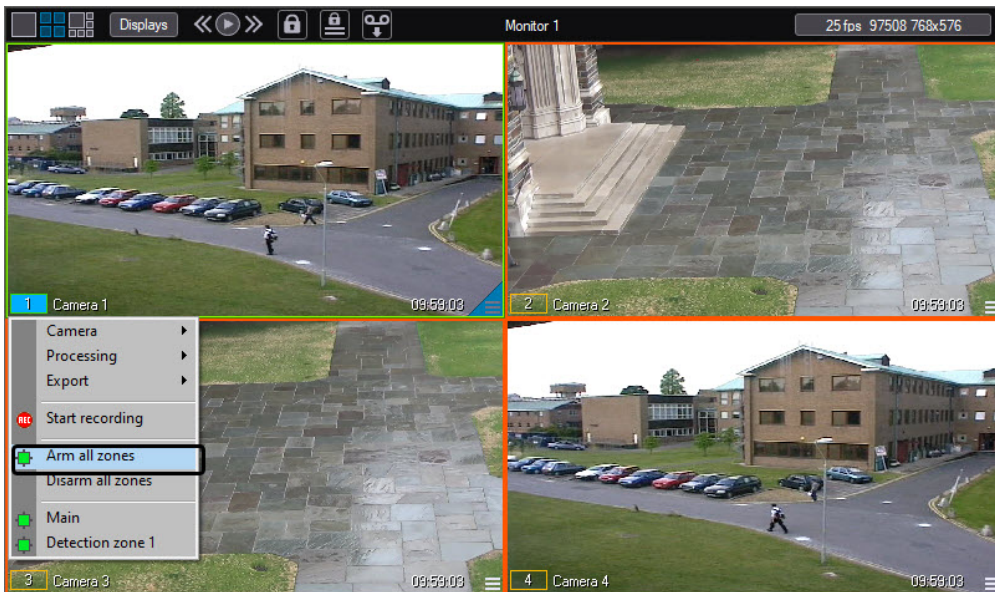
After this camera is activated, and if an alarm event occurs, video recording starts from the camera (if the system has been set up properly). Camera arming by the main zone is followed by colour indication: the surveillance window border becomes yellow and the camera indicator in the surveillance window functions menu becomes yellow too.

If auxiliary zones are assigned, camera arming by auxiliary zones is performed via the video surveillance window functions menu.



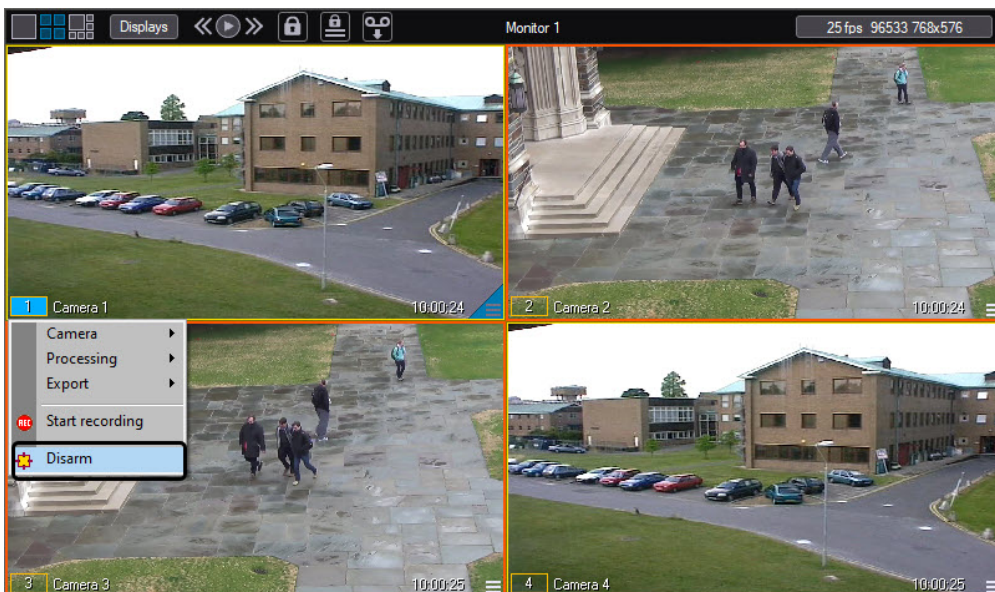
When auxiliary zones are armed, the camera indicator in the functions menu becomes yellow, but the surveillance window border retains its colour.

To arm the camera in the main zone and all auxiliary zones simultaneously, select the **Arm all zones** item in the video surveillance window functions menu.



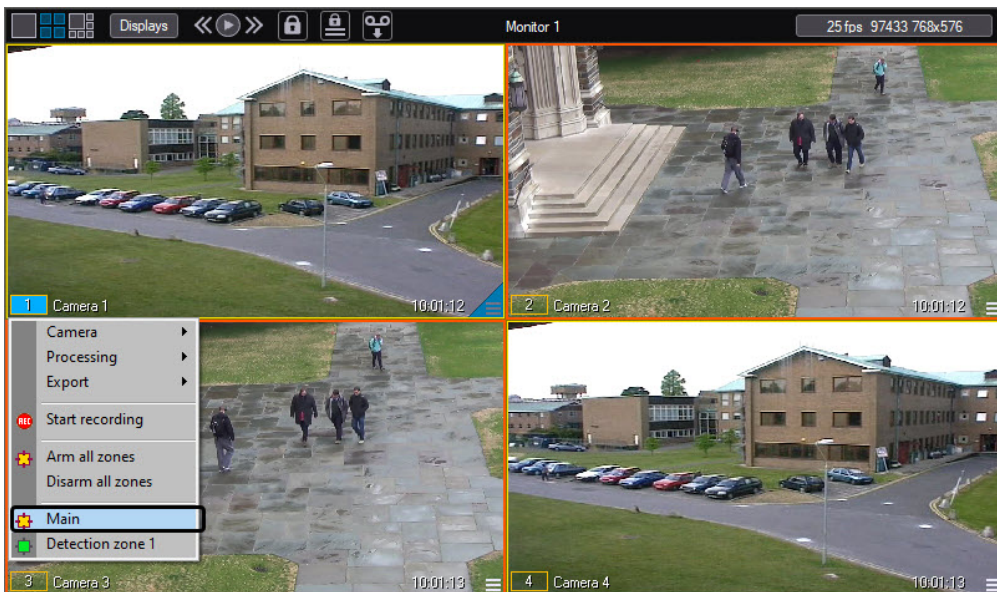
## Camera disarming

To disarm a camera in the main detector zone, select the **Disarm** option in the camera window functions menu.



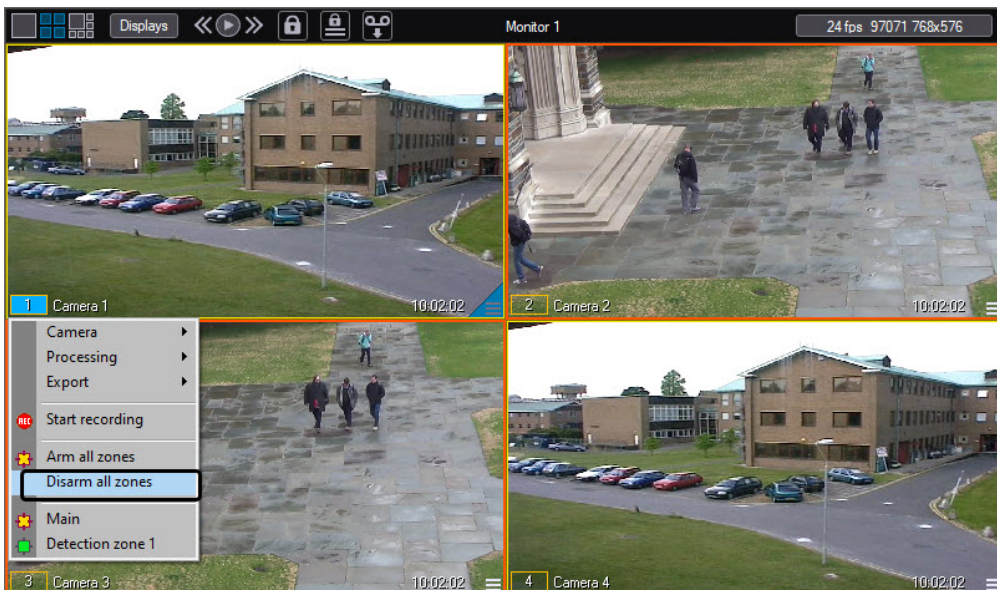
During camera disarming in the main zone, its colour indication changes: the surveillance window border becomes green, and the camera indicator in the surveillance window functions menu becomes green too.

If a camera is armed in the auxiliary zone, then camera disarming is performed via the video surveillance window functions menu.



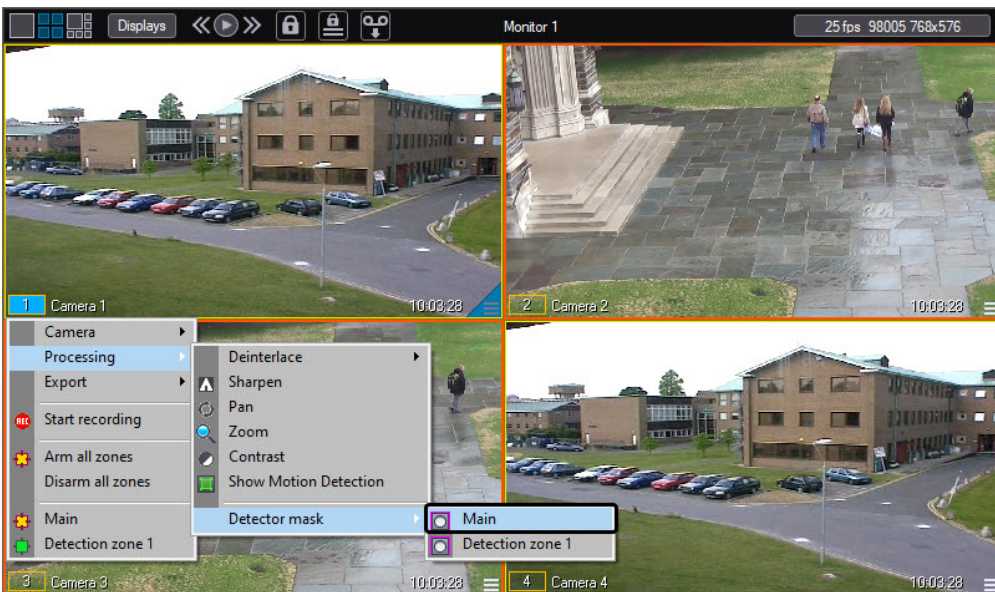
When a camera is disarmed in the auxiliary zone, the camera indicator in the surveillance window functions menu becomes green, but the surveillance window border doesn't change colour.

To disarm the camera in the main zone and all auxiliary zones simultaneously, select the **Disarm all zones** item in the video surveillance window functions menu.



### Masking the Main detector

Access to main detector mask editing is performed via the video surveillance window functions menu. To enter mask editing mode, select the **Detector mask** item from the **Processing** submenu.



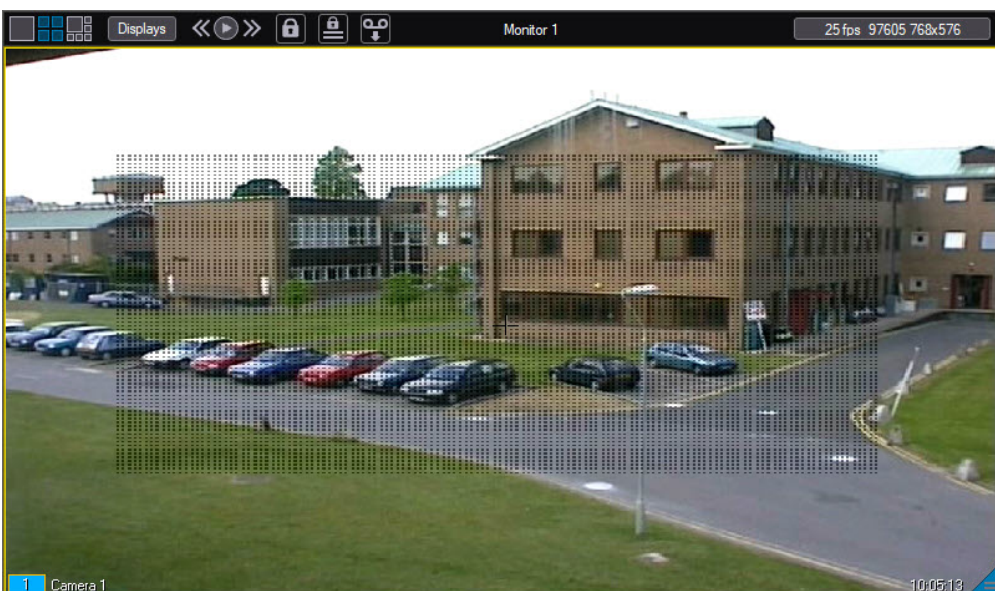
After masking is enabled, black crosshairs appear in the center of the video. The crosshairs can be moved up or down, by pressing the up arrow and down arrow keys on the keyboard.

Masks have a rectangular shape. A mask is initiated by a left click: select a dot on the screen, click the left mouse button and pressing the button draw a rectangle – the mask area will be filled with black dots.

**Note.**

If after applying the mask you press the Enter key on the keyboard, the mode is enabled, in which editing and deleting masks impossible. In this case, the crosshairs at the center of the video become white. To exit this mode, press the Esc.

In the mask area there will be no detecting.



Mask removal is performed in a similar way. To clear the screen area from the mask, select a dot on the screen, click the right mouse button and pressing the button draw a rectangle – the final rectangular area will be cleared.

To quit the main detector mask editing mode, select the **Detector mask** item from the **Processing** submenu of the video surveillance window functions menu once more.

**Note.**

When quitting the mask editing mode, rectangles with the dots, that have bordered mask areas, vanish from the surveillance window. Nevertheless, the mask areas are still active, i.e. no surveillance occurs in these areas.

## 4.3.5 Use of basic video detection tools

### General information on video detection tools

Analysis of the scene obtained from the surveillance camera is performed with the activity detector. Activity detectors are intelligent sensors with various functions: motion detection within the observed scene, face detection, camera tampering etc.

Each camera has its main activity detector. By default, camera arming/disarming means the main activity detector is switched on/off. An alarm event for the main detector takes place (and is registered by the system), when motion within the observed scene begins. If a camera is disarmed, an alarm event is not registered.

Moreover, special auxiliary detectors are available. Such detectors, unlike the main one, register not only the beginning of some motion in the camera, but lens closure and tampering, camera rotation, face recognition and so on.

Main and auxiliary detection zones can be masked. Mask is the scene image area with no scene control (for example, when a detector main zone is masked, there is no scene control inside the mask).

### Detection tool types

**On page:**

- [Main motion detection tool](#)
- [Infrared motion detection tool](#)
- [Face detection tool](#)
- [Lost items detection tool](#)
- [Focusing detection tool](#)
- [Video signal stability detection tool](#)
- [Background change detection tool](#)
- [Camera blinding detection tool](#)
- [Lens blocking detection tool](#)

### Main motion detection tool

The main motion detection tool discovers moving objects and establishes their direct of motion. Detected moving objects are automatically outlined in the surveillance window with their motion direction being marked with an arrow.

#### Infrared motion detection tool

Discovers moving objects within the scene. Detected moving objects are automatically outlined in the surveillance window. Contrary to common motion detectors, it can recognize small objects.

#### Face detection tool

The face detection tool recognizes every human face within the observed scene. A recognized face is outlined in the surveillance window.

#### Lost items detection tool

The lost items detection tool is capable of recognizing motionless objects, lost within the scene. If an item is present (or absent) within the scene for a certain time, it is outlined in the surveillance window.

#### Focusing detection tool

The focusing detection tool is used to identify camera signal distortion. It notifies the Operator about loss of camera focus.

#### Video signal stability detection tool

The video signal stability detector is used to identify camera signal distortion.

#### Background change detection tool

The background change detection tool is used to identify camera signal distortion. This detection tool is capable of discovering a change of the scene background due to physical (optical) tampering of the CCTV camera.

#### Camera blinding detection tool

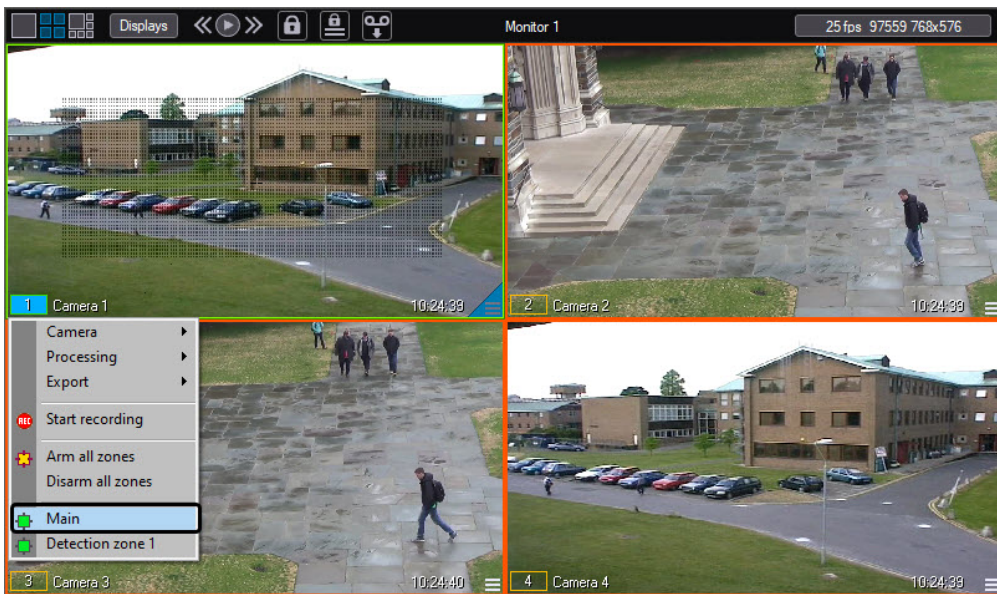
The camera blinding detection tool is used to identify camera signal distortion. It discovers attempts to over-illuminate the camera lens.

#### Lens blocking detection tool

The lens blocking detection tool is used to identify camera signal distortion. It recognizes lens blocking and plastering.

#### Indication of detection tool status

Indication of the surveillance camera detection tool may be found in the video surveillance window functions menu of the camera.



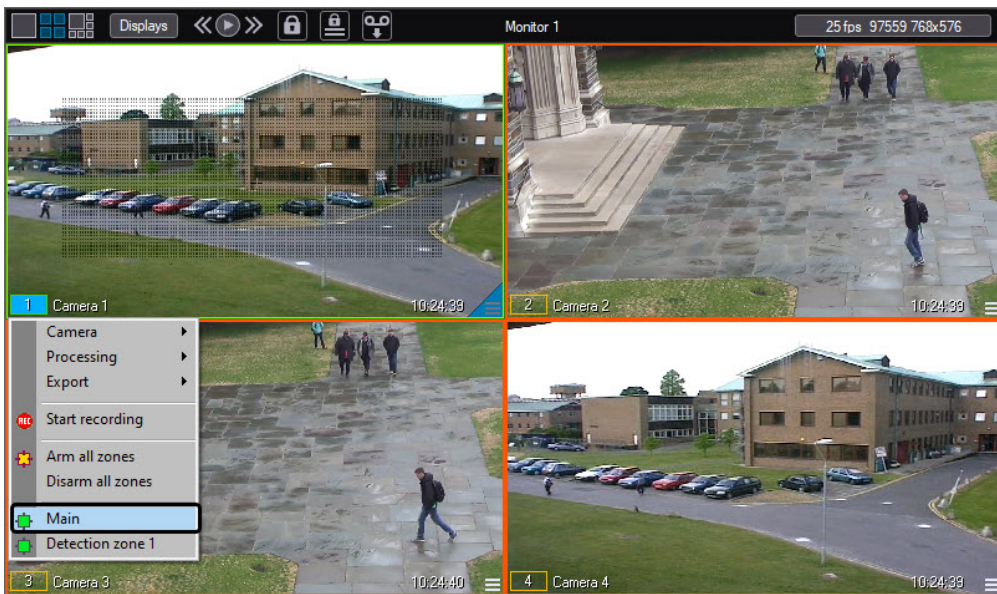
Detection tool status indication is a square field opposite the detector name. Detection tool status is shown by the colour of the indicator.

Indicator colour	Detector status
Green	Detector OFF
Yellow	Detector ON

Moreover, if a Detection zone was configured alarmed, the alarm on the Detection zone initiates an alarm on camera; in such case the alarm is indicated in the same way as for the Main detection zone – see [Indication of camera status](#).

### Switching detection tools on

Switching on a video surveillance camera detection tool is performed via the video surveillance window functions menu of the camera.



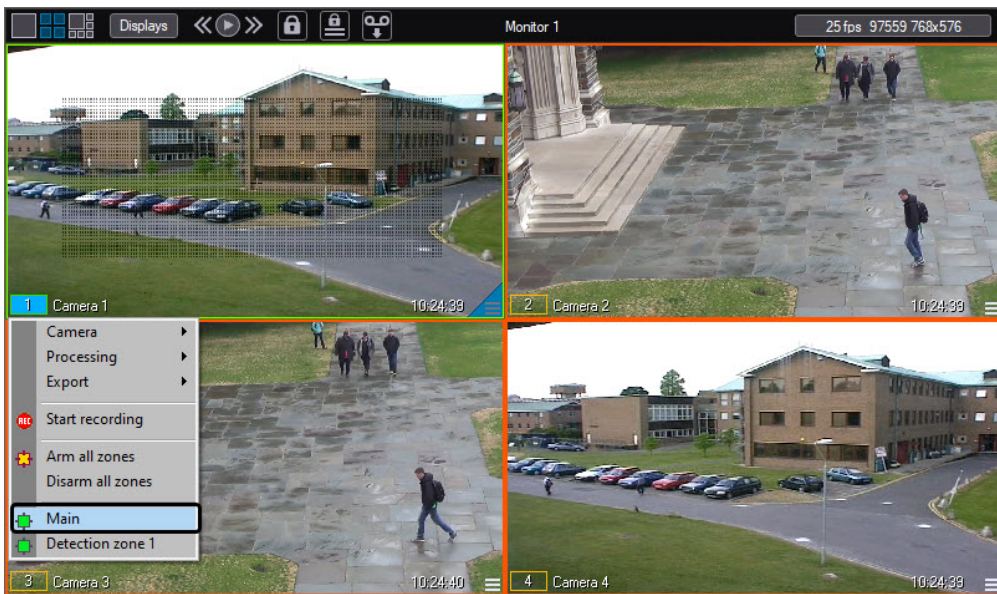
To switch a detection tool on, click its name or its indicator in the list of detectors. Then the green indicator of the detector will become yellow.

To switch on all available detection tools simultaneously, select the **Arm all zones** item in the video surveillance window functions menu.



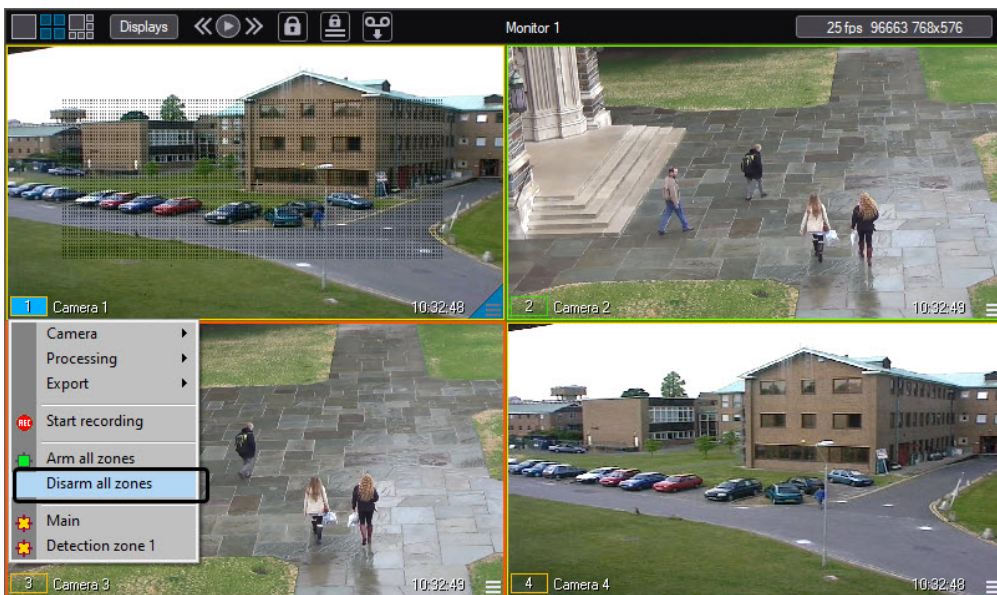
### Switching detection tools off

Switching off a video surveillance camera detection tool is performed via the video surveillance window functions menu of the camera.



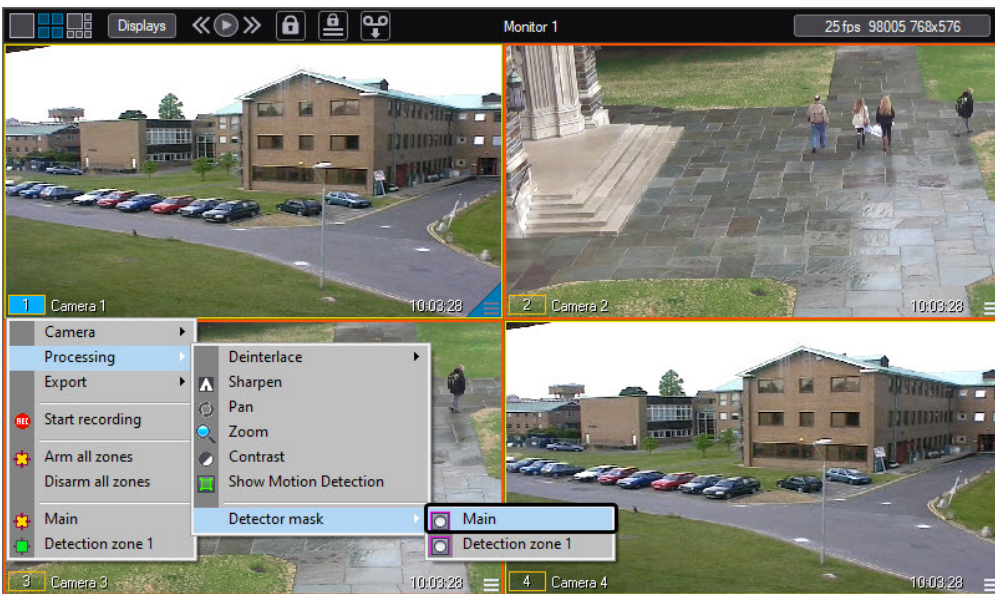
To switch a detection tool off, click its name or its indicator in the list of detectors. The detection tool indicator will become green.

To switch off all available detection tools simultaneously, select the **Disarm all zones** item in the video surveillance window functions menu.



### Detection tool masking

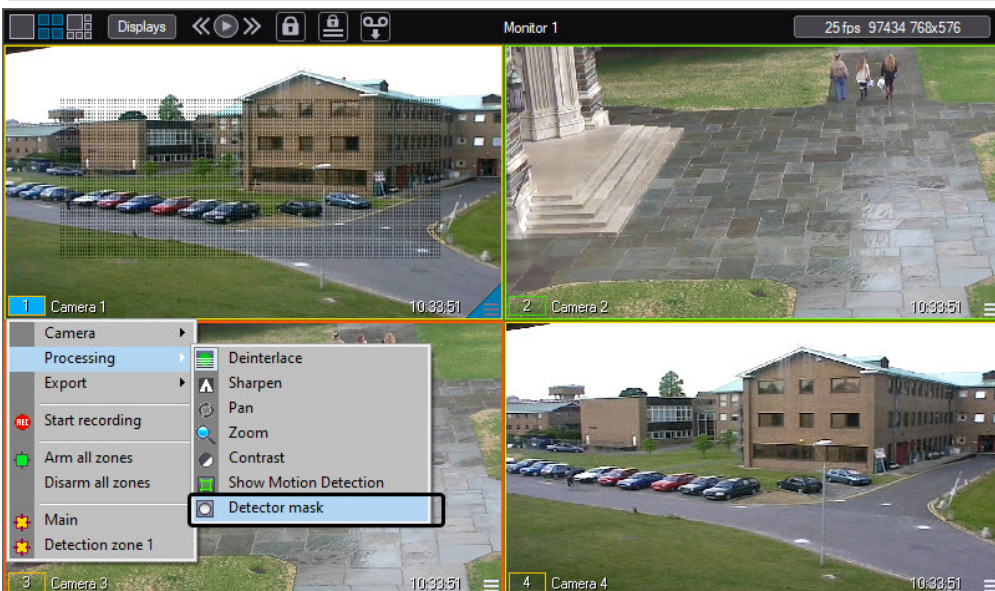
To edit detection tool's masks, go to the Surveillance windows, **Processing** submenu.



To enter mask editing mode, select a detector in the **Detector mask** submenu. The first detection tool in the list is the main motion detector (**Main** item), followed by auxiliary video detection tools. If a main detection tool is the only detection tool, then the **Detector mask** item will be displayed instead of the detection tool selection submenu.

**Note**

You cannot access the archive in the mask editing mode. Vice versa, you cannot enter the mask editing mode in the archive viewing mode.



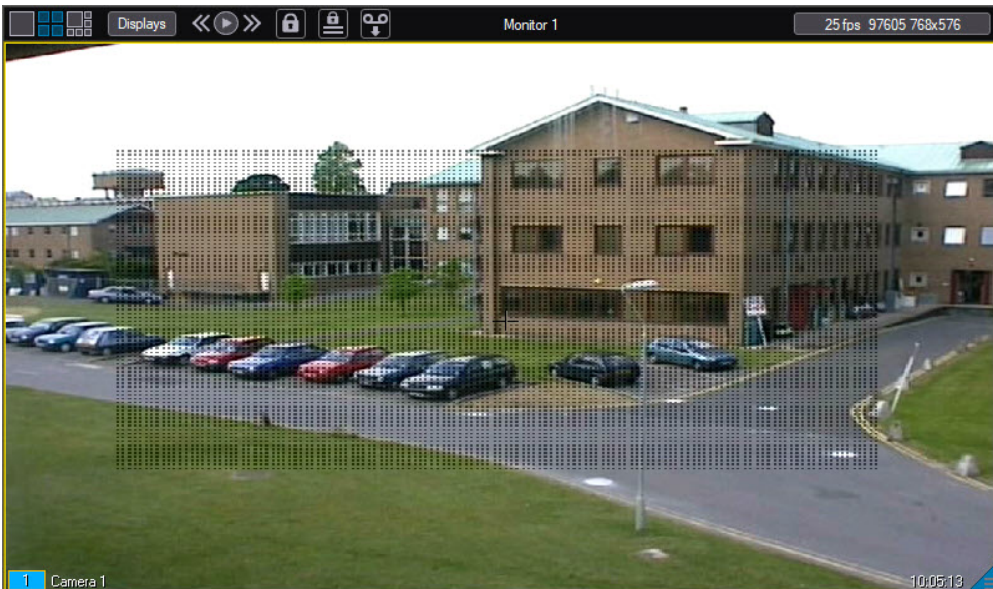
After masking is enabled, black crosshairs appear in the center of the video. The crosshairs can be moved up or down, by pressing the up arrow and down arrow keys on the keyboard.

Masks are rectangular areas. A mask is imposed by a left click: select a dot on the screen, click the left mouse button and pressing the button draw a rectangle – the mask area will be filled with black dots.

**Note.**

If after applying the mask you press the Enter key on the keyboard, the mode is enabled, in which editing and deleting masks impossible. In this case, the crosshairs at the center of the video become white. To exit this mode, press the Esc.

In the mask area, there will be no detection.



Mask removal is performed in a similar way. To clear the screen area from mask, select a dot on the screen, click the right mouse button and pressing it draw a rectangle – the final rectangular area will be cleared.

To quit the mask editing mode, select the **Detector mask** item from the **Processing** submenu of the video surveillance window functions menu once more.

**Note.**

When quitting the mask editing mode, rectangles with dots, that have bordered mask areas, vanish from the surveillance window. Nevertheless, mask areas are still active, i.e. no surveillance occurs in these areas.

### 4.3.6 Smart video detection tools operation

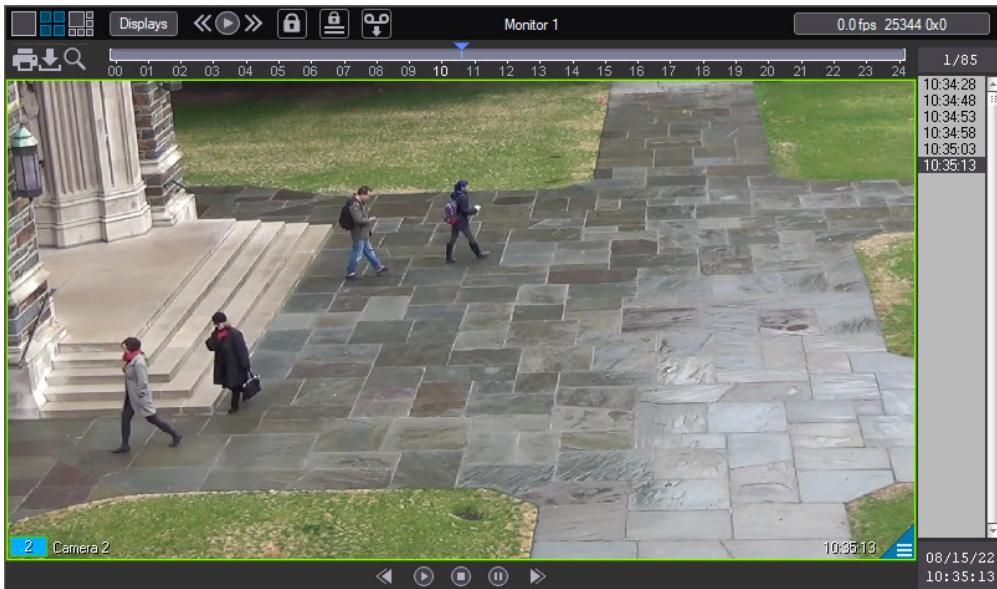
When smart video detection tools are configured in the system, frames around the detected or abandoned objects can be displayed on the video image. You must enable the corresponding setting either when [configuring the Tracker object](#) or when configuring the corresponding detection tool (see [Creating and configuring the VMDA detection](#)). If the display of frames is enabled in both settings, then both frames will be displayed.

**Note**

In order for the frames to show when the **Surveillance window** of a camera is displayed on a monitor designated for the active camera or alarm cameras (see [Configuring the display mode of camera](#)

windows), the corresponding camera must be added to this monitor at the system setup stage (see [Selecting and configuring video cameras](#)).

Frames around detected objects or items are present both in live video and during archive playback.



If the smart detection tools are configured to generate an alarm on camera when an object is detected, the alarm indication is standard (see [Indication of camera status](#)).

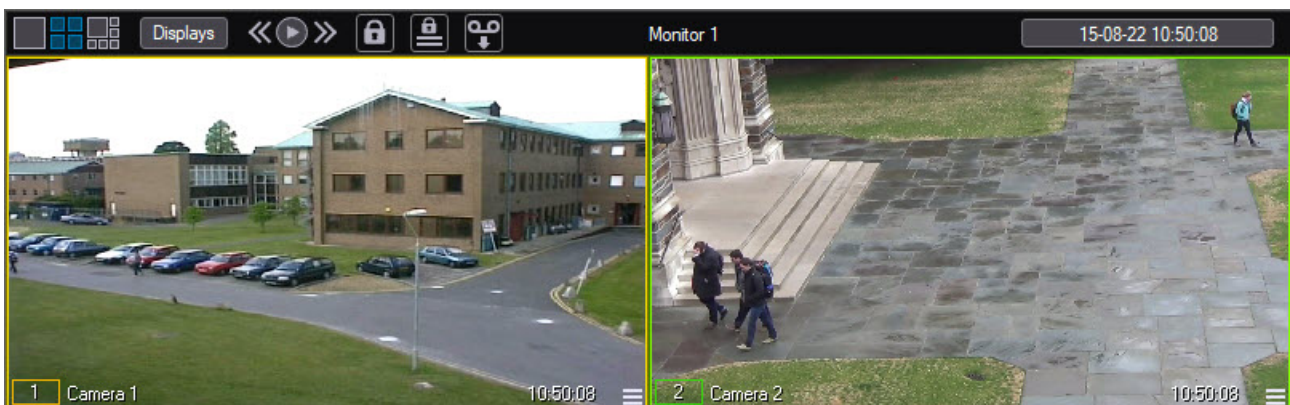
The [Smart search in the archive](#) is also available if smart detection tools are configured correspondingly.

**Note**

The settings of captions display also affect the display of frames around detected objects or abandoned objects when viewing archive in the **Video surveillance monitor** (see [Enabling the captions showing](#)).

### 4.3.7 Using Tag&Track

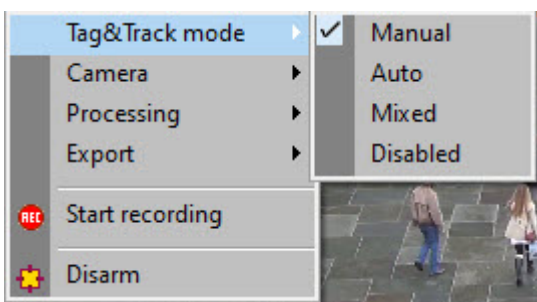
If Tag&Track is configured in *Axxon PSIM* (see [Tag&Track configuration](#)), then Video Surveillance Monitor allows tracking any selected object on video. Two Video Surveillance Windows are required for the use of Tag&Track, i.e. for stationary and PTZ camera (see [Configuring video display on Video Surveillance Monitor](#)).



The Tag&Track function can be operated in one of the following modes:

1. **Manual** (default) – left-click the frame of any moving object in the Video Surveillance Window to start tracking the object. The selected frame is highlighted in blue. As a result, the PTZ camera will follow the object until the track is lost.
2. **Auto:**
  - a. If switching to the next object is not configured, the first detected object is tracked until the track is lost.
  - b. If switching to the next object is configured, the first detected object is tracked for a specified period of time and then switching to the next sequential object is performed.
3. **Mixed** – automatic mode operation until Operator manually select an object. When the selected object is lost, Tag&Track switches to automatic mode until Operator selects another object.
4. **Disabled** – objects are not tracked using the Tag&Track function.

Use the **Tag&Track Mode** menu item in the video surveillance window functional menu to switch modes.



### 4.3.8 Events recording

#### General information on events recording

Video recording can be performed in the modes:

1. alarm video recording;
2. recording by Operator command;
3. audio and video synchro recording.

Event recording options can be performed:

1. Automatic addition of the pre-event fragment with a pre-defined duration at the beginning of the entire recording.
2. Automatic addition of the post-event fragment with a pre-defined duration at the end of entire recording.
3. Forced stop of the video recording in any mode.

The video recording status is indicated by the colour of the camera number indicator border in the surveillance window and by the recording control item in the video surveillance window functions menu.


#### Recording indication

Surveillance camera recording is indicated by the camera number indicator border in the video surveillance window of the camera.


Colour of the camera number border	Recording status
Green or yellow	No video recording

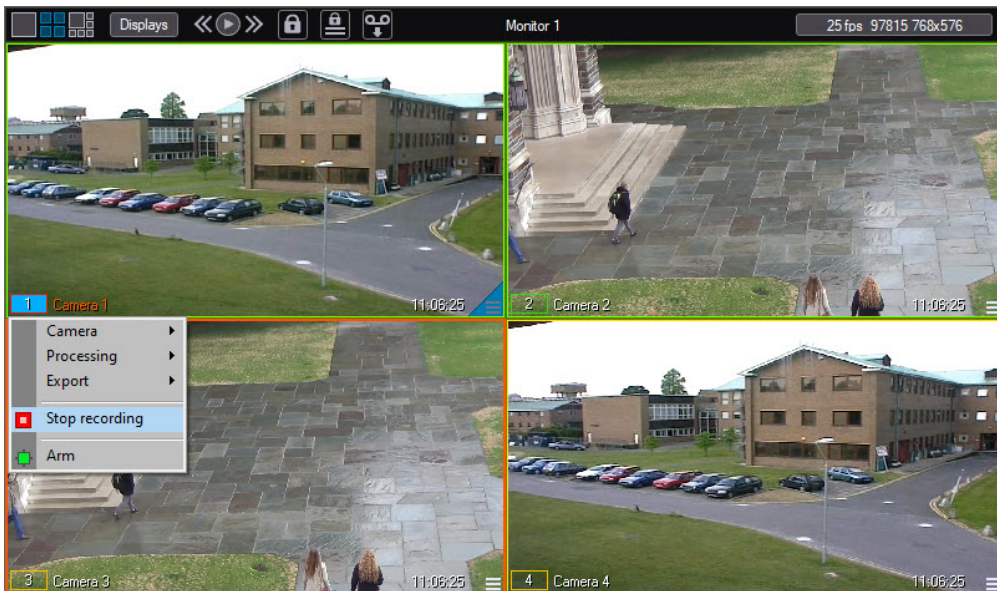
Red	Video recording is being performed
-----	------------------------------------

The recording status is also displayed in the video surveillance window functions menu of the camera.

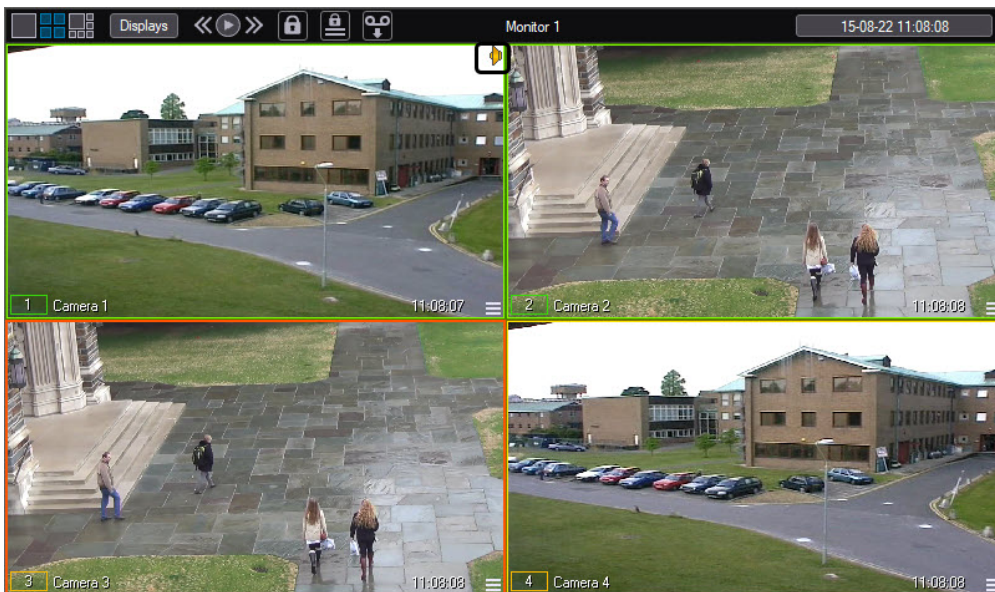
The  symbol means, that there is no video recording at the moment.



The  symbol means, that video recording is being performed at the moment.



The synchro audio recording and monitoring indicator is placed in the top right corner of the surveillance window.



## Alarm recording

Alarm recording starts automatically, if any camera has registered an alarm event. Video recording stops immediately after the end of an alarm event or in a pre-defined time interval after it. With some program settings the pre-event fragment with a pre-defined duration may be automatically added to the beginning of the entire recording.


### **Note.**

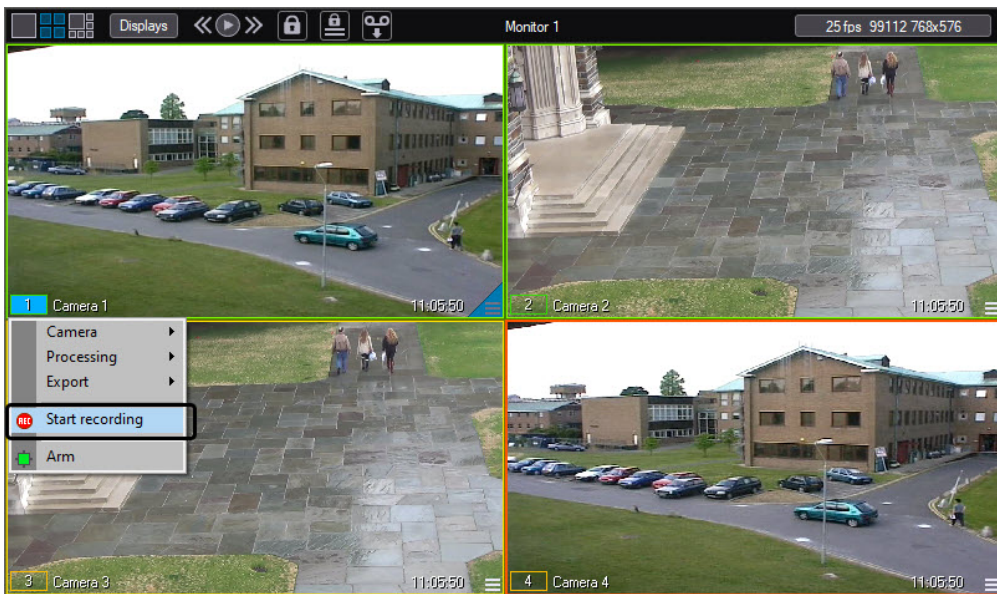
Alarm recording doesn't start, if:



1. the *Alarm recording* option has not been enabled for the camera – recording is not activated when the main detector registers an alarm event;
2. the *Alarm* option has not been enabled on the camera auxiliary detector – recording is not activated when the auxiliary detector registers an alarm event.

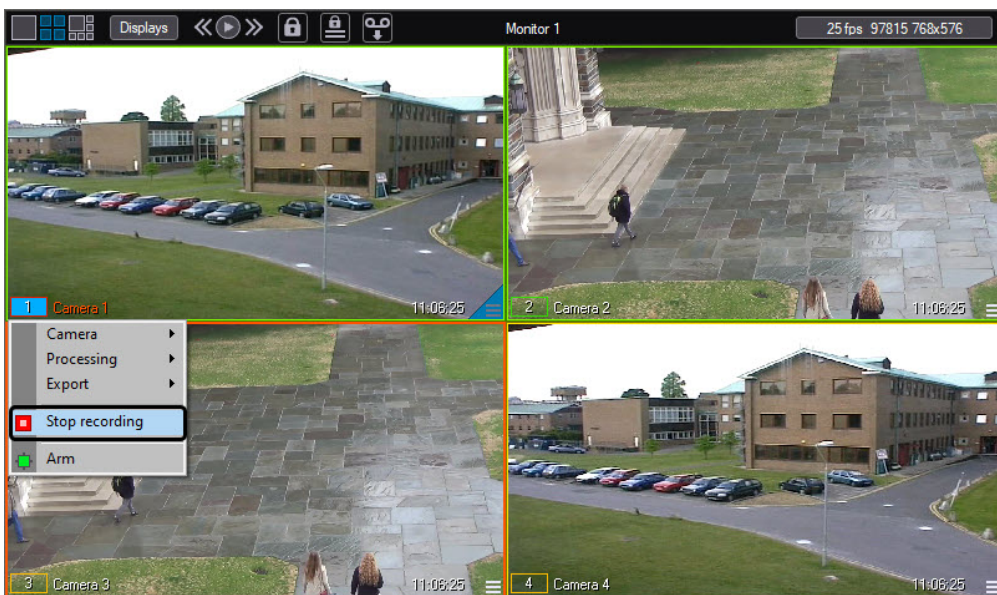
## Recording by Operator command




Recording may be forced by Operator command. To control recording, select the **Start recording/Stop recording** item from the functions menu of the video surveillance window.

Select the  item to start recording.





When recording starts, the recording indicator  changes to .



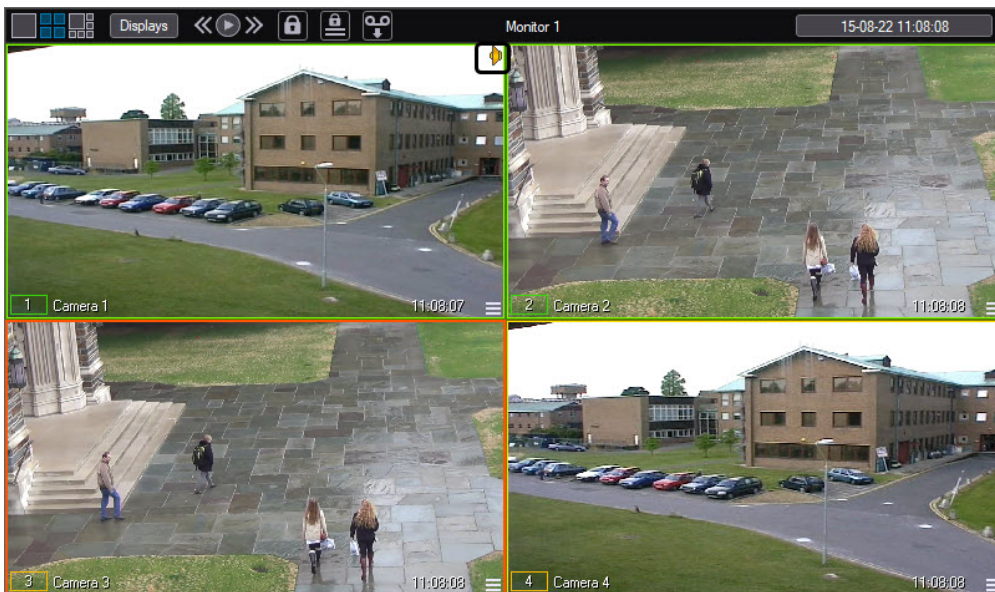
To stop recording, click the  item. The  indicator changes to .

### Audio and video synchronous recording

Synchronous recording is switched on by Operator command or by an occurred alarm event. With this option in the top right corner of the surveillance window, the  (or ) icon is displayed.

**Note**

Synchronous recording is controlled only in the Surveillance window.



If synchronous recording was switched on by Operator command or by an occurred alarm event on a specific camera, an audio recording will start automatically from the attached camera microphone.

The color of the icon indicates if the Operator can hear the sound from a given microphone, which does not affect recording.

**Note.**

Synchronous audio playback is possible only along with video playback.  
When video recordings with synchronous audio recordings are copied to the backup archive, these audio recordings are stored with the video recordings if *Axxon PSIM* software package has the corresponding configuration.

### Stopping the recording

The operator can stop video recording forcibly in any mode and at any time with the **Stop recording** item from the functions menu of the video surveillance window.



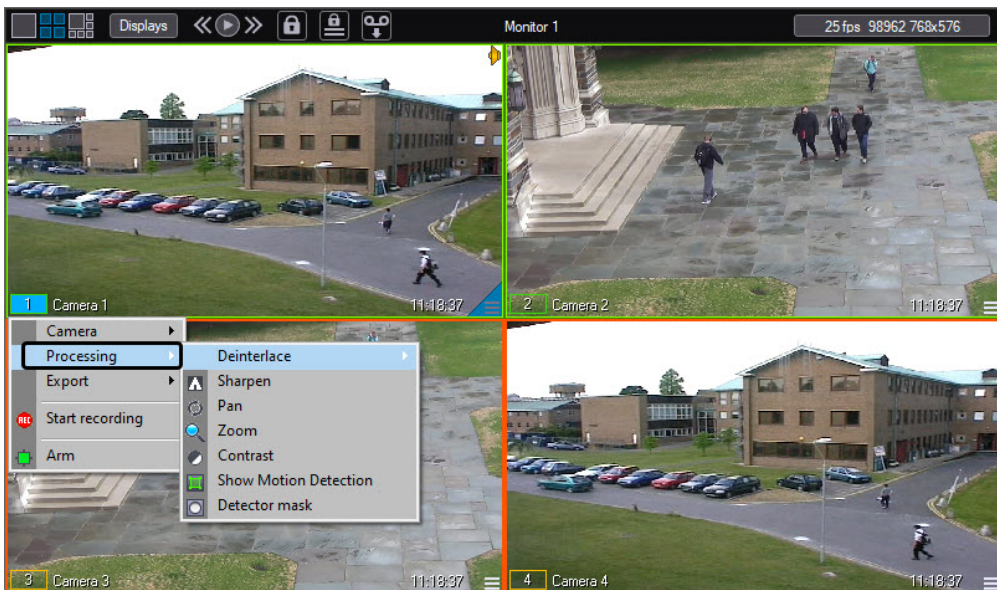
**Note.**

If recording is not currently activated, the **Start recording** item is displayed instead of the **Stop recording** item.

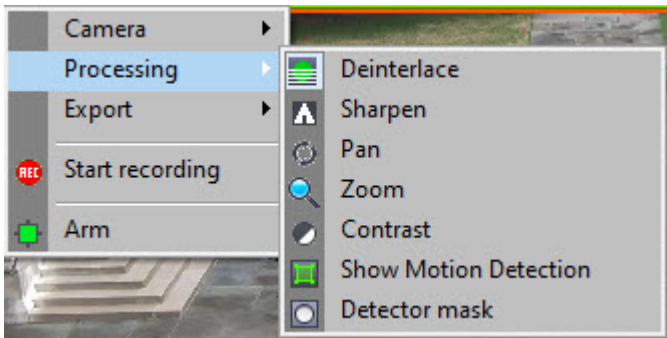
### 4.3.9 Image processing

#### General information on image processing

Image processing options are available through the video surveillance window functions menu: the **Processing** submenu displays options available for a given image.



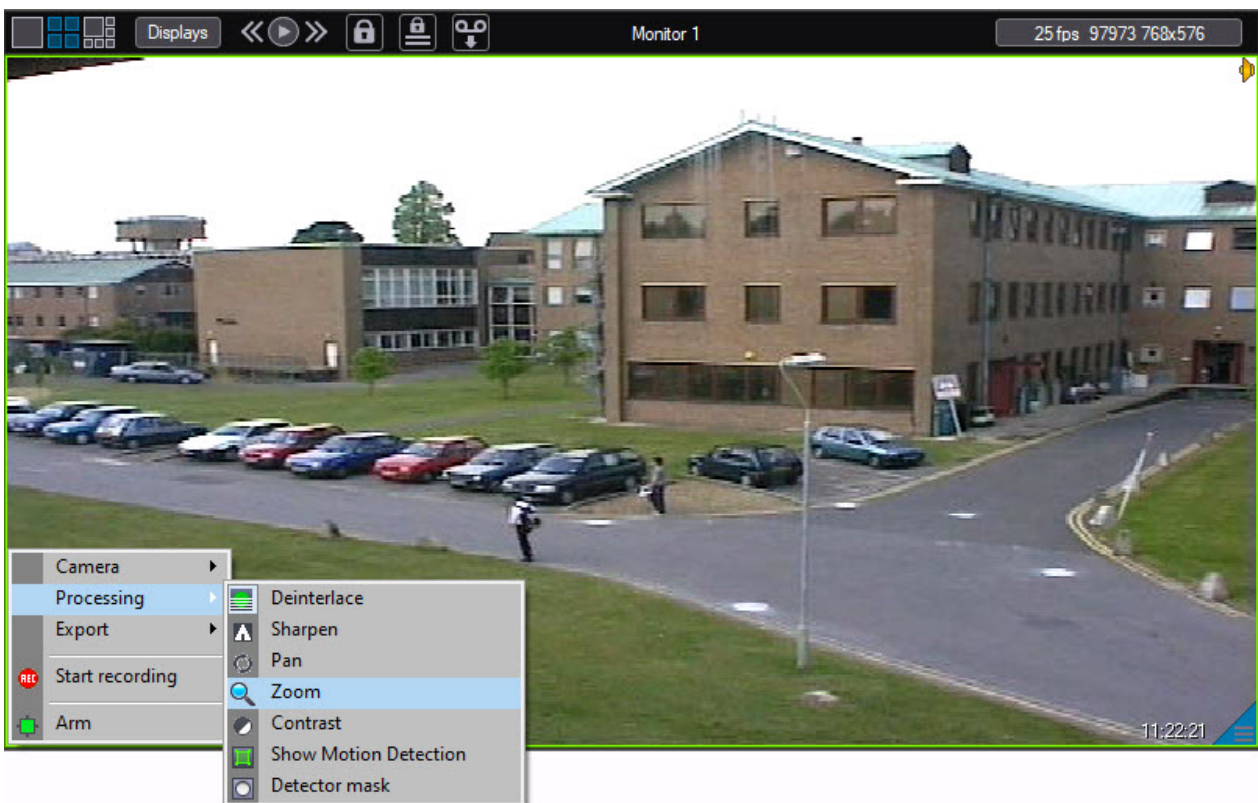
The same image may be processed by several functions at once. Activated options are outlined in the list of options. To switch the option on, click its name or its icon in the list of options. To switch the option off, click its name or its icon once more.



### Image scaling

The **Zoom** option allows to scale the image.

**Zoom** option (original image):



**Zoom** option (processed image):



Switching on the **Zoom** option magnifies the image by a certain factor. After this, the scale may be gradually increased or reduced by fast left or right clicking on the image. To retract the previous scale value, left click the **Zoom** item again or right click the image.

Mouse wheel action is also supported for zooming convenience (see the [Video image scaling in Surveillance window](#) section).

The specified zoom ratio and zoom area of the video image are retained even after restarting the *Axxon PSIM*.

**Note**

The ability to scale and move the zoom zone can be blocked using the **blocking** registry key (for details, see [Registry keys reference guide](#)).

**Note.**

If the lens type was specified while configuring a camera, then the **Enable fisheye** feature (instead of the **Zoom** feature) is available (see [Enabling fisheye](#)).

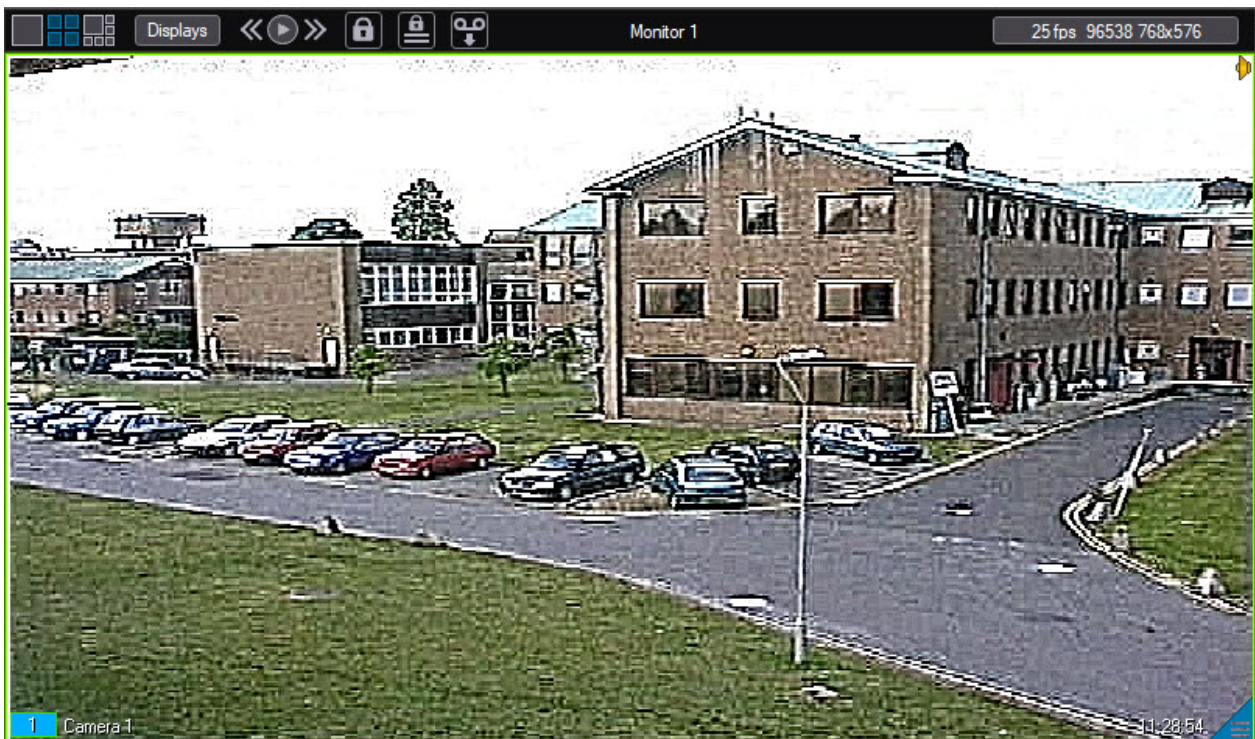
### Maximizing the image contrast

The **Contrast** option provides maximum image contrast.

**Contrast** option (original image):

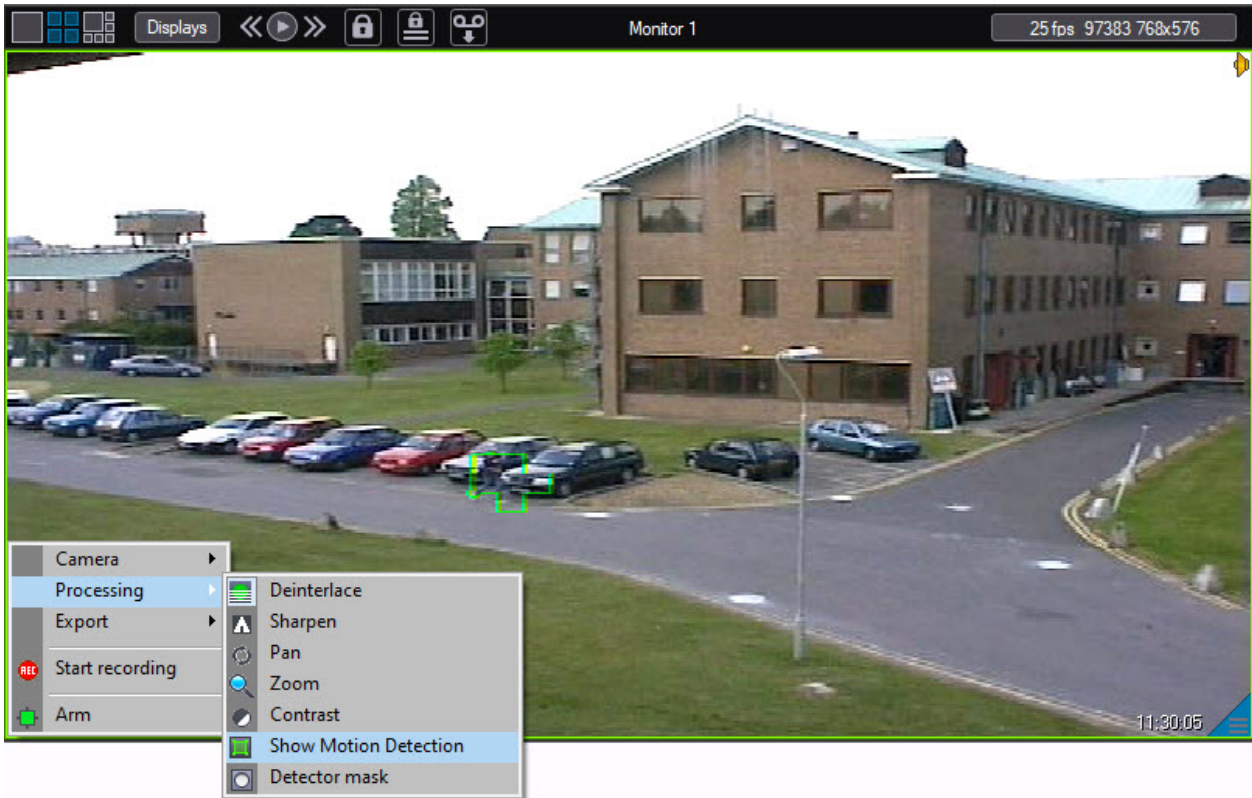


**Contrast** option (processed image):



## Outlining of moving objects

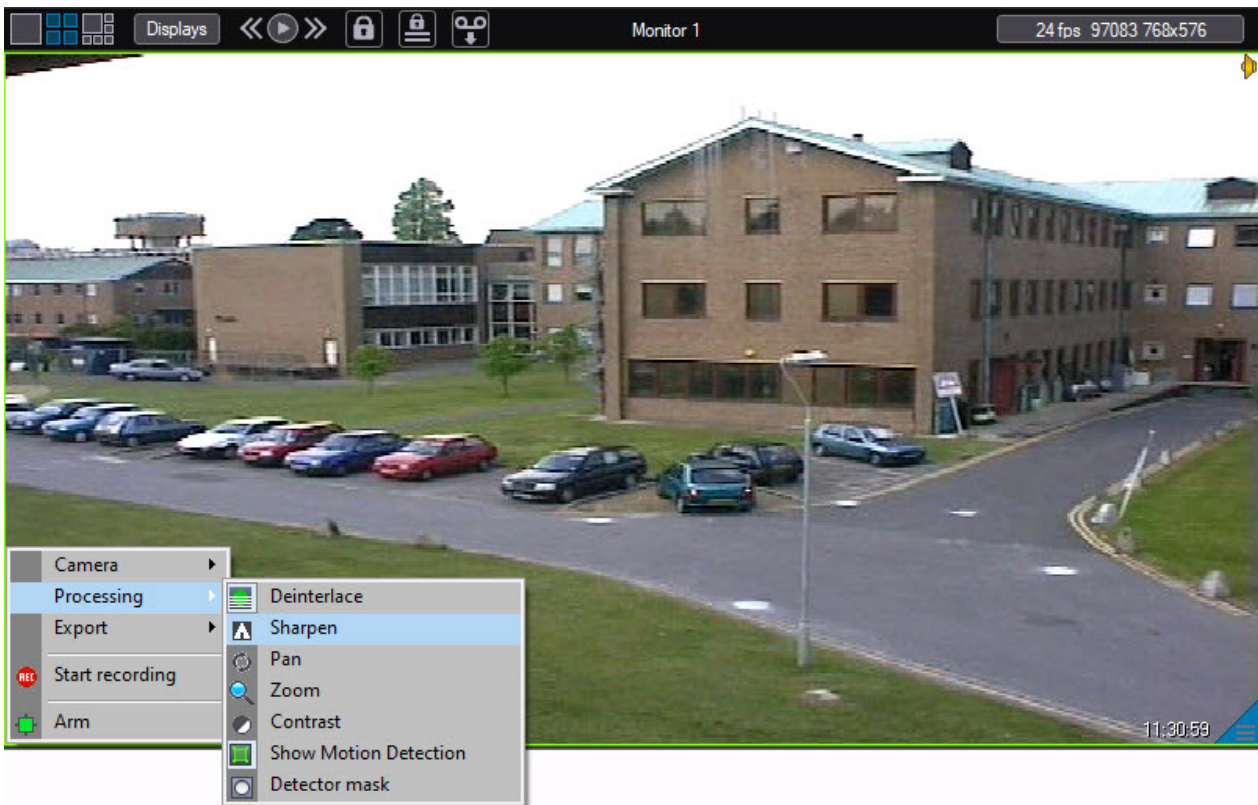
Software supports real-time dynamic outlining of moving objects via the **Show Motion Detection** option. The figure shows how to use the **Show Motion Detection** option.



## Image sharpening

The **Sharpen** option allows sharpening the whole image.

**Sharpen** option (original image):

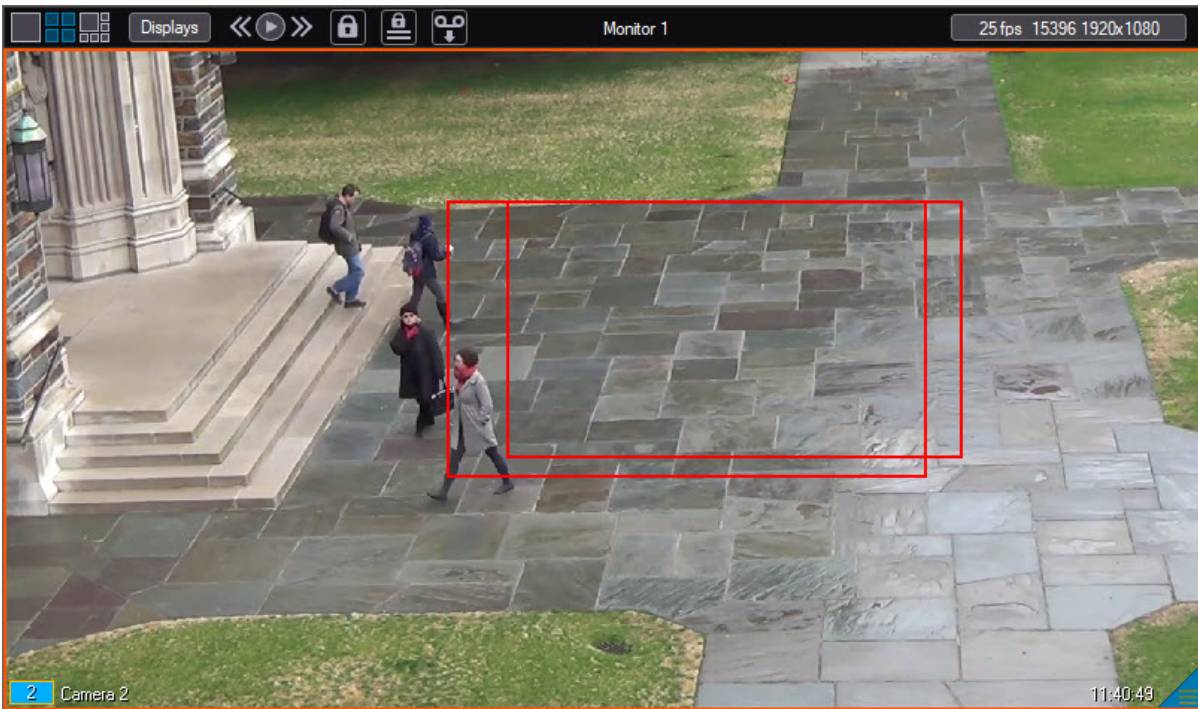


**Sharpen** option (processed image):



## Image de-interlacing

The aim of de-interlacing is to remove image fluttering, which is observed when moving objects are displayed.



Deinterlace has two options: **Deinterlace 1** is used, when an object is moving slowly. If its speed is high, **Deinterlace 2** should be used. **Deinterlace 2** degrades the vertical resolution of the frame. These functions are available via the functions menu of the video surveillance window.



**Note.**

In some cases, interlace modes are inaccessible (for example, if camera resolution has not been set to "Full" or if the monitor window is relatively small).

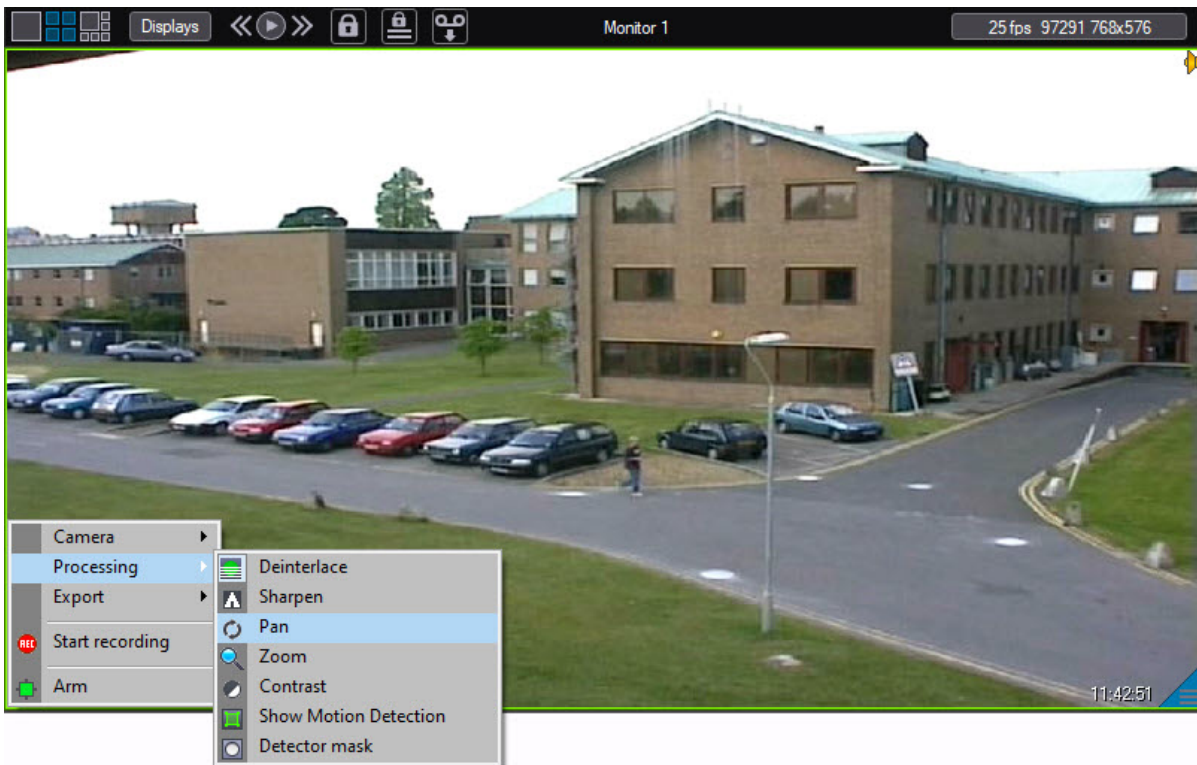
## Video image rotation

The **Pan** function allows rotating the video image coming from the video camera on the preset angle – 90, 180 or 270 degrees (the angle is set while the system configuration – see the [Configuring a rotation angle of video image](#) section in the [Administrator's Guide](#) document). Counterclockwise rotation is performed.

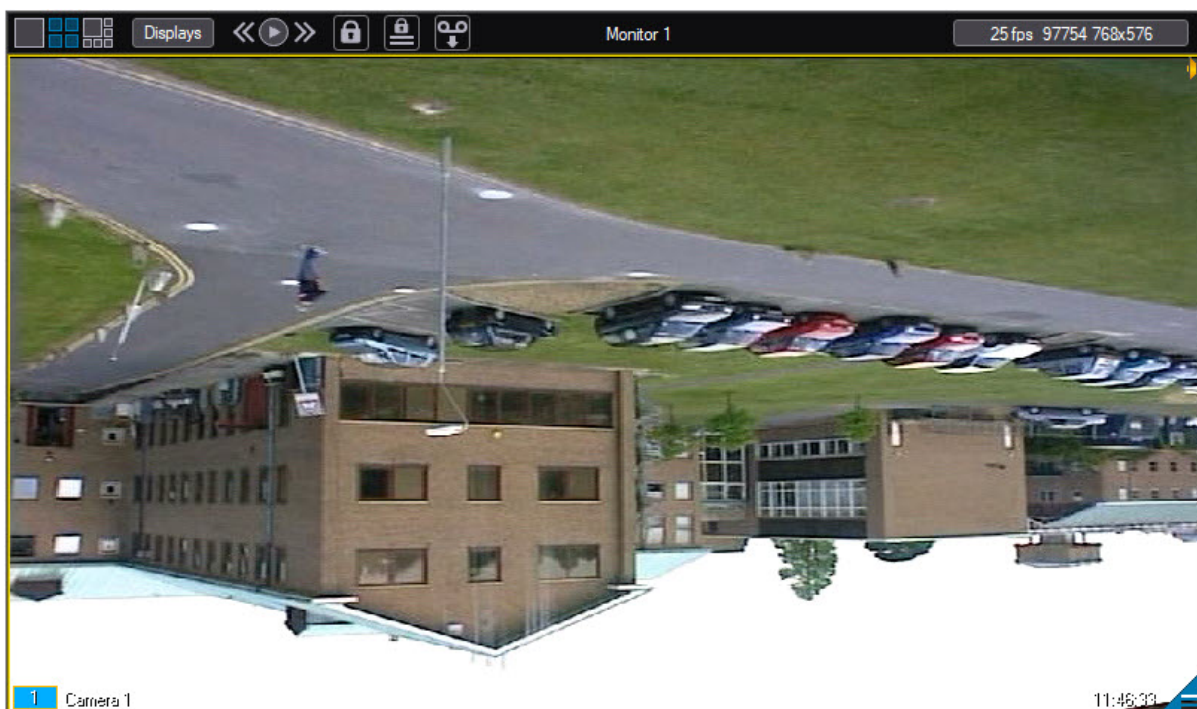
**Attention!**

The **Pan** item is available in the functional menu of the Video surveillance window regardless of switching on the possibility of video rotation while the system configuration. To use the rotation function activate this possibility – see the [Configuring a rotation angle of video image](#) section in the [Administrator's Guide](#) document.

**Rotation** function (the initial state):



**Rotation** function (video image after applying the function on 180 degrees):



### Enabling fisheye

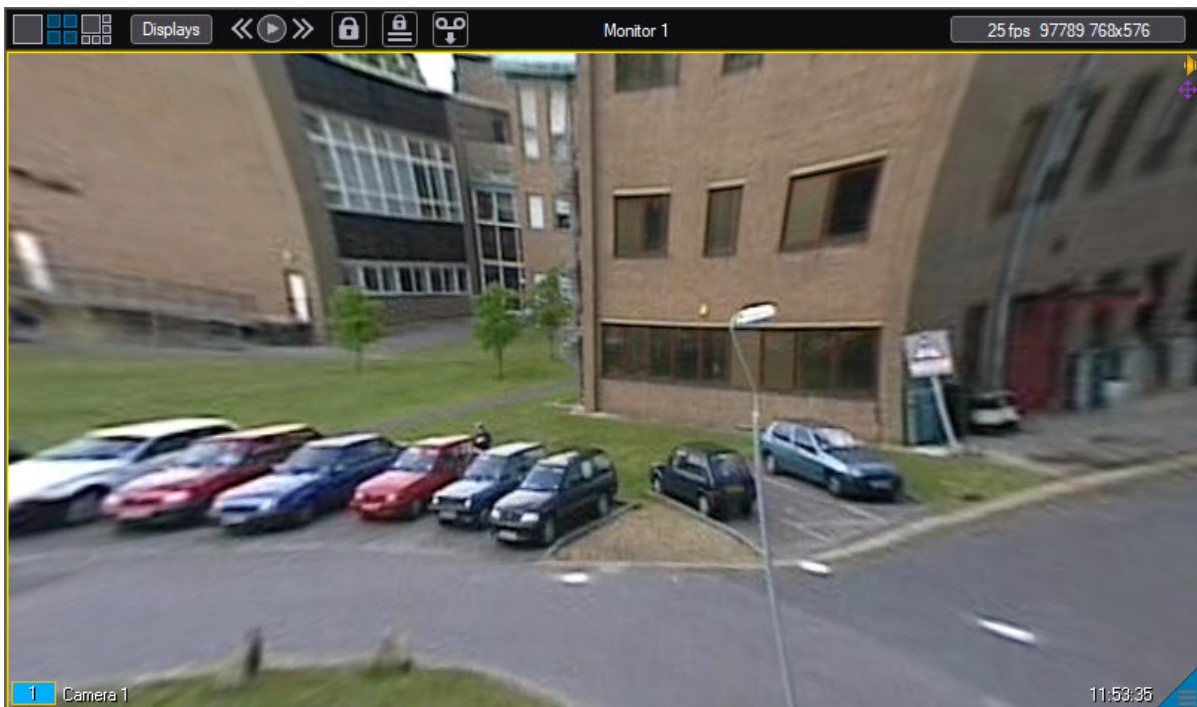
The **Enable fisheye** feature allows enabling conversion of video from camera.

This feature is available if the lens type is specified while configuring the camera (see [Configuring fisheye cameras](#) section in the [Administrator's Guide](#)).

The **Enable fisheye** (initial video) feature:



The **Enable fisheye** (PTZ conversion application result) feature:



### 4.3.10 Working with the archives

#### General information on working with archives

Video and audio archives store copies of video and audio recordings created by the *Axxon PSIM* software.

All archives are subdivided into the following types:

1. Main archive—the video server archive;
2. Backup archive—an archive developed with the assistance of the functional module Backup archive.
3. External archive—an archive stored in the embedded storage of the external IP device (NVR video recorder). There is no recording to this archive.
4. Video gate archive—an archive recorded with the Video gate functional module. The video gateway is used to reduce the load on the network when sizeable data flows are transmitted from the video servers to the remote workstations.

If the video gateway is on, data from the video servers is not transmitted directly to the remote workstations, but through the video gateway, which in turn distributes received data among the workstations. The video gateway cannot function as a Backup archive, unless it is the case where recording should be resumed; if the communication line fails, video recording is resumed from the beginning, instead of from the cut-off point.

The table compares the characteristics of archives and the corresponding functional modules.

Characteristics	Parameter			
	Main Archive	Backup Archive	External Archive	Video gate archive
Archive Type	Main Archive	Backup Archive	External Archive	Video gate archive
Functional module used to create the archive	-	Backup archive	-	Video gate
Source of recording	Recordings made by specified cameras and microphones	Copying of recordings made by specified cameras	-	Video streams requested from Server
Distribution of archived recordings (available types of carriers)	Hard and network disks, removable disks	Hard and network disks, removable disks	Embedded storages of external IP devices	Hard and network disks, removable disks
Tools to access archived recordings	Playback control panel, Axxon_player.exe utility	Panel of Backup archiving, Axxon_player.exe utility	Playback control panel	Playback control panel, Axxon_player.exe utility

Recording modes	End-around (i.e., recording starts from the beginning, erasing all previous recordings, when there is no more free space left on the carrier), rerecording of archive data from the very first recordings is carried out	End-around (i.e., recording starts from the beginning, erasing all previous recordings, when there is no more free space left on the carrier), rerecording of archive data from the very first recordings is carried out	-	End-around (i.e., recording starts from the beginning, erasing all previous recordings, when there is no more free space left on the carrier), rerecording of archive data from the very first recordings is carried out
Saving sound (synchro audio recordings) together with audio recordings in the archive	Available	Available	-	Available
Recording term	Continuous recording	Continuous recording Recording during pre-set intervals	-	Constant recording Active cameras recording
Recording settings	FPS (number of frames per second), resolution, codec, key frame rate, video quality (set when configuring multistreaming—see <a href="#">Configuration of multistream video</a> )	FPS (number of frames per second), bit rate (data volume per second)	-	FPS (number of frames per second), resolution, codec, key frame rate, video quality (set when configuring multistreaming—see <a href="#">Configuring the multistream video</a> )
Selection of cameras for recording	Not available	Available	-	Available

 **Attention!**

The features described in this section are affected by [Permissions for working with archives](#). By default, the documentation describes the work of the Operator with maximum permissions.


## Archive browsing modes

To work with the required archive, it is necessary to switch to its playback mode.

**Note**


Exiting the archive view mode if idle depends on the **restoremode** key (see [Registry keys reference guide](#)). You can change the format for displaying the archive date and time. To do this, go to the **Security zone** object on the **Date and time format** tab (see [The settings panel of the Security zone object](#)). After you select the required format, it is necessary to restart *Axxon PSIM*.

Server archive playback

To start main server archive playback, click  in the bottom right corner of the Web server surveillance monitor.



**Note.**

Where the surveillance window is not big enough, the  icon may sometimes not be displayed. In this case, the surveillance window should be enlarged.

The playback control panel will be displayed, which will contain recordings of the main video server archive.




**Note.**

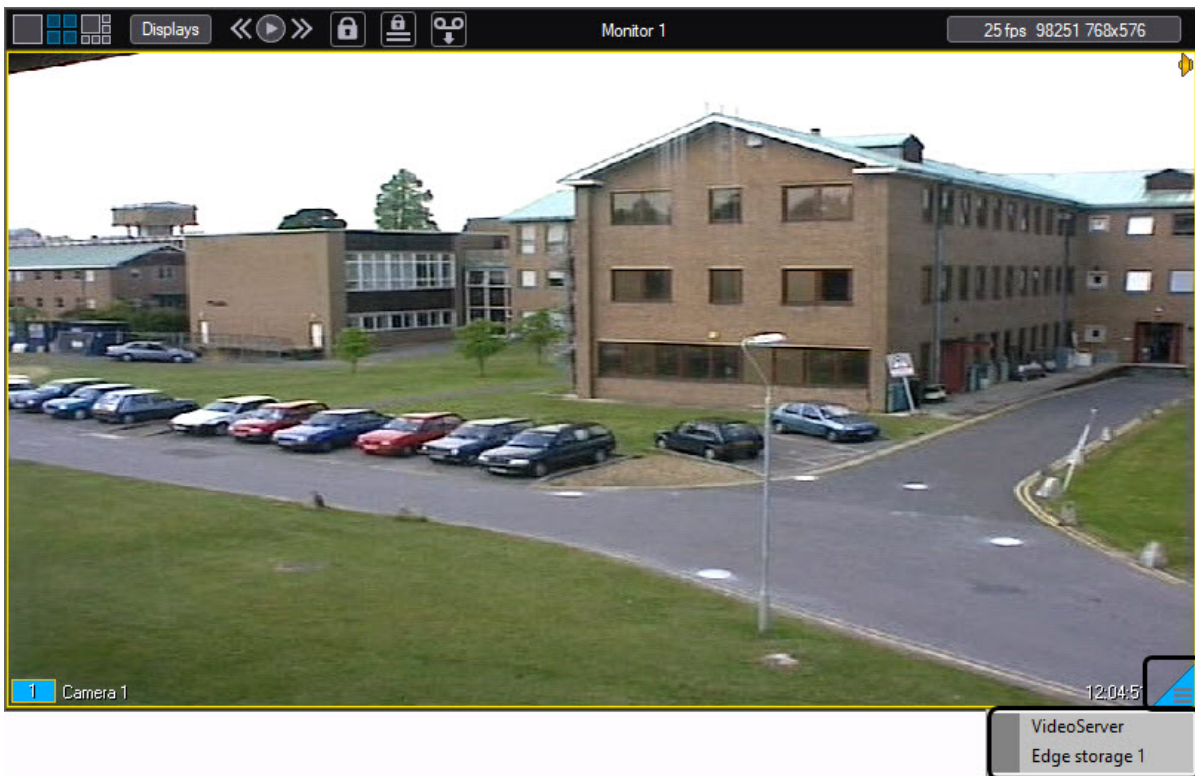
If Video Gateway was selected for the camera when adding it to the Monitor, the Video Gateway archive opens after the above procedure (see [Video gateway archive playback](#)).

### Backup archive playback


To start playback of the **Backup archive**, do the following:

1. Point the mouse cursor at the  icon in the **Surveillance window** of the appropriate camera;
2. Click and hold the left mouse button for a few seconds.

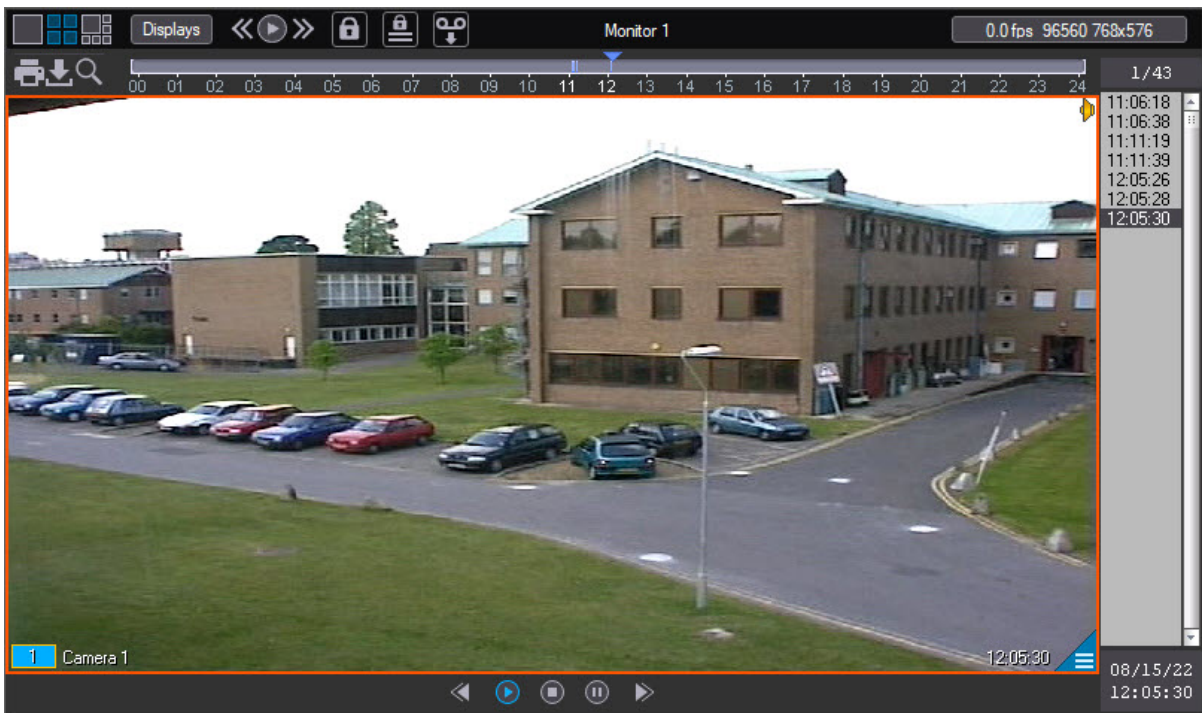
The context menu will be displayed:



**Note**


Where the **Surveillance window** is not big enough, the  icon may sometimes not be displayed. In this case, enlarge the **Surveillance window**. Also, certain program settings disable displaying the pop-up context menu. In this case, the program switches to the playback control panel of the main archive, instead of the backup archive.

Select **Backup archive** in the displayed context menu. The playback control panel will be displayed, which contains the recordings of the backup video server archive.

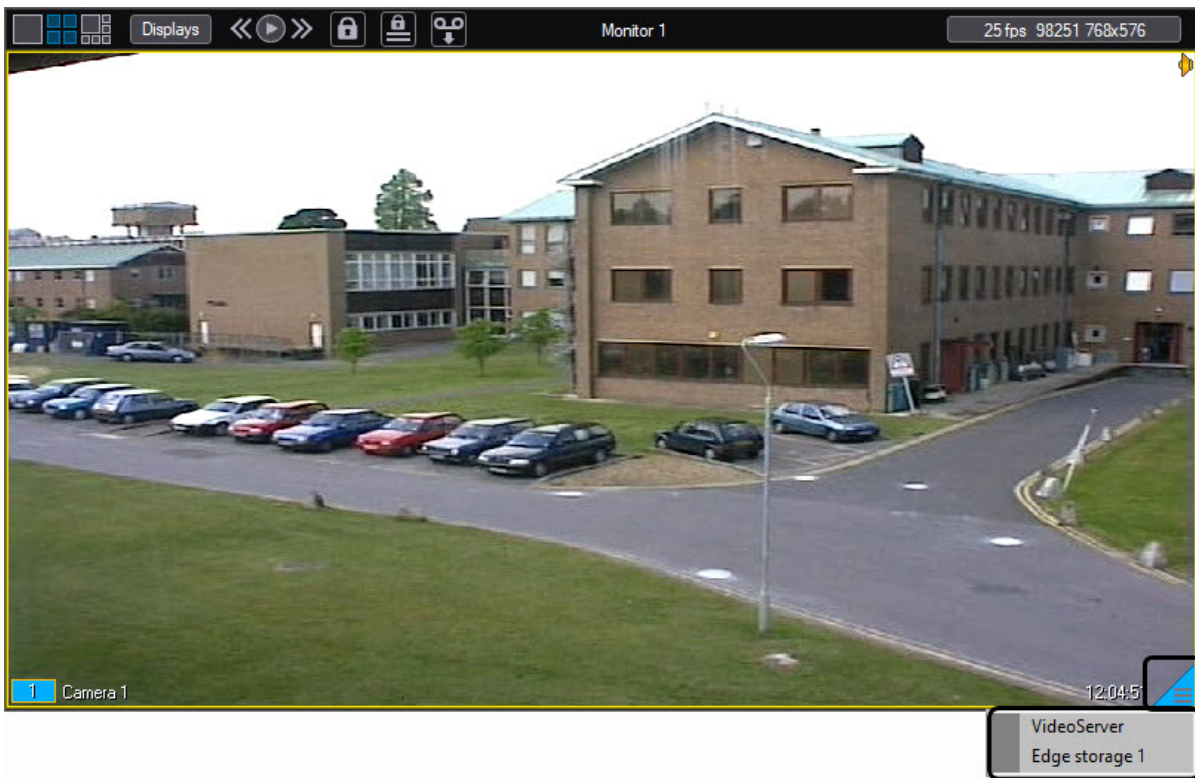


### Edge storage playback


Access to the edge storage archive is performed via the Viewing tile. In order to enter the edge storage playback mode, do the following:

1. Drag the mouse pointer to the  icon in the Viewing tile corresponding to the required camera;
2. Click and hold for several second left mouse button.

The context menu is displayed.



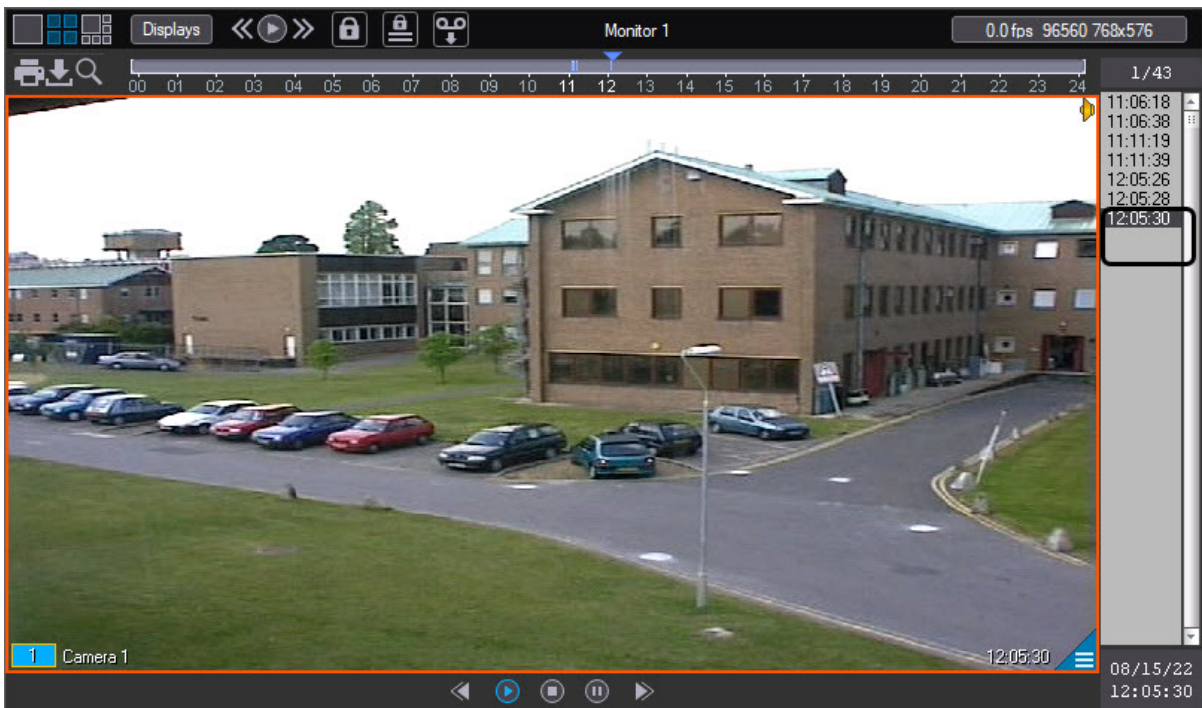
**Note.**

As the Viewing tile is of a small size, the  icon can be not displayed. In this case, the Viewing tile is to be enlarged.

In the context menu, select in the **Edge storage** item. The playback control panel with edge storage recordings is displayed.



Searching for recordings for the latest day is performed when entering the archive. Searching for recordings for the latest month is performed when going to the calendar. The range of dates for which the searching is performed is displayed in the first line of the list of recordings.




Playback is restarted at each edge storage archive entering.

**Important!**


The edge storage archive cannot be viewed while it is synchronized with *Axxon PSIM* file system (import). Information on how to configure import from edge storages is given in [Administrator's Guide](#).

### Video gateway archive playback

If Video Gateway was selected for the camera when adding it to the Monitor (see [Selecting and configuring video cameras](#)), the Video Gateway archive opens by default. The video gateway archive can be accessed via the surveillance window. To start video gateway archive playback, click  in the bottom right corner of the surveillance window.



#### **Note.**

Where the surveillance window is not big enough, the  icon may sometimes not be displayed. In this case, the surveillance window should be enlarged.

The playback control panel will be displayed, which will contain recordings of the video gateway archive.



**Note.**

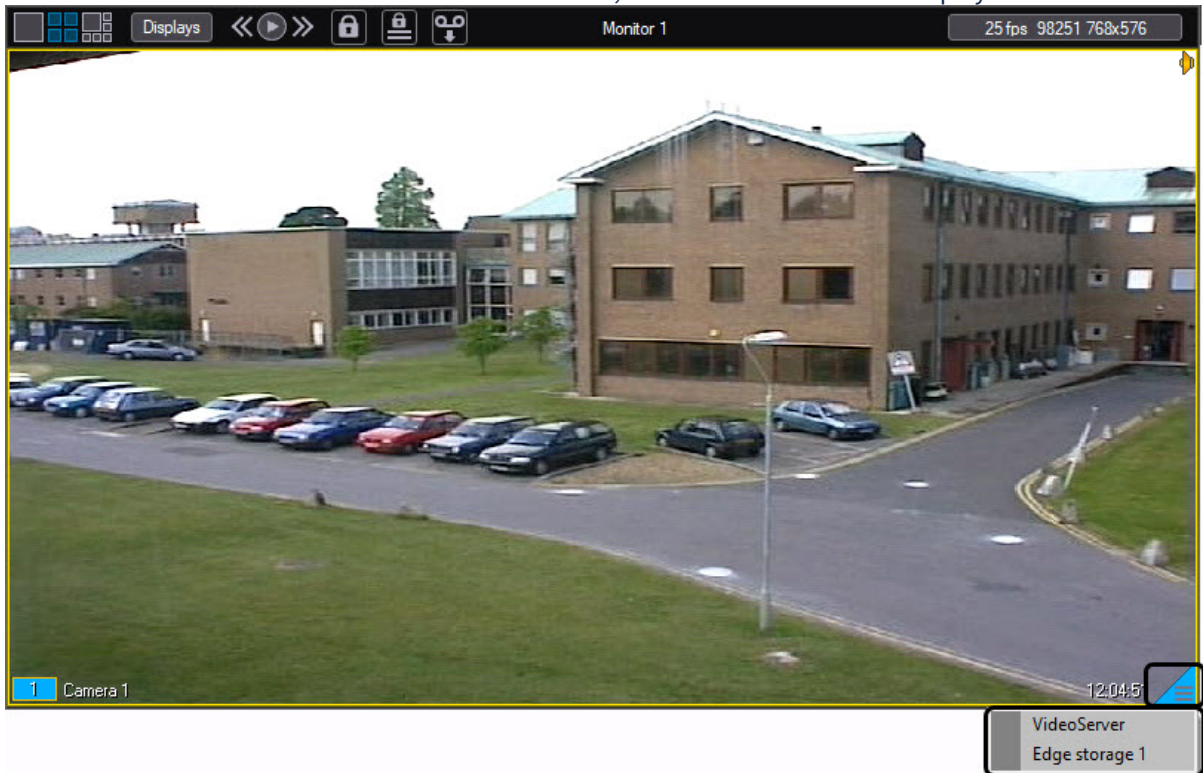
If Video gateway was not enabled for the video camera displayed in the Video Surveillance Window, then the Server archive is displayed after the above procedure – see [Server archive playback](#).

To open the Server archive instead of the Video Gateway archive, click and hold the  button.

If the camera has Backup archive (see [Backup archive playback](#)) configured in addition to the Server and Video gate archive, then the main server archive can be accessed through the following steps:

1. Point the mouse cursor at the  icon in the surveillance window of the appropriate camera.

- Press and hold the left mouse button for a few seconds, until the context menu is displayed.



- Select **Video Server** in the context menu and the playback control panel, which contains the main video server archive recordings, will be displayed.

## Archive browsing

If the archive is created in the time zone different from time zone on which the archive is viewed, it is required to move the archive to the current time zone using the convert.exe utility before the viewing. Otherwise, some problems can occur when positioning on archive fragment. Working with this utility is described in the [The Convert.exe utility for correcting modification dates of video archives](#) section of the [Administrator's Guide](#) document.

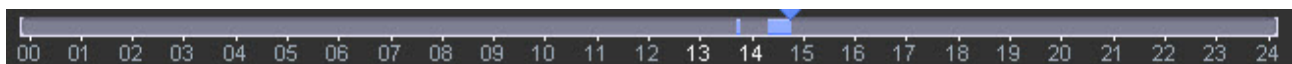
To move archive to the required time zone, run the utility from command line with the following parameters:

```
convert.exe fullmode TZ +hh:mm
```

where +hh:mm – the time shift between the current time zone and zone in which archive is recorded.

### Archive navigation using the timeline

You can navigate through the archive using the timeline (from 0 to 24 hours) shown in the figure.



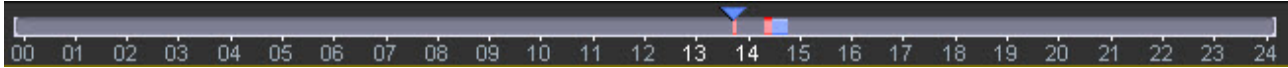
Blue intervals correspond to the periods of recording, grey intervals show that no recordings were made.

If there are recordings for a certain hour in the archive, this hour is marked white (for example, the screenshot above indicates there are recordings for 13 and 14 hours). If there are no recordings, the hour is marked grey. When you left-click the hour for which there are recordings, the timeline displays the recordings for this hour and allows navigating by the minutes of the selected hour (from 0 to 60).



Right-click the timeline to return to the display of recordings from 0 to 24 hours.

All bookmarks created on all days are also displayed on the timeline. The color of the bookmarked time interval is selected when the bookmark is created. When you hover over the bookmarked time interval, the name of the bookmark (the comment entered when the bookmark was created) is displayed.



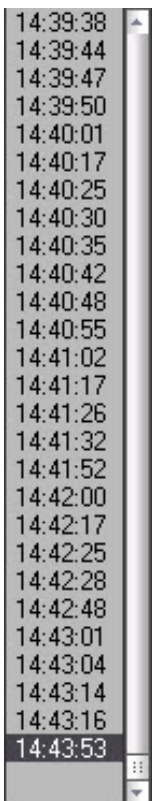
### **Note**

See [Create a bookmark](#) and [List of bookmarks](#). If you create multiple bookmarks, then when viewing the default archive, the timeline displays the bookmarks only for the current day, that is, the ShowOnlySelectedDayBookmarks=1 parameter of the HKEY\_LOCAL\_MACHINE\SOFTWARE\AxxonSoft\Axxon PSIM\Video (see [Registry keys reference guide](#), for the information on how to work with the registry, see [Working with Windows OS registry](#)). If you want to display all created bookmarks on the timeline of the archive, you must change the parameter value to 0.

When you click the timeline, you set the current playback position corresponding to the selected recording segment. For the smooth navigation through the archive recordings, move the cursor horizontally along the timeline holding down the left mouse button.

### Video sequence browsing

In addition to navigating through the archive using the timeline, you can also navigate through the list of video fragments located in the timestamps column.



To switch over to the required video fragment, click on the corresponding timestamp.

To scroll the list of videos up/down, left-click on the list of videos and scroll the mouse wheel. Instead of a mouse, you can use the navigation keys on the keyboard: ↑, ↓, ←, →.

**Note**

If you then left-click on the video image, the mouse wheel will again perform the function of scaling the video image.

Fragment search by the date and time of creation

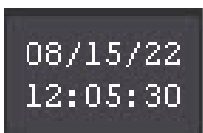
Apart from time scale browsing, the playback control panel also allows searching for certain recording fragments by the exact date and time.

The time table displayed in the bottom left corner of the panel is designed for the above search.



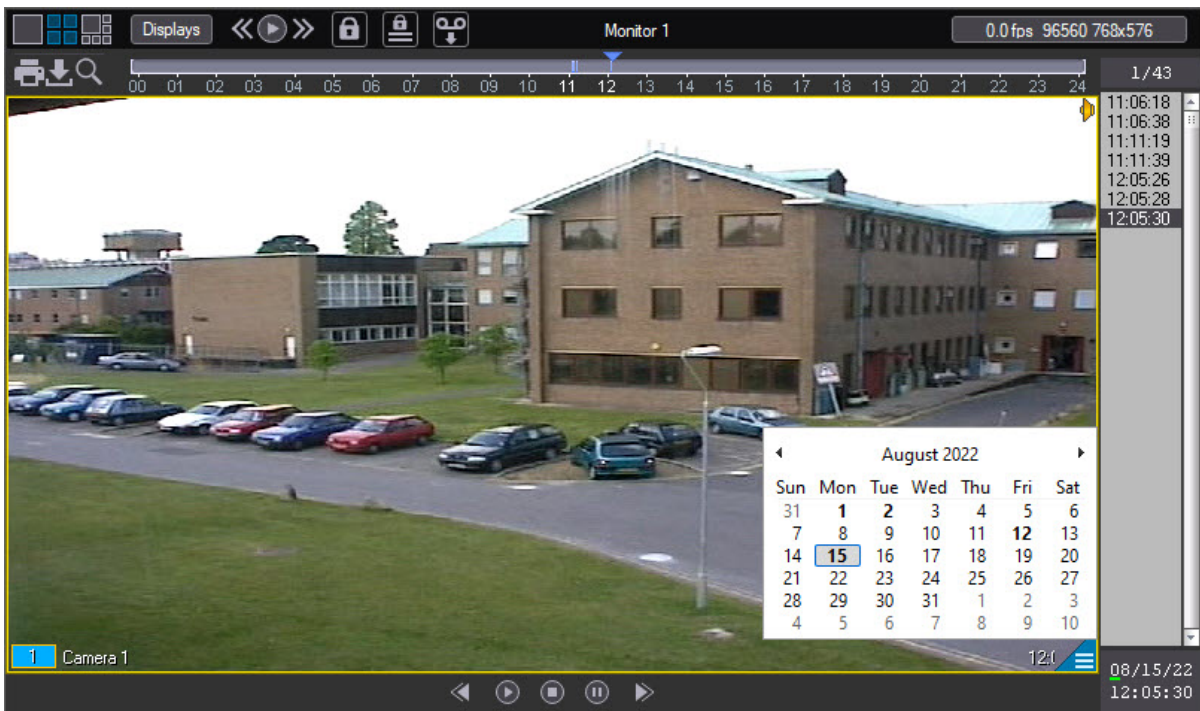
The upper part of the table shows the date, whereas the current playback position is shown in the bottom part.

To start the search, enter the date and time in the table. Double-click the date and time line and a green cursor will appear.



Now, using the keyboard, enter the required time of the recording.

If you double-click on the date, you will see not only the green cursor, but also a calendar to assist you visually in the selection of the required recording date.



Bold font in the calendar indicates the dates of the recordings. If there are any records for any days in the archive, but their viewing is forbidden by user rights, then such days are not marked in bold (see [Permissions for working with archives](#) section in [Administrator's Guide](#)).

**Note.**

Working with interface Windows Aero of OS Windows Vista, dates of the recordings are not bolded.

Having entered the date and time, press **Enter** to switch over to the required recording. If the recording with the requested date and time does not exist, the program will switch over to the recording with the nearest time of recording.

**Note.**

In case when the access restriction to the video archive play back is set (see [Access restriction to the video \(and audio\) archives](#) section in the [Administrator's Guide](#) document), the switch will be performed only among the available recordings in the displayed list of all the recordings.

### Smart search in the archive

Smart search in the archive is a search in the camera archive, taking into account the object tracks registered by the **Tracker** object and stored in the track database.

Axxon PSIM supports the following types of smart search:

1. [Search by motion in the area](#)
2. Search by moving from one area to another—see [Search by motion in the area](#)
3. [Search by line crossing](#)

When you use any of these types of smart search, you can set an additional search criterion—the color of the searched object, see [Search by colour](#).

In order to use the smart search in the archive, configure the following:

1. Create the **VMDA metadata storage** and the **Tracker** objects for the camera that is used for searching in *Axxon PSIM* (see [Configuring smart video detection tools](#)).
2. Select the **VMDA metadata storage** for the corresponding camera on the settings panel of the **Monitor** object (see [Selecting and configuring video cameras](#)).

**Note**

During smart search in the archive, the registry key with the parameter LogTracker=1 is used to write logs to a new **vmda\_lib.log** file in the Modules64 folder (see [Registry keys reference guide](#). For more information on working with the registry, see [Working with Windows OS registry](#)). The log file is written only for 64-bit systems.


Search by colour

Search by colour is performed within the limits of search by line crossing or search by motion in the area.

**Note.**

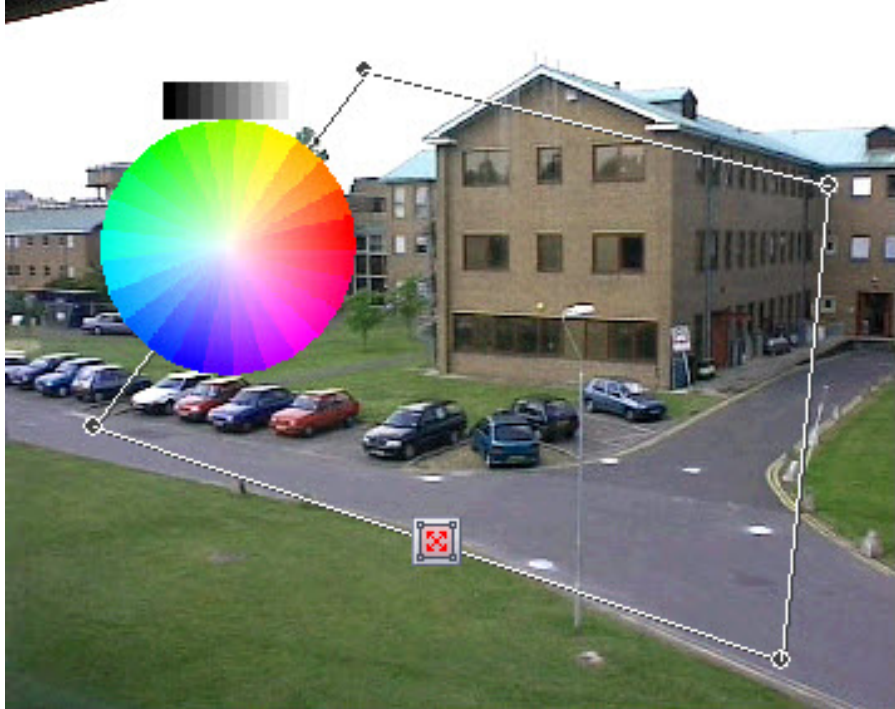
Colour range setting is a part of search by line crossing or search by motion parameters setting.

To search by colour do the following:

1. Select the type of search (search by line crossing or search by motion in the area).
2. Search by selected type (see [Search by line crossing](#), [Search by motion in the area](#) parts).
3. To set colour range for which the search will be performed, click  at the set line or area.



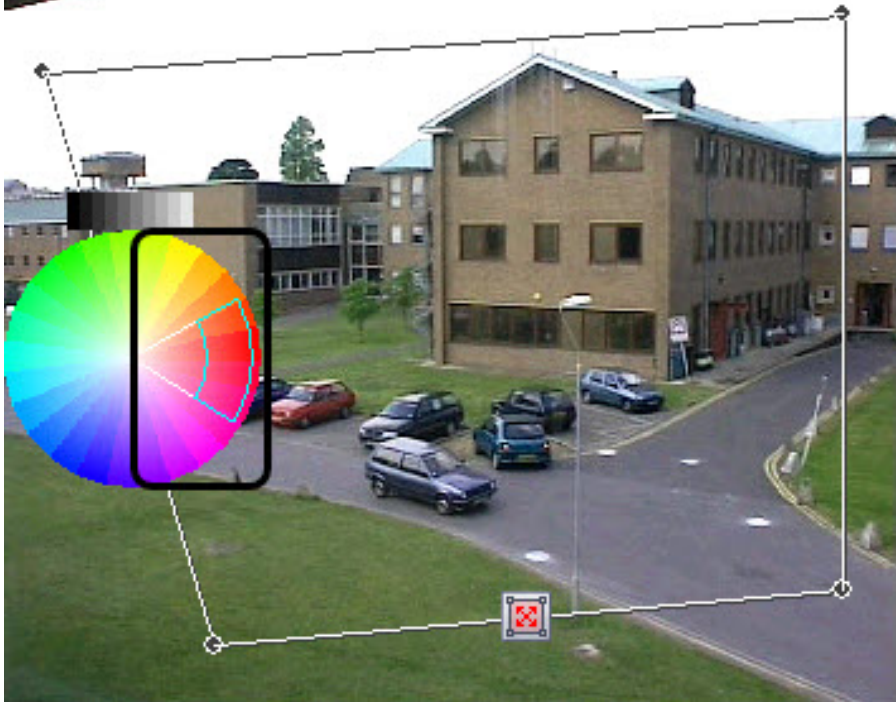
Colour range setting form appears.




4. Select colour range for search. Hover cursor over supposed range beginning (coloured or black-and-white) and pressing the left mouse button go till final colour in the circle. Black-and-white range setting:



Coloured range setting:



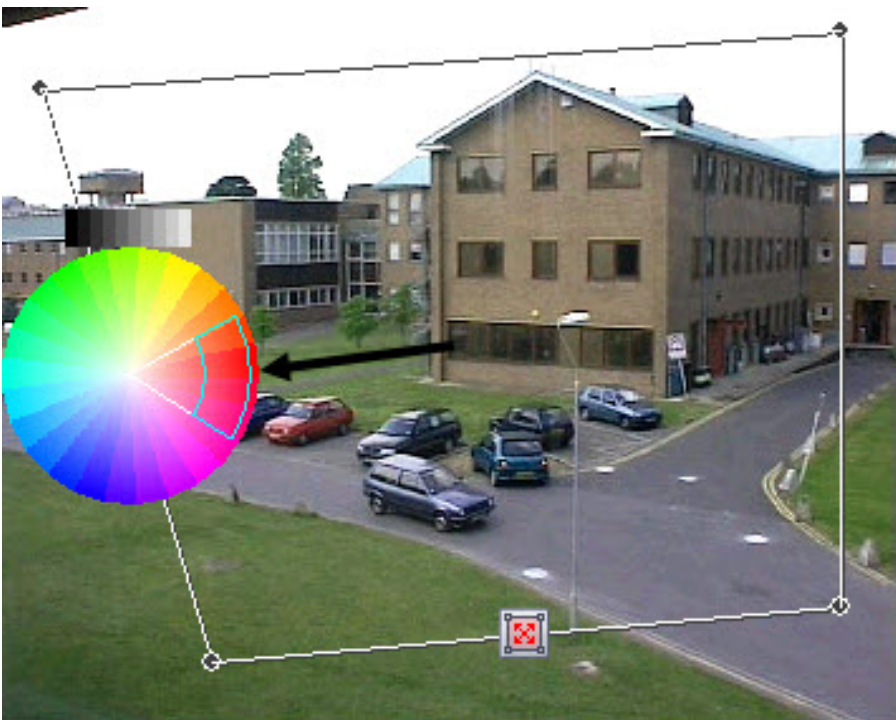
5. The Color range setting form will be automatically hidden after specifying the color range for search. To discard the specified color values open the form again (using the  button) and click the right mouse button on it. The search will be performed without taking into account the color of moving object after discarding the color values.

**i Note.**

In case of clicking the left mouse button at one colour in spectrum, the search will be performed for adjacent (selected colour is specified by the arrow at the figure below).

**i Note.**

For the search to be more effective not a specific colour (according to illumination conditions and other surroundings parameters) but a colour range is set. The search checks whether the object is coloured into the colour from colour1-colour2 range. If there is a yes-answer this video recording will be displayed in search results.



As a result, the search selects the video recordings that correspond to parameters of selected search (search by line crossing or search by motion in the area) and the video recordings in which the moving object contains at least one colour from the colour range. Search results are displayed in timestamps column.

- 13:42:11
- 13:42:43
- 13:43:25
- 13:43:42
- 13:44:06
- 14:18:54
- 14:18:59
- 14:19:05
- 14:19:07
- 14:19:11
- 14:19:18
- 14:19:22
- 14:19:28
- 14:19:31
- 14:19:35
- 14:19:38
- 14:19:45
- 14:19:48
- 14:19:50
- 14:19:54
- 14:20:01
- 14:20:13
- 14:20:19
- 14:20:22
- 14:20:29
- 14:20:42
- 14:20:56
- 14:21:10
- 14:21:12

Search by line crossing

You can search for a video recording by line crossing from the function menu of the Video archive window.

**Note**

Search by line crossing is possible only when:

1. **VMDA metadata storage** and the **Tracker** objects are created for the camera that is used for searching in *Axxon PSIM* (see [Configuring smart video detection tools](#)).
2. **VMDA metadata storage** is selected for the corresponding camera on the settings panel of the **Monitor** object (see [Selecting and configuring video cameras](#)).

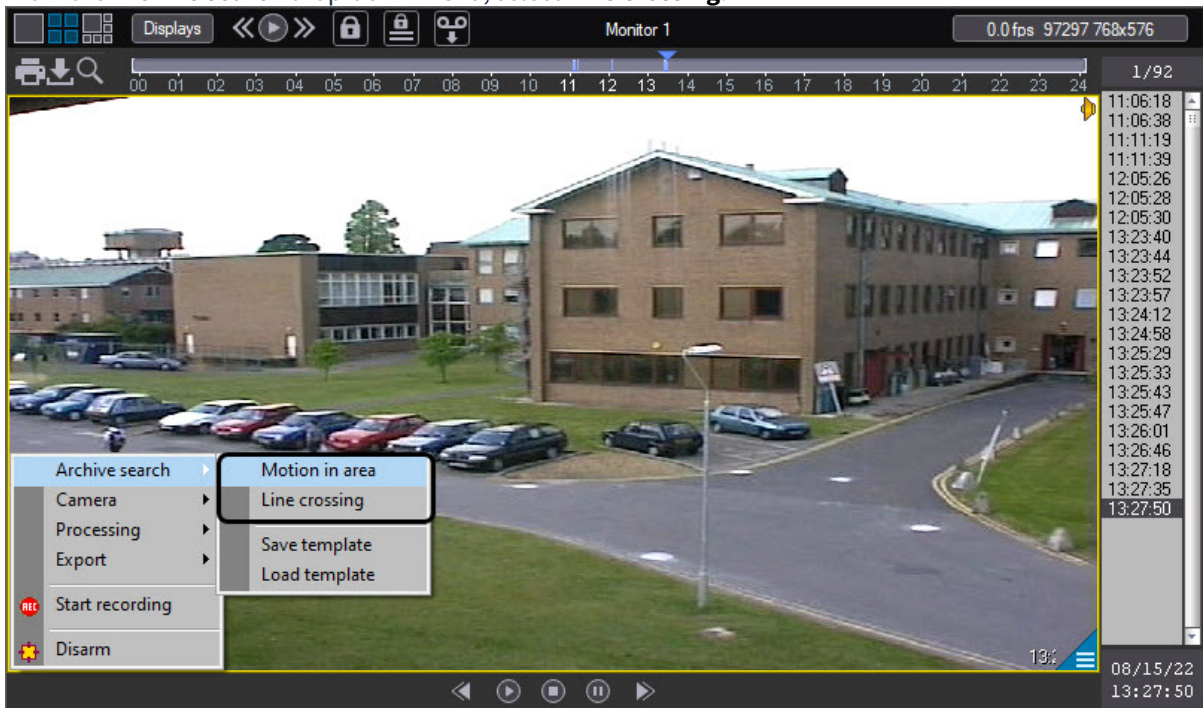
You can search by line crossing only on a given day.

**Note**

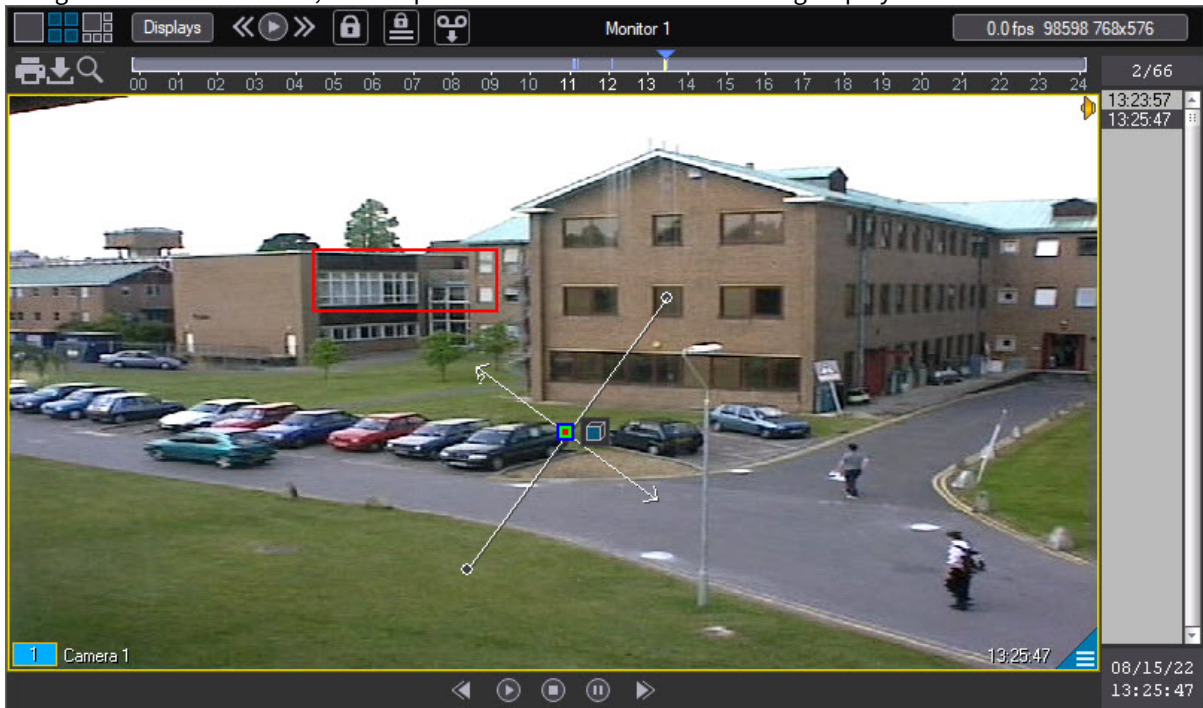
For the information on specifying the date, see [Fragment search by the date and time of creation](#).

To search by line crossing, do the following:

1. From the **Archive search** drop-down menu, select **Line crossing**.




2. Using the left mouse button, set end points of the line in video recording display.







3. You can change a line using the actions described in the table below.

Operation	Operation result
Click the Surveillance window	An end point of the line is created
Hover the cursor over the end point, click the left mouse button and move the mouse	An end point of the line is moved
Hover the cursor over the end point and click the right mouse button	A line is deleted

**Note**

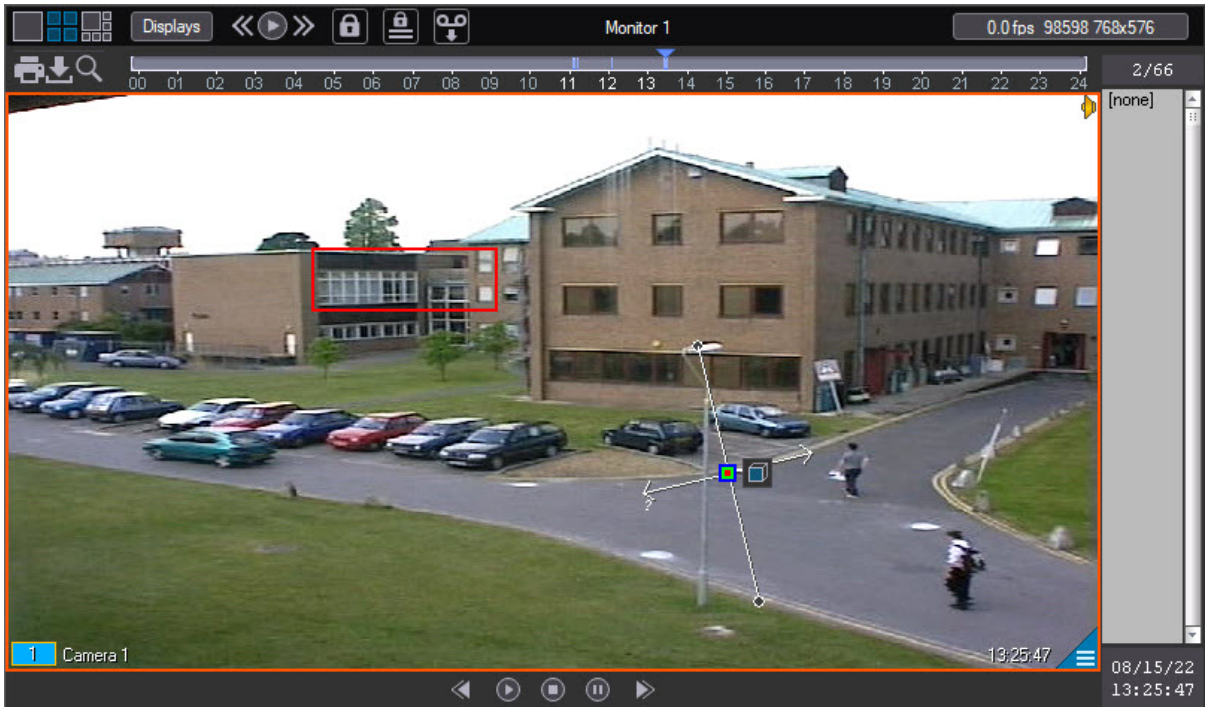
You can remove the  button by pressing the Ctrl + Q key combination. When you press this key combination again, the button reappears. The button also automatically disappears when you create and move points of a search line and reappears after a line is created.

4. To select the type of an object that crossed the set line, click . Available types of objects are listed below.

-  Any object. Search finds video recordings in which a line is crossed by any object.
-  Human. Search finds video recordings in which a line is crossed by an object, which width is less than height.
-  Car. Search finds video recordings in which line is crossed by an object, which width is greater than height.

- By default, the search is set to find line crossings in both directions. Left-click one of arrows to exclude crossings in one of the directions. The selected arrow is grayed out. Approximate speed of objects that you want to find is displayed next to an arrow. At minimum and maximum value of speed, the "?" sign is displayed, and only records containing line crossing regardless of speed are searched for. You can change the value of speed by changing an arrow length by moving an arrowhead with a pressed left mouse button.

**Note**  
When you add a line, an arrow has a minimum length.



As a result, the search finds the video recordings by given parameters. Search results are displayed in timestamps column.



You can cancel the search by line crossing at any time by pressing the **Esc** button on the keyboard. In this case, no search results are displayed, and the text **[none]** is displayed in the list of video fragments.

After the search is complete, press the **Esc** key to clear the list of search results and exit the search by line crossing mode.

 **Note**

Detection of object movement direction by the line crossing detector strongly depends on the settings of the **Tracker** object (see [Creating and configuring the Tracker object](#)). When you didn't select the settings correctly, there is a probability of incorrect detection of the movement direction and, consequently, when searching the archive by line crossing there can be false results. You must select the settings of the **Tracker** object experimentally for each case.

### Search by motion in the area

You can search for a video recording by motion in the area from the function menu of the Video archive window.

 **Note**

Search by motion in the area is possible only when:

1. **VMDA metadata storage** and the **Tracker** objects are created for the camera that is used for searching in *Axxon PSIM* (see [Configuring smart video detection tools](#)).
2. **VMDA metadata storage** is selected for the corresponding camera on the settings panel of the **Monitor** object (see [Selecting and configuring video cameras](#)).

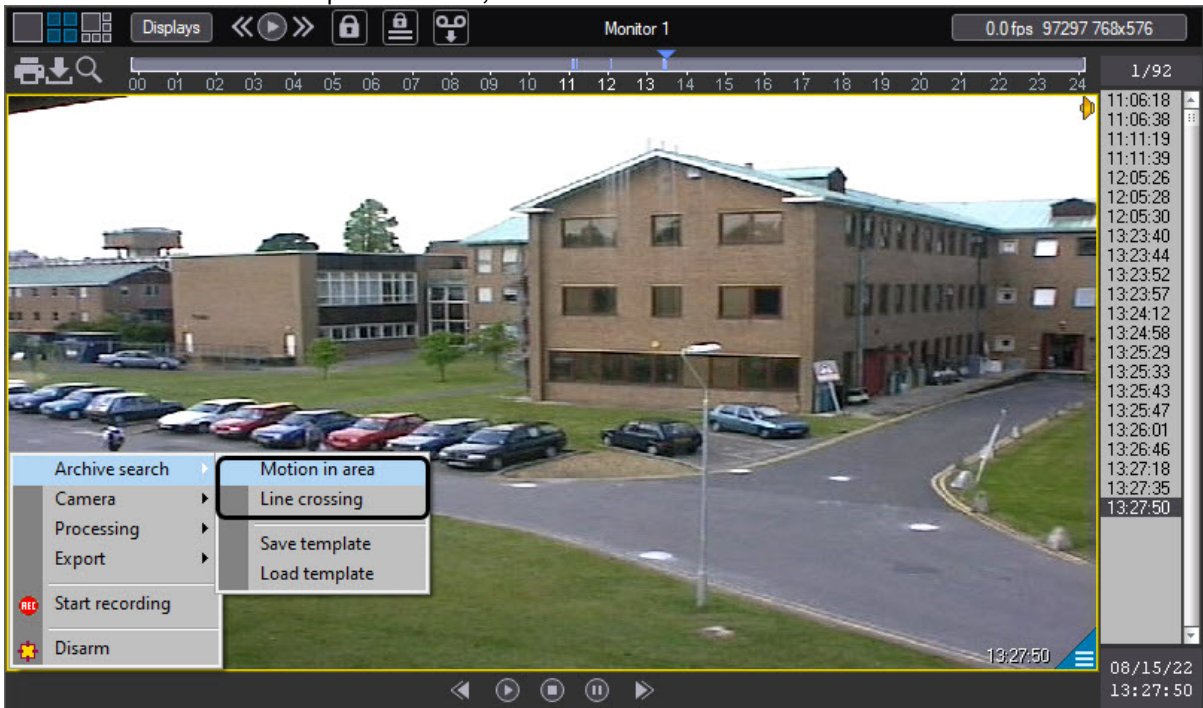
You can search by motion in the area only on a given day.

 **Note**

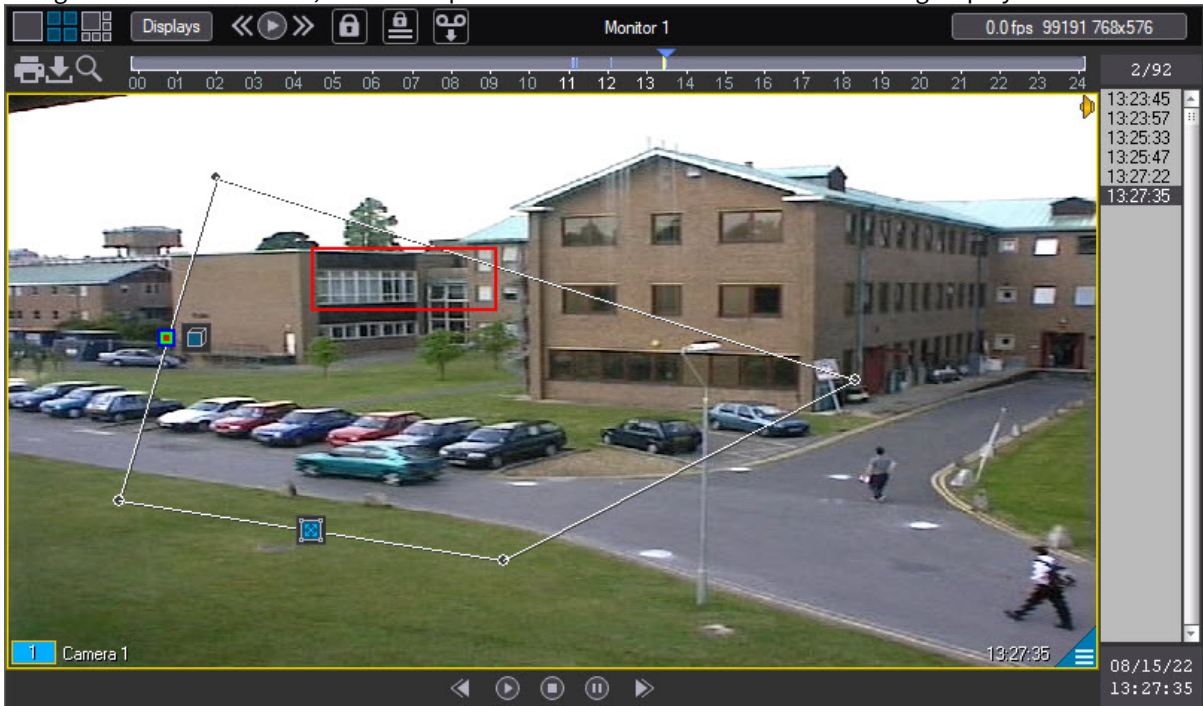
For the information on specifying the date, see [Fragment search by the date and time of creation](#).

To search by motion in the area, do the following:

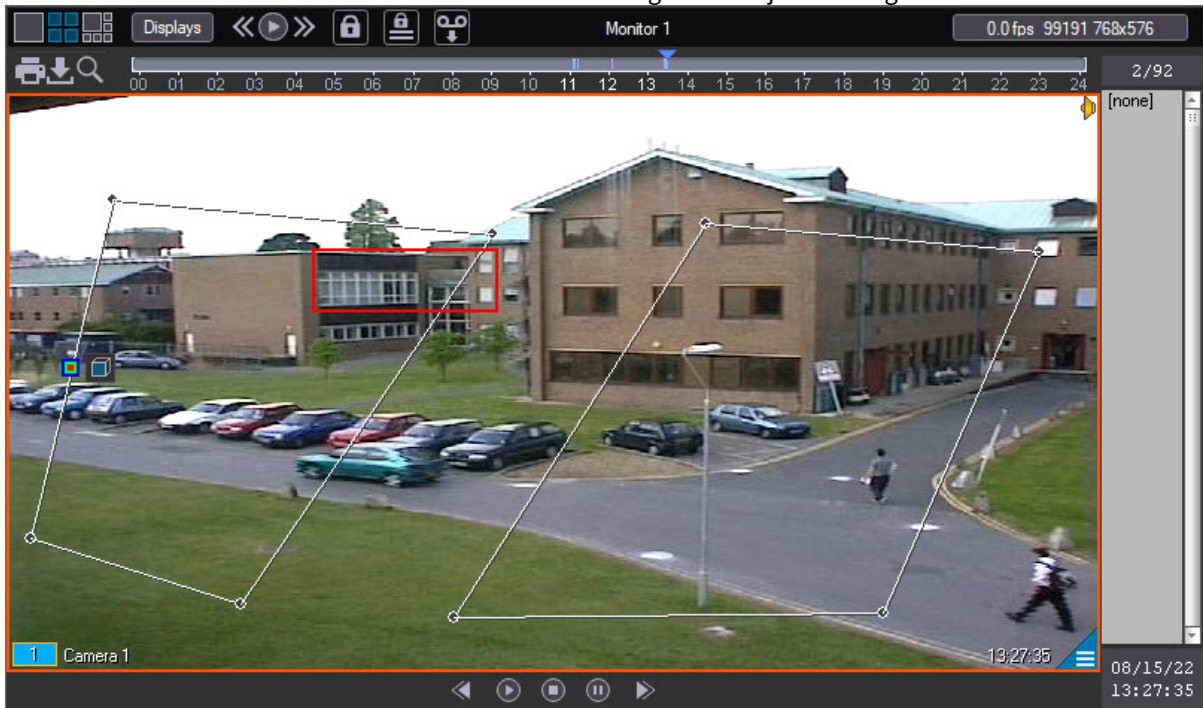
1. From the **Archive search** drop-down menu, select **Motion in area**.



2. Using the left mouse button, set anchor points of the search area in video recording display.




You can add two areas. The search will find video recordings of an object moving from one area to another.
















You can change areas using the actions described in the table below.

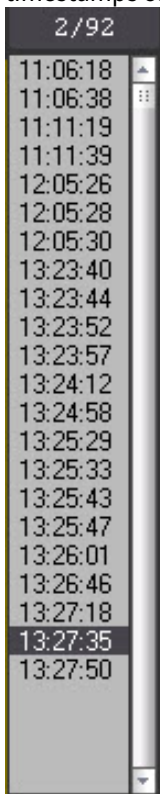
Operation	Operation result
Click the Surveillance window	An anchor point of the area is added
Hover the cursor over an anchor point, click the left mouse button and move the mouse	An anchor point of the area is moved
Hover the cursor over an anchor point and click the right mouse button	A line is deleted. If there are three anchor points, the entire area is deleted

**Note**

You can remove the  button by pressing the Ctrl + Q key combination. When you press this key combination again, the button reappears. The button also automatically disappears when you create and move anchor point of a search area and reappears after an area is created.

3. To select the type of an object that moves in the specified area, click . Available types of objects are listed below.
  - a.  Any object. Search finds video recordings in which any object moves in the area.
  - b.  Human. Search finds video recordings in which an object, which width is less than height moves in the area.
  - c.  Car. Search finds video recordings in which an object, which width is greater than height moves in the area.

4. To select the type of the search, click . Available types of the search are listed below.
-  Any movement in the area. Video recordings of any movement in the area are found.
  -  Entrance in the area. Video recordings of an object entering the area are found.
  -  Exit the area. Video recordings of an object leaving the area are found.
  -  Appearance in the area. Video recordings of an object appearing in the area are found.
  -  Disappearance in area. Video recordings of an object disappearing in the area are found.
  -  Stop in the area. Video recordings of an object stopping in the area are found.
  -  Staying in the area for more than 10 sec. Video recordings of an object staying in the area for more than 10 sec are found.
  -  An abandoned object. Video recordings of an object abandoned in the area are found.
5. As a result, the search selects the video recordings by given parameters. Search results are displayed in timestamps column.



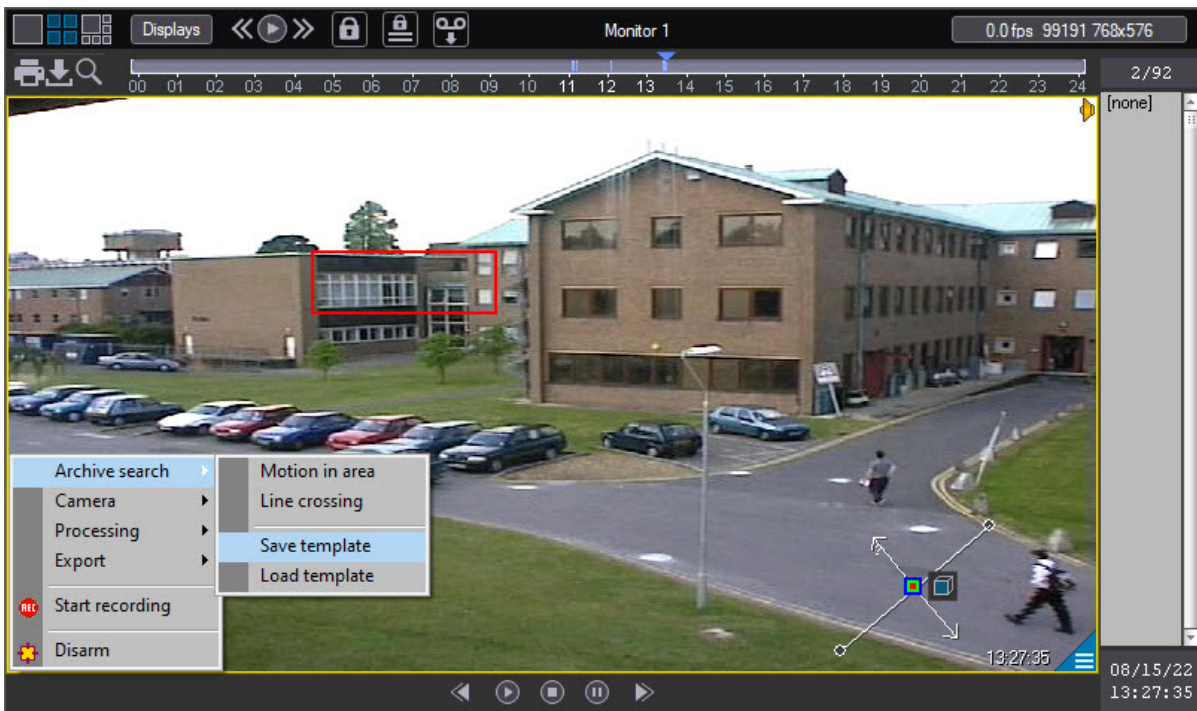
You can cancel the search by motion in the area at any time by pressing the **Esc** button on the keyboard. In this case, no search results are displayed, and the text **[none]** is displayed in the list of video fragments.

After the search is complete, press the **Esc** key to clear the list of search results, and exit the search by motion in the area mode.

#### Smart search templates

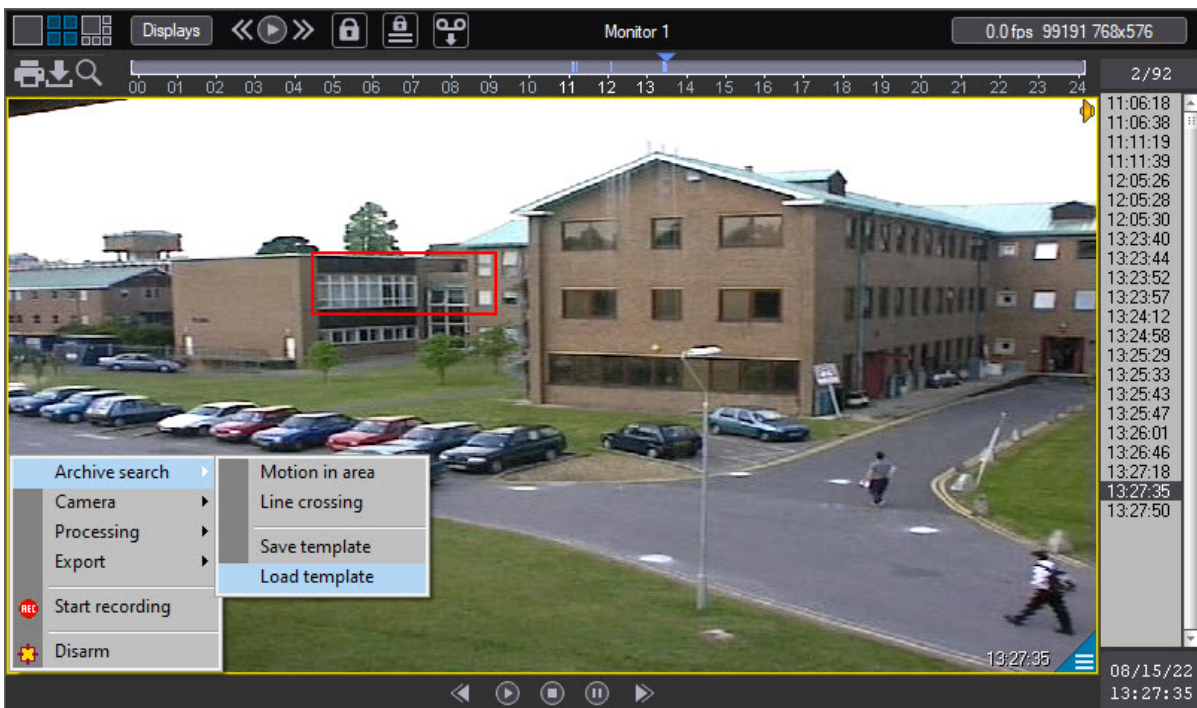
Having [search by line crossing](#) or [search by motion in the area](#) along with [search by color](#) (optionally) set up, you can save the search template and then use it to quickly start the search without setting any parameters.

To save the smart search template select the **Save template** item in the camera's functional menu after setting the search parameters.



A standard Windows dialog box will open for saving the template file in .ivmdaf format. By default, the template is saved in the Modules64\Filters folder in the *Axxon PSIM* software installation directory.

To open the template, select the **Load the template** item in the camera's functional menu.



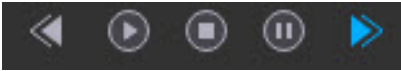
A standard Windows **Open file** dialog box displays. After selecting the required file in the .ivmdaf format, the area or line with the configured search parameters (direction, speed, color, etc.) is displayed on the video and the search is launched automatically.

## Video playback


### Video playback controls



#### Button functions

You can navigate through the recording using playback control buttons.





The  button starts playback from the selected frame, the  button stops playback.

When you left-click the  button, playback is in the forward direction. When you right-click this button, playback is in the reverse direction.

When you short-click the  button, only the current selected recording of the archive is played back. Hold the  button to start playing back the next recording after the end of playing back the previous one.



#### Note


You can change the way playback is controlled so that by short left-click the recordings are played back continuously, and only one selected recording is played back by long click. For this, use the `LButtonClickContinuousPlayEnable` registry key (see [Registry keys reference guide](#)).

The  and  buttons increase or decrease the playback speed or slide show speed in the pause mode.

To go to the pause mode, click the  button. To resume playback, click the  button.

#### Playback speed

To control the speed of playback, use the  and  buttons.

During fast and slow playback, speed-up or speed-down level is displayed in place of the  button, while the functionality of the button remains the same. The maximum possible speed-up is 998 times, the maximum possible speed-down is 8 times.



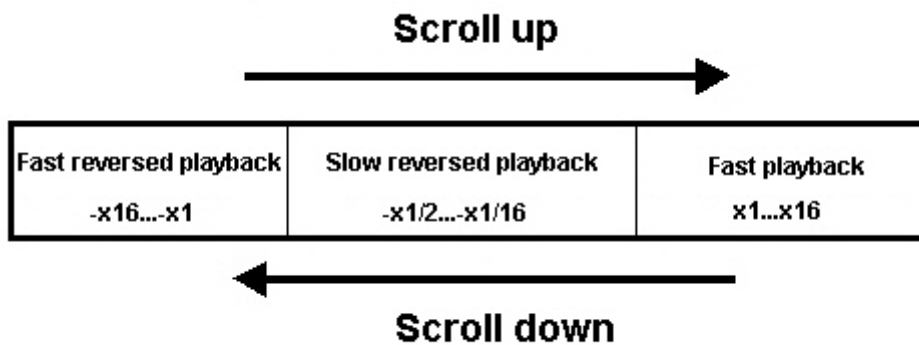
Features of playback with modified speed:

1. If recordings from the **Edge storage** are used for playback, the maximum possible level of speed-up and speed-down depends on the limitations of a camera (see functional characteristics of an IP camera in the control panel of its web interface).
2. Recorded audio of the archive recording isn't played back.
3. You can also control the speed using the mouse wheel (described below).
4. When you fast playback the archive in H.264 and MPEG4 format, only the **key frames** are played back:
  - starting from 8x speedup when playing back backward regardless of the number of cameras selected for playback;
  - starting from 4x speedup when playing back forward if you selected several cameras;
  - starting from x12 speedup when playing back forward if you selected one camera. You can specify this setting in the `MonitorForwardSkipSpeed` registry key (see [Registry keys reference guide](#)).

- When you play back the archive 2-10 times faster, visual change in speed may not be noticeable if the computer processing power is insufficient. 12x and more speedup becomes noticeable because only key frames are played back, that is, decimation is enabled. By default, decimation starts at 12x speedup. You can change this value in the MonitorForwardSkipSpeed registry key (see [Registry keys reference guide](#)). You must make changes in the registry of the computer on which you view videos with speedup. After making the changes, restart the computer.

### Control using mouse wheel

When you hover the mouse cursor over the playback control panel, you can control the playback speed using the mouse wheel. The playback speed changes smoothly as follows:



If playback isn't started, then when you hover the mouse cursor over the playback control panel, mouse wheel scrolling allows you to switch between the archive recordings (see [Video sequence browsing](#)).

If you hover the cursor over the video, then mouse wheel scrolling scales the video (see [Video image scaling in Surveillance window](#)). You can enable playback speed control using the mouse wheel regardless of the cursor position in the **Surveillance window**—see the description of the MonitorPlaybackControlByMouseWheel registry key in the [Registry keys reference guide](#). Also, this key enables pausing/resuming playback by clicking the mouse wheel. However, this action is no longer used to control telemetry (see [Mouse PTZ control](#)).

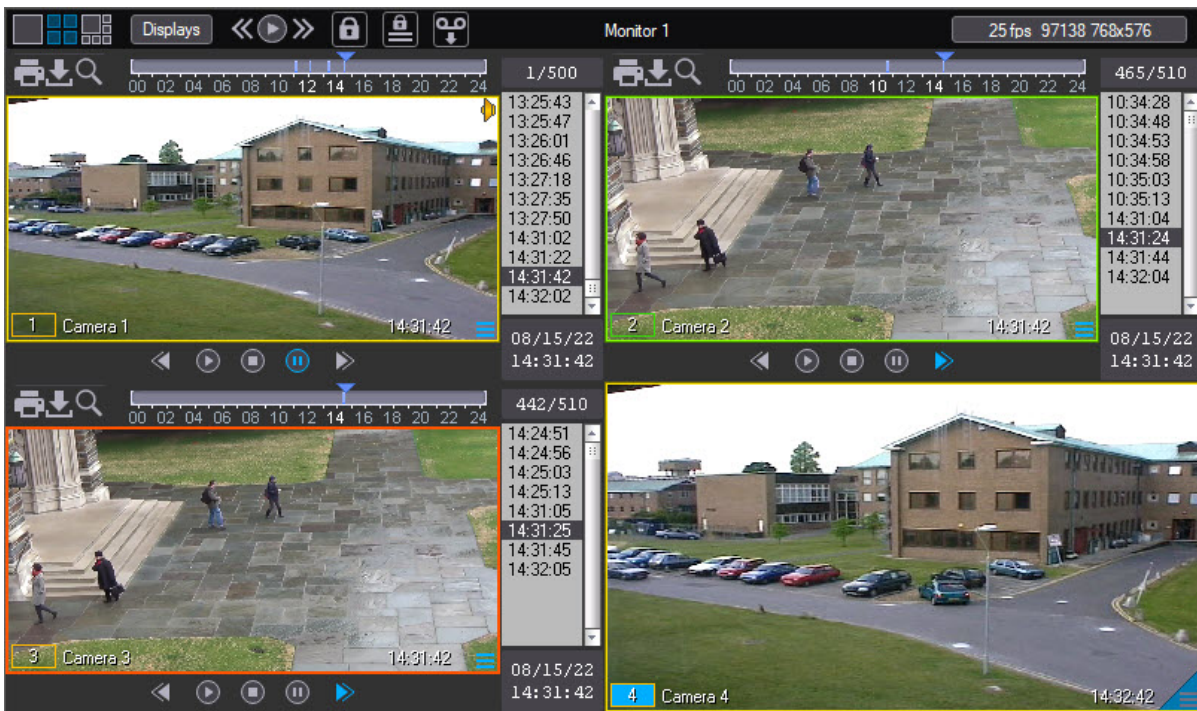
### Synchronous playback of several video recordings

The program allows you to synchronously playback several archived video recordings on one **Video surveillance monitor**. The number of archived videos played back simultaneously is only limited by the hardware capacity.

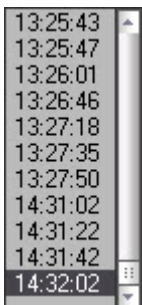
#### Note

Synchro playback of video recordings is affected by the read rate of the disks on which the video archive is stored. If reading speed is slow, then playback problems may occur.

To use synchro playback, display the required **Surveillance windows** on the **Video surveillance monitor** and switch them to the archive viewing mode.

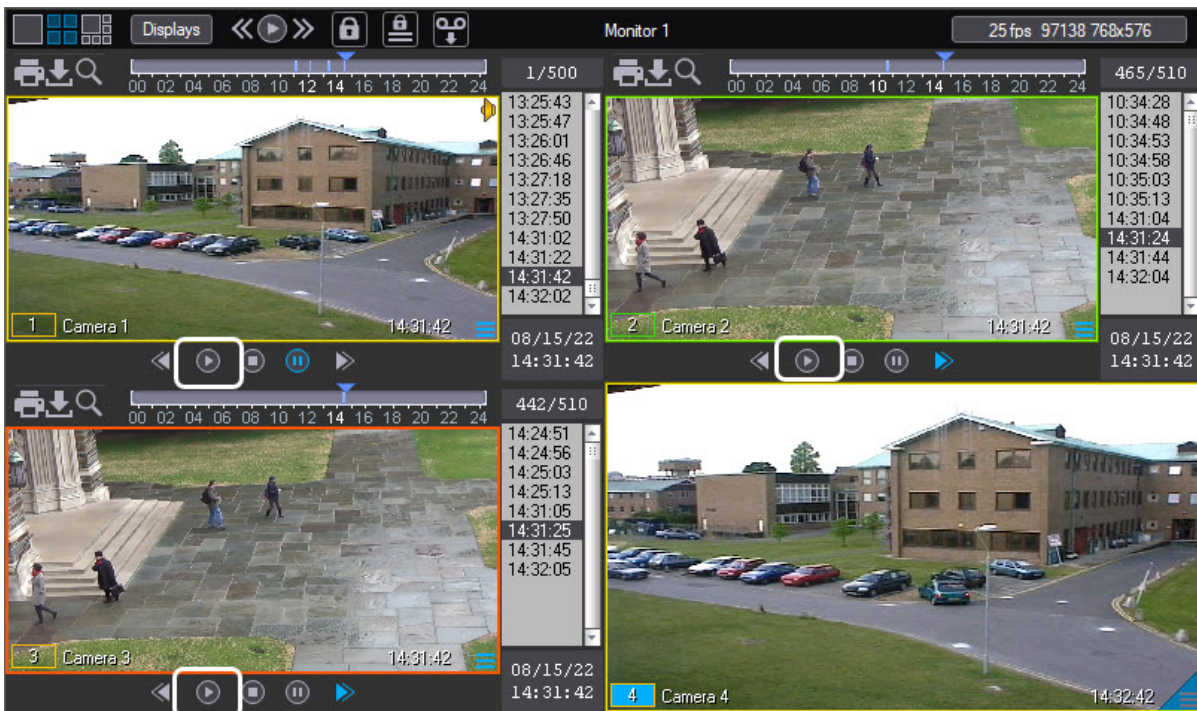


Set recordings in the **Surveillance windows**, as required, using, for instance, the time stamp column.

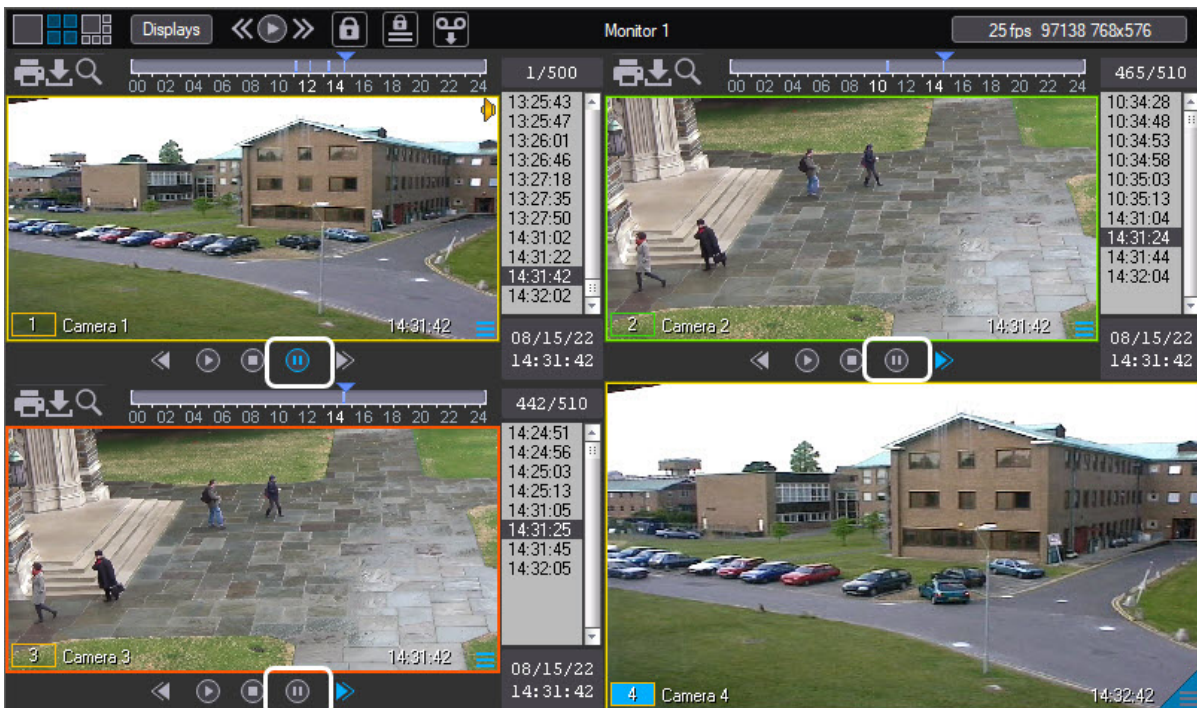


Now, controlling video playback in the active **Surveillance windows**, you will synchronously control the playback in other **Surveillance windows**.

Synchro playback of video recordings (playback is on):



Synchro playback of video recordings (playback is paused):





**Note**



When you synchronously playback the archive of several cameras, only the key frames are included in playback in the following cases:

- forward playback with 4x or greater speedup;
- backward playback with 8x or greater speedup.

### Synchronous playback of video and audio recordings

To enable synchronous playback of video and audio recordings, click the  icon in the upper-right corner of the frame. After this the icon looks like this  and audio recording is played back synchronously with video recording in the archive playback mode.



To disable synchronous playback of video and audio recordings, click the  icon. The icon will look like this  and video recording will be played back with no sound.

**Note.**


Absence of the  icon means that camera is not configured for recording audio to the archive.


**Note.**

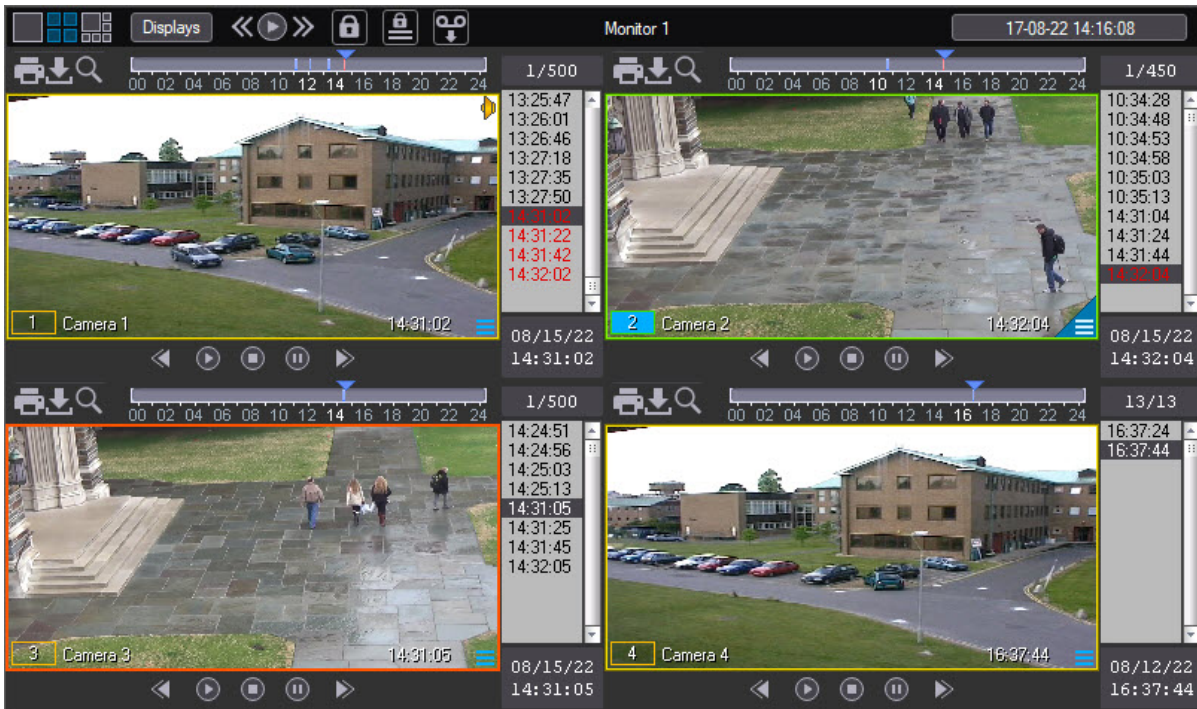
To get information on configuring synchronous playback of video and audio recordings see the [Configuring audio signals playback using the video monitor](#) section of the [Administrator's Guide](#).

Synchronous enter to server archive playback mode

For synchronous enter the mode of server archive playback by all cameras on the layout click the right mouse

button on the  button. For synchronous exit from the mode of server archive playback by all cameras on the

layout click the right mouse button on the  button again.



## Deleting video recordings from the archive

**Note.**

Video recordings can be removed from the archive when:

1. At least one User is created and added to the rights in *Axxon PSIM*.
2. The User who started *Axxon PSIM* has rights to remove files from the archive.

To delete video recordings from the archive, do the following:

1. Go to archive viewing on the selected camera.



2. Right-click the recording to be deleted.

**Note.** Multiple video recordings can be selected for deletion using the Ctrl or Shift keys left-clicking the video recordings.

3. In the feature menu, select the **Delete** item.

**Note.** A video can also be deleted using a script or command – see [CAM Camera](#) section of *Programming Guide* (not available in English).

The video recording is now deleted from the archive.

## Rewrite protection of archive files

General information about rewrite protection and bookmarks

Record to archive is performed on a loop in the *Axxon PSIM* software package (see the [General information on video archiving](#) section). Therefore old archive records can be replaced by new one. But sometime it is required to protect important records against loop recording. In order to operator had possibility to protect records and reset protection, the corresponding rights are to be assigned to it (see [Administrator's Guide](#) document, [Permissions to protect archive files from rewriting](#) section).

There is possibility to protect records by ones or protect records for the specified period.

**Note.** Records protection is supported only for the main archive of Server and doesn't support for Backup archive and Videogate archive (archive types are described in details in the [General information on working with archives](#) section).

Furthermore, Axon PSIM allows creating bookmarks to facilitate archive navigation. The archive for the bookmark period can be automatically protected when the bookmark is created and the bookmark can be created automatically when the archive is protected.

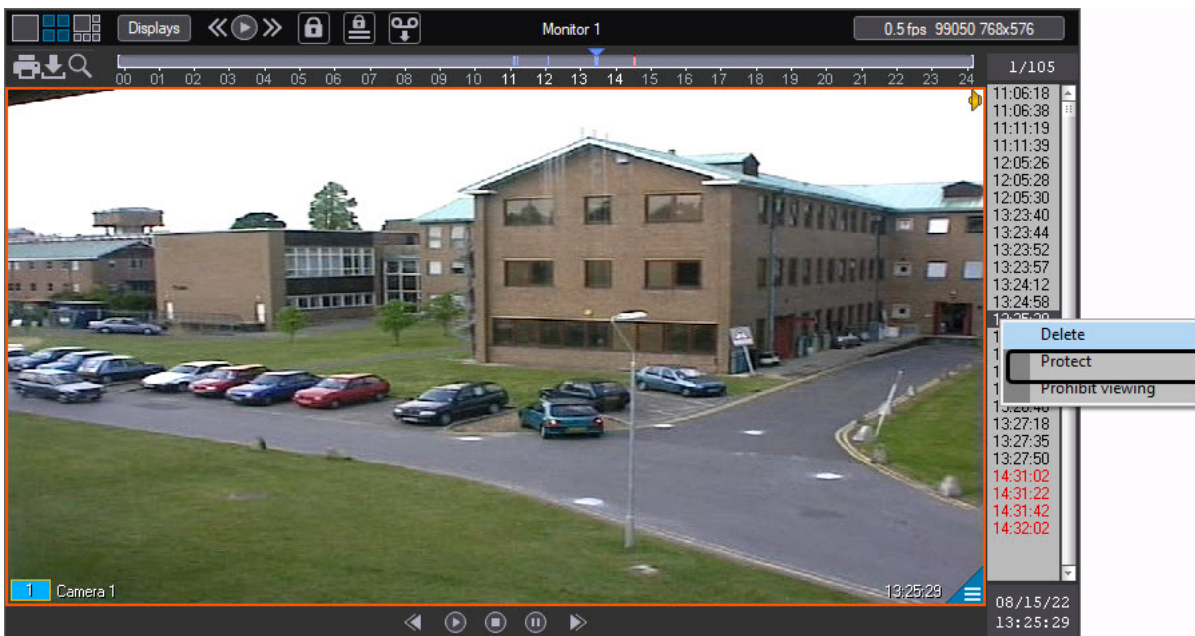
#### Protection of separate record and disable of protection

Protection and disable of protection of the separate record is performed from the Monitor interface in the Video surveillance window in the archive mode. To protect the recording, select one or more videos in the video list, right-click the highlighted items and select **Protect**. To select multiple recordings, left-click the recordings while holding the Ctrl or Shift key on the keyboard.

#### **Note.**

The **Protect** menu item can be missed if user have no rights for records protection.

Protected record is highlighting red and file replaces to the PROTECTED subfolder of the VIDEO folder on the disk where archive is stored. The bookmark for the protection period can also be created given that there is corresponding setting (see [List of bookmarks](#)).

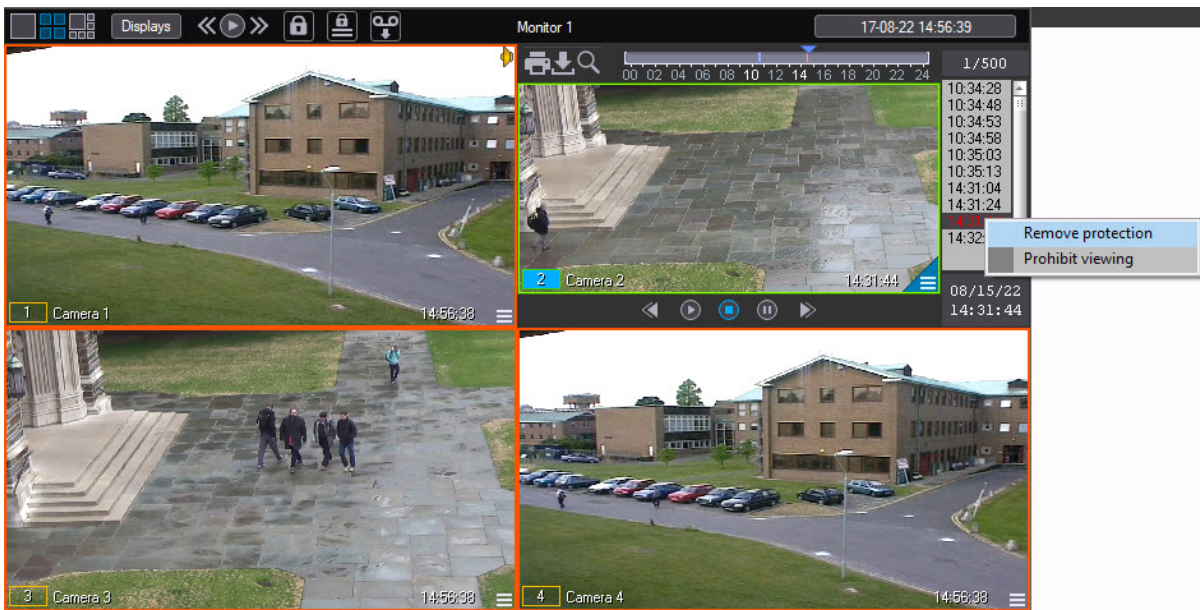


To remove protection, click the right mouse button on required record and select the **Remove protection** item.


#### **Note.**

The **Remove protection** menu item can be missed if user have no rights to reset protection of records.


If in the disk there are records for the specified period as selected one, i.e. there is a folder in which file of protected record was initially located, then the file will be replaced to this folder, highlighting red in this list will be discharged and it will continue to display in the list. If the folder was removed in the process of loop recording, the record won't display in the list.



### Create a bookmark

Bookmark is several protected or not protected video records for the specified period. To create a bookmark for the specified period, click the  button. The **Create bookmark** window will open.

#### Note.

The  button is not displayed if disk for record is not selected (see Administrator's Guide, [Selecting the disks for video archive storage](#)).

Create bookmark ✕

List of cameras

- Camera 5
- Camera 6

Selected cameras

- Camera 1
- Camera 2
- Camera 3
- Camera 4

>>
<<

Bookmark span limit (hours):

Color:

Enable archive protection

Comment

OK
Cancel

The list of cameras added to the Monitor is displayed in the left part of the window. Move cameras on which records are to be bookmarked to the **Selected cameras** list using the >> button.

**Note.**

The << button is used to move selected cameras from the **Selected cameras** list to the **List of cameras**.

In the **Period from** and **to** fields specify the time period during which archive records by selected cameras are to be bookmarked.

In the **Comment** field, enter a comment, e.g. reason of a bookmark creation.

**Important!**

A comment is to be entered. If the comment is not entered, then the bookmark cannot be created.

**Bookmark span limit** in hours is set using the BookmarkMaxLen registry key (see [Registry keys reference guide](#)). If the selected period is longer than the bookmark span limit, then **OK** button is disabled and the warning on the limit is highlighted in red. Shorten the period so that it would not go over the limit to create a bookmark.

The **Color** field is used to select the color that the created bookmark will be marked in Video surveillance monitor (on the time scale and in the list of video recordings - see [Archive navigation using the timeline](#) and [Video sequence browsing](#)).


The **Enable archive protection** checkbox allows protection of archive records when creating bookmarks. Changing the value of this parameter may not be available if the BookmarkProtectArchive key is created in the registry (see the [Registry keys reference guide](#)).

When all required fields are filled, enter the **OK** button to bookmark video records for the specified period.

If the **Enable archive protection** checkbox is selected, the protected videos will be marked in red in the list in the Video Surveillance Monitor, and the protected video files will be moved to the PROTECTED folder in the VIDEO folder on the archive disk. If this check box is not selected, then files are not protected, and they can be subsequently deleted while loop recording.


#### List of bookmarks

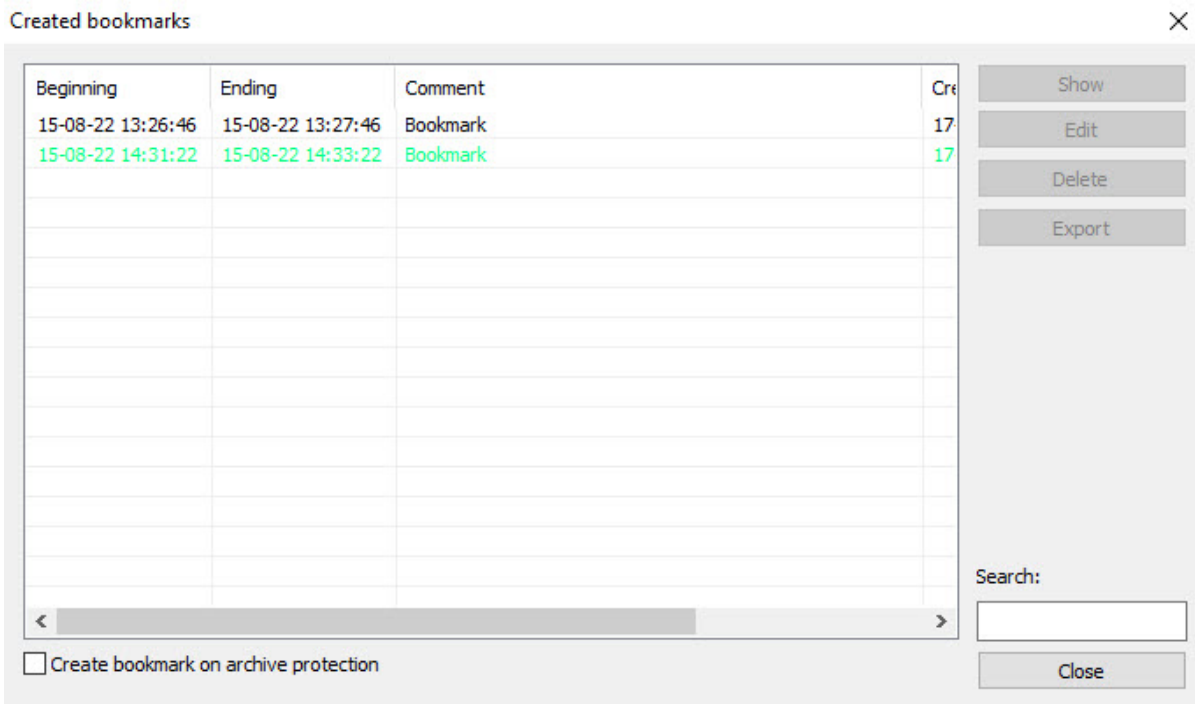


To view the list of bookmarks, click the  button on the control panel of the **Monitor** object. The **Created bookmarks** window will open.

#### Note



The  button is not displayed if the disk for recording is not selected (see [Selecting the disks for video archive storage](#)).



The list of bookmarks is presented as a table. The fields of the table are described below.

Field	Description
Beginning	Date of start period included in the bookmark
Ending	Date of end period included in the bookmark
Comment	Comment entered when the bookmark was created
Created	Date of the bookmark creation
Exported	Date of the bookmark export (see <a href="#">The AviExport utility</a> )

To sort the list of the bookmarks by any column, click on the heading of the column. Sorting can be performed both by dates and text fields.

The **Search** field is used to search for the bookmarks by the comment. If more than one search term is specified, then the comments containing all these words will be found.

The **Show** button is used to jump to the first of the protected records for the specified period in the Video surveillance window in the archive mode. The **Created bookmarks** window closes.

**Note**

You can jump to viewing the bookmark recording only if the video from the camera to which the bookmark belongs is displayed in the Monitor in one of the Video surveillance windows. If the camera is not displayed in any of the Monitor windows, nothing will happen after clicking the **Show** button. In order for the bookmark recording to be displayed, you should first add the camera corresponding to the bookmark to the Video surveillance window.

The **Edit** button allows changing the bookmark: set a different list of the cameras, time period and comment. Editing is performed in the **Edit layout** window, the interface of which is similar to the **Create bookmark** window (see [Create a bookmark](#)).

Edit layout ✕

List of cameras

Camera 5  
Camera 6

>>

<<

Selected cameras

Camera 1  
Camera 2  
Camera 3  
Camera 4

Bookmark span limit (hours): no

Color: ████████████████████

Enable archive protection

Comment

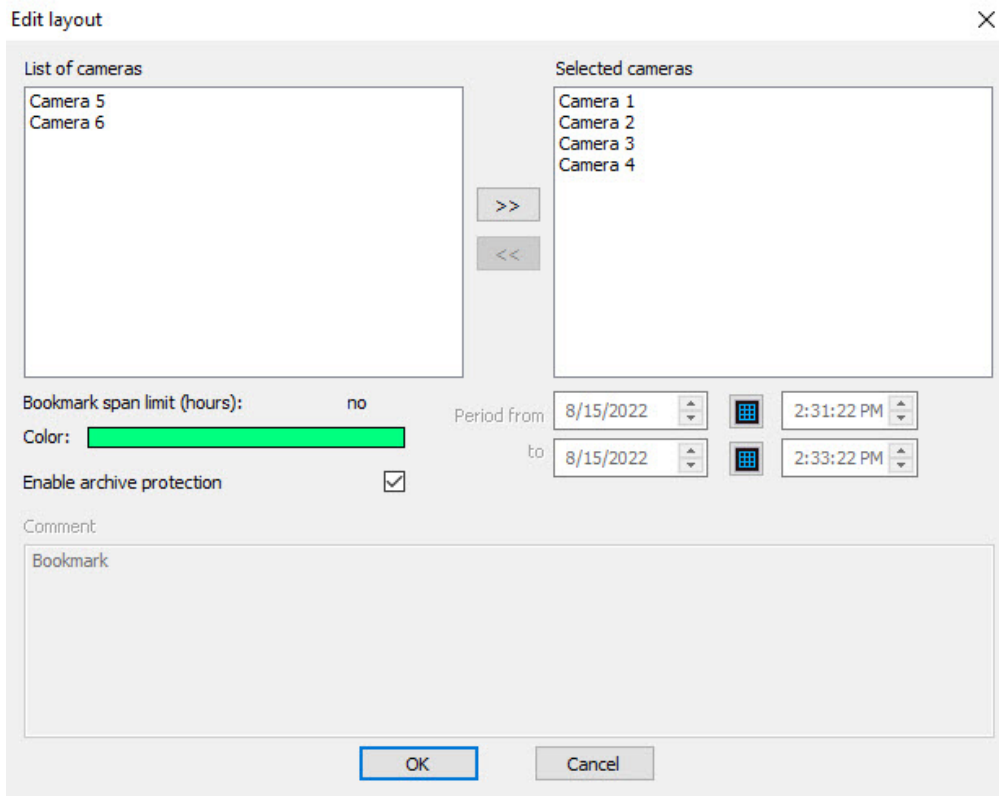
Bookmark

Period from 8/15/2022 1:26:46 PM

to 8/15/2022 1:27:46 PM

OK Cancel

If a user has no permissions to create and delete bookmarks, they can only add cameras to the bookmark. Other parameters of the bookmark are not available for editing.



The **Delete** button is used to delete the bookmark and remove protection from the video recordings.

The **Export** button opens the **Export** window in which the required cameras are selected and the export period corresponding to selected bookmark in the list of the created bookmarks is specified (see [The AviExport utility](#)).

#### **Note**

The **Delete** and **Export** buttons may not be displayed if the User does not have the corresponding permissions.

The **Create bookmark on archive protection** checkbox enables the automatic creation of the bookmarks when the archive is protected (see [Protection of separate record and disable of protection](#)). The bookmark will be assigned a name in the format "User Name + Camera Name + Start Date and Time + End Date and Time".

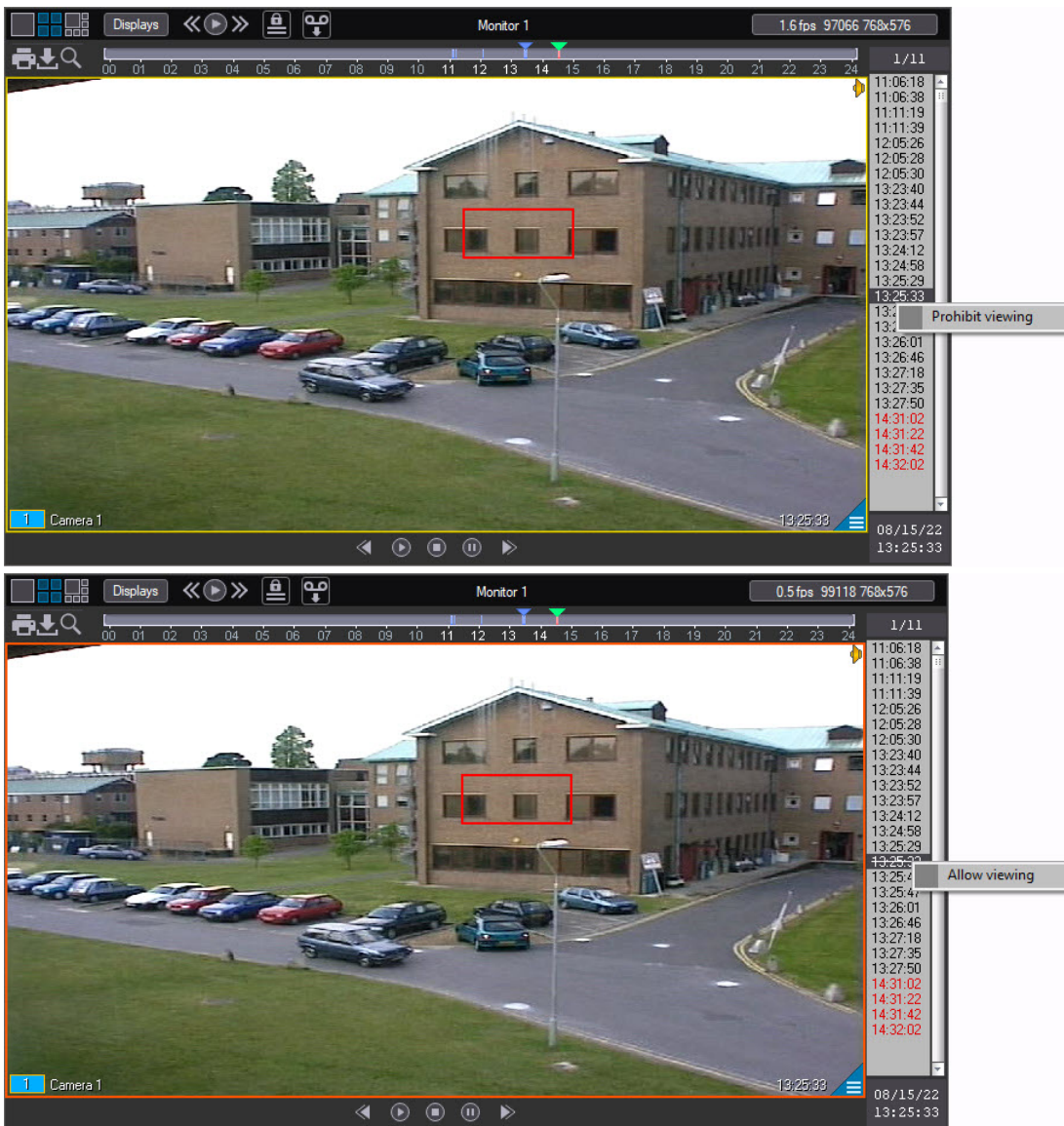
The **Close** button is used to close the **Created bookmarks** window.

## Working with the hidden archive

The functions for working with the hidden archive may be available in the Video Surveillance Monitor depending on the Operator's permissions. Viewing the hidden archive may also be available. See also [Permissions to the hidden archive](#).

The hidden archive functions are available for the main Server archive, Backup archive and Video Gateway archive. See also [Archive browsing modes](#).

If the Operator has the permission to view the hidden archive, then the hidden archive entries are displayed crossed out in the list of videos and can be viewed the same way as the ordinary archive entries. If there are no rights, then hidden archive records are not displayed.



Right-click the archive entry and select **Prohibit viewing** to hide the archive record.

Right-click the archive entry and select **Allow viewing** to unhide the archive record.

If a video is marked as hidden, then it is recorded in the index file, which is located in the **INDEX\_DATA** folder, named the same as the index file in the **INDEX** folder, but with the .data extension.

In this case the **INDEX\_DATA\07111916.data** corresponds to the **INDEX\07111916.idx** index. The .data file exists if there is at least one hidden entry per hour. The .data file is removed along with the .idx file and is not changed during reindexing, as it contains the primary information. On *Axxon PSIM* versions older than 1.0.0, the archive is played back as usual.

### 4.3.11 Export and print out

#### General information on export and print out

Many graphic modules of the Program support the following operations with the video image:

1. Frame export – saving the current frame as a standard Windows graphic file (in Bitmap, JPEG formats).
2. Frame print out – sending the current frame to the printer for printing.
3. Video recording export – saving video recording as standard Windows video files. Video recording in this case may be saved together with the synchro sound.

**Note**

When exporting, the date and time are displayed in the right bottom corner of the video image or video frame. The date and time are displayed in the format specified by the regional system settings (switching to the regional system settings is performed from the **Start -> Control panel -> Language and regional standards** menu). It does not apply to the printed frames and to the video received with the help of the Converter.exe utility.

To demonstrate the above functions, we use the Video surveillance window as an example.

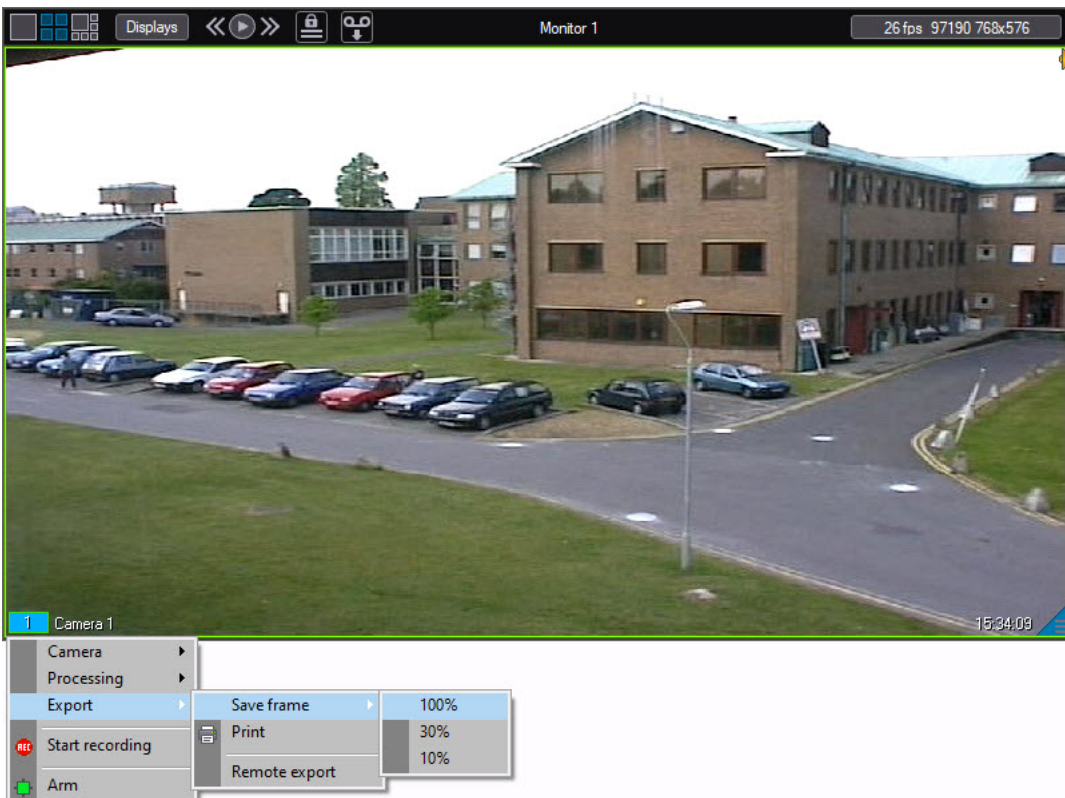
**Note**

You can also use the AviExport utility to export the video archive for a specified period with the possibility of changing the coding format (codec) (see [The AviExport utility](#)).

### Frame export

To save a frame, select the following in the functions menu of the surveillance window: **Export** → **Save frame** → **Scale** (100%, 30%, 10%). Here, the percentage defines the amount of video compression:

- 100%—lossless compression. Frames are stored in BMP format;
- 30%—stronger (lossy) compression. Frames are stored in JPEG format;
- 10%—strongest (lossy) compression. Frames are stored in JPEG format.



The file containing the saved frame is saved by default in the C:\Users\%current username%\Documents\Axxon PSIM\export\ directory. The file name is generated as follows: <camera number> (<date> <time>). For instance, 02 (03-10-07 16'28'06).jpg. The path to the folder for saving the frame can be changed in the **Tweaky.exe** utility (see [The Settings panel of the Axxon PSIM section](#)).

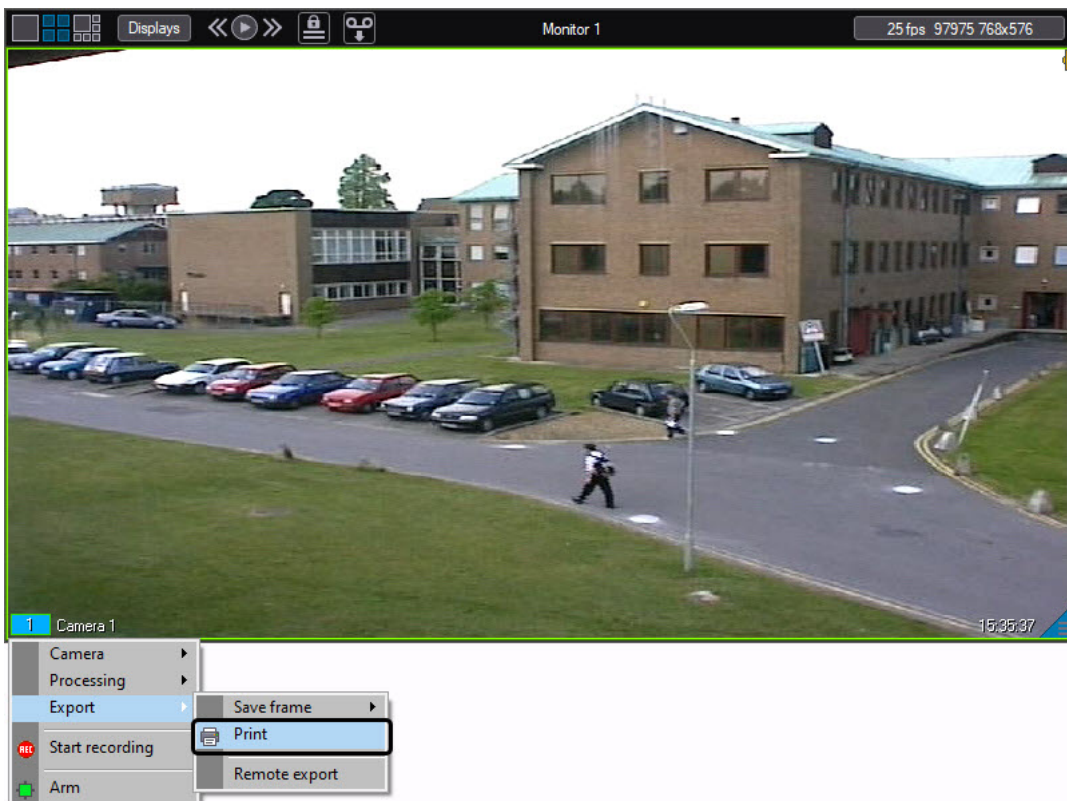
### Note

If the additional information was specified while configuring the camera (see [Administrator's Guide](#)), then the file is named in another way: <number of the camera> <additional information> (<date> <time>). For example, 02 Information (03-10-07 16'28'06).jpg.

If captions are added to the video image (see [Configuring the captions showing](#)), they will be present in the exported frame. The caption size is set on the **Captioner** object settings panel and may change during export if the frame resolution is reduced. To enable adaptive title size, use the ExportFontAdaptive registry key (see [Registry keys reference guide](#)).

## Printing the still frame

To send a frame for printing, choose the **Print** command from the **Export** menu.



As a result of the above actions, the frame image will be queued for printing by default.

Document Name	Status	Owner	Pages	Size	Submitted	Port
- Digital VIDEO Recorder		COMPUTER	1	866 KB	10:16:27 AM 9/2/2022	

1 document(s) in queue

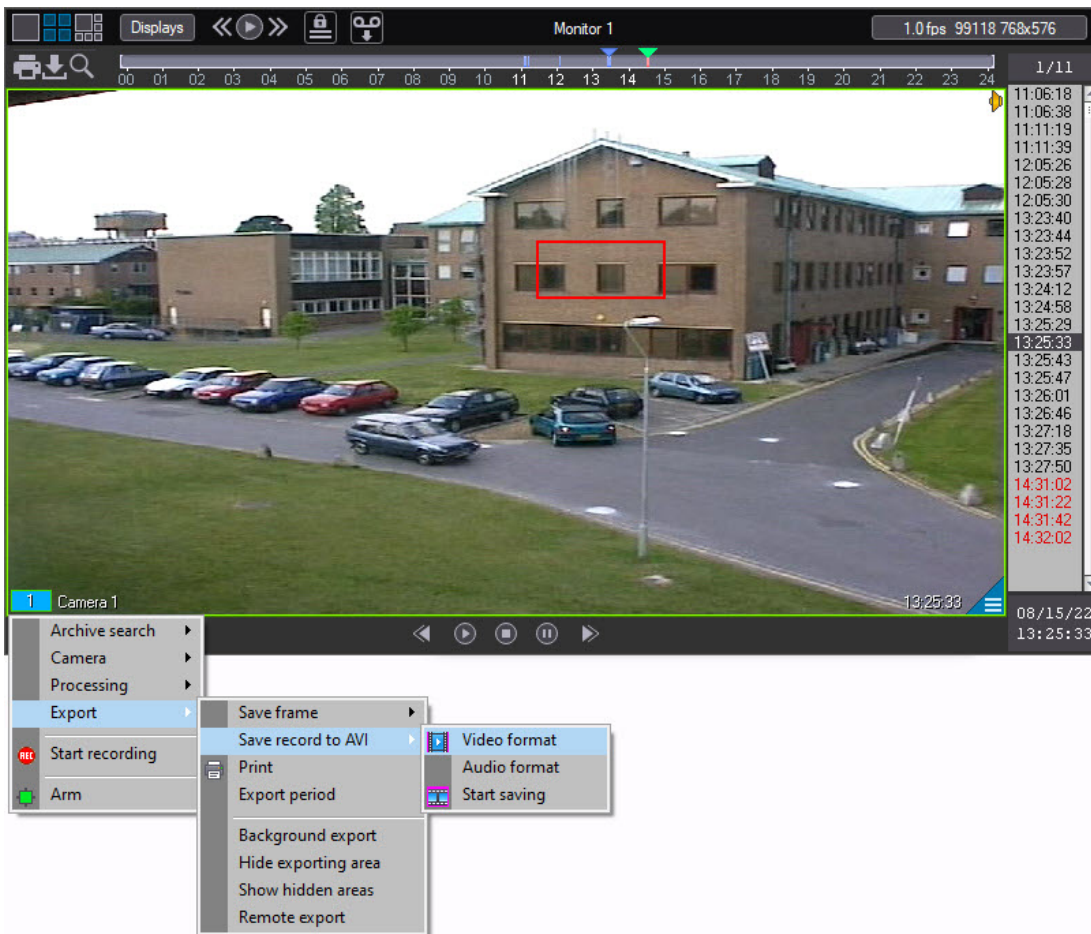
**Note.**

Standard Printout List of the printer dialog box (OS Windows) does not belong to the *Axxon PSIM* software and is not automatically displayed as soon as the print command is sent.

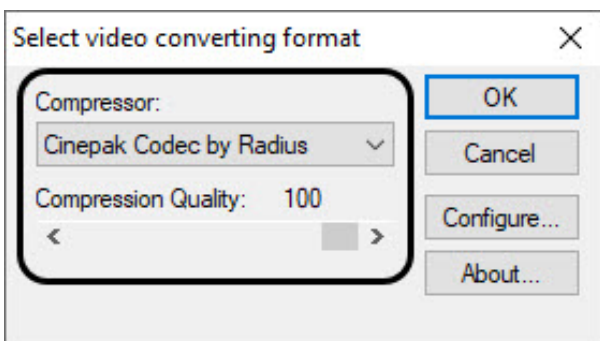
## Export of silent video recordings

The video recording segment without sound is exported using the playback control panel. The main archive of the video server can be exported as well as the backup archive, the video gate archive and the external archive depending on the playback mode selected (see [Archive browsing modes](#)).

Select **Export** in the function menu of the video surveillance window and then select **Save Recording to AVI**.



Parameters of the video and audio, which will be saved, may be configured in the displayed menu. Compression quality is selected in the standard Windows dialog box.



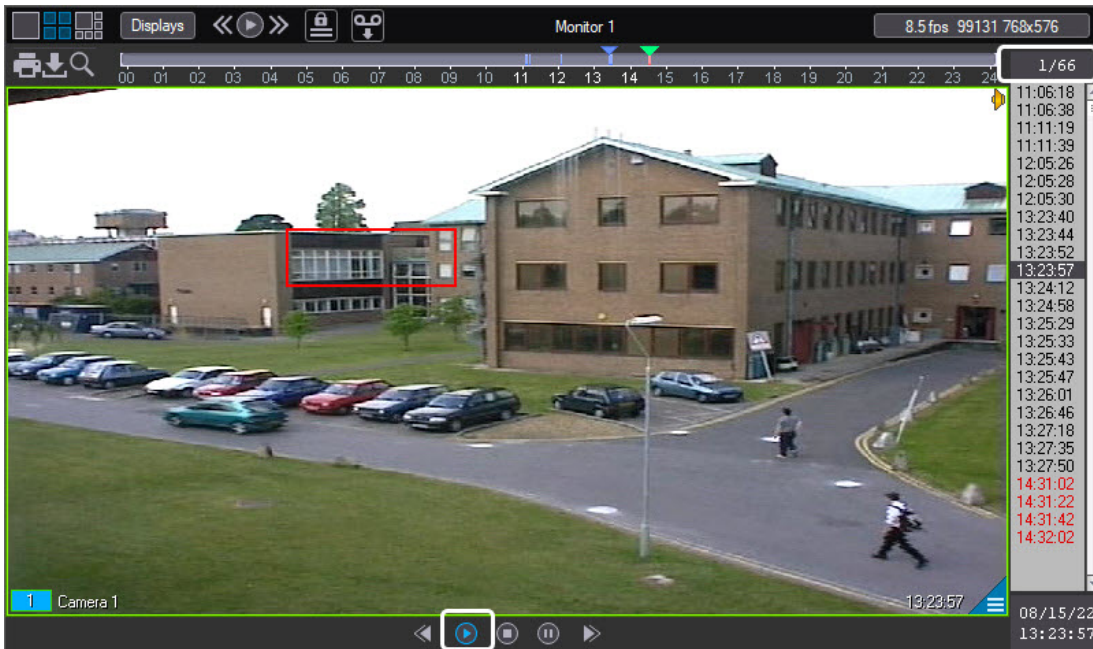
Select **Codec** in the dialog box and, if available, compression quality.


**Note**

Settings of video compression will be ignored if export of the archive period in original format was performed (see [Export of the archive period](#)).

As soon as recording saving parameters are selected, the video segment may be exported to the file by selecting the **Start Saving** command. If you want to export a fragment starting from some other frame, not the first one, then play the video up to the desired moment before you start saving.



The **Playback** button will be highlighted in the course of saving, whereas the playback position indicator will count down the frame currently being processed.



Click the  button after the start of saving for quick export (export of speeded video record). This button double speeds up export of video record. Maximal available speed up is 8 times.

**Note**

When speeding up the video record export, only the key frames are played back. Hence, only the key frames are saved to the file when exporting.

To terminate export, click  or . In this case, only the part of video fragment before the moment you click one of these buttons is exported.

As soon as the video segment saving process is complete, the **Playback** button is no longer highlighted.



The file containing the saved video recording is saved to the C:\Users\%current user name%\Documents\Axon PSIM\export\ directory. The file name is generated as follows: <camera number> (<date> <time>). For instance, 02 (03-10-07 16'28'06).avi (file extension depends on video compression settings). The path to the video recording folder can be changed using the **ExportDir** registry key located in HKLM\SOFTWARE\WOW6432Node\AxonSoft\Axon PSIM\Video\AviExport (see [Registry keys reference guide](#)).

#### **Note**

If captions are added to the video image (see [Configuring the captions showing](#)), they will be present in the exported video recording. The caption size is set on the **Captioner** object settings panel and may change during export if the video resolution is reduced. To enable adaptive title size, use the ExportFontAdaptive registry key (see [Registry keys reference guide](#)).

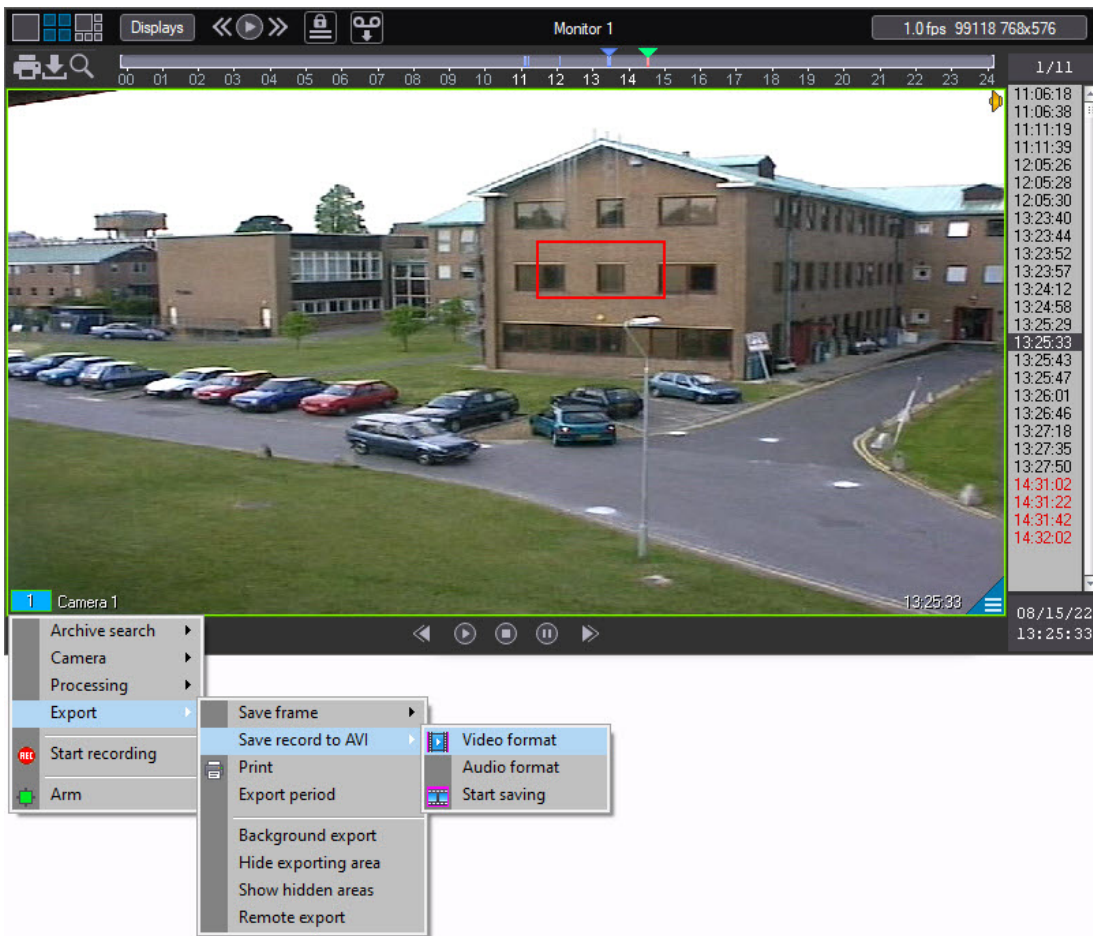
#### **Note**

If AVI format is used, the resulting file cannot be bigger than 2 GB.

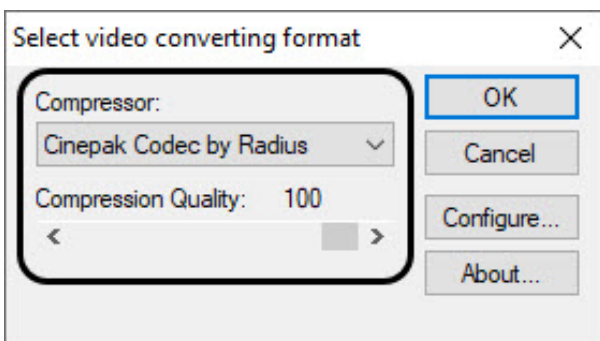
## Export of video recording with audio

Video recording segment with audio is exported using the playback control panel. The main archive of the video server can be exported as well as the backup archive, the video gate archive, and the external archive, depending on the playback mode selected (see [Archive browsing modes](#)).

Choose **Export** in the function menu of the video surveillance window and then select **Save Recording to AVI**.



Parameters of the video and audio, which will be saved, can be configured in the displayed sub-menu. Compression quality is selected in the standard Windows dialog box.

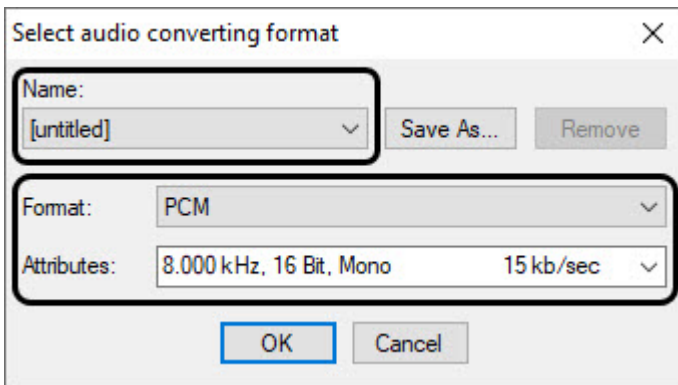


Select **Codec** in the dialog box and, if available, compression quality.

**Note**

Settings of video compression will be ignored if export of the archive period in original format was performed (see [Export of the archive period](#)).

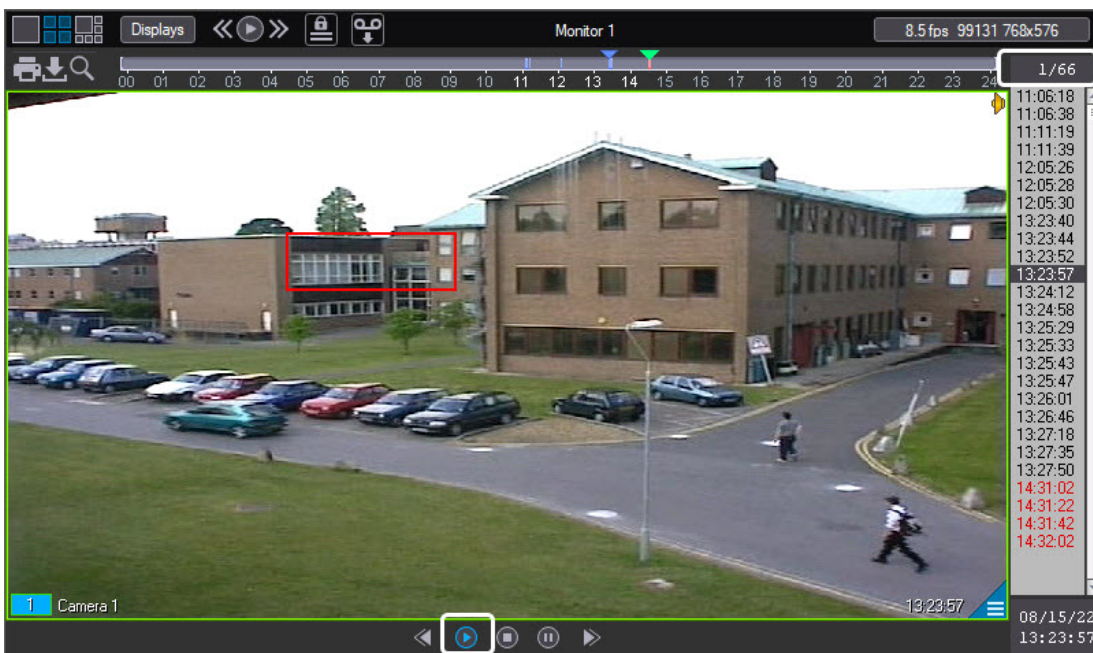
Compression quality of the synchro audio is selected in the standard Windows dialog box.




Choose the audio format in the dialog box and select a set of audio quality parameters or a pre-defined settings profile.

As soon as recording saving parameters are selected, the video segment can be exported to the file by selecting the **Start Saving** command. If you want to export a fragment starting from some other frame, not the first one, then play the video up to the desired moment before you start saving.

The **Playback** button will be highlighted in the course of saving, whereas the playback position indicator will count down the frame currently being processed.





Click the  button after the start of saving for quick export (export of speeded video record). This button double speeds up export of video recording. Maximal available speed-up is 8 times.

**⚠ Attention!**

If you export a speeded video record, the audio will not be exported. If audio is required, then it is necessary to export without speed-up.

**ℹ Note**

When speeding up the video record export, only the key frames are played back. Hence, only the key frames are saved to the file when exporting.

To terminate export, click  or . In this case, only the part of the video fragment before the moment you click one of these buttons is exported.

As soon as the video segment saving process is complete, the **Playback** button is no longer highlighted.



The file containing the saved video recording supported with audio is saved to the `C:\Users\%current user name%\Documents\Axxon PSIM\export\` directory. The file name is generated as follows: `<camera number> (<date> <time>)`. For instance, `02 (03-10-07 16'28'06).avi` (file extension depends on video compression settings). The path to the video recording folder can be changed using the **ExportDir** registry key located in `HKLM\SOFTWARE\WOW6432Node\AxxonSoft\Axxon PSIM\Video\AviExport` (see [Registry keys reference guide](#)).

#### Note

If captions are added to the video image (see [Configuring the captions showing](#)), they will be present in the exported video recording. The caption size is set on the **Captioner** object settings panel and can change during export if the video resolution is reduced. To enable adaptive title size, use the `ExportFontAdaptive` registry key (see [Registry keys reference guide](#)).

#### Note

If AVI format is used, the resulting file cannot be bigger than 2 GB.

## Export of the archive period

### On the page:

- Exporting a period of Axxon PSIM main archive
- Exporting a period of an archive located on the edge storage

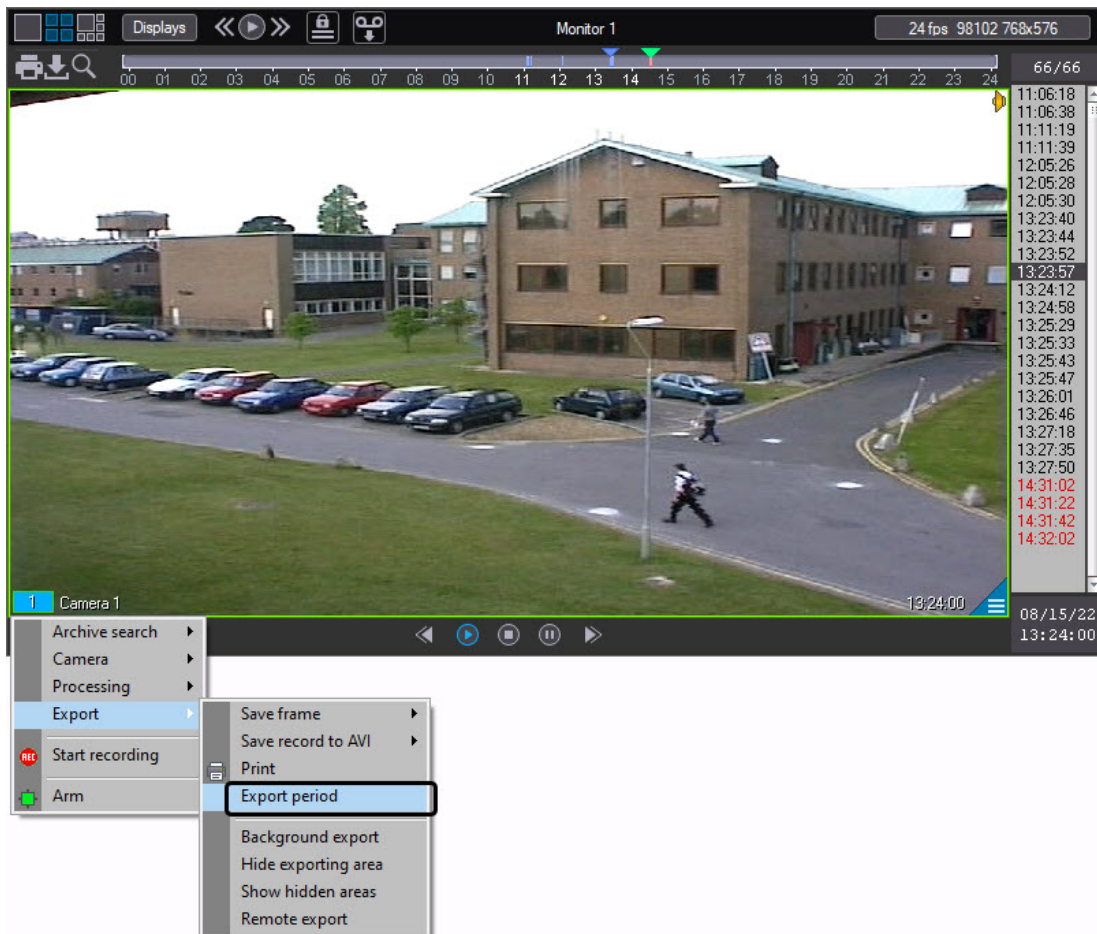
### Exporting a period of Axxon PSIM main archive

Export of the archive period allows exporting video recordings for a specified period into a single AVI file.

Export of the archive period is performed via the playback control panel.

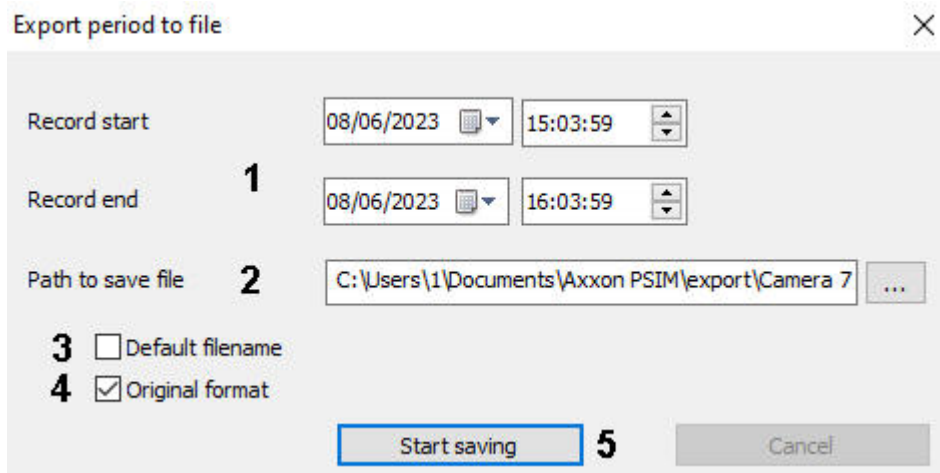
To export the archive period, do the following:


1. Go to the archive browsing mode (see [Archive browsing modes](#)).
2. In the function menu of the **Surveillance window**, select the **Export** submenu, select the **Export period** item in the submenu.




In the **Export period to file** window, set the export parameters:

1. Date and time of the record start and end (1).



2. Full path to the folder where the video will be exported (2). You can set it manually or select it using the  button—a standard Windows Explorer window will open. Optionally, you can specify the name of the file to be created, with the .avi extension. An example of a path with a given file name: C:\Users\1\Documents\Axxon PSIM\export\videoexport.avi.

By default, the file is exported to C:\Users\%current username%\Documents\Axxon PSIM\export\. The file name is generated as follows: <Camera name><Start date and time specified in the export window>\_<Episode number>.avi. For example, "Camera 1 2022-12-02 15-57-22\_001.avi". If you set the **Default filename** checkbox (3), this field will be unavailable for editing, but you will still be able to select a folder for recording using the

 button.

**Note**

The default export folder path is set using the **ExportDir** registry key located at HKLM\SOFTWARE\WOW6432Node\AxxonSoft\Axxon PSIM\Video\AviExport (see [Registry keys reference guide](#)).

- If you want to save the record in the format, in which the archive is stored on the disk, set the **Original format** checkbox (4). The record will be saved in AVI format.

**Note**

By default, the **Original format** checkbox is not set, and export is performed in the specified format (see [Export of video recording with audio](#) and [Export of silent video recordings](#)). If you close the **Export period to file** window without clearing the **Original format** checkbox, the record will be exported in the original format ignoring the codec settings. To export a record with encoding, open and then close the **Export period to file** window, or set the value of the NativeFormat parameter to 0 in the HKEY\_LOCAL\_MACHINE\SOFTWARE\AxxonSoft\Axxon PSIM\Video registry section.

- Click the **Start saving** button (5).

To stop the export process, click the **Cancel** button. When video saving is cancelled, the AVI file will contain only that part of the archive that has already been exported at the moment of cancelling.

**Note**

If captions were added to the video image (see [Configuring the captions showing](#)), they will be present in the exported record. The captions size is set when configuring the **Captioner** object and may change if the video resolution is reduced. To enable the adaptive captions size, use the ExportFontAdaptive registry key (see [Registry keys reference guide](#)).

**Note**

The size of the resulting file must not exceed 2 GB.

Exporting a period of an archive located on the edge storage

Exporting a period of an archive from the edge storage is performed in the same way as exporting a period of *Axxon PSIM* main archive, except for the following differences:

- To export a period of an archive from the edge storage, you must switch to the [edge storage playback mode](#).
- Files will be exported to the format supported by the edge storage, not necessarily .avi.
- If the edge storage does not support exporting video records, then the period of the archive cannot be exported. In the function menu of the **Surveillance window**, the **Export period** item won't be available in the **Export** submenu.

## 4.3.12 The AviExport utility

### General information about the AviExport utility

On the page:
<ul style="list-style-type: none"> <li>• <a href="#">Features</a></li> <li>• <a href="#">Running the utility</a></li> <li>• <a href="#">Interface</a></li> </ul>

#### Features

The AviExport utility is used for exporting video archive for the specified period in the format of the file system of *Axxon PSIM*, or in the avi format with the possibility to change the coding format (codec). AviExport allows you to export the main archive, the videogate archive, and the backup archive (see [General information on working with archives](#)).


#### Features:

1. You can specify the size of exported files, that is, the size of a volume.
2. You can export video after fisheye conversion or rotation (see [Selecting the format and recompression for the exported file](#)).
3. When converting video and audio recordings created synchronously, the output file will have audio.
4. You can export only video and captions without audio.
5. You can export by schedule and by connecting USB, CD, or DVD storage media.
6. You can record the exported files to a CD/DVD or a USB formatted for use as a flash drive.

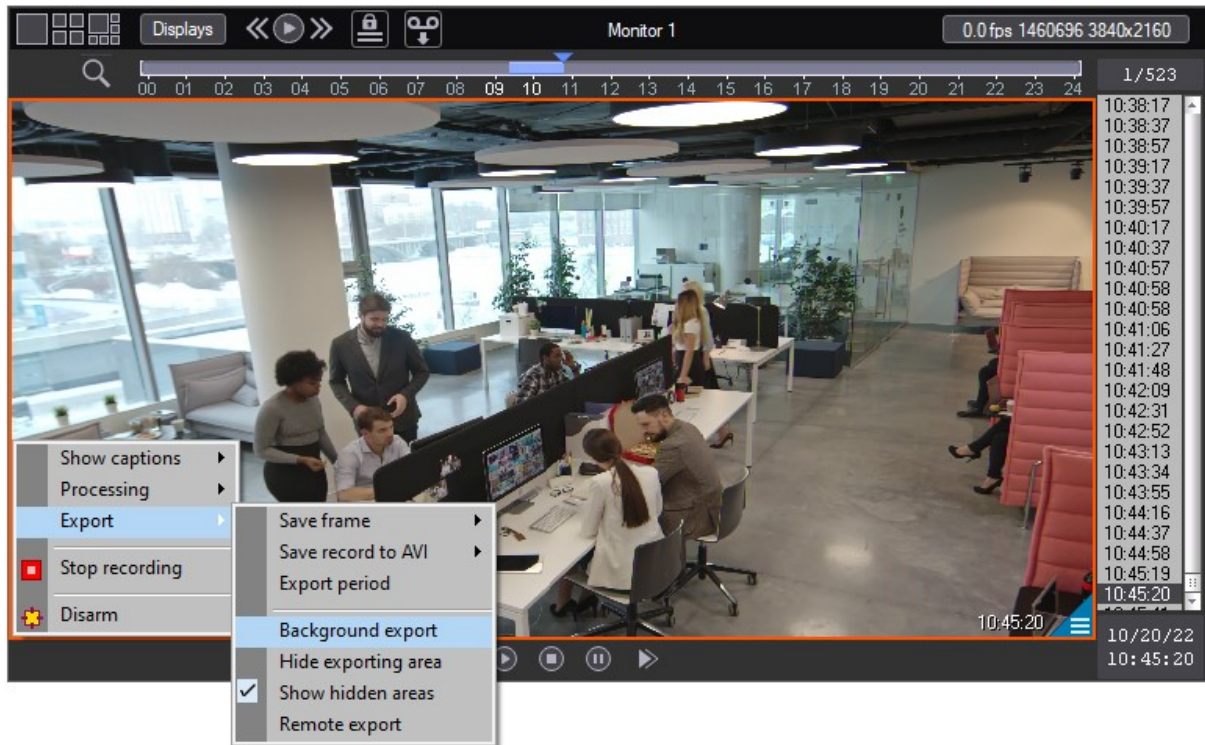
Both 32-bit and 64-bit versions of the AviExport utility are available. The 64-bit version is run when the 64-bit modules are enabled (see [Configuring the use of 64-bit modules](#)).

#### Running the utility


You can run the AviExport utility in the **Video surveillance monitor** interface in one of the following ways:

1. Click the  button on the control panel. The control panel must be enabled in the **Video surveillance monitor**—see [Setting the parameters of the Monitor interface window](#).
2. In the **Created bookmarks** window (see [List of bookmarks](#)).

3. In the archive mode, using the **Export** → **Background export** item of the **Surveillance window** function menu.



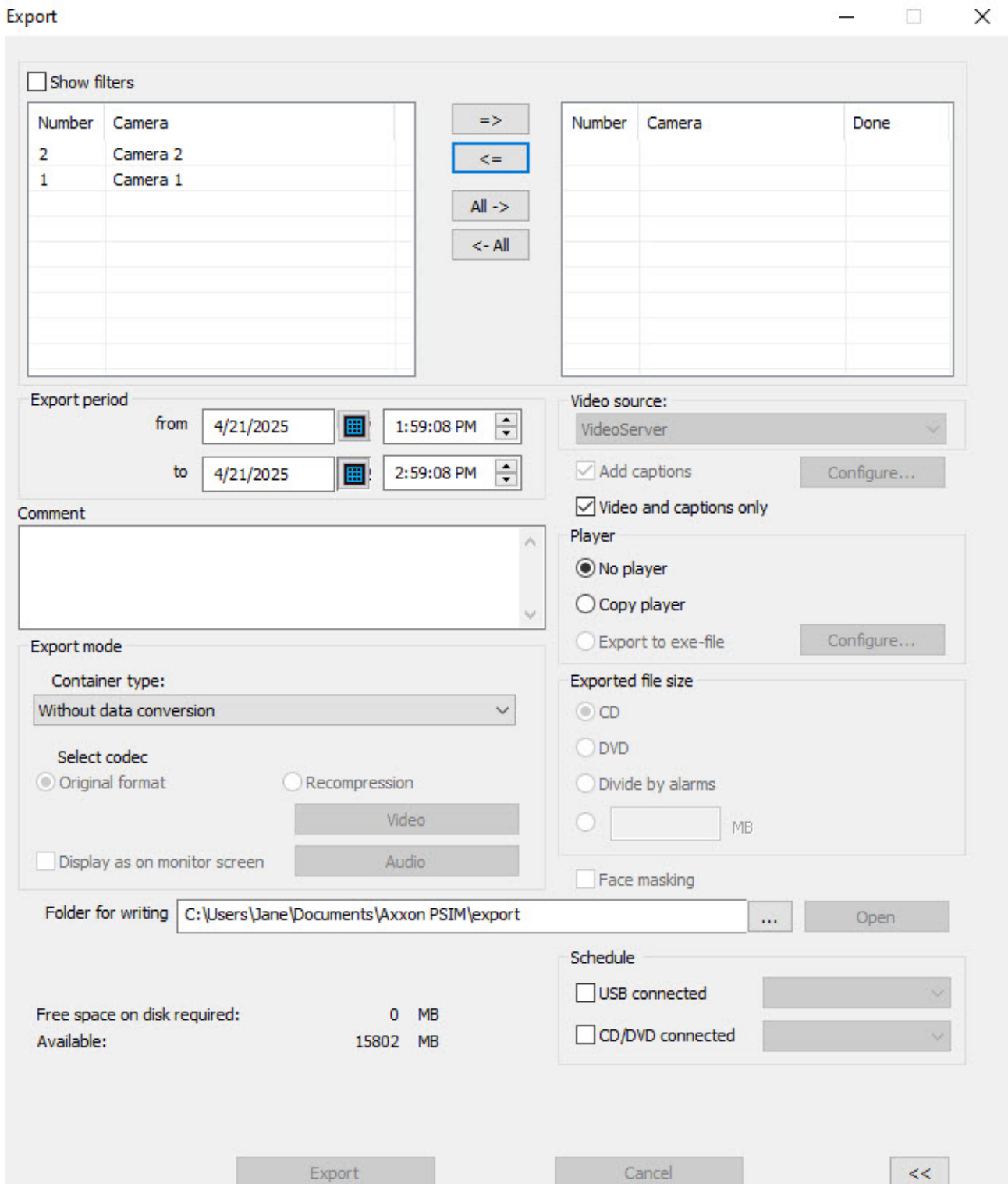
**Note**

The  button and the **Export** → **Background export** menu item aren't displayed if the disk for recording isn't selected (see [Selecting the disks for video archive storage](#)). They also are not displayed if the export is forbidden in the user rights.

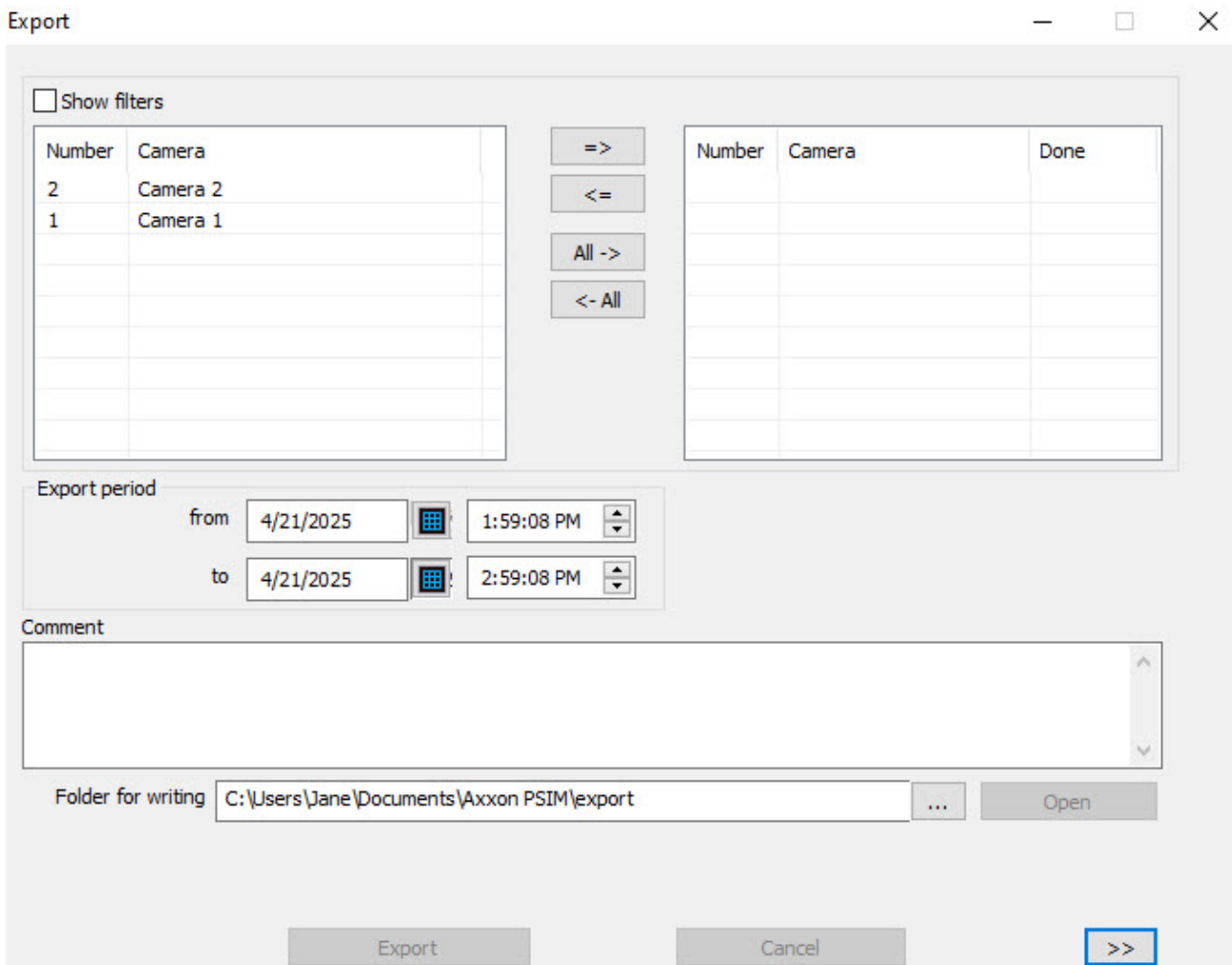
You can open several utility windows to execute several export tasks simultaneously.

**Interface**

The interface of the AviExport utility is presented in the figure.



Click << in the bottom right corner to hide advanced settings, leaving camera selection and basic export settings only. At the next starts, the utility is launched in the expanded or basic mode depending on the mode it was shut down in.



### **Note**

The button to switch between the advanced and basic settings can be unavailable when **1** is set for the **SimpleDlgModeLock** key of the HKEY\_LOCAL\_MACHINE\SOFTWARE\AxxonSoft\AxxonPSIM\Video\AviExport registry (see [Registry keys reference guide](#)).

A vertical scroll bar can appear in the AviExport Utility window at low screen resolutions.

## Working with the AviExport utility

You can work with the AviExport utility in the following way:

1. Select video cameras for archive export (see [Selecting video cameras](#)).
2. Select video source—main archive, backup archive, or videogate archive (see [Selecting video source](#)).
3. Specify the general parameters of export (period, folder for saving files, etc.) (see [General export settings](#)).
4. If necessary, change the export parameters of captions (see [Setting caption export parameters](#)).
5. Select the export mode: without converting or export to AVI in the initial or specified format (see [Selecting the format and recompression for the exported file](#)).
6. If necessary, select the required size of the exported file (see [The size of the exported file](#)).
7. If necessary, configure the schedule of export (see [Configure export by connecting removable media](#)).

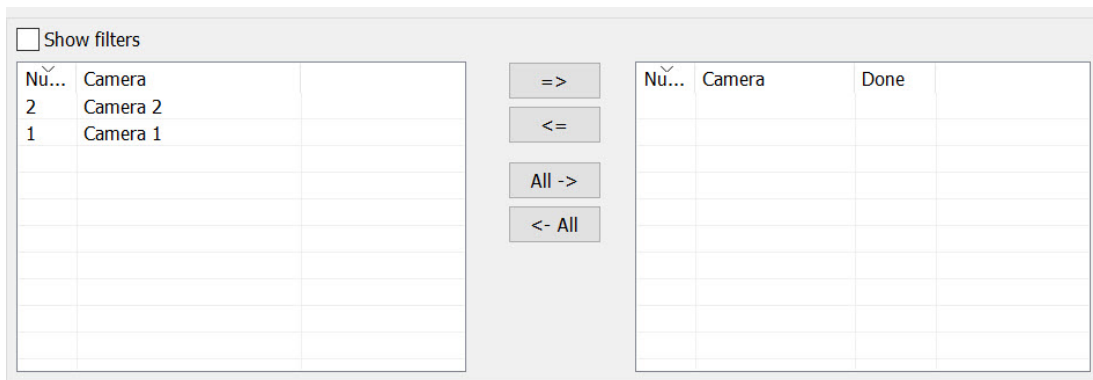
8. If necessary, configure masking of faces or areas on exported videos (see [Face masking at export](#) and [Masking areas on video at export](#)).
9. Start export (see [Starting export](#)).

**Note**

If the AviExport utility is launched from the **Created bookmarks** window, selection of cameras and specifying the period are performed automatically (see [List of bookmarks](#)).

Selecting video cameras

There are two lists of cameras in the top part of the AviExport utility window.

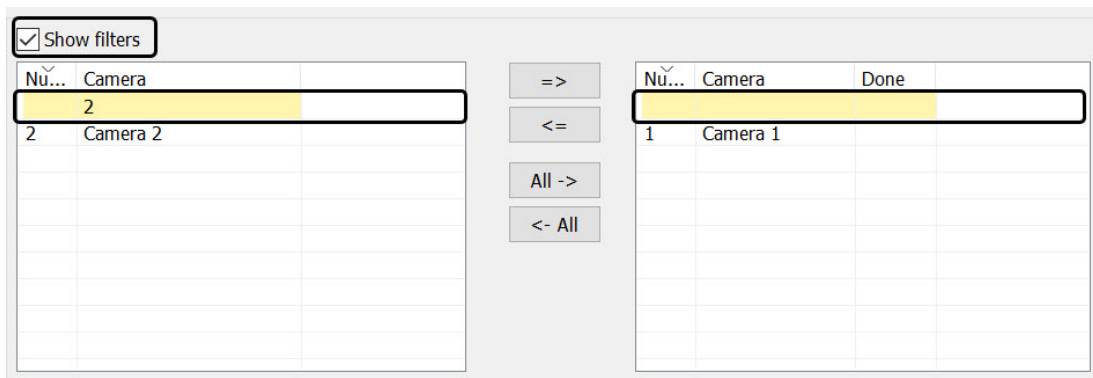


The cameras available to be selected are displayed in the left list. The cameras selected for the archive export are displayed in the right list. Select a camera in the list and use the **=>** or **<=** buttons to move the camera from one list to the other.

Use the **All ->** button to move all cameras from the left list to the right list. Use the **<- All** button to move all cameras from the right list to the left list.

The cameras in the lists can be sorted by name or by ID. Left-click the header of the corresponding column to enable sorting.

Also, the search (filtering) by name and/or camera ID function is provided to facilitate the camera lists navigation. Set the **Show filters** checkbox to perform the search. As a result, the first lines of the tables will display fields for entering the search conditions. Press Enter on the keyboard or left-click in any field, except for the search condition input field, to apply the search criteria.



**Note**

If a video camera was selected in the **Monitor**, then when you open the Export window, it will be displayed in the list on the right.

Selecting video source

**Note**

This setting is only available in the extended mode of the **Export** dialog box. Click the >> button in the bottom right corner to display it.

The AviExport utility is used for exporting the main archive as well as the backup archive, or videogate archive, or edge storage archive (see [General information on working with archives](#)).

Video source is selected from the **Video source** drop-down list.

Video source:

**Attention!**

Source selection is available if a video camera is selected—see [Selecting video cameras](#).

The following items may be available in the list:

1. **VideoServer**—export of the main archive.
2. **Backup archive**—export of the backup archive.
3. **Gate**—export of the videogate archive.
4. **Edge storage**—export archive from the Edge Storage.

**Note**

By default, an archive from the edge storage can only be exported with the container type selected; without data conversion, the export will not start (see [Selecting the format and recompression for the exported file](#)). To export from edge storage without data conversion, use the **EnabledFsForIpStorage** registry key (see [Registry keys reference guide](#)).

When configuring the Video surveillance monitor, if no **Videogate** or **Backup archive**, or **Edge Storage** (see [Selecting and configuring video cameras](#)) was selected for any camera added to the list for export (see [Selecting video cameras](#)), then the corresponding list items will not be available for selection.

**Attention!**

If **Videogate** (see [Selecting and configuring video cameras](#)) was selected for the camera added to the list for export (see [Selecting video cameras](#)) when configuring the Video surveillance monitor, then the exported video file will not contain any audio regardless of the selected video source.

If **Videogate** is used without archive, and the **Gate** source is selected, the main archive of the Video Server will be exported instead of the Videogate archive.

General export settings

**On this page:**

- [Export period](#)
- [Player](#)
- [Adding captions](#)
- [Video and captions only](#)
- [Comment](#)
- [Folder for export](#)

General settings of export consist of:

1. Export period. It is specified in the **Export period from** and **to** fields. When you start the utility, the period is set depending on the initial conditions described in the table:

**Expand table with default export periods**

Surveillance window condition at the moment of starting the <i>AviExport</i> utility	Export period, the from field	Export period, the to field
Live video mode	One hour less than the current system time	Current system time
In the archive view mode, several video fragments were selected in the list	Start time of the earliest selected fragment	End time of the last selected fragment
In the archive view mode, the last fragment of the video is selected, which is not on the first frame	One hour less than the current system time	Current system time
In the archive view mode, one video fragment is selected	Start time of the selected fragment	End time of the selected fragment
In the archive view mode, several cameras and several fragments are selected	Start time of the earliest selected fragment of the camera active at the moment of launching <i>AviExport</i>	End time of the last of the selected fragments of the camera active at the moment of launching <i>AviExport</i>

Surveillance window condition at the moment of starting the AviExport utility	Export period, the from field	Export period, the to field
Archive view mode without a selected active camera	The period will be set to the time of the selected fragment of the previous active camera if the camera is in archive mode. If there was no previous active camera, then the time of the selected fragment of any camera in the archive mode will be set if there is only one such camera. In other cases, the last hour will be set (period [one hour less than the current system time;current system time])	

The screenshot shows the AviExport utility configuration window. The 'Export period' section has 'from' and 'to' fields with dates and times. The 'Video source' is set to 'VideoServer'. The 'Player' section has 'No player' selected. The 'Export mode' section shows 'Without data conversion' as the container type and 'Original format' as the selected codec. The 'Exported file size' section has 'CD' selected. The 'Folder for writing' is set to 'C:\Users\Jane\Documents\Axxon PSIM\export'.

2. Copying of the *AxxonPSIM player* portable to the export folder is set in the **Player** radio button group:

**Note**

This setting is only available in the extended mode of the **Export** window. Click the >> button in the bottom right corner to view the setting. If it is not displayed in the extended mode, set **1** for the **AviShowPlayerSection** key of the `HKEY_LOCAL_MACHINE\SOFTWARE\AxxonSoft\AxxonPSIM\Video\AviExport` registry (see [Registry keys reference guide](#)).

- If you select **No player**, then only archive files in the specified format are exported.
- If you select **Copy player**, then `AxxonPSIM_player_portable.exe` file along with archive files are stored in the folder. The file includes a portable version of *AxxonPSIM player*. Information on how to work with this utility is given in the section [The AxxonPSIM player utility for viewing and converting the video archive](#).
- If you select **Export to exe-file**, then the archive is exported to an EXE file that can be played back without *Axxon PSIM* or *AxxonPSIM player* installed. If required, it is possible to set a password to open

the exported EXE file, which you will need to enter every time you start it. To set a password, do the following:

- i. Click the **Configure...** button. The **Export to exe setup** window opens.

The screenshot shows a dialog box titled "Export to exe setup" with a close button (X) in the top right corner. The dialog contains the following elements:

- A section titled "Password" with a "Specify password" checkbox that is checked.
- A "Password:" text input field containing four asterisks (\*\*\*\*).
- A "Password confirmation:" text input field containing four asterisks (\*\*\*\*).
- A "Show password" checkbox that is unchecked.
- At the bottom, there are "OK" and "Cancel" buttons.

- ii. Set the **Specify password** checkbox.
- iii. Enter the password and confirm it in the corresponding fields.
- iv. By default, all specified password characters are masked. If you want these characters to be displayed, then set the **Show password** checkbox.
- v. Click the **OK** button.

#### **Note**

The export of more than 10 streams to the EXE file works as follows:

For example, you export the following set of streams: 11 different cameras (camera numbers 1–11), where one video stream and two caption streams (camera number and time) are loaded for each camera, and one audio stream is loaded for cameras 1 and 11.

Once the streams are divided into groups based on the camera, the stream groups are added into a file as long as the file has space for them (the file includes only 10 streams). The remaining groups are added into a new file until all stream groups are allocated to the files. The files are named the same, but with a prefix number at the beginning: 1-, 2-, 3-, 4-...

The streams from the example are exported in the following way:

File 1: video stream from camera 1 + audio stream from camera 1 + two caption streams from camera 1, video stream from camera 2 + two caption streams from camera 2, video stream from camera 3 + two caption streams from camera 3. In total, there are 10 streams in the 1-PSIMExport 2025-02-24 11-55-37\_279 [1m5s].exe file.

File 2: video stream from camera 4 + two caption streams from camera 4, video stream from camera 5 + two caption streams from camera 5, video stream from camera 6 + two caption streams from camera 6. In total, there are nine streams in the 2-PSIMExport 2025-02-24 11-55-37\_279 [1m5s].exe file.

File 3: video stream from camera 7 + two caption streams from camera 7, video stream from camera 8 + two caption streams from camera 8, video stream from camera 9 + two caption streams from camera 9. In total, there are nine streams in the 3-PSIMExport 2025-02-24 11-55-37\_279 [1m5s].exe file.

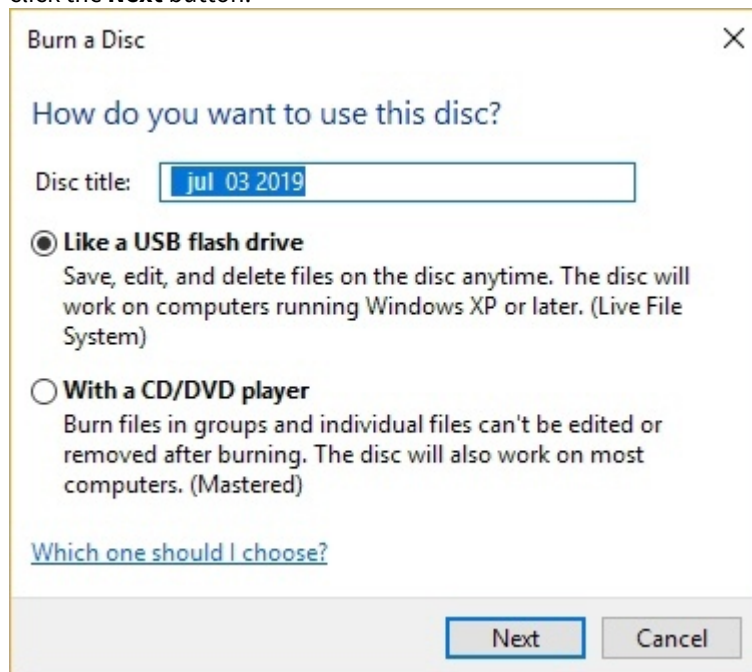
File 4: video stream from camera 10 + two caption streams from camera 10, video stream from camera 11 + audio stream from camera 11 + two caption streams from camera 11. In total, there are seven streams in the 4-PSIMExport 2025-02-24 11-55-37\_279 [1m5s].exe file.

3. Adding captions to video image. If you set the **Add captions** checkbox, then video is exported with captions saved in the captions' database. Features of adding captions:
  - a. If there are captions from POS terminals or ATMs, then these captions are also exported;
  - b. If you select the export mode without data conversion, you cannot disable captions overlay—see [Selecting the format and recompression for the exported file](#);
  - c. You can configure the parameters of the exported captions—see [Setting the parameters of caption export](#);
  - d. We recommend viewing video with captions in the *AxxonPSIM* player utility (see [The AxxonPSIM player utility for viewing and converting the video archive](#)). You can view the video with captions in other players, for example, in Windows Media Player with the caption display function enabled, though proper display of captions is not guaranteed in this case.
4. If you set the **Video and captions only** checkbox, only video and captions are exported without audio (by default, the checkbox is clear). When you export again, this setting is kept.
5. You can enter a comment in the **Comment** field. When exporting, it is saved in the “Camera\_<camera id>.txt” text file in the folder specified for writing.

6. Select a folder for export using the  button next to the **Folder for writing** field. The **Open** button is used for going to the specified folder in the Windows Explorer.

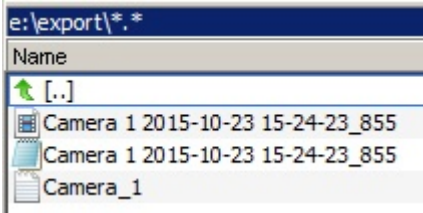
Features of folder selection:

- a. The specified path to the export folder is written to the **ExportDir** registry key located in HKLM\SOFTWARE\WOW6432Node\AxxonSoft\Axxon PSIM\Video\AviExport (see [Registry keys reference guide](#)). Please note that the same path is used to save video recordings exported from the **Monitor** or an archive period (see [Export and print out](#)).
- b. If a CD or a DVD is selected as the export destination (see [The size of the exported file](#)), the **Burn a Disc** window opens. In this window:
  - enter the disc title;
  - select **Like a USB flash drive**;
  - click the **Next** button.



- c. You can add a file to the export result using the **AviRequiredAdditionalFilePath** key of the HKLM\SOFTWARE\AxxonSoft\AxxonPSIM\Video\AviExport registry (see [Registry keys reference guide](#)).

Below is an example of the selected folder contents after export (see [Starting export](#)) with the **Add captions** checkbox set (with captions saved in a separate file) and the **Comment** field filled in:



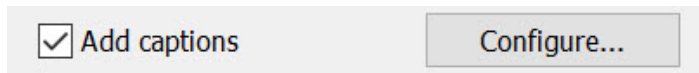
General export settings are complete.

Setting the parameters of caption export

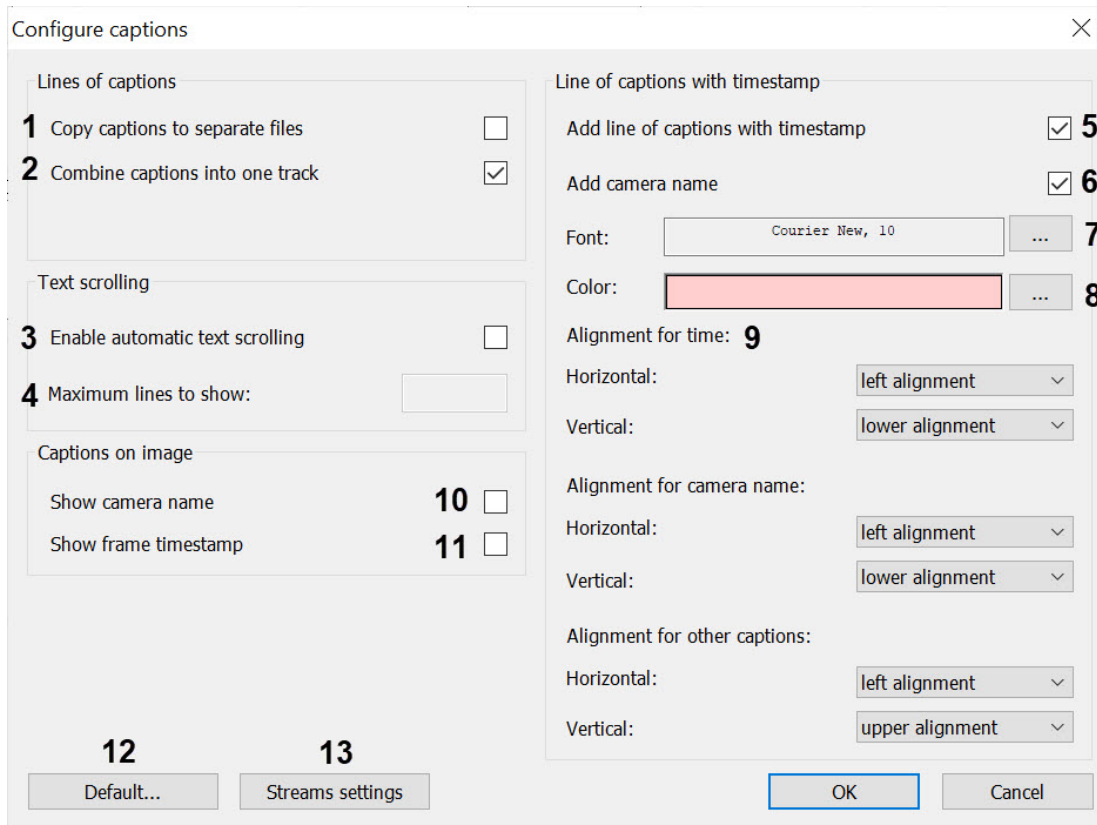
**Note**

This setting is only available if the **Export** window is expanded. If the setting is not displayed, click the >> button in the bottom right corner of the utility window to display it.

By default, when you set the **Add captions** checkbox, only the captions stored in the captions database overlay the exported video with the default display parameters. You can change these parameters, and the captions specifying the timestamp and/or camera name can be added to the video. To do this, click the **Configure...** button next to the **Add captions** checkbox.



The **Configure captions** window opens:



You can set the following parameters in this window:

1. Export parameters of the line of captions:
  - a. The **Copy captions to separate files** checkbox enables saving the exported captions as a separate file with the .srt extension (1). The file with captions has the .srt extension and is saved to the specified folder for recording. Captions are exported as a separate line.
  - b. The **Combine captions into one track** checkbox enables saving captions of all kinds into one track (or one .srt file) (2). If the checkbox is clear, then the timestamp and camera name captions are exported separately from the captions from the captions database.

**Note**

Set both the **Copy captions to separate files** and the **Combine captions into one track** checkboxes in order to view all captions in Windows Media Player (WMP). This is due to the WMP feature: it does not allow selecting or switching the caption tracks (only enabling or disabling them).

To ensure that the caption streams combined into one track don't overlap on the video during playback, configure one of the options to display them:

- set left alignment for each stream;
- set different values of caption position for each stream using the X and Y coordinates;
- set different alignment options for each stream.

See [Configuring caption streams](#). If you don't configure the display, captions can overlap during playback because their display areas overlap.

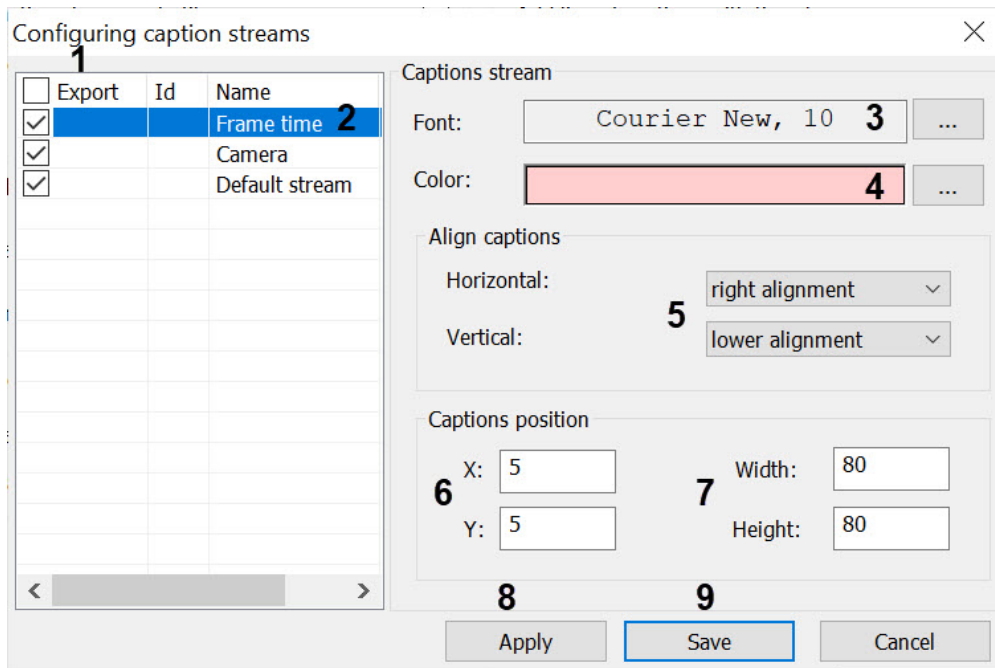
2. Text scroll parameters:
  - a. The **Enable automatic text scrolling** checkbox is used to limit the number of lines in captions overlaying the exported video (3).
  - b. The maximum number of caption lines that can overlay the video is set in the **Maximum lines to show** field (4). If there are more lines in the captions that must be displayed in the video, then the lines are displayed in parts with a one-second interval between the parts.
3. The captions with timestamp and date can be added as a track or built-in over the video.
  - a. Parameters of line of captions with timestamp and camera name:
    - i. The **Add line of captions with timestamp** checkbox enables overlaying a line of captions with camera timestamp and date on the exported video (5).
    - ii. The **Add camera name** checkbox enables overlaying a line of captions with the camera name on the exported video (6).
    - iii. The **Font** button opens the standard Windows OS window for setting the parameters of the caption fonts (7).
    - iv. The **Color** button opens the standard Windows OS window for selecting the caption color (8).
    - v. The **Horizontal alignment** and **Vertical alignment** drop-down lists allow positioning of the timestamp, camera name, and other captions on the video (9).
  - b. Parameters of the built-in captions:
    - i. The **Show camera name** checkbox enables the built-in captions with the camera name (10). These captions are always located in the bottom left corner on the exported video.
    - ii. The **Show frame timestamp** checkbox enables the built-in captions with the frame timestamp (11). These captions are always located in the bottom right corner on the video.

**Note**

Use FontCamNameHeight, FontCamTimeHeight, ExportFontAdaptive registry keys to set the built-in captions size (see [Registry keys reference guide](#)).

If it is necessary to return to the default settings, click the **Default...** button (12).

If it is necessary to apply the settings specified in the **Captioner** object for the captions (see [Configuring captions display on a video image](#)), click the **Streams settings** button (13). The window for configuring caption streams opens:



You can set the following parameters in this window:

1. Set the checkboxes in the **Export** column for those caption streams that must be displayed in the exported video file (1).
2. Configure the settings of the displayed stream:
  - a. Left-click the required stream to select it (2).
  - b. To configure the font, click the  button next to the **Font** field (3). The button opens a standard Windows OS window for setting the parameters of the caption font.
  - c. To configure the color, click the  button next to the **Color** field (4). The button opens a standard Windows OS window for selecting the caption color.
  - d. In the **Horizontal** and **Vertical** drop-down lists, select the captions alignment option (5).
  - e. Set the coordinates of the upper left corner of the captions display area: the **X** (horizontal indent from the left screen border) and the **Y** (vertical indent from the upper screen border) fields (6).
  - f. Set the dimensions of the captions display area: the **Width** (captions display area width) and the **Height** (captions display area height) fields (7).
  - g. Click the **Apply** button to save the specified settings (8).
3. Configure settings for other streams by repeating the sub-steps from step 2.
4. Click the **Save** button (9).

Setting the parameters of caption export is complete.

Selecting the format and recompression for the exported file

**On this page:**

- Selecting the format of the exported file
- Video converting format
- Audio converting format

**Note**

This setting is only available in the extended mode of the **Export** window. If the setting isn't displayed, click the >> button in the bottom right corner to display it.

Selecting the format of the exported file

Configuring the **Export mode** means selecting the format of a file (container type) and codec (original or specified recompression):

Export mode

Container type:  
 avi

Select codec  
 Original format       Recompression

Display as on monitor screen

Video

Audio

Different combinations of settings and their limitations are described in the table:

Container type	Codec	Result	Limitations and features
<b>Without data conversion</b>	<b>Original format</b>	Export is performed in the format of <i>Axxon PSIM</i> file system, that is, the format in which archive is stored on a disk	<p>Export without conversion is not available for external repositories by default. For this option to be available, it is necessary to use the <b>EnabledFsForIpStorage</b> registry key (see <a href="#">Registry keys reference guide</a>).</p> <ol style="list-style-type: none"> <li>The following functions are NOT available in this mode: <ul style="list-style-type: none"> <li>Watermark is not added to the video image.</li> <li>Captions enabling and disabling are not available when exporting. If an archive recording has captions, they will be exported. When switching to the <b>without data conversion</b> position, the <b>Add captions</b> checkbox is set automatically and becomes unavailable for editing.</li> <li>The conversion is not available—the <b>Display as on monitor screen</b> checkbox is unavailable.</li> <li>Export in the .exe format is not available</li> </ul> </li> </ol>
<b>AVI / MKV / MP4 / FLV / ASF</b>	<b>Original format</b>	Export to the selected format is performed without recompression (without changing of the codec)	Watermark is added to the video image. It is displayed over the video image when playing back the video archive in the <i>Axxon Player</i> utility (see <a href="#">Watermarks</a> )

Container type	Codec	Result	Limitations and features																		
<p><b>AVI / MKV / MP4 / FLV / ASF</b></p>	<p><b>Recompression</b></p>	<p>Export to the selected format with the selected audio and video codec. Video codec is specified using the <b>Video format</b> button, audio codec is specified using the <b>Audio format</b> button (described below)</p>	<div style="border: 1px solid #ccc; padding: 10px; background-color: #fff9c4;"> <p><b>⚠ Attention!</b></p> <p>The availability of the codec (recompression method) depends on the selected container (file format). <b>Expand the table of the container and codec compatibility</b></p> <p>Available codecs when exporting with recompression:</p> <table border="1" data-bbox="1086 757 1401 1872"> <thead> <tr> <th data-bbox="1086 757 1142 1234">C o d e c / c o n t a i n e r</th> <th data-bbox="1142 757 1193 1234">A V I</th> <th data-bbox="1193 757 1244 1234">A S F</th> <th data-bbox="1244 757 1295 1234">F L V</th> <th data-bbox="1295 757 1347 1234">M K V</th> <th data-bbox="1347 757 1401 1234">M P 4</th> </tr> </thead> <tbody> <tr> <td data-bbox="1086 1234 1142 1458">I n t e l Y U V</td> <td data-bbox="1142 1234 1193 1458">+</td> <td data-bbox="1193 1234 1244 1458">-</td> <td data-bbox="1244 1234 1295 1458">-</td> <td data-bbox="1295 1234 1347 1458">-</td> <td data-bbox="1347 1234 1401 1458">-</td> </tr> <tr> <td data-bbox="1086 1458 1142 1872">M i c r o s o f t V i d e o 1</td> <td data-bbox="1142 1458 1193 1872">+</td> <td data-bbox="1193 1458 1244 1872">+</td> <td data-bbox="1244 1458 1295 1872">-</td> <td data-bbox="1295 1458 1347 1872">-</td> <td data-bbox="1347 1458 1401 1872">-</td> </tr> </tbody> </table> </div>	C o d e c / c o n t a i n e r	A V I	A S F	F L V	M K V	M P 4	I n t e l Y U V	+	-	-	-	-	M i c r o s o f t V i d e o 1	+	+	-	-	-
C o d e c / c o n t a i n e r	A V I	A S F	F L V	M K V	M P 4																
I n t e l Y U V	+	-	-	-	-																
M i c r o s o f t V i d e o 1	+	+	-	-	-																

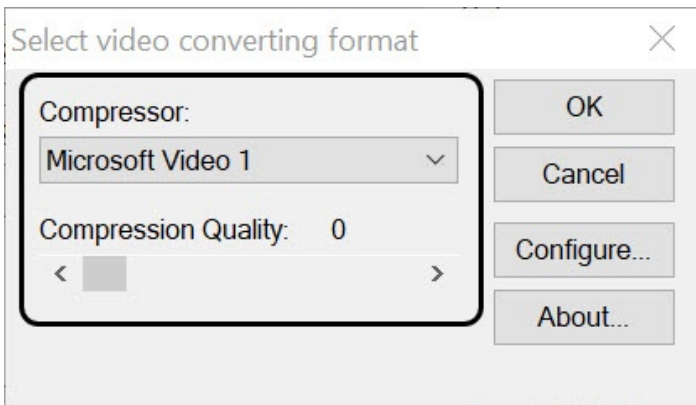
Container type	Codec	Result	Limitations and features									
			x 2 6 4	+	+	+	+	+	+			
L a g a r i t h L o s s e s s	+	+								-	-	-
F u l l F r a m e s	+	-								-	-	-

Features:

Container type	Codec	Result	Limitations and features
			<ul style="list-style-type: none"> <li>• If fisheye conversion, rotation, or scaling is applied to the image in the <b>Surveillance window</b>, then in order to export the video using this conversion, it is necessary to set the <b>Display as on monitor screen</b> checkbox (see <a href="#">Image processing</a>). The video is stored in the archive in the original format, and when being exported, the video angle is selected at the current moment for the camera in the <b>Surveillance window</b>.</li> <li>• Watermark is added to the video image. It is displayed over the video image when playing back the video archive in the <i>Axxon Player</i> utility (see <a href="#">Watermarks</a>).</li> <li>• The 100 FPS value is displayed in the properties of the exported AVI file. This value is set by the software, as the frames of the original video can be arranged unevenly. When exporting, frames are distributed so that the final AVI file is played back smoothly.</li> <li>• The size of the exported AVI file is limited to 1.97 GB. For other formats and modes, there is no size limit.</li> <li>• By default, if the selected export period contains a recording from several streams that have different video resolutions, then each video fragment of such a stream is exported to a separate file. It is possible to splice such video fragments into one file using the <b>UseFfmpegConcat</b> registry key (for details, see <a href="#">Registry keys reference guide</a>). In this case, the resulting exported file is in <b>MKV</b> format regardless of the selected container type</li> </ul>

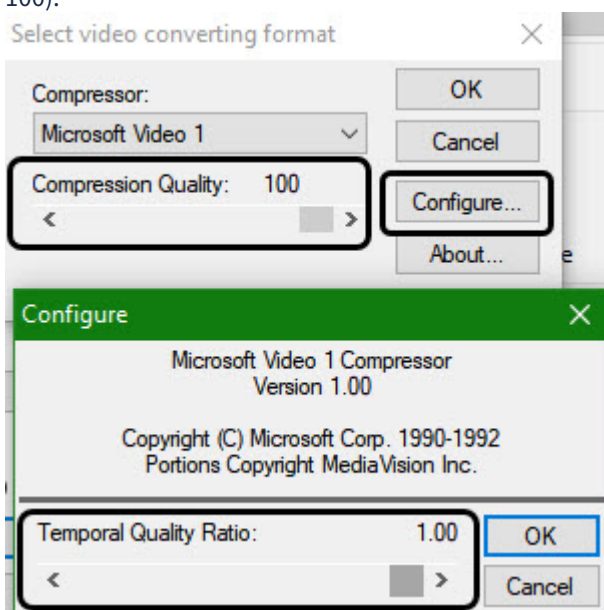
Video converting format

When you click the **Video** button, a window opens in which you can select codec and compression ratio.



Features of recompression for different formats:

- Recompression without compression is only available for **AVI** container.
- When you recompress to **Xvid MPEG4 Codec/Microsoft Video 1** format, the resulting exported file can be several seconds longer.
- When you recompress to **x264vfw-H.264 / MPEG-4 AVC codec** format, the first few seconds in the resulting exported file can be lost.
- When you recompress to **Microsoft Video 1** format, click the **Configure** button and move the **Temporal Quality Ratio** slider to the maximum value (1), and select the maximum **Compression Quality** (slider to 100):



#### Audio converting format

When you click the **Audio** button, a window opens in which you can select the format of the audio file and the set of sound quality parameters or ready settings profile.

**Note**

For the **ASF** and **MKV** containers, when you export with recompression, you must select an attribute value of 8,000 kHz or less in the PCM audio format parameter.

The size of the exported file

When you export to AVI, MKV, MP4, FLV, ASF (see [Selecting the format and recompression for the exported file](#)), you can specify the size of the exported file using the same-name switch. If the size of the exported file is larger than the specified value, then the file is divided into several parts—volumes. Positions of the **Exported file size** switch correspond to the following ways of determining the volume size:

1. **CD**—the files of this size are suitable for recording on a CD disk (670 MB).
2. **DVD**—the files of this size are suitable for recording on a DVD disk (4.7 GB, for AVI file—2 GB).

**Note**

If you select **CD** or **DVD** and the size of the archive that needs to be exported is larger than the disk size, the recording goes as follows: the part of the exported archive is recorded on the inserted disk. Then the disk drive opens for the next disk to be inserted. After you insert a new disk, the next part of the archive is recorded on it. And so on, until all video recordings are exported.

3. **Divide by alarms**—division into files is performed if there are time intervals between the records. If the recording is continuous, alarms are not considered.
4. Specify the volume size in megabytes in the text field. The AVI file must not be set to more than 2048 MB. If you set a larger value, the size of the resulting files will still not exceed 2 GB.

**Note**

Different containers have their own metadata, which increases the size of the volume (export file). If you export to an EXE file, this file must have space for the player. Thus, if the specified size of the exported file is smaller than the minimum required file size, the export completes with an error that specifies the minimum required file size. The player size, if exported to EXE, is about 18 MB.

Minimum container size:

- AVI: 1 GOP + 7% of the size of 1 GOP-MP4: 1 GOP + 3 MB
- MKV: 1 GOP + 1 MB + 1% of the size of 1 GOP
- FLV: 1 GOP + 1 MB + 2% of the size of 1 GOP
- ASF: 1 GOP + 3 MB + 3% of the size of 1 GOP

For example, when you export to an ASF container in EXE format, the minimum volume size at GOP = 1 MB is 1 MB + 3 MB + (3% \* 1 MB) + 18 MB = 22.03 MB.

When you change the period (see [General export settings](#)), the disk space required for saving the specified period of archive is automatically calculated and displayed:

Free space on disk required:	24 MB
Available:	244345 MB

Information about the required disk space is displayed when you export without data conversion and when you export in the original format, but it is not displayed when you export with recompression (see [Selecting the format and recompression for the exported file](#)). Information about available disk space is always displayed.

If there is not enough disk space to save exported files, the **Export** button (see [Starting export](#)) becomes inactive, and the "It is not enough free disk space" message is displayed at the bottom of the window.

Configure export by connecting removable media

**Note**

This setting is only available in the extended mode of the **Export** dialog box. Click >> in the bottom right corner to display it.

The AviExport utility allows exporting archive when connecting a USB or a CD/DVD to computer.

In this case, non-exported bookmarks are exporting. Information about date and time of export, exported bookmarks is displayed in the **Created bookmarks** window—see [List of bookmarks](#).

You can configure a schedule in the **Schedule** group.

**Schedule**

USB connected ▼

CD/DVD connected ▼

Set the **USB connected** checkbox and select the character of the USB if bookmarks should be exported when a USB is connected.

Set the **CD/DVD connected** checkbox and select the character of the CD/DVD if bookmarks should be exported when a CD/DVD is connected.

**Note**

Export by schedule can also be configured. Export by schedule is performed using macros or scripts and time zones. For detailed information about their creation, see [Administrator's Guide](#) and [The Script object. Programming using the JScript language.](#)

Face masking at export

When you export an archive, the *AviExport* utility allows for face masking in the exported video. This function is based on a neural network.

**Note**

Faces can also be masked on live video if the *Face detection* module is used—see [Configuring Face detection tool.](#)

Configure the following settings to make the face masking function available:

1. Install *DetectorPack* for the Remote Administrator's workstation. The distribution package and documentation are available on the AxxonSoft website: <https://www.axxonsoft.com/support/downloads/axxon-psim>
2. Enable the 64-bit modules—see [Configuring the use of 64-bit modules.](#)
3. Select the export mode with data conversion and recompression in the *AviExport* utility—see [Selecting the format and recompression for the exported file.](#)

As a result, the **Face masking** checkbox becomes available in the *AviExport* utility. If the checkbox is set, then a mask appears over the faces in the exported file.

Example of face masking in the exported video:



This function is configured using the *SmallFacesDetector.config* configuration file located in the *Axxon PSIM* installation directory in the *Modules64/caffewrapper* folder. You can configure the following parameters:

- *mode*—calculation mode: CPU or GPU.
- *deploy\_file*, *model\_file*—neural network configuration file. At the time of creating the documentation, there are only those configuration files that are used by default, so it is not required to change these parameters.

- `count_classes`—number of classification classes (default 2). Do not change this setting.
- `trek_trsh`—new face tracking threshold (default 0.2). After exceeding this threshold, face tracking is carried out taking into account the `result_filter` parameter.
- `result_filter`—confidence threshold (default 0). If the result of face recognition on the exported video is reliable with a probability above the specified threshold, then the face is considered detected. The higher the value, the less likely the false face recognition, but the greater the likelihood of skipping.

Configuration of face masking at export is complete.

Masking areas on video at export

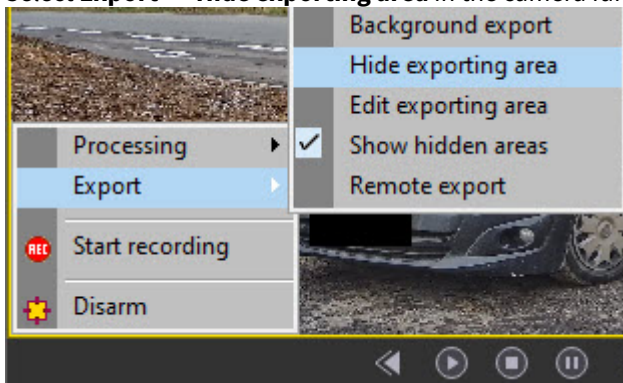
- ✓ The described functionality is affected by [Permissions to view video before and after inverted mask and hide the screen](#).

In exported videos, you can either hide any object by masking it, or hide the area around the selected object.

In order for the masked area to be displayed in the exported video file, select the export with recompression in the AviExport utility—see [Selecting the format and recompression for the exported file](#). The masked area will not be displayed if the export is performed in any other way.

You can set the mask as follows:

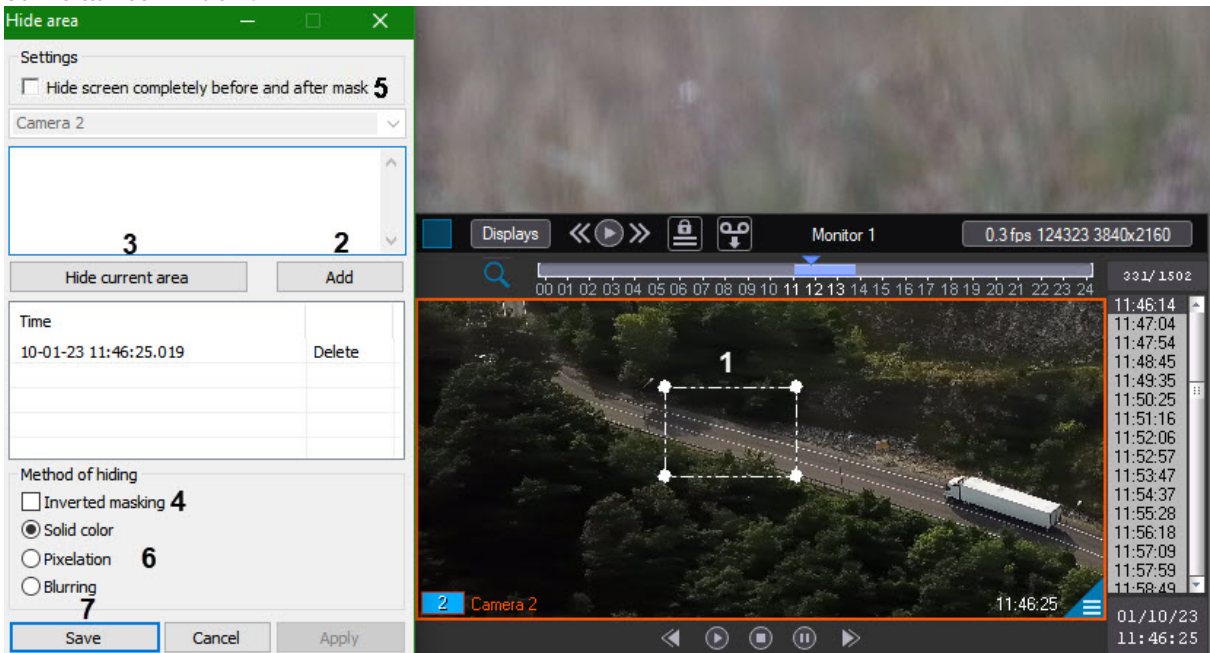
1. Go to the [archive playback mode](#)
2. Select **Export** → **Hide exporting area** in the camera function menu.



#### **Note**

Later, when viewing the archive, you can set or clear the **Show hidden areas** checkbox to hide or show the mask when playing back the archive. When setting up a mask, the checkbox must be set.

- As a result, the **Hide area** window opens, and an area with anchor points will be displayed in the **Surveillance window**.



- Find a frame on which the object appears for the first time. You can search for videos using one of the methods described in [Archive browsing](#).
- Set the required position and size of the mask by dragging an area with anchor points across the **Surveillance window** (1).
- Click **Add** in the **Hide area** window (2). As a result, the date and time of the beginning of the mask display is added to the table, and the position of the area is saved in the internal database.

**Note**  
To delete a time interval, click **Delete** in the corresponding row of the table.

- Start archive playback. If the hidden object moved, repeat steps 4-6 to set the new mask position. The mask will smoothly move between the specified points to follow the object movement.
- Repeat steps 4-7 until the object disappears from the frame.

**Note**  
You can set mask only in the first frame and in the last frame where the object is visible. However, the more points you set, the more precisely the mask hides the object.

**Note**  
For the convenience of tracking an object, you can hide the mask using the **Hide current area** button (3). When the area is hidden, the **Add** button is disabled.

- If necessary, you can enter a comment in the text field in the **Hide area** window.
- If it is necessary to hide the area around the selected object in the exported file, then set the **Inverted masking** checkbox (4). As a result, the specified mask will be displayed on the video, and the area around it will be masked.
- If, when viewing a live or archive video in the Monitor, as well as during export, it is necessary to completely hide the screen before and after the selected segment with inverted masking, set the **Hide screen**

**completely before and after mask** checkbox (5). If at the same time it is necessary that the screen is not hidden before and after when playing a live video, then set the WholeScreenHideMode key (see [Registry keys reference guide](#)).

**Note**

The **Hide screen completely before and after mask** setting works only for the **Inverted masking**. Example of use: in a video recording you want to show only the appearance of an object at a certain moment, the rest cannot be shown. In this case, an inverted mask is created around the object, and the screen before and after is hidden with the appropriate checkbox.

12. By default, the area is masked with solid black color. You can change the value of the **Method of hiding** switch (6) so that the mask looks like a blurred or pixelated area.

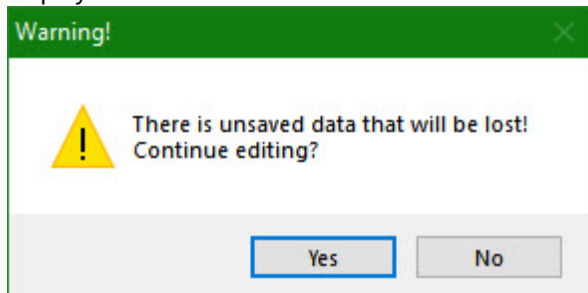
**Note**

The selected method of hiding is applied in the exported file. When viewing the archive in the Video surveillance monitor, the area is masked in black.

13. After completing the settings for masking areas, click the **Save** button (7).

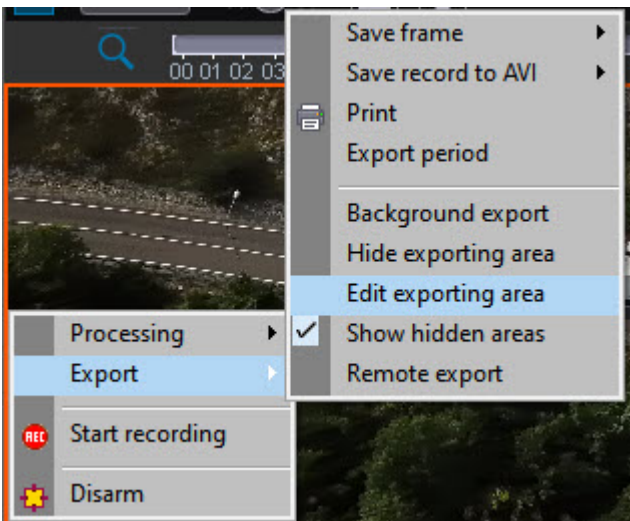
**Note**

If you do not save the changes, then when you try to close the **Hide area** window, a warning will be displayed:

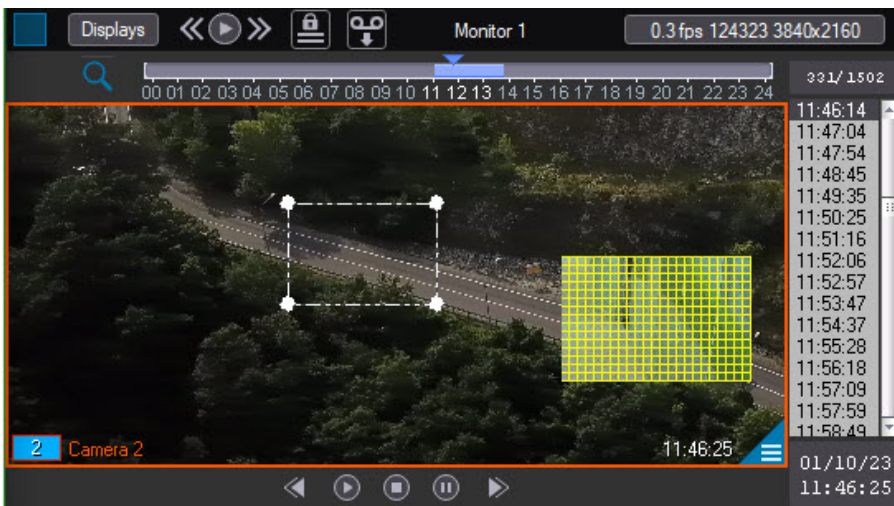


A similar window will be displayed when trying to close the archive playback mode in the Video surveillance monitor if the changes to the masking areas settings were not saved.

To change the previously created masking area, select **Export** → **Edit exporting area** in the camera function menu:



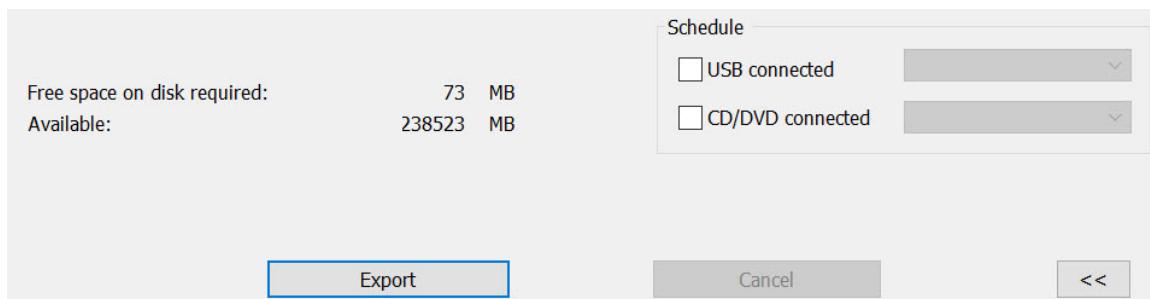
As a result, an editing window will open, in which the masked area is shown in the form of a grid:



To edit a previously created area, repeat the steps 4-13.

### Starting export

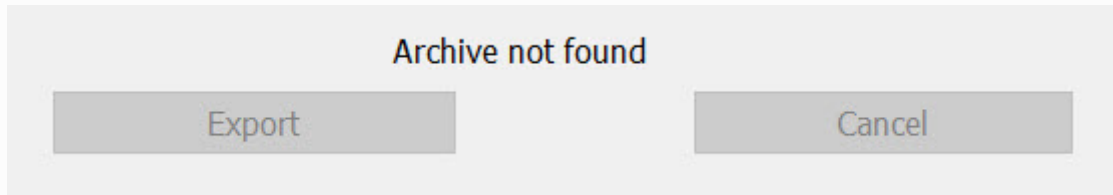
After you configure the required export parameters, click the **Export** button to start the process.



### Note

The **Export** button can be inactive if

- there are no archive files in the selected cameras for the specified period. Also, the corresponding message is displayed above the button in such a case:

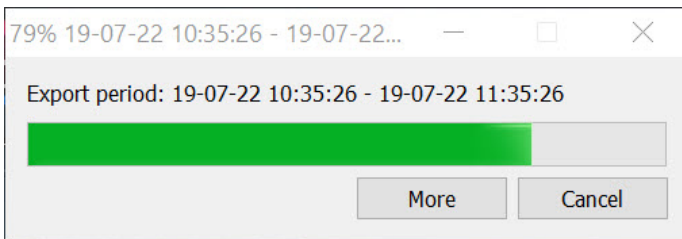


- there is not enough space to save the exported files (see [The size of the exported file](#)).

After you click the **Export** button, all elements of the utility configuration become inactive, and the bar of export progress is displayed at the bottom of the utility window. The percentage of export is displayed in the window title and next to each camera name.

You can stop export at any time by clicking the **Cancel** button.

When you minimize the AviExport utility window during export, the progress is displayed in the smaller window:




To expand the AviExport utility window, click the **More** button.

### Export result

After export is completed, a file of the specified type is created in the specified folder—for example, an AVI file with the name in the "camera\_id\_YYYY-MM-DDTHH-MM-SS.avi" format, or a VIDEO folder containing archive files if export is performed without conversion.

Export features:

1. The duration of the exported file can be longer than the specified export period. This is because the export starts with the last reference frame before the specified time period. For example, if you export 30 seconds of recording, the resulting file can be 31 seconds long.
2. If there are special characters in the camera name, such as \, /, :, \*, ?, |, ", they are replaced with underscore \_ in the file name. If videos have captions with camera name, they are displayed with special characters (see [Setting the parameters of caption export](#)).
3. If video resolution was changed during export, then the exported file is divided into several parts containing archive intervals with different resolutions. If you specify the value of the **UseFfmpegConcat** key of the HKLM\SOFTWARE\AxxonSoft\AxxonPSIM\Video\AVI registry that combines such fragments into one file (see [Registry keys reference guide](#)), the export is performed to an MKV file regardless of the selected container type. If only the codec (not the resolution) was changed during export, then the exported file won't be divided into parts. The change of codec and resolution can be caused by the selection of different streams for recording upon alarm and continuous recording—see [Configuring the multistream video](#).
4. If you select several cameras for export and at least one of them has no recorded archive in the specified time interval, the files will be successfully created, but the export will end with the "Export failed" message. The error occurs because the cameras without archive didn't generate the resulting file.

 Viewing files exported using the AviExport utility

Export is started.

## Working with the AviExport utility from command line

You can work with the AviExport utility from the command line using the AviExport.run file located in the <Axxon PSIM installation folder>\Modules folder for 32-bit Windows OS or <Axxon PSIM installation folder>\Modules64 for 64-bit Windows OS.

 **Attention!**

You can work with the AviExport utility from the command line only when *Axxon PSIM* is running.

You can use the following parameters when working with the AviExport utility from the command line:

**-format:format**—output container format. This is an optional parameter, the default is avi.

Available values:

- **fs**—*Axxon PSIM* file system;
- **avi**—avi container;
- **mkv**—mkv container;
- **asf**—asf container;
- **flv**—flv container;
- **mp4**—mp4 container.

**-extr:path**—the path to the portable version of the player (Axxon\_player\_portable.exe for x32 or Axxon\_player\_portable64.exe for x64), it also includes the exe file mapping mode. This is an optional parameter. It is disabled by default.

**-period:[start time;end time]**—general export period. Time is set in the YYYY-MM-DDThh:mm:ss format, for example, 2015-09-29T12:10:50. This is a mandatory parameter if you don't set a period for each camera.

**-periods:[start time:end time]**—specific export periods. You can set periods in the timestamp (UTC\_UNIX) format. This is a mandatory parameter if you don't set a general period. The character ":" is the separator in one period. The character ";" is the separator between periods.

Example of specific periods:

from 2024-01-31T12:00:00.000 to 2024-01-31T12:30:00.000 and from 2024-01-31T13:00:00.000 to 2024-01-31T13:30:00.000 are set this way:

periods:[1706691600000;1706693400000;1706695200000;1706697000000].

 **Attention!**

You must set periods strictly in sequence.

If a camera doesn't have its own period, use the **-period:[start time;end time]** parameter of the general period. If each camera has its own period, it isn't necessary to use the **-period:[start time;end time]** parameter of the general period.

If a camera doesn't have its own period and you don't set the general export period, then the export fails.

The example of the command line where the first camera has its own period while the second and the third cameras have one general period:

```
-period:[2024-01-31T15:00:00.000;2024-01-31T16:00:00.000]
-src:[127.0.0.1:900;id=1];audio:[auto];vcodec:[fourcc=x264;r=0;k=0;q=0];periods:
[1706691600000;1706693400000;1706695200000;1706697000000];titles:[off]
-src:[127.0.0.1:900;id=2];audio:[auto];vcodec:[fourcc=x264;r=0;k=0;q=0];titles:[off]
```

`-src:[127.0.0.1:900;id=3];audio:[auto];vcodec:[fourcc=x264;r=0;k=0;q=0];titles:[off].`

**-dst:path**—path to the file or folder. If the path ends with the ‘\’ character, then it is identified as a path to the folder, and file names are generated automatically. The path is always identified as the path to the folder when exporting to *Axxon PSIM* file system. If the path doesn't exist, then the utility tries to create it automatically. This is a mandatory parameter.

**-src:[path to source]**—data source (audio and video) and its parameters. You must specify at least one or more data sources. There are the following ways to specify a path:

1. [ip address:port;id=camera ID]. Example `-src:[127.0.0.1:900;id=5]`
2. [ip address:port;id=camera ID;ipstorage\_id=Edge storage ID]. This is for Edge storage archive export. Example `-src:[127.0.0.1:900;id=500;ipstorage_id=500]`

After you specify the data source via the ";" separator, you can add optional parameters:

- **vcodec:value**—video codec settings. It isn't used when packing to the *Axxon PSIM* file system is performed. Available values:
  - **vcodec:auto**—bin packing with no conversion (used by default).
  - **vcodec:axxn**—bin packing with no conversion (AXXN codec is specified).
  - **vcodec:[codec parameters]**—for example, `vcodec:[fourcc=DIVX;r=-1;k=-1;q=6]`
- **audio:value**—audio source settings. Available values:
  - **audio:auto**—audio is exported automatically if it is configured and present in the archive (used by default).
  - **audio:off**—audio isn't exported for this camera.
  - **audio:[path]**—path to the audio source in the [ip address:port;id= microphone ID] or ["path to Axxon PSIM archive";id=microphone ID] format.
- **titles:[parameters]**—titles settings. It isn't used when packing to the *Axxon PSIM* file system is performed. Parameters:
  - **int**—titles are exported in the bin body.
  - **ext**—titles are exported to an external .srt file. By default, titles aren't exported.

**-options:[parameters]**—additional export parameters. All parameters are optional. It isn't used when packing to the *Axxon PSIM* file system is performed. Possible parameters:

- **holesplit=[number]**—time (in milliseconds) allowed between archive intervals during which intervals are merged in one file. If the time between intervals exceeds the specified value, then there is no merging. The following data is recorded to a new file. By default, all intervals are merged. When multiple channels are exported into the .avi file, the parameter isn't used.
- **maxsize=[number]**—maximum size of a file (in MB). If the size is exceeded, then the following data is recorded to a new file. The maximum allowed value as well as the default value is 4096.
- **duration=[number]**—maximum duration of one file (in seconds). If the duration is exceeded, then the following data is recorded to a new file. By default, there is no duration limit.

Export examples with different codecs:

- **DIVX:**  
`-dst:"E:\test\export1\" -format:avi -extr:"E:\test\export1\Axxon_player_portable.exe" -src:  
 [127.0.0.1:900;id=5];vcodec:[fourcc=DIVX;r=-1;k=-1;q=6];audio:[127.0.0.1:910;id=2];titles:[ext;int] -period:  
 [2015-09-29T12:10:50;2015-09-29T12:40:50]`
- **xvid mpeg-4:**  
`-dst:"C:\Users\AxxonSoft\Documents\Axxon PSIM\export\" -tmp:"C:\Users\AxxonSoft\Documents\Axxon  
 PSIM\export\132CCBFA-18F3-E811-AA66-1C1B0DE52EED\" -format:avi -period:  
 [2018-11-28T17:20:00.000;2018-11-28T17:21:00.000] -options:[maxsize=670] -src:[127.0.0.1:900;id=1];vcodec:  
 [fourcc=xvid;r=0;k=0;q=0];titles:[ext;int]`

• **x264vfw:**

```
-dst:"C:\Users\AxxonSoft\Documents\Axxon PSIM\export\" -tmp:"C:\Users\AxxonSoft\Documents\Axxon PSIM\export\F533AE2C-19F3-E811-AA66-1C1B0DE52EED\" -format:avi -period: [2018-11-28T17:20:00.000;2018-11-28T17:21:00.000] -options:[maxsize=670] -src:[127.0.0.1:900;id=1];vcodec: [fourcc=x264;r=0;k=0;q=0];titles:[ext;int].
```

Exporting archive to a Remote Server, Remote Administrator’s workstation or Remote Client

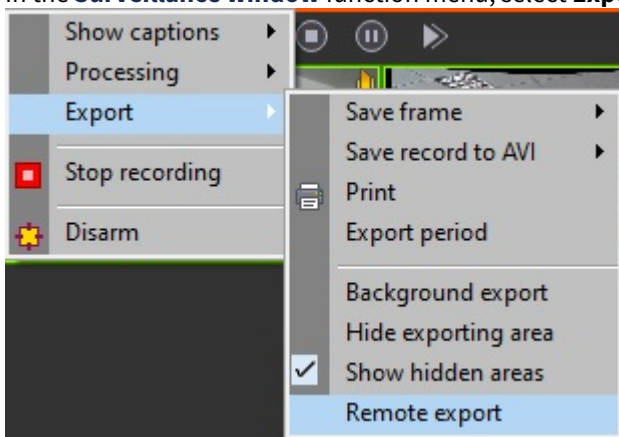
**Example**

Cases, in which the remote export can be used:

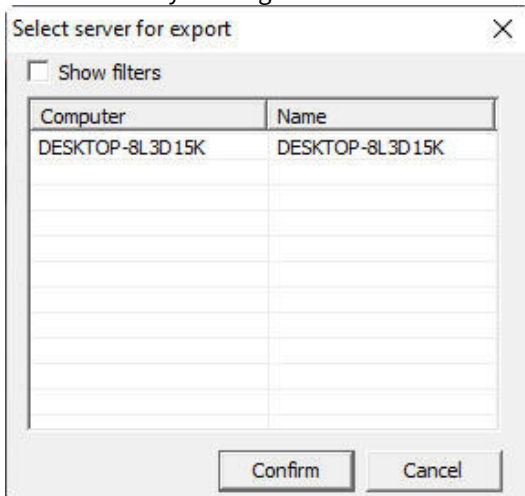
- the operator works on a Remote Client;
- the operator needs to export the video so that the resulting file is stored not locally on the Remote Client, but on a Remote Server.

To save the exported video on a Remote Server, Remote Administrator’s workstation or Remote Client, do the following:

1. Go to the archive playback mode.
2. In the **Surveillance window** function menu, select **Export** → **Remote export**.



3. In the **Select server for export** window that opens, select the computer on which the resulting export file will be saved by clicking its name.



**Note**

The list displays all computers available to this Server, Remote Administrator's workstation or Remote Client (see [Configuration of distributed architecture](#)).  
To find the required computer using a filter, set the **Show filters** checkbox. As a result, the top line will turn yellow. Specify a filtering condition in this line and then select a computer from the list of filtered results.

4. Click **Confirm**.

As a result, the AviExport utility window will open. In this window, specify the export settings and initiate the export –see [Working with the AviExport utility](#).

The resulting export file will be saved on the selected Remote Server, Remote Administrator's workstation or Remote Client.

### Viewing files exported using the AviExport utility

You can use any player to view the exported videos, but note that different players have different sets of built-in codecs for video playback, that is why it is necessary to choose a player depending on the required format and recompression of the file (see [Selecting the format and recompression for the exported file](#)).

Below is the example list of players that can be used to view the videos exported using the AviExport utility:

1. Axxon Player. Files in .mkv, .mov, .mp4, .asf, .flv, and .avi formats are supported, as well as *Axxon PSIM* file system format (see [The Axxon Player User Guide](#)).
2. VLC Media Player. For supported file formats, see the official documentation: <https://docs.videolan.me/>.
3. Windows Media Player. Additional installation of the K-Lite codec pack is required to play most formats (see the official website <https://www.codecguide.com/>). For example, if x264 recompression is selected, the following file formats are supported:

K-Lite codec pack	Container type	Can be viewed using Windows Media Player
Not installed	asf	⊖
	avi	✓
	flv	⊖
	mkv	⊖
	mp4	⊖
Installed	asf	⊖
	avi	✓
	flv	✓

K-Lite codec pack	Container type	Can be viewed using Windows Media Player
	mkv	✓
	mp4	✓

## 4.4 Audio player operation

### 4.4.1 General information about audio surveillance

The audio recording surveillance subsystem allows audio monitoring (eavesdropping on the audio component of the events) and audio recording (recording the audio component of the events), supporting the following functions:

1. Audio monitoring;
2. Synchro recording of audio and video signals;
3. Setting audio recording mode by the Operator's command and using acoustic start;
4. Export of audio recordings.


**Note.**

Operations with the audio monitoring (audio surveillance) subsystem are enabled through the connection of earphones or any other acoustic device to the sound card of the PC.


### 4.4.2 Listening to the audio signal through microphones

#### Listening to audio signals through the microphones configured to the synchro recordings




You can listen to audio signals from a microphone configured for recording by acoustic trigger and by the Operator's command using the Audio Player.

To listen to incoming audio signals from the microphone, matching the given Camera window, use the  button shown in the upper right corner of the window.




If the  button is shown red, it means that listening to the audio signal with the given microphone is currently on.



To enable listening, click  with the left mouse button, and the  button will become red. To disable listening, click  again.

**Note.**


If no microphones are selected for synchro recording with a camera, the  button will not be displayed in the Video surveillance window for that camera.

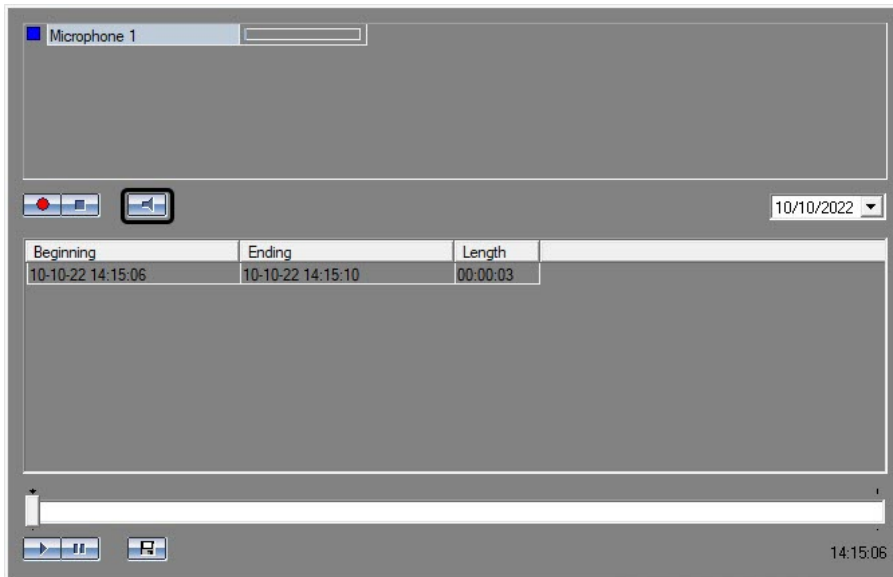
If you hide the **Display** under which the **Audio Player** is created to play the synchro audio signal, the audio signal will not be played.



To get information on configuring listening to audio signals through the microphones configured to the synchro recordings see the [Configuring audio signals playback using the video monitor](#) section of the [Administrator's Guide](#).

## Listening to audio signals through the microphones initiated through acoustic start and operator commands

Listening to the audio signals through the microphones initiated through acoustic start and Operator commands uses the audio player.

To enable and disable listening, the  button is used.



If the button is displayed like , it means that audio signal listening through the microphone is on at the moment. If the button is displayed like  this indicates that the listening mode is off.

### Note.

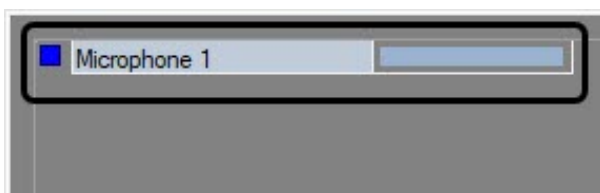
If the **Display** object, on the basis of which the **Audio Player** object was created, is assigned to several computers in the distributed system, then commands to enable and disable listening are performed simultaneously on all computers where this **Audio Player** is displayed. If the display with the **Audio Player** is hidden on a computer, the command to start listening is not executed on that computer.

## 4.4.3 Microphone arming and disarming

Microphones are armed to use audio recording initiated by acoustic start (see the [Recording by audio trigger](#) section).

### Microphone status indication


The microphone status indicator is shown in front of the corresponding name of the microphone as enumerated in the list of microphones.



Microphone status indication is shown in the table.

Indicator Color	Microphone status	Comments
Blue	Microphone is ready for recording, but is not armed	Signal strength of the microphone exceeds the threshold level, required to start recording
Red	Microphone is recording, alarm was triggered	
Green	Microphone is not ready for recording, and is not armed	Signal strength of the microphone is lower than the threshold level, required to start recording
Yellow	The microphone is armed	


### Arming the microphone

To arm a microphone, select it in the microphone list and click .



If the signal strength of the microphone, while being armed, exceeds the threshold, recording will start. Otherwise, the microphone will be armed, and recording will start, when the pre-defined threshold level of the microphone is exceeded. The current status of the recording process is indicated by the microphone indicator (see the [Recordings indication](#) section).

### Disarming the microphones

To disarm a microphone use the  button.



If the microphone is being disarmed while recording, the recording will be suspended. As soon as the microphone is disarmed, the microphone indicator becomes blue or green (see the [Recording by acoustic start](#) section).

#### 4.4.4 Audio recording of events

##### General information about audio recording

The program supports the following modes of audio recordings:

1. recordings at the Operator’s Command;
2. recordings by Acoustic Start;
3. synchronously with the video recordings.

Audio recording initiated by the Operator’s command or acoustic start uses the *Audio Player* module, while synchronous recording is controlled only through the Surveillance window.

The current status of the recording is displayed by the microphone indicator.

##### Audio recording indication


The status of microphone recording is indicated by the color.



The microphone recordings status indication is shown in the following table.

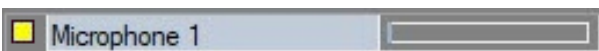
Indicator Color	Recording Status
Red	Recording is in progress
Blue	Microphone is disarmed and the sound exceeds the acoustic start threshold. No recording
Green	Microphone is disarmed and the sound does not exceed the acoustic start threshold. No recording
Yellow	Microphone is armed and the sound does not exceed the acoustic start threshold. No recording

##### Recording by audio trigger

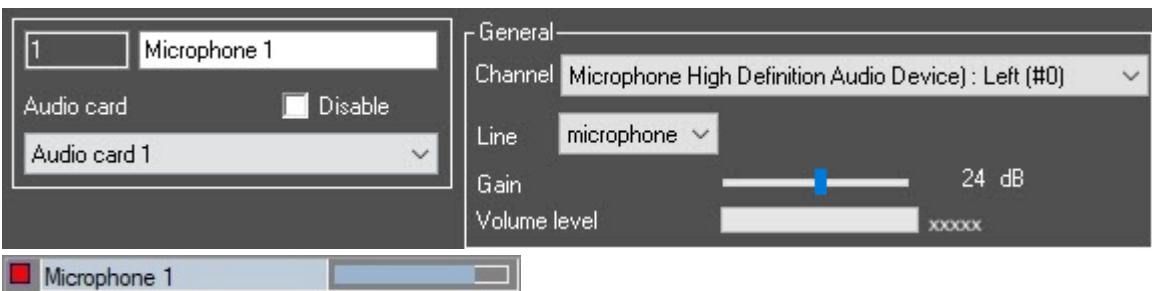
To initiate recording by audio trigger, you must arm the microphone. To arm the microphone, select it in the microphone list and click .




When you arm the microphone and its signal level is less than the threshold level of audio trigger, the microphone status indicator turns yellow.




When you arm the microphone (or at any time after arming) and its signal level exceeds the threshold level of audio trigger, recording is initiated (the ACCU\_START event is received from the microphone, and asterisks appear to the right of the **Volume level** slider on the settings panel of the **Microphone** object), and the microphone status indicator turns red.



The recording continues as long as the microphone signal level exceeds the threshold level of audio trigger. If the microphone signal level decreases below the threshold level of audio trigger, the recording stops (the ACCU\_STOP event is received from the microphone, and asterisks disappear to the right of the **Volume level** slider on the settings panel of the **Microphone** object (Volume level ), and the microphone status indicator turns yellow.

To disarm the microphone and stop recording, click the  button.

**Note**

The  buttons are used to control recording from the microphone both by the Operator's command and by audio trigger. Selection of recording mode depends on the program settings. For more information on setting up the audio trigger recording of the **Microphone** object, see [Setting up the audio trigger recording](#).

**Recordings by the Operator's command**

To start recordings via a microphone, select it in the microphone list and click .




The microphone indicator becomes red to show that recording has started.



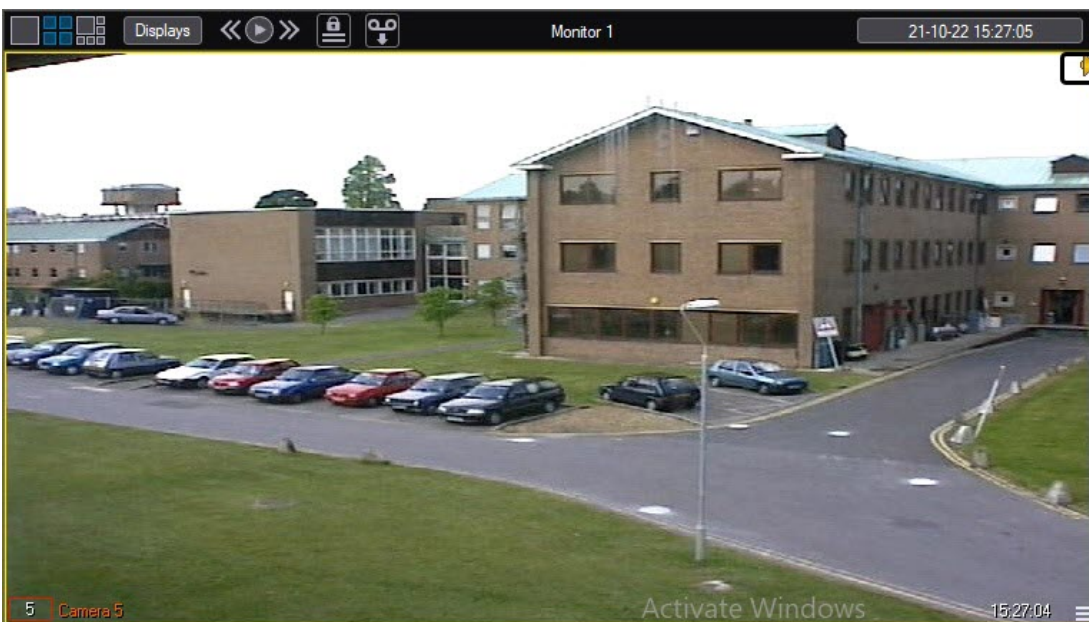
To stop the recording, press .

**Note.**

The  buttons control recordings through the microphone, initiated both by the Operator's command and by acoustic start. Selection of the recording mode depends on the program settings.

## Synchronous audio and video recordings

Video recording with synchronous audio is performed in the same way as video recording without synchronous audio (see [Synchronous playback of video and audio recordings](#)). Synchronous recording is controlled only in the Surveillance window. In this case, the synchronous recording icon is displayed in the video surveillance window, to which a microphone is associated in addition to the video camera.



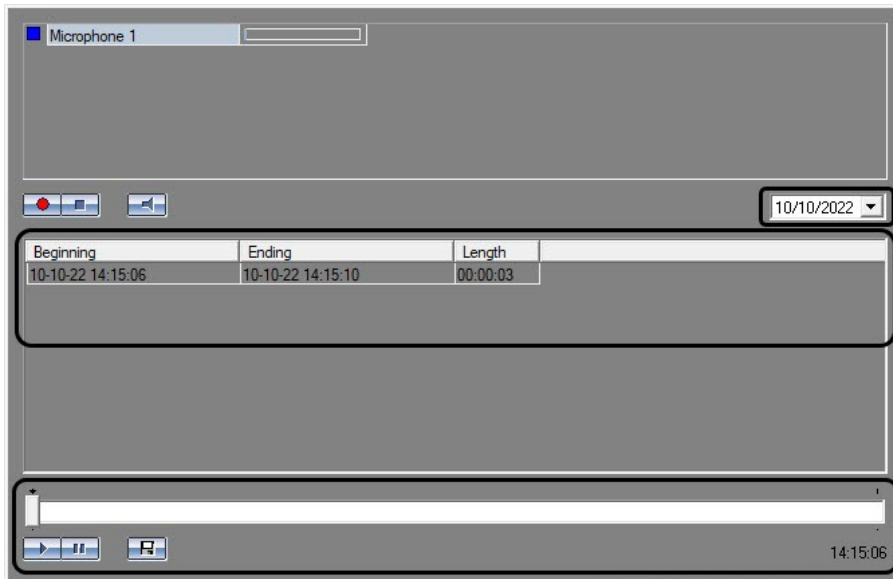
## 4.4.5 Operations with the audio archives

Archived audio recordings, depending on the method of generation thereof, may be played back either with the Audio Player or the archive viewing mode of the Camera window.

### Audio playback

General information about audio playback

Audio recordings generated at the Operator's command or by acoustic start are played back using the Audio Player.



To playback a recording, follow the steps as shown below:

1. select a microphone, which was used for the recording;
2. select the recording date (to filter the recordings made by the given microphone);
3. select the recording;
4. use the playback control panel.

Select audio recordings from the list

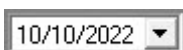
To playback a recording, select the one you need from the list, reflecting all the recordings available for the selected date (see the [Search for audio recordings by date](#) section).

Beginning	Ending	Length
10-10-22 14:15:06	10-10-22 14:15:10	00:00:03
10-10-22 14:43:49	10-10-22 14:43:57	00:00:08

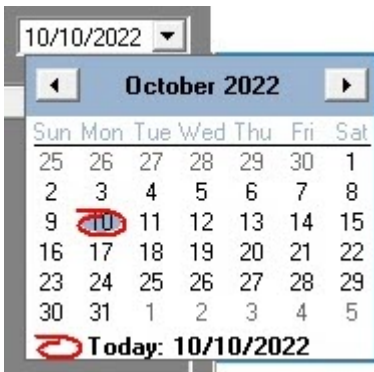
Each audio recording is described with the following attributes: beginning of recording time, end of recording time and length. To select a recording, click on the line with one of the attributes of the given recording.

Search for audio recordings by date

To select the date for viewing a list of recordings created on a certain selected date, use the field displayed above the list of audio recordings.



The date specifying can be performed as manually by entering values in fields and using the calendar tool. The calendar is opened by clicking  button in the field of date select.





The list of audio recordings is updated automatically with the selected date, whenever the recording date field is modified.

#### Audio playback control panel

The playback control panel is displayed at the bottom of the Audio Player.



The  and  buttons are designed to playback and pause playback of a selected recording. The slide is used to browse across the audio recording. The current playback position is displayed as: "HOURS:MINUTES:SECONDS" and is displayed in the right bottom corner of the playback control panel.

#### Synchro playback of audio and video recordings

The synchro audio recording is played back with the corresponding archive playback (see the [Synchronous playback of video and audio recordings](#) section). On the video image from camera with assigned microphone the icon of synchronous recording is displayed in the upper right corner.



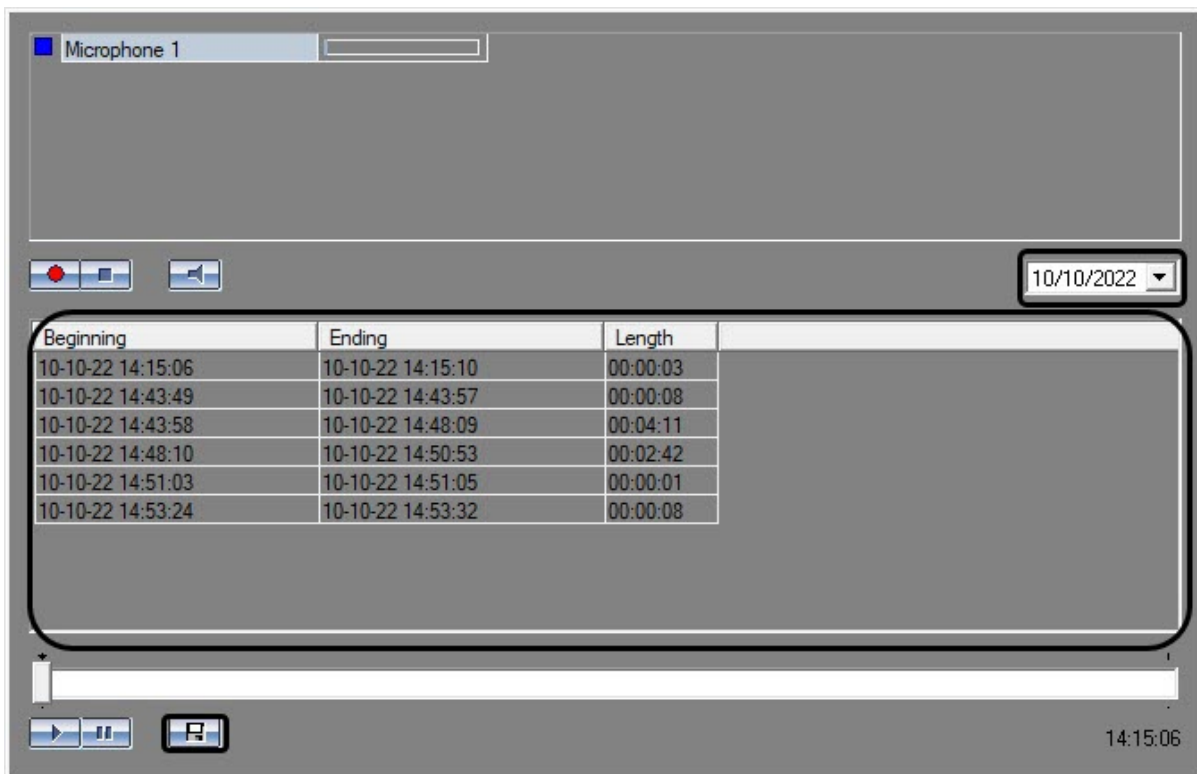
## Export of audio recordings

Export of audio recordings created by acoustic start and Operator command


File export of the audio recordings created by acoustic start or Operator command uses the Audio Player.

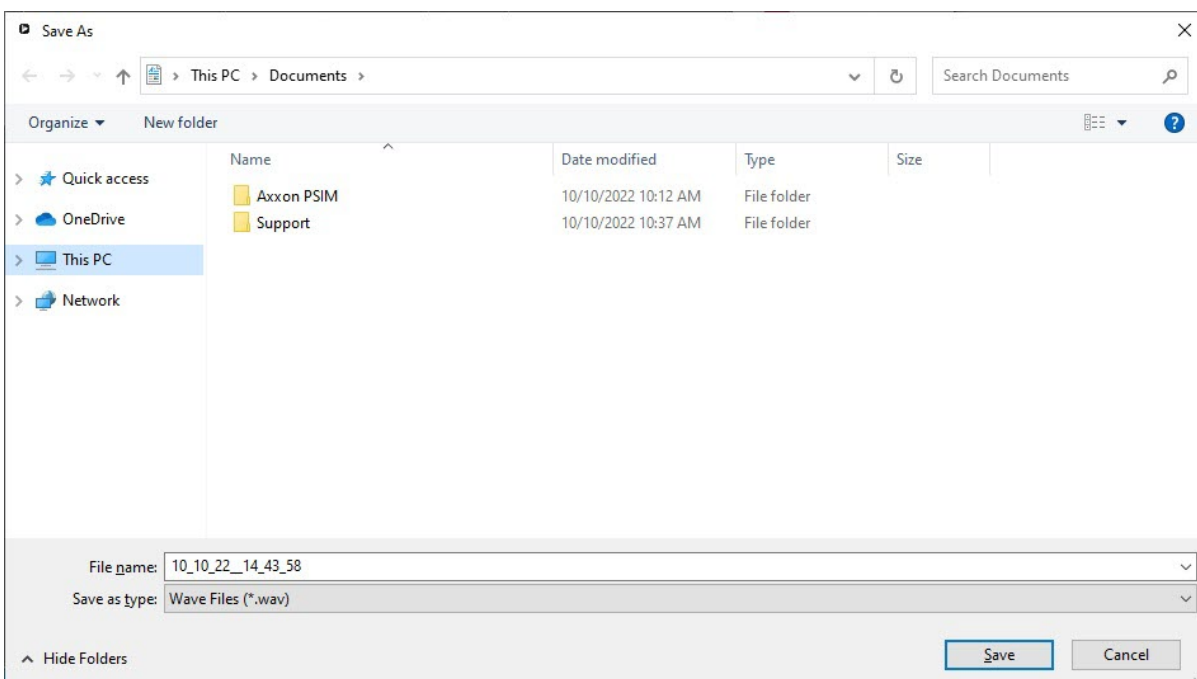
### **Important!**

Audio export is possible only in the WAV format using the ADPCM codec.



To export audio recordings, the following steps are required:

1. Select the audio recording date in the date field (displayed in the middle part of the Audio Player window);
2. Select an audio recording from the list by clicking one of its attributes (beginning of recording date, end of recording date and length of recording);
3. Click ;
4. Enter the path and file name in the displayed dialog box.

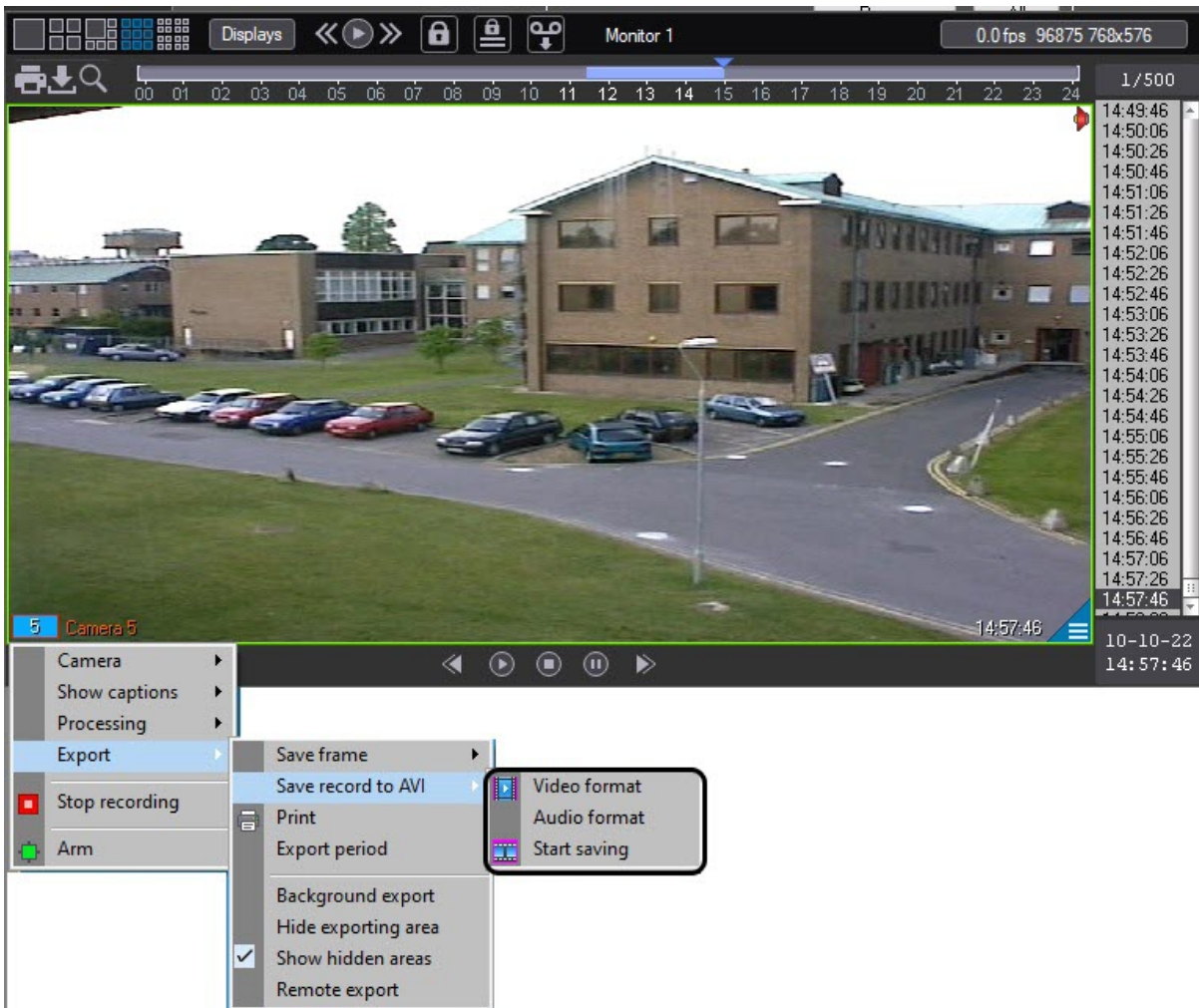


As soon as the **Save** button is pressed, the file with the given name will appear in the selected directory.

Synchro export of audio and video recordings

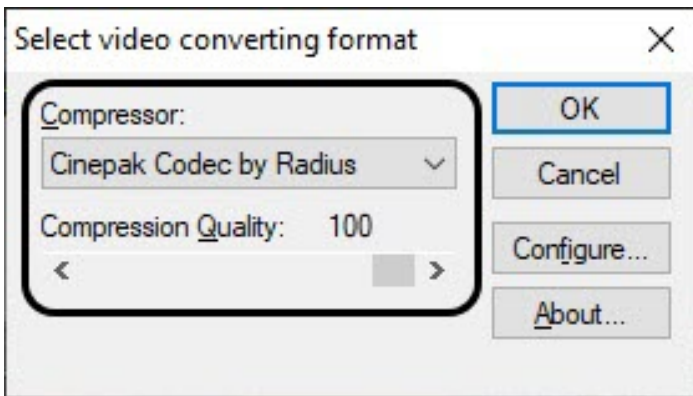
Synchro export of audio and video recordings is controlled through the playback control panel.

Choose **Export** in the functions menu of the video surveillance window and then select **Save Recording to AVI**.

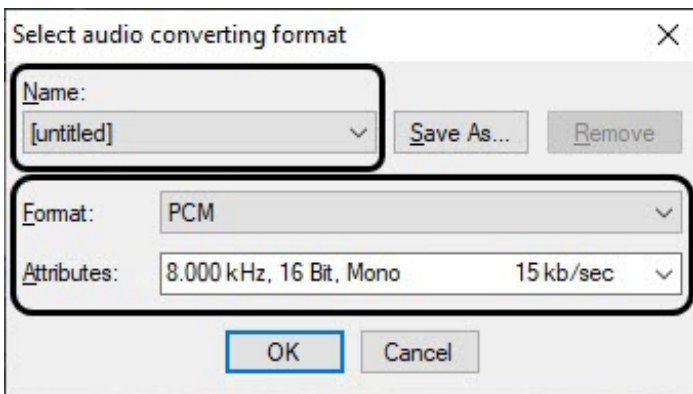


Parameters of the video and sound signals, which will be saved, may be configured in the displayed sub-menu.

Compression quality is selected in the standard Windows dialog box.



Select **Codec** in the dialog box and, if available, compression quality. Compression quality of the synchro audio recording is selected in the standard Windows dialog box.



Choose audio format in the dialog box and select a set of sound quality parameters, or a pre-defined settings profile.

As soon as recording saving parameters are selected, the video segment may be exported to the file by selecting the **Start Saving** command. The **Playback** button will be highlighted in the course of saving, whereas the playback position indicator will count down the frame currently being processed.



As soon as the video segment saving process is complete, the **Playback** button is no longer highlighted.



The file containing the saved video recording supported with sound is saved to the C:\Users\%current user name%\Documents\Axxon PSIM\export\ directory. The file name is generated as follows: <camera number> (<date> <time>). For instance, 02 (03-10-07 16'28'06).avi (file extension is controlled through the compression quality configuration).

## 4.5 Telemetry control

### 4.5.1 General information about PTZ units

PTZ units connected to the system may be controlled with the following manipulators and interface windows:

1. Keyboard;
2. Mouse;
3. Joystick;
4. Control panel;
5. Universal PTZ control panel;
6. Search box of the Operator.

### 4.5.2 Keyboard PTZ control

PTZ control of the camera can be regulated with the keyboard (hot keys). The description of hot keys is given in the table.

**Note**

To control PTZ device using the keyboard, enable the PTZ control panel. To enable the PTZ control panel, left-click on it.

The use of hotkeys is to be enabled while configuring the PTZ control panel – see [Telemetry control panel configuration](#) section in [Installing and configuring security system components guide](#).

Keys	Description
------	-------------

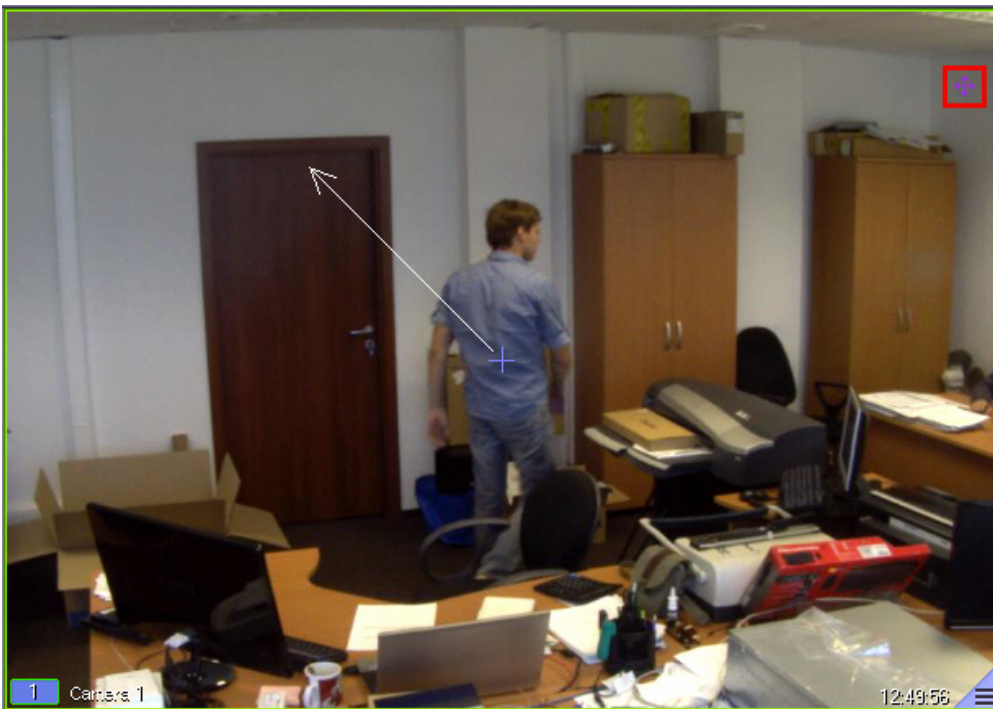
Main keyboard	Numeric (Num) keyboard	
«↑», «↓», «→», «←»	8, 2, 6, 4	Changing video lens orientation
PgUp, PgDown, Home, End	9, 3, 7, 1	Changing video lens orientation in diagonal directions
«<», «>»	no	Speed up/down video camera rotation
«+», «-»	«+», «-»	Video camera zoom in/out
no	«0», «.»	Lens focusing
no	«*»	Autofocus
<b>1-9</b>	no	Presetting



### 4.5.3 Mouse PTZ control

PTZ control of the camera can be regulated with the mouse in the Camera window corresponding to the given Camera.

 **Note.**

To control PTZ device using the mouse, enable the PTZ control panel. To enable the PTZ control panel, left-click on it.



Default functions supported by the mouse PTZ controls are given in the following table. In Axxon PSIM 4.9.5 and later versions the PTZ control mechanism has been changed. In the viewing tile corresponding to the PTZ camera there is an icon used to enable/disable PTZ control using the mouse. PTZ control using the mouse is available only when PTZ control is enabled on the camera, i.e. the icon looks like this . If the icon looks like this , then PTZ control using the mouse is not available. Enabling and disabling PTZ control using the mouse is performed by clicking the left mouse button on the icon or using the hot key combination Ctrl+L.



**⚠ Important!**

When the PTZ camera uses digital zoom, the PTZ control icon disappears and PTZ control is blocked. In particular, if exiting the archive viewing mode using digital zoom, then PTZ control will not be available. To restore PTZ control features, digital zoom is not to be in use.

New control features are used by default and their description is given in the **New function** column. If the previous PTZ control features are to be used, then set 0 value for the TelemetryMouseAlternative registry key – see [Registry keys reference guide](#).

Action	Old function	New function
Click the left mouse button	Camera's objective stop	-

Action	Old function	New function
Press and hold the left mouse button moving the pointer	Re-focus the camera lens to the mouse pointer direction	<p>Re-focus the camera lens to the mouse pointer direction (see the figure). Only half of arrow is displayed on default. To change the length of displayed arrow use the TelemetryArrowLen registry key –see the <a href="#">Registry keys reference guide</a>.</p> <p>Re-focus speed depends on how far the pointer is from center of video marked with a cross. The faster the speed, the longer the arrow.</p> <p>Camera lens can be re-focused in continuous and discrete modes. Continuous mode will be in use on default if camera supports it. Otherwise, discrete mode will be in use and camera lens is refocused in 8 directions: up, down, right, left, up-left, up-right, down-right and down-left. The continuous mode is disabled on the system configuration stage (see <a href="#">Configuring PTZ devices in Axxon PSIM™</a> section of <a href="#">Installing and configuring security system components guide</a>). To find out if a video camera supports the continuous mode see DriverPack documentation (see <a href="#">Documentation Drivers Pack</a>).</p>
Click the middle mouse button	<p>Automatic re-focus of the camera objective to the area of the mouse click (Point&amp;Click). Positioning is with the minimum rate that does not depend on the value specified on the Universal PTZ control panel. This rate can be changed in tweaki.exe tool, but it can affect the functionality performance (see <a href="#">Administrator's Guide</a>, The settings panel of the Telemetry section).</p> <div data-bbox="541 1370 1423 1688" style="border: 1px solid #ccc; padding: 10px;"> <p><b>Note.</b></p> <p>Reorientation by middle mouse click is done using <i>Axxon PSIM</i> software package algorithms and operates with any PTZ devices, however, it may operate unpredictably unstable in some cases. Use camera built-in Point&amp;Click if possible.</p> <p>Reorientation by right mouse click is calculated by the camera and will be done only if this functionality is supported by the camera driver and is integrated in the <i>Axxon PSIM</i> software package</p> </div>	
Click the right mouse butto		
Click and hold the right mouse button	<p>Point&amp;click processed by the camera driver triggers in equal time intervals. Time intervals are specified with the help of TelemetryPointAndClickDelay registry key (detail information about it see in the <a href="#">Registry keys reference guide</a> section).</p>	
Left hold	Lens zooming in	-

Action	Old function	New function
Right hold	Lens zooming out	-
Select area by moving the pointer with holding pressed the right mouse button and <b>Ctrl</b> button	Increasing and centering image in selected area (AreaZoom). <b>Note.</b> The action will be performed only if the AreaZoom functional is supported by camera driver and integrated to the Axxon PSIM software.	
<div style="border: 1px solid #ccc; padding: 5px; margin: 5px 0;"> <p><b>Note</b></p> <p>The area is selected by frame which disappears after release the mouse button.</p> </div>		
Left click combined with <b>Shift</b>	Focus In	
Right click combined with <b>Shift</b>	Focus Out	
Scrolling up	Digital zooming in	Lens zooming in
Scrolling down	Digital zooming out	Lens zooming out
Scrolling up + <b>Ctrl</b>	-	Digital zooming in
Scrolling up while PTZ control is disabled (the icon looks like this  )		
Scrolling down + <b>Ctrl</b>	-	Digital zooming out
Scrolling down while PTZ control is disabled (the icon looks like this  )		

**Note.**

The above mouse functions are not supported in the Camera windows, corresponding to the surveillance cameras without PTZ.

### 4.5.4 Joystick PTZ control

Camera PTZ may be controlled with the joystick.

Below we give an example of PTZ control with the use of the *Shuttle PRO-2* joystick.

**Note.**

Functions of the joystick in each case are configured with the program and may differ from the example given below.

The layout of *Shuttle PRO-2* joystick control elements are given in the following figure.



Example of the PTZ joystick control elements configuration is given in the table.

1. Move right-left



2. Move up-down



3. Save position preset.



4. Automated re-focus of the camera to the area of the middle mouse click.



5. Zoom in (enlarge the image)



6. Zoom out (reduce the image)



7. Increase the focal length



8. Reduce the focal length



**Note.**

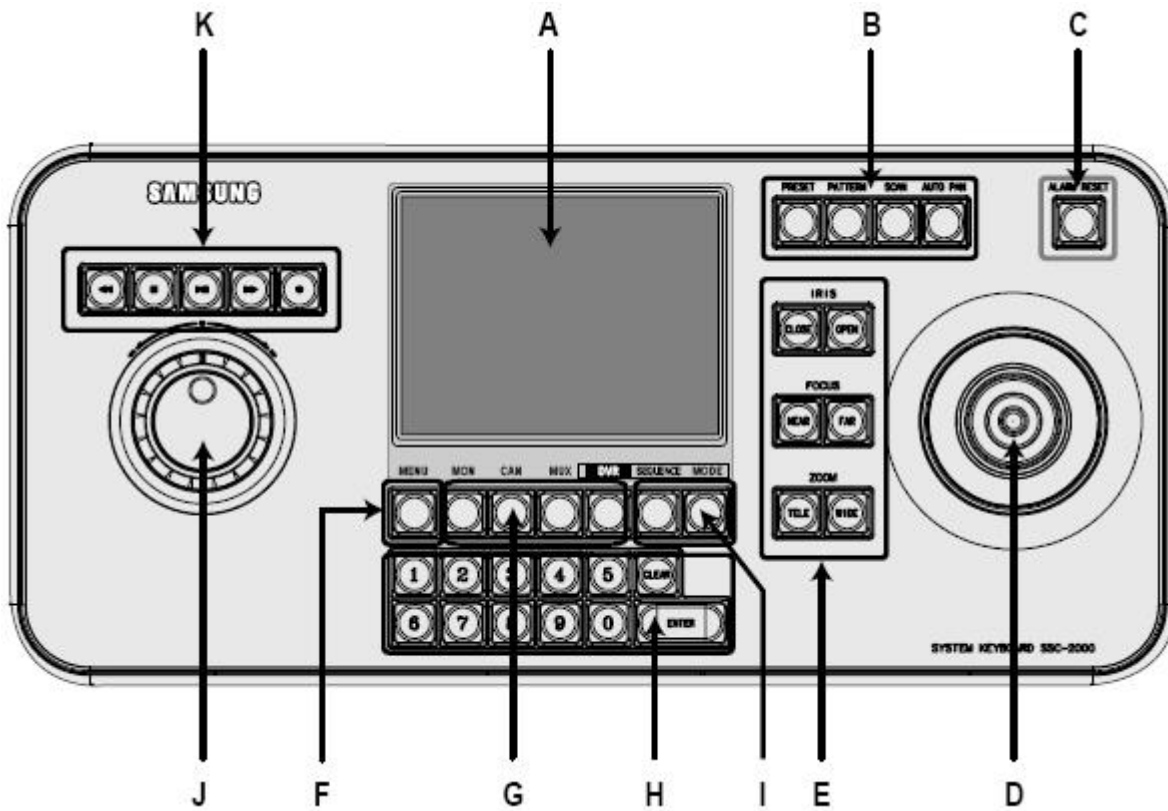
The above mouse functions are not supported in the Camera windows, corresponding to the surveillance cameras without PTZ.

### 4.5.5 PTZ control with control panel

PTZ units may also be regulated with the use of control panels – special manipulators, connected to the PC.

Below we give an example of using *Samsung SSC-2000* device to control the camera.

The layout of *Samsung SSC-2000* control elements is shown in the figure.



Samsung SSC-2000 control elements are described in the table.

Control Element	Element	Function
A	LC-display	Displays operation conditions of the control panel
B	Set of buttons to control PTZ unit focus	PRESET PATTERN SCAN AUTO PAN
C	Alarm reset button	ALARM RESET
D	Joystick for manual control of PTZ unit focus	UP DOWN LEFT RIGHT

Control Element	Element	Function
E	Set of buttons to control the camera lens (iris, focus, zoom)	IRIS CLOSE/OPEN FOCUS NEAR/FAR ZOOM TELE/WIDE
F	Menu button	Path to the control panel settings
G	Unit select button	MON/CAM/MUX/DVR
H	Digital keyboard unit	Is used to enter digits when required for control panel operations
I	Control over camera operating mode	SEQUENCE MODE
J	Rotating disk manipulator	Is used to browse across recording archives
K	Control over camera recordings and archive viewing from the camera	PLAY/PAUSE STOP FAST FORWARD REWIND RECORDING

**Note.**

For more detailed information refer to the original User Manual for the given device.

#### 4.5.6 PTZ control with Universal PTZ control panel

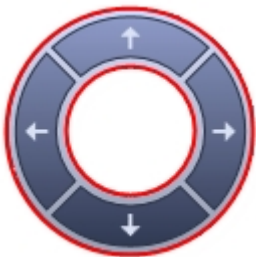
PTZ control panel allows controlling all types of PTZ devices connected to the system.

To access PTZ controls, select  from the list corresponding to the given PTZ device.



The elements of the PTZ control panel are described below.

Move camera lens up-down and left-right:



Move camera lens across and diagonally:



Camera lens stops moving while changing the orientation:



Set conditional speed of the camera lens movement while changing the focus:





**Note**

The conditional speed is set separately for each of the cameras. The default speed is 5. The set value is automatically saved for all users within one server.

Certain types of cameras allow adjusting focus and image scale.



Focus is adjusted with the following control element:



Focus is set with the  and  buttons. Apart from that, the focus may be set automatically. To do so, select **Focus** with the mouse pointer and, when the text in the box changes to **Auto**, click it with the left mouse button.

Zoom lens (zoom-in) is set with the following control elements:

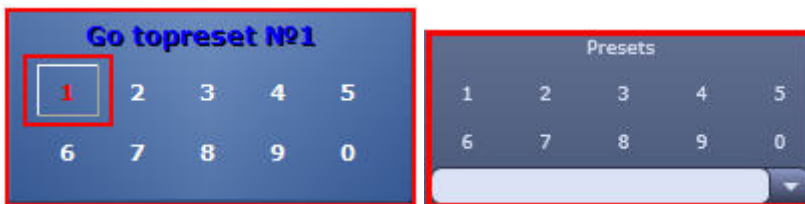


Zoom-in and zoom-out is set with the  and  buttons.

In addition, to make control of PTZ units more convenient, the PTZ units may also be controlled with the user settings. User settings include the data describing PTZ focus, as well as camera lens zoom and focus.

PTZ user settings are selected and adjusted by the **Preset** group of control elements.

To select a preset user setting, click the corresponding number of the setting with the left mouse button. After a short delay, the number of the selected setting becomes highlighted in red and the heading of the given control element group changes to **Go to preset No. <number of the selected setting>**, whereas current PTZ settings will be coordinated with the selected user setting.



To adjust a user setting, click the setting number with the left mouse button and hold it for a few seconds until the setting number becomes highlighted in red and the heading of the control elements group changes to **Save preset No. <number of the selected setting>**.



After this operation, the current settings of the PTZ unit will be recorded into the selected user setting.

**Note.**

When IP device Lilin is used, user setting is done differently:

1. set the number of user setting with the left mouse click upon it;
2. set the PTZ unit to the required position;
3. press and hold the left mouse button upon the set number of user setting for a few seconds until the number is lighted in red and text of the headline of PTZ units will be changed to **Save preset №<number of the selected setting>**.

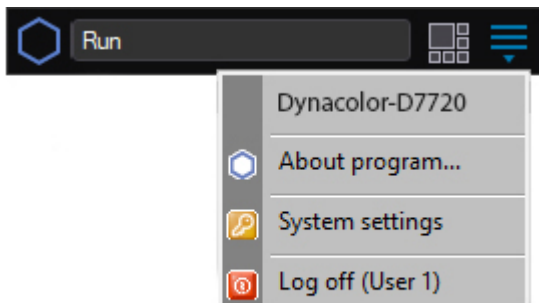
To change the size of the PTZ control window, move the mouse pointer holding the left mouse button pressed in the lower right corner of the window.

#### 4.5.7 Controlling PTZ devices with operator query panel

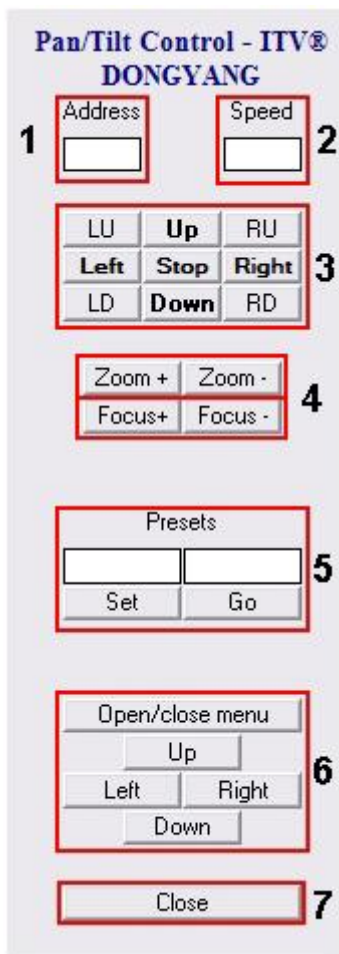
You can use the operator query panel to control specific types of PTZ devices.

Below there is an example of how to control the *Dynacolor-D7720* device.

To call up the operator query panel for controlling the PTZ device, select the **Dynacolor-D7720** item in the **Run** menu of the *Axxon PSIM* main control panel.



The appearing window allows controlling the *Dynacolor-D7720* device, which is connected to the system.



The table briefly describes the interface of the control panel of the *Dynacolor-D7720* device.

Element number	Function
1	PTZ device address
2	Conventional PTZ device speed when the direction changes
3	PTZ direction controls
4	Setting the lens zoom (zooming-in) and camera focus
5	Selecting and setting PTZ user settings (presets)
6	Access and control of the embedded OSD menu of the Dynacolor-D7720 camera

7

Hiding the Dynacolor-D7720 panel

**Note**

Each type of the specific system device has a separate control panel—operator query panel—which, in turn, has an appropriate interface and a set of functionalities. Besides, the name of the item for displaying the control panel in the **Run** menu is set while you configure the program and may differ from the name (type) of the PTZ device that corresponds to the given control panel.

## 4.6 Using sensors

A sensor is an external security device connected to the system.

The sensor may be operated in the following modes:

1. **Circuit closure:** the sensor is armed when the circuit is open, and whenever the sensor circuit is closed, an alarm event is registered.
2. **Circuit interruption:** the sensor is armed when the circuit is closed, and whenever the sensor circuit is interrupted, an alarm event is registered.

Whenever an alarm event is registered by a sensor, the Operator should confirm that the event did take place.

Each security device of the **Sensor** type is equipped with an intrusion sensor, which is a physical device, giving a specific warning to the Operator that an alarm event has occurred. The map displays symbols of the following types of intrusion sensors:

1. Infra Red;
2. Ceiling;
3. Glass;
4. Heat;
5. Window;
6. Flue gas;
7. Hermetic contact;
8. No specified type.

To operate the sensors, the Operator uses the map (see the [Using sensors](#) section) or pre-defined macro commands (**Run** menu in the main control panel).

## 4.7 Operations with relay

Relay is an external security device connected to the system.

The relay can be setup in one of the following statuses:

1. On;
2. Off.

Each executive object like relay is furnished with an executive device, which is a physical device, switched on and off with the relay. The map displays symbols of the following types of executive devices:

1. Light;
2. Acoustic alarm;
3. Lock;
4. No specified type.

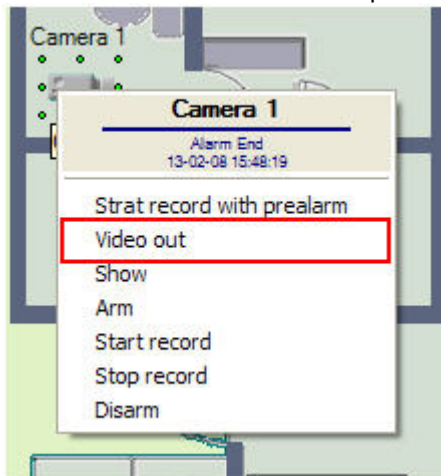
To operate the relay, the Operator uses the map (see the [Operations with the relay](#) section) or pre-defined macro commands (**Run** menu in the main control panel).

## 4.8 Video surveillance using an analog monitor

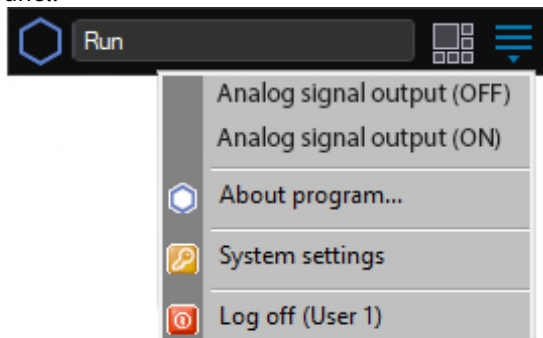
Where the program is configured in a certain way, an analog video image can be output to the external devices connected to the system (for instance, to the analog monitor).

If the program supports the above functionality, the output of the analog signal can be switched on (off) using one of the following tools:

1. Press a command in the context menu of the object on the map. To do so, use the **Video out** box (**Video in**) in the context menu of the corresponding object on the map.



2. Use a macro command to use this option, select an appropriate box in the **Run** menu of the main control panel.



### **Note.**

The availability and names of the macro commands in the **Run** menu used to switch on and off the analog signal output to the external devices, depends on the program configuration.

## 4.9 Archiving video recordings to the Backup archive

### 4.9.1 General information about archiving video recordings to the Backup archive

You can perform the archiving of video recordings to the Backup archive both manually and automatically using the Backup archive panel.

The **Monitoring** tab is used for manual control of the Backup archive. The **Schedule** tab is used to set the parameters of the Backup archive operation in automatic mode.

Backup archive panel 1

Monitoring Schedule

Archive beginning date 04.06.25 14:27:00

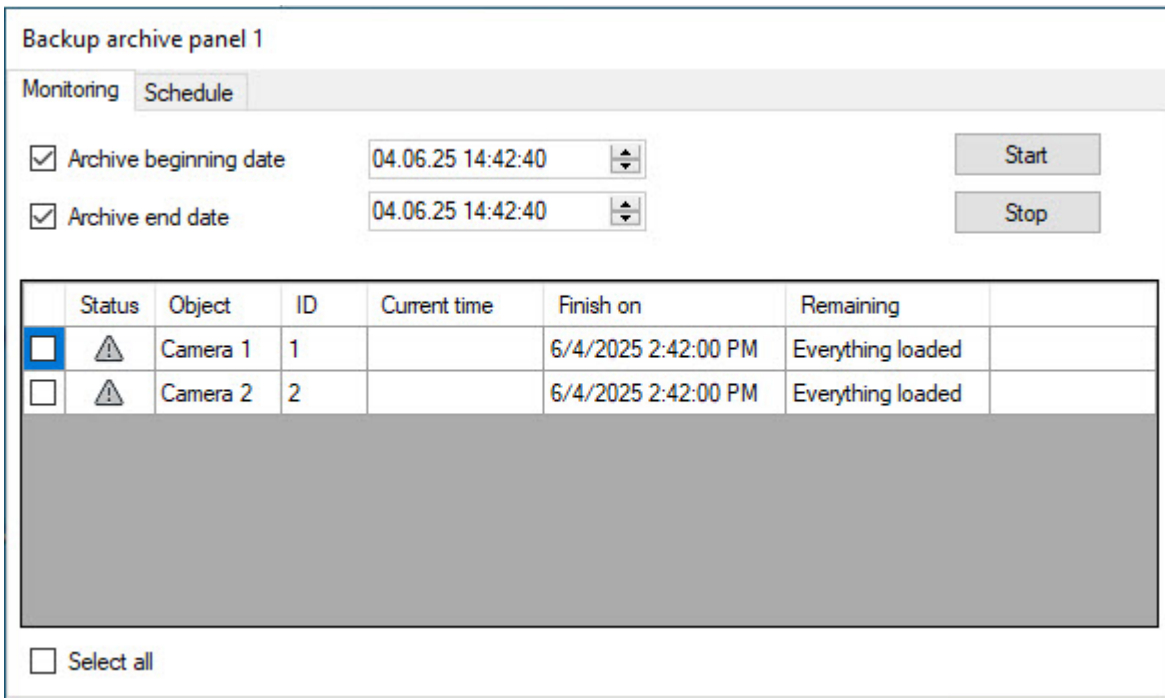
Archive end date 04.06.25 14:27:00

	Status	Object	ID	Current time	Finish on	Remaining	
<input checked="" type="checkbox"/>	⚠	Camera 1	1				
<input type="checkbox"/>	⚠	Camera 2	2				

Select all

### 4.9.2 Backup archive monitoring

Use the **Monitoring** tab on the Backup archive panel to monitor and control the Backup archive.



The table shows the status of archiving progress for all available cameras. The displayed information can differ depending on the archiving mode, [manual](#) or [automatic](#) (see the table below).

	Manual	Automatic
<b>Status</b>	Status of the archiving progress ,  —the recordings of the given camera are currently archived; —the archiving of the given camera isn't started	
<b>Object</b>	Camera name	
<b>ID</b>	Camera ID	
<b>Current time</b>	Date and time of the archive frame that is currently under processing	
<b>Finish on</b>	Time of the last archive fragment to be transferred to the Backup archive	Time set in the <b>Archive end date</b> field
<b>Remaining</b>	Number of days left to process (end time minus current time)	

Time in the **Finish on** and **Remaining** columns doesn't depend on the status of archive copying and continues to count even after the copying is completed in the manual mode or after copying is stopped by the schedule.

### 4.9.3 Manual archiving

Use the **Monitoring** tab for manual archiving.

**Backup archive panel 1**

Monitoring **Schedule**

Archive beginning date

Archive end date

	Status	Object	ID	Current time	Finish on	Remaining	
<input checked="" type="checkbox"/>		Camera 1	1		6/4/2025 2:42:00 PM	Everything loaded	
<input type="checkbox"/>		Camera 2	2		6/4/2025 2:42:00 PM	Everything loaded	

Select all

You can start and stop manual archiving using the **Start** and **Stop** buttons, respectively. Elements for setting the time interval of the archived recordings for all available cameras are to the left of the archiving controls.

To start archiving, do the following:

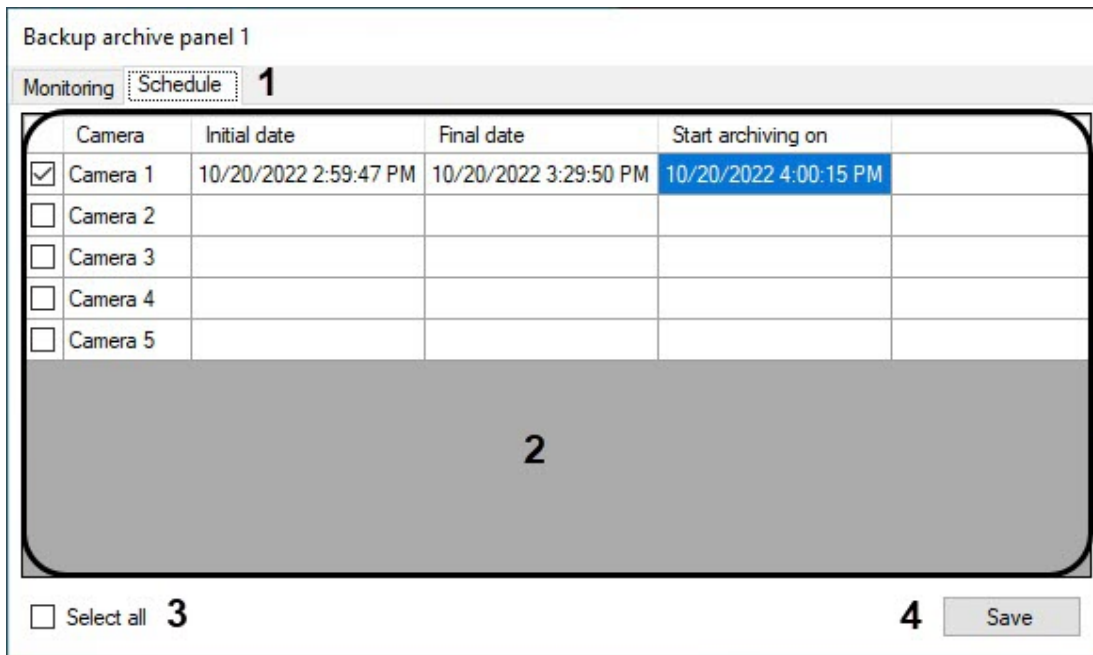
1. Specify the date and time of the archive start and end in the appropriate fields by setting the checkboxes next to them. If you don't set the start and end date and time of copying, then all existing recordings from the selected cameras are copied to the Backup archive.
2. Select the cameras from which you need to perform archiving. To select cameras, set the corresponding checkboxes next to them. In addition, the **Select all** checkbox is used to select (deselect) all cameras in the table at a time.
3. Initiate the archiving process by clicking the **Start** button. After some time, the icon appears next to the selected cameras in the **Status** column, indicating the start of archiving of recordings from the selected cameras.
4. To cancel archiving, click the **Stop** button.

**Note**

The archiving process can start with a rather long delay after you click the **Start** button.

### 4.9.4 Automatic archiving

Automated copying is configured with the **Schedule (1)**.



The table (2) shows the current schedule for copying recordings from all available cameras. Copying start and completion dates will be identified for each camera, as well as the actual start time for copying.

To activate and de-activate the specified schedule for the camera, check (double check) the corresponding box. In addition, the **Select all (3)** checkbox is used to select (or cancel the selection) all cameras in the table concurrently.

An existing schedule may be modified by changing the contents of the corresponding table cells. For instance, to modify the completion date of the first camera recording, double click **Camera 1: Completion Date**.



Specify the date and time in the appearing dialog box and click **OK**.

After setting up a schedule for all the required cameras click **Save (4)**.

**Note.**

To perform scheduled automated copying, the program should always be running, even if the Panel of Backup archive is not on.

## 4.10 Events control and processing

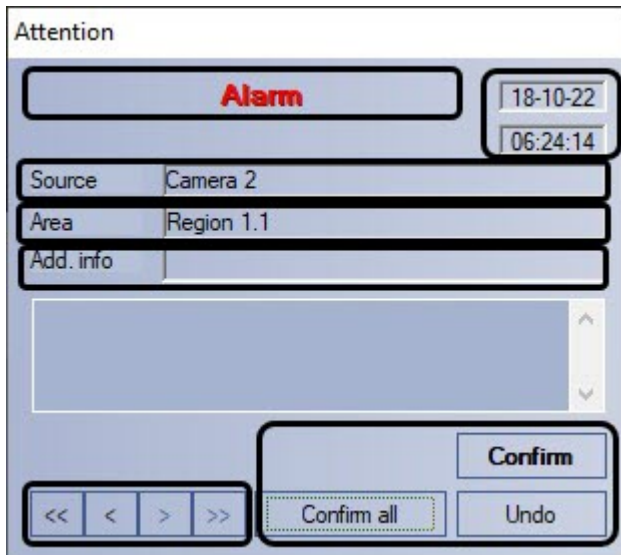
The events registered by the system can be controlled and processed by the Operator using the following:

- Alarm notification window
- Event log
- Operator protocol
- Incident manager

In addition, there is an option for fast creation and printout of reports from the log of events registered by the system based on pre-defined criteria.

### 4.10.1 Events control and processing using the alarm notification window

An Operator can receive on-line notifications whenever the system registers any alarm or information events, if the program is set appropriately. If this function is enabled, an alarm notification window appears as soon as the system registers any alarm or information event.



The alarm notification window displays information about the latest registered event: name, date and time, source object of the event, conventional field (region) of the event source object location, as well as additional information describing the event (if any).

An Operator can confirm the event by clicking the **Confirm** button, or cancel it by clicking the **Undo** button.

When an Operator confirms the event, it means that an Operator confirms the actual occurrence of the event and initiates an appropriate response of the Program.

As soon as the event is confirmed or cancelled, the alarm notification window will be hidden. However, if an event still remains unprocessed, the alarm notification window will not be hidden and the system will transfer to processing the next event in line. To select the event for processing manually, use the set of the event browsing controls:

1. **<<** Go to the first notification in line
2. **>>** Go to the last notification in line
3. **<** Go to the previous notification in line
4. **>** Go to the next notification in line

In addition, all notifications in line can be confirmed simultaneously by clicking the **Confirm all** button.

## 4.10.2 Event control via Event Viewer

### On the page:

- [Filters](#)
- [Operations with the event list](#)
- [Event source objects](#)

All events registered in the system or those events that match preconfigured filters are displayed in the **Event viewer**.

Event viewer 1 [~26]

Show filters

Camera 1 and Detection zones  Camera 2

Source	Event	Region	Add. info	Card	Date and time
Camera 1	Harddisk rec				10/20/2022 4:34:38 PM
Camera 1	Connection				10/20/2022 4:34:38 PM
Camera 1	Harddisk rec				10/20/2022 4:34:38 PM
Camera 3	Alarm				10/20/2022 4:34:39 PM
Camera 1	Alarm				10/20/2022 4:34:39 PM
Camera 2	Alarm	Region 1.1			10/20/2022 4:34:40 PM
Camera 2	Alarm	Region 1.1			10/20/2022 4:34:50 PM
Camera 2	Alarm	Region 1.1			10/20/2022 4:35:03 PM
Camera 3	Alarm				10/20/2022 4:35:07 PM

### ⚠ Attention!

You must create a blank filter (i.e. filter with blank columns) in order to display all events for all objects in the system in the **Event viewer**. All events are also displayed in the **Event viewer** when there is no filter at all (see [Configuring event filters for displaying in the Event viewer](#)).

If you delete all previously created filters, an "empty" filter will be left. When selected, it will display all events.

The events display while using PTZ devices (cameras with telemetry) is managed by the SendEventToCore=1 parameter of the HKEY\_LOCAL\_MACHINE\SOFTWARE\WOW6432Node\AxxonSoft\PSIM\Telemetry registry key (for more details, see [Registry keys reference guide](#); for information on working with the registry, see [Working with Windows OS registry](#)).

## Filters

The **Show filters** checkbox opens the list of filters configured while system setup (see [Configuring event filters for displaying in the Event viewer](#)). To activate the filter, set the checkbox next to it's name. Several filters can be activated simultaneously. Options for using filters are described in the table:

Filter use option	Filter settings made beforehand	Result in Event viewer
Filter checkbox is set	Certain objects and their events are selected	Only events that match the filter are displayed
Several filter checkboxes are set	Certain objects and their events are selected in each of the filters	Only events that match at least one of the selected filters are displayed
No filter is selected (all filter checkboxes are clear)	Certain objects and their events are selected in each of the filters	Only events that match at least one of all created filters are displayed
"Empty" filter checkbox is set	No object or event is selected	All events from all system objects are displayed
There are no filters created for the <b>Event viewer</b> in the system, there are no filter checkboxes available	-	All events from all system objects are displayed

The selected filters and the filter display settings remain the same after *Axxon PSIM* is restarted, i.e. if certain filters are selected and the list of filters is hidden, then after you restart *Axxon PSIM*, the **Event viewer** will display events according to the previously selected filters.

Events of different types are highlighted in different colors depending on the filter settings. The string color may change to another custom color or to the default color after filter switching.

A dynamic filter in the top of a column can be applied to show only events from the objects satisfying the search condition. This filter is applied by pressing the Enter key.

## Operations with the event list

The **Event viewer** window displays a table containing a list of the events registered by the system, which are broken down according to object type. The object types, for which the registered events are displayed in the **Event viewer**, as well as the number of events simultaneously displayed within one event window, are specified at the system configuration stage.

### Note

Most events from the system objects are described in [Description of events and reactions of system objects](#).

By default, events are sorted by date and time in the **Event viewer** window. Events can be sorted by any of the columns. To enable or disable sorting, left-click the header of the required column. When changing the filters, the sorting is saved.

When sorting by time, new events are added to the end of the list in the **Event viewer**. The list is scrolled in such a way that the last event is always displayed in the window and selected. When the event (different from the last one) is selected, the list is fixed and there is no scrolling, new events are added to the end of the list. Scrolling is resumed in the following cases:

1. The last event in the list is selected. This can be done using the Ctrl+End or Ctrl+Home keyboard shortcuts.

2. The user did not perform any actions in the interface window for three minutes. This time can be changed using the UserActivityTimeout registry key—see [Registry keys reference guide](#).
3. The list was sorted by the new column or the filter was changed.

The table gives the following data for each event:

Column name	Source	Event	Region	Add. info	Card	Date and time
<b>Description</b>	Source object of the event. <i>Note. The information in this column is received from the objid column of the dbo.PROTOCOL table of the Axxon PSIM database</i>	Event name. <i>Note. The information in this column is received from the action column of the dbo.PROTOCOL table of the Axxon PSIM database</i>	Conventional field (region) of the event source object location. <i>Note. The information in this column is received from the region_id column of the dbo.PROTOCOL table of the Axxon PSIM database</i>	Additional information describing the event (if any). <i>Note. The information in this column is received from the param0 column of the dbo.PROTOCOL table of the Axxon PSIM database</i>	Card code for the access-related events (i.e. ACCESS_IN). <i>Note. The information in this column is received from the param3 column of the dbo.PROTOCOL table of the Axxon PSIM database</i>	Date and time of the event. <i>Note. The information in this column is received from the date column of the dbo.PROTOCOL table of the Axxon PSIM database</i>
For details about the dbo.PROTOCOL table, see <a href="#">Base Axxon PSIM database tables</a> .						

Additionally, a symbol near the source object of the event reflects the current status of the given source object.

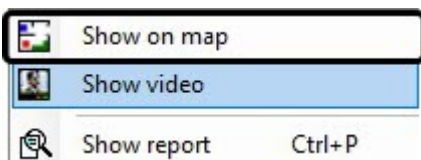
The **Clear** button is used to clear the list of events in the **Event viewer**.

**Note**

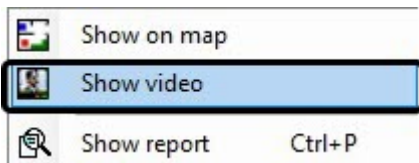
After the **Event viewer** is cleared and if hidden events are to be displayed again, then *Axxon PSIM* must be restarted with the **Load protocol** checkbox set (see [The parameters of the Event viewer](#)).

### Event source objects

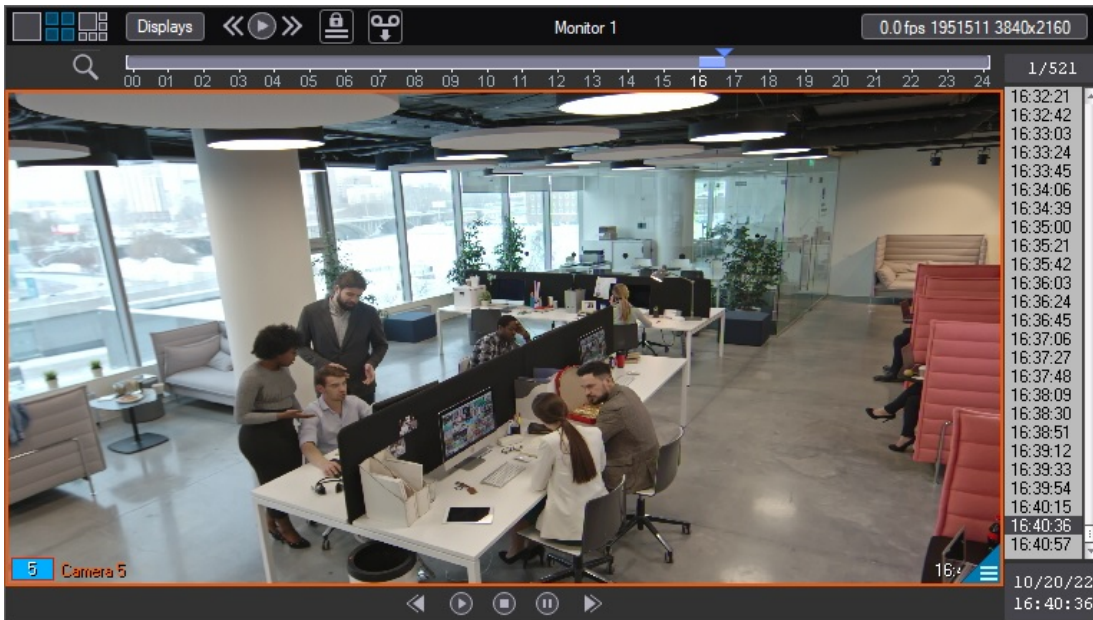
To show the actual location of the object on the Map, use the **Show on map** item in the function menu of the source object. As a result, the **Map** will be displayed. It will contain the source object (see [Working with the Map](#)). The corresponding object is highlighted with green dots and marked with concentric black-and-white circles.



To playback the video of the event from the event source camera, use the **Show video** item in the function menu of the **Camera** object (source object).



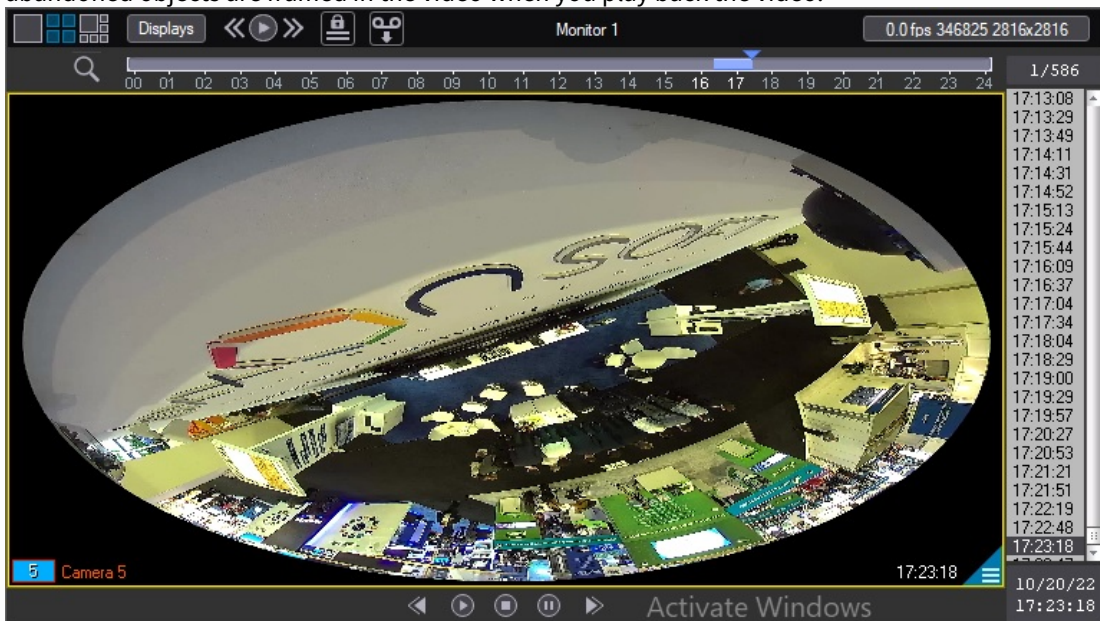
In the opened child window, the **Surveillance window** will be displayed in the archive playback mode.



The current playback position will be set to the position corresponding to the video recording start time.

**Note**

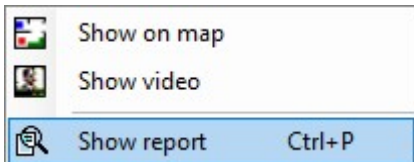
If the detection of abandoned objects is configured (see the [Configuring smart video detection tools](#)), abandoned objects are framed in the video when you play back the video.



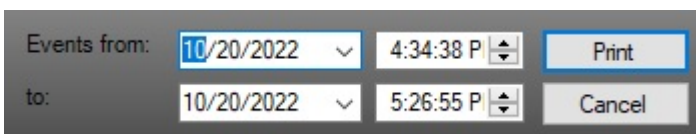
## Generation, printout and export of the registered events report using Event Viewer

**Event Viewer** allows you to generate and printout the event list based on the specified criteria.

To generate and printout a report, select the **Show report** item in the function menu of any source object in the table, or press the **Ctrl + P** key combination.



Specify the start and end date and time of the event, which will be used in the report.



As soon as you click the **Print** button, the preview window of the generated list of events will be displayed, the interface of which is shown in the figure. By default, the report start date and time (**from**) are set equal to the date and time of the first, the earliest event displayed in the **Event Viewer** according to the filter, and report end date and time (**to**) are set to the date and time of the last displayed event.

Source	Event	Region	Add. info	Date	Time	Card
Camera 1	Harddisk rec			10/20/2022	4:34:38 PM	
Camera 1	Connection			10/20/2022	4:34:38 PM	
Camera 1	Harddisk rec			10/20/2022	4:34:38 PM	
Camera 3	Alarm			10/20/2022	4:34:39 PM	
Camera 1	Alarm			10/20/2022	4:34:39 PM	
Camera 2	Alarm	Region 1.1		10/20/2022	4:34:40 PM	
Camera 2	Alarm	Region 1.1		10/20/2022	4:34:50 PM	
Camera 2	Alarm	Region 1.1		10/20/2022	4:35:03 PM	
Camera 3	Alarm			10/20/2022	4:35:07 PM	
Camera 2	Alarm	Region 1.1		10/20/2022	4:35:16 PM	
Camera 2	Alarm	Region 1.1		10/20/2022	4:35:29 PM	
Camera 3	Alarm			10/20/2022	4:35:32 PM	




In the window that appears, the generated report will be displayed as it will be printed out.



### Note


If the **Region** and/or **Card** columns were hidden when configuring the **Event Viewer** object, they will be included into the report nevertheless.

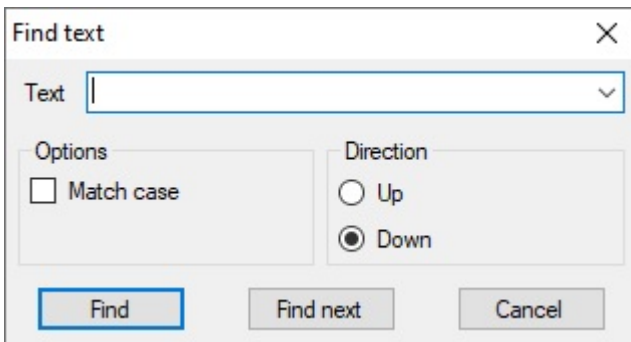
The upper part of the window displays a toolbar with the report control elements:

1. Page 1 of 26 ▾ Set of elements for browsing report pages
2. Report printout and print pre-setting

3.  Report export
4.  239 % Report display scale
5.  Search in the report text

To browse through the report, use the  set of elements. Report view scale is specified using the  field.

Click the  button to search in the report text. The **Find text** dialog box opens to specify the parameters: search line, case sensitivity, search direction.

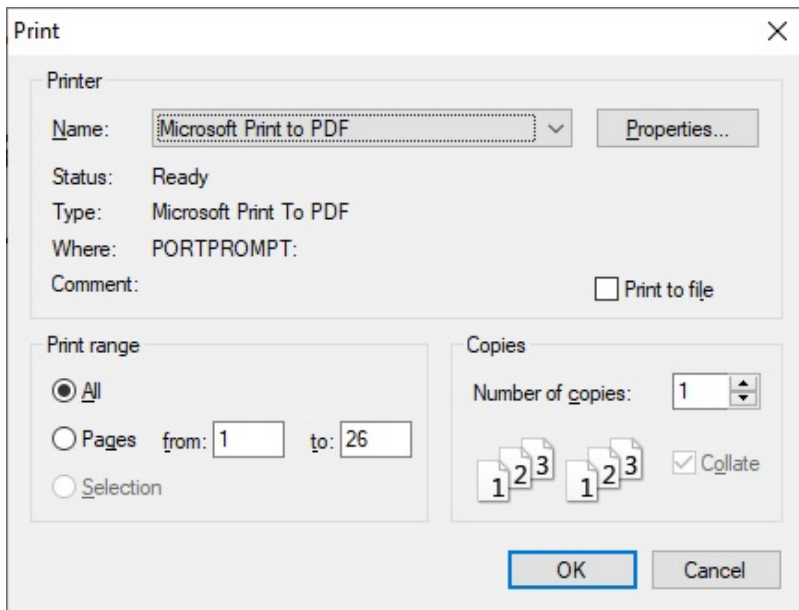


The 'Find text' dialog box contains a 'Text' input field, a 'Match case' checkbox, and a 'Direction' section with radio buttons for 'Up' and 'Down'. At the bottom are 'Find', 'Find next', and 'Cancel' buttons.

Click the **Find** button to run the search. Click the **Find next** button to go to the next result. Found items will be highlighted in the report text.


Event viewer			
Source	Event	Region	Add. info
Camera 1	Harddisk rec		
Camera 1	Connection		
Camera 1	Harddisk rec		
Camera 3	Alarm		
Camera 1	Alarm		
Camera 2	Alarm	Region 1.1	

To send the generated report for printing, click the  button. A standard dialog box for print setup opens.



**Note**

The standard **Print** dialog box (Windows OS) isn't a part of *Axxon PSIM*. It is a Windows system dialog box.

You can also export the report to a file of the specified format. To export the report, click the  button. A standard dialog box for saving the file will open. The following export file formats are available: pdf, rtf, htm, xls, csv, gif, jpg, bmp, emf, tif, png.

**Note**

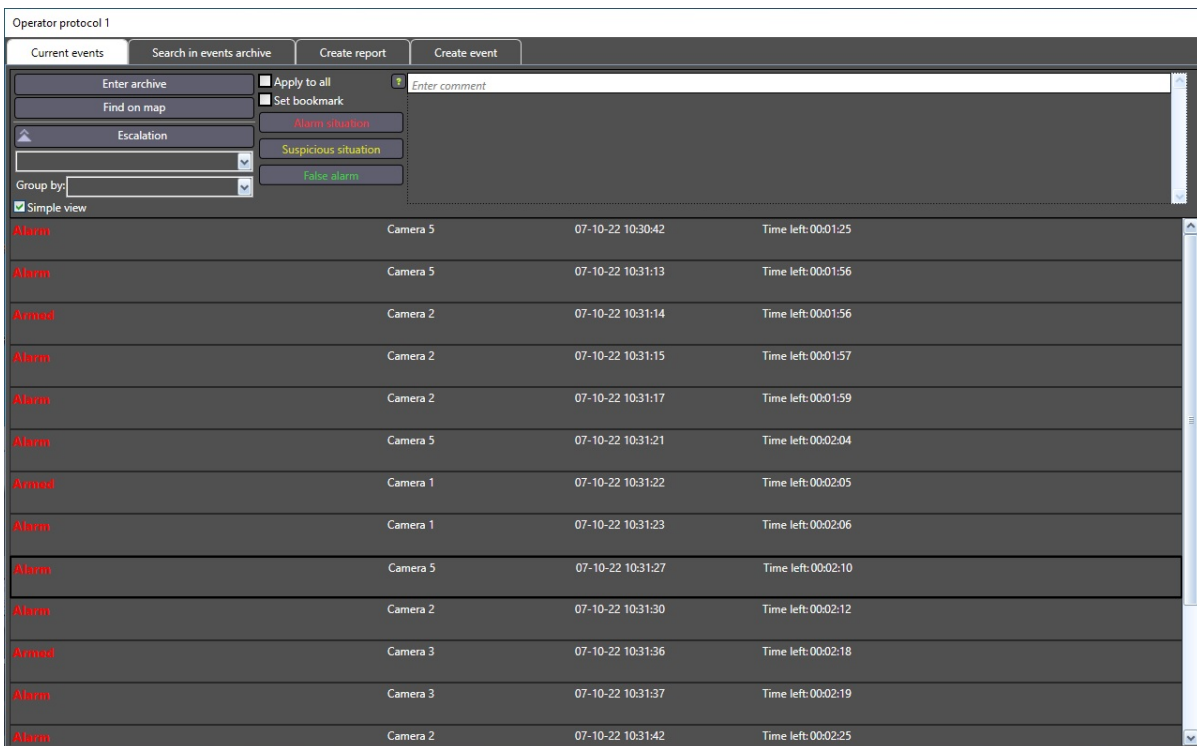
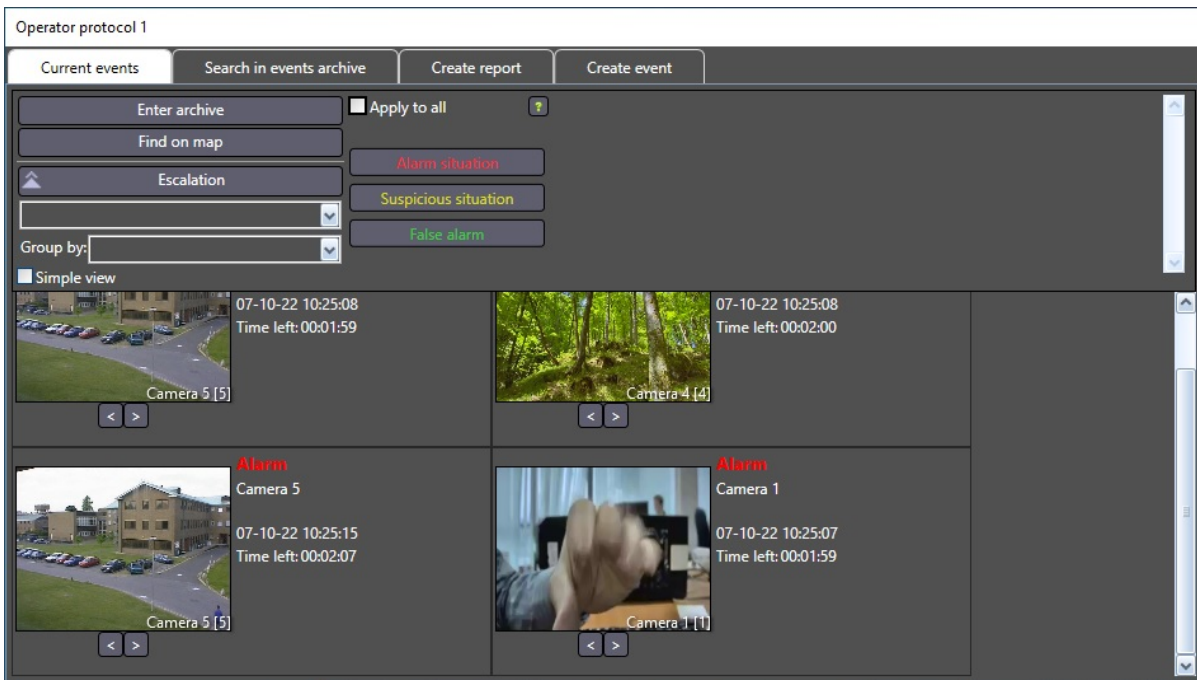
All further operations with the exported report file are performed in the associated applications and do not depend on *Axxon PSIM*.

### 4.10.3 Event processing using the Operator protocol

**On the page:**

- [Current events](#)
- [Checklist](#)
- [Assigning a type to the event](#)
- [Frames, archive and the Map](#)

Events are processed in the **Current events** tab of the **Operator protocol** window. The examples of the tab display:



## Current events

Events registered by alarm objects with no type assigned and events escalated from a lower level are displayed in the **Current events** tab. The event control panel is at the top of the tab, and the information on events is at the bottom of the tab.

The details of event display:

1. Depending on the **Operator protocol** configuration, current events can be displayed as cells with images or lines without images (see [Configuring the interface of the Operator protocol](#)). The number of horizontal cells is determined by the width of the **Operator protocol** window. However, the **Operator protocol** can be configured in such a way that the cell size fits the size of the free area under the event control panel. In this case only one cell is horizontal, and its height is equal to the height of the free area. To display events as lines, set the  **Simple view** checkbox, if this option is enabled in the settings for the Operator.
2. Depending on the **Operator protocol** configuration, the events are displayed in the order they are received or by the priority and importance, ascending or descending. When there is ascending sorting, the newest (of higher priority) event is in the upper left corner or on the top line, when there is descending sorting, it is in the bottom right corner or on the bottom line.
3. If one or several events are selected by the Operator, then their position in the **Operator protocol** window is not changed and new events continue appearing in the window. They shift in accordance with the sorting order. In this case, the **Operator protocol** can be configured in such a way that when a new event is received, its cell or line automatically becomes active.
4. The screenshot of the event is displayed in the cells of the events of the **Camera** objects as well as events of objects linked to cameras (see [Connection of objects with cameras](#)). If there are several cameras linked to the object, you can use the   buttons to browse the screenshots. The name of the corresponding camera is displayed on the frame.

**Note**

Event cells can display not only video screenshots, but also images received from devices connected to the camera. For this, the **Operator protocol** must receive an event with the `imageBase64` parameter, containing a base64-encoded image that must be displayed. Such events can be generated, for example, using a script.

5. Events can be displayed without grouping or can be grouped by object, event or region. Event can be grouped using the  drop-down list, if this option is enabled in the settings for the Operator.

**Note**


Temporary images (events screenshots) are stored in the `C:\Users\\AppData\Local\Temp\OperatorProtocol` folder. They are automatically deleted at normal *Axxon PSIM* shutdown or restart.

## Checklist

On the right, there is a checklist of actions that must be performed during the event processing. This list is set up by the Administrator during the **Operator protocol** configuration. After you perform the required action, set the checkbox next to it, and the information about the task completion will be added to the comment field along with the date and time indication.

<input type="checkbox"/>	Check archive
<input checked="" type="checkbox"/>	Check Map

## Assigning a type to the event

To assign a type to the event, select one or several event cells or lines using the left mouse button (hold down the Ctrl key to select several events, if this feature is enabled in the system settings) and then click one of the buttons on the event control panel. The buttons for event processing can be unavailable until a comment is entered if the corresponding setting is enabled. If the help guides were added during the **Operator protocol** configuration, you can click the  button and open the help guide about the event processing.

### Note

If the events are grouped, then selecting a line with the grouping name will select all events from this grouping. The presence of the event processing buttons depends on the settings of the **Operator protocol**.

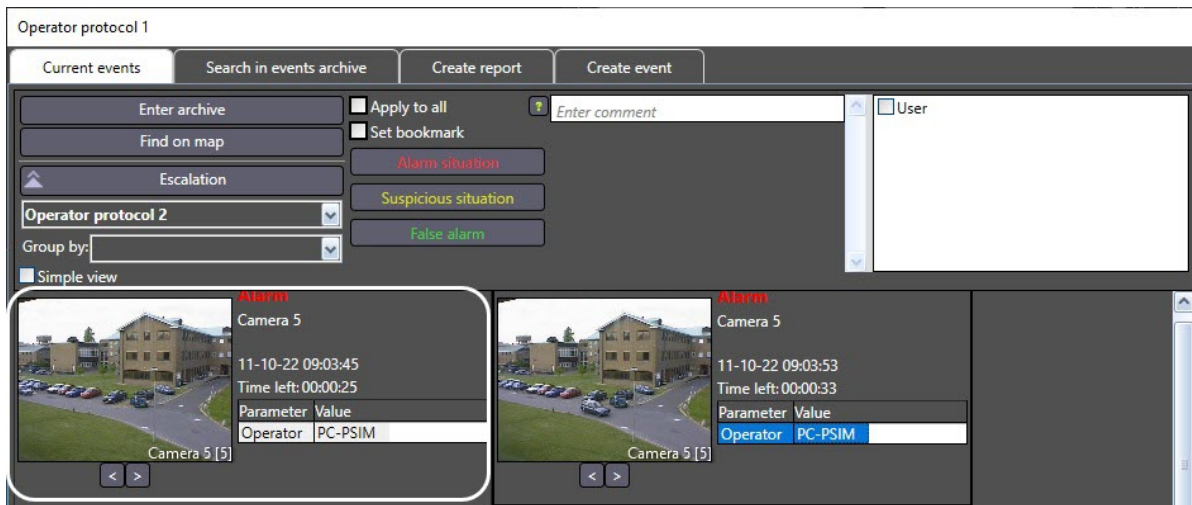
The button names can be changed during the system configuration stage.



### Note

When you select the event cell or line, the camera (linked to the corresponding object) activation event is generated. If the Active monitor is configured in the system (see [Configuring the display mode of camera windows](#)), then video from the corresponding camera is displayed in it. If several cells are selected, then cameras are displayed one-by-one on the Active monitor.

After the type is assigned to the event, it is removed from the **Current events** tab in the **Operator protocol** window. If the event (after being processed) is not removed from other **Operator protocols** when configuring the **Operator protocol** (see [Setting the options for handling events in the Operator protocol](#)), then the processed event is marked grey in other **Operator protocol** windows. But other operators can process this event once again.



### **i** Note

If all non-processed events must be assigned with the type of the selected event, then set the **Apply to all** checkbox.

In order to delay the event processing once for the time period specified when configuring the **Operator protocol**, click the **Delay** button. The event will not be removed from the **Operator protocol** windows and it will not be marked grey in other **Operator protocols**.

### **i** Note

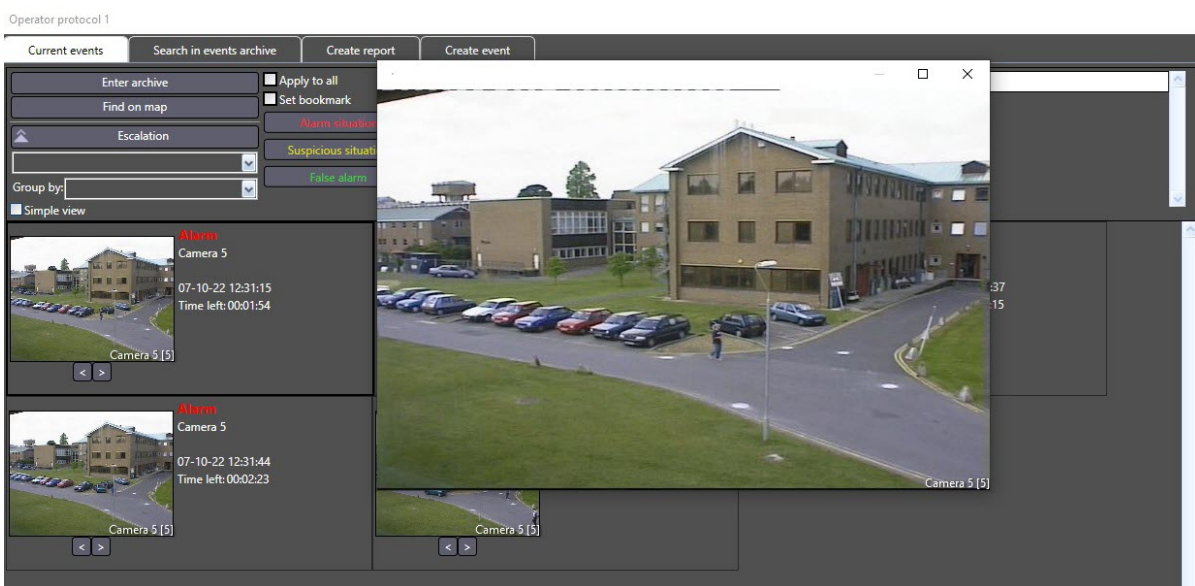
If event processing must be confirmed by a password, that is, the **Password for closing** checkbox is set (see [Setting the options for handling events in the Operator protocol](#)) or the **Yes** value is selected in the **Request password** column (see [Setting up the event filter for the Operator protocol](#)) in the settings of the Operator protocol, you must enter login and password as in the user authorization settings (see [Assigning the rights and password to operators for authorization in Axxon PSIM](#)).

If the time of waiting for the response from the Operator specified in the settings of the **Operator protocol** object (see [Administrator's Guide](#)) is exceeded, then the event is escalated and if the chief interface is not assigned to the **Operator protocol**, then it is removed from the **Current events** tab and the **Non-processed** type is assigned. When *Axxon PSIM* is restarted, the non-processed events are saved.

## Frames, archive and the Map

If you want to create a bookmark for the selected events in the archive, set the **Set the bookmark** checkbox before processing the event. The comment will be used as the bookmark name. See [List of bookmarks](#).

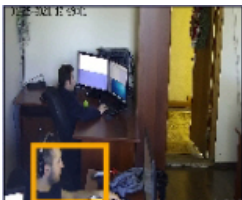
If the events are displayed as cells, then the frame of the moment of alarm (screenshot of the event) can be enlarged. To do this, double-click it. The window with zoom-in frame appears. This window can be moved around the screen by dragging the title bar with the left mouse button; in this case, the position of the window will be saved for each type of event and window of the **Operator protocol**. To close this window, click the **X** button in the upper right corner or press Esc on the keyboard.



**Note**

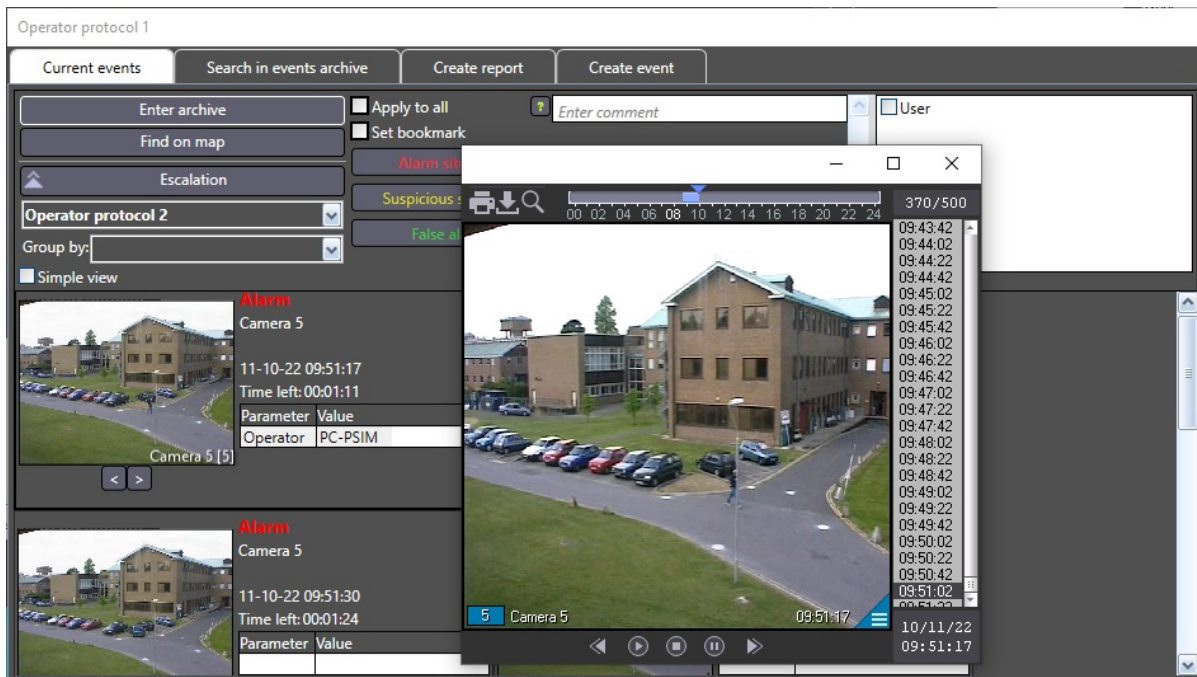
Window with an enlarged alarm frame can be unavailable if the corresponding value is set for the `hide_image_preview` registry key (see [Registry keys reference guide](#)).

If the [Equipment detection \(PPE\)](#) object is created and configured for the camera, borders around detected objects can appear on the frame. The border color and thickness are determined by the `RectColor` and `RectLineWidth` registry keys (see [Registry keys reference guide](#)).



Also, if [captions](#) are configured for the camera, then the event screenshot can contain captions.

To view or export the video of the event, select the event in the list and click the **Enter archive** button on the control panel. The enter the archive feature is available for events from **Camera** objects and objects linked to them (see [Connection of objects with cameras](#)).



If the ActiveX video display method was selected during the **Operator protocol** configuration, the window for the video viewing and exporting will open. The ActiveX window interface is the same as the **Video surveillance monitor** interface. This window can be moved around the screen by dragging the title bar with the left mouse button; in this case, the position of the window will be saved for each type of event and window of the **Operator protocol**. To close this window, click the **X** button in the upper right corner or press Esc on the keyboard.

If the **Monitor** was selected, then the required camera(s) will be displayed on the selected monitor in the archive viewing mode. In this case, the current playback position will be set to the position corresponding to the beginning of the video recording. The ArchShift registry key can shift the playback position (see [Registry keys reference guide](#)).

To view the object from which the event comes on the interactive **Map**, select the event cell and click the **Find on map** button on the control panel. As a result the required layer of the interactive **Map** is displayed. The corresponding object is highlighted with green dots and marked with concentric black-and-white circles.



## Creating events using the Operator protocol

The function of creating events using the Operator protocol allows generating alarm events manually. This function is used, for example, when the event in the frame was not detected by standard means but is to be in the archive.

There is **Created by Operator** message in the **Initial Event** column when displaying events created this way (see [Search in events archive](#)).

To create an event, do the following:

1. Go to the **Create event** tab of the Operator protocol.

Operator protocol 1

Current events Search in events archive Create report Create event

Comment

Date / Time 10/7/2022 10:27:03 AM

Type:

Object:

Create

2. Type in the event description in the **Comment**.
3. Click the **Date/Time** button and specify the date and time of the event in the opened box.

Select Date/Time

September 2022

Sun	Mon	Tue	Wed	Thu	Fri	Sa
28	29	30	31	1	2	3
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	1
2	3	4	5	6	7	8

Today: 10/7/2022

10:25:00 AM

Select

4. Select the object type in the **Type** dropdown list.
5. In the **Object** drop-down list, select the object which registered the event.
6. Click the **Create** button.

The event of the **Alarm situation** type will be added to the archive.

**Note.**

In order to view the video recording on the event created by the Operator, one is to start recording on the required camera manually (see [Recording by Operator command](#) section).

The event is now created.

## Creating report by events logged using the Operator protocol

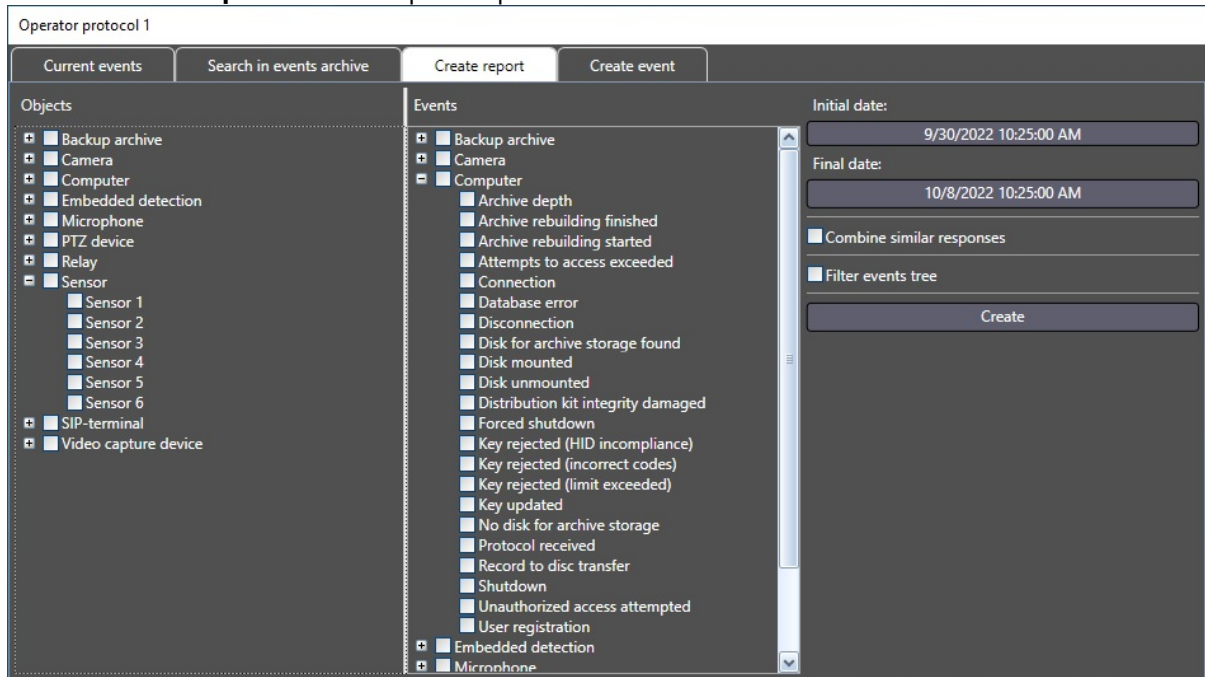
In *Axxon PSIM* software one can create reports by events logged using the Operator protocol.

**Note.**

A report by operator actions can also be created – see [Search in events archive](#).

To create a report, do the following:

1. Go to the **Create report** tab of the Operator protocol.



2. In the left column, set the checkboxes next to the objects the events from which are to be in the report.
3. Set the checkboxes next to the events the data on which are to be in the report.

**Note.**

The left and right lists are independent by default, i.e. the events of not selected objects may be included in the report. Set the **Filter events tree** checkbox before selecting data for report to avoid selecting events without selecting objects.

4. Click the **Initial date** button and set the date and time the events starting from which will be in the report.
5. Click the **Final date** button and set the date and time the events after which will not be in the report.
6. If events are to be displayed only once in the report, then set the **Combine similar responses** checkbox checked. If this checkbox is set unchecked, then one event will be displayed for each Operator protocol in the report.
7. Click the **Create** button.

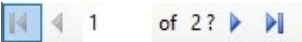







As a result, the report is displayed on the monitor.

	Object name	Action	Comment	Date / Time	Operator	Reaction
1	Camera 2	Alarm		10/7/2022 9:55:18 AM		Missed
2	Camera 6	Alarm		10/7/2022 9:55:24 AM		Missed
3	Camera 7	Alarm		10/7/2022 9:55:27 AM		Missed
4	Camera 8	Alarm		10/7/2022 9:55:27 AM		Missed
5	Camera 2	Alarm		10/7/2022 9:55:31 AM		Missed
6	Camera 5	Alarm		10/7/2022 9:55:32 AM		Missed
7	Camera 3	Alarm		10/7/2022 9:55:33 AM		Missed
8	Camera 5	Alarm		10/7/2022 9:55:40 AM		Missed
9	Camera 2	Alarm		10/7/2022 9:55:44 AM		Missed
10	Camera 6	Alarm		10/7/2022 9:55:47 AM		Missed

**Note.**

If the reactions were renamed while configuring the **Operator protocol** interface, the custom names are displayed in the **Reaction** column.

There are some operations one can do with the report. They are described below:

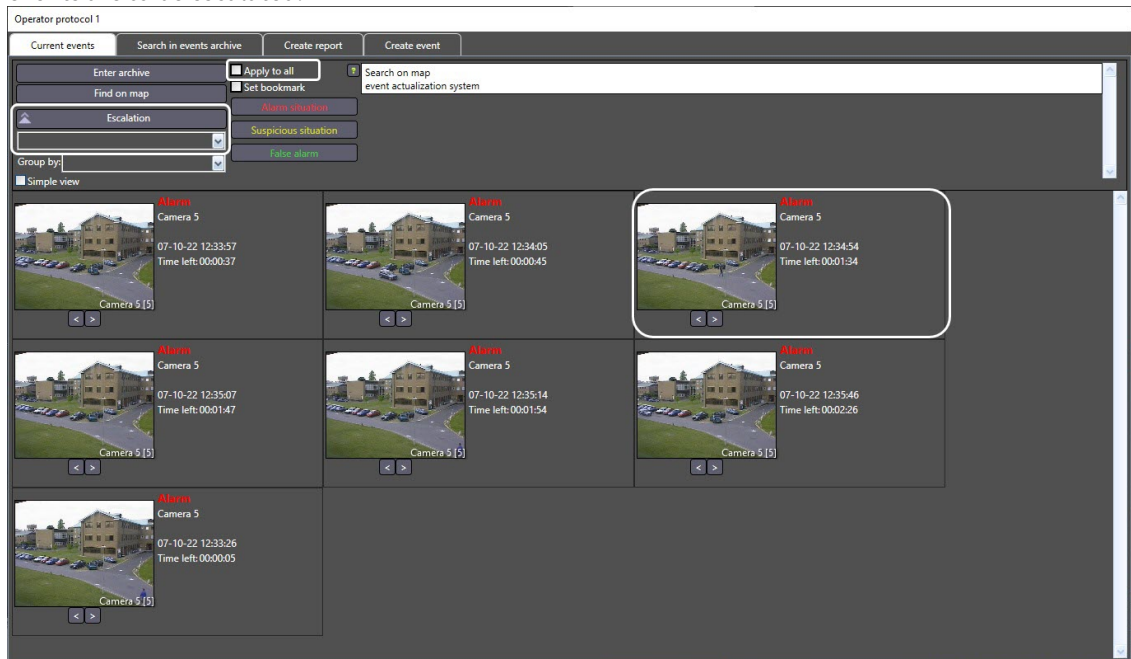
1.  Navigating the report's pages
2.  Refreshing data in the report
3.  Printing the report
4.  Previewing the report
5.  Going to the report settings
6.  Exporting the report to xls, pdf or doc format
7.  Selecting the report's scale
8.  Searching over the report

## Events escalation in the Operator protocol

When the event is escalated it is removed from the Operator protocol and sent to the Operator protocol that is set as a superior interface. There are two ways of escalation:

1. Automatically, on the expiry of waiting time for Operator's response.
2. Manually:

- a. Select one or several events in the **Current events** tab or set the **Apply to all** checkbox checked if all events are to be escalated.



- b. Select the **Operator protocol** where the event is to be escalated to.
- c. Click the **Escalation** button.

**Note**

If the events are grouped, then when you select a line with an unexpanded group, all events from this group will be selected.

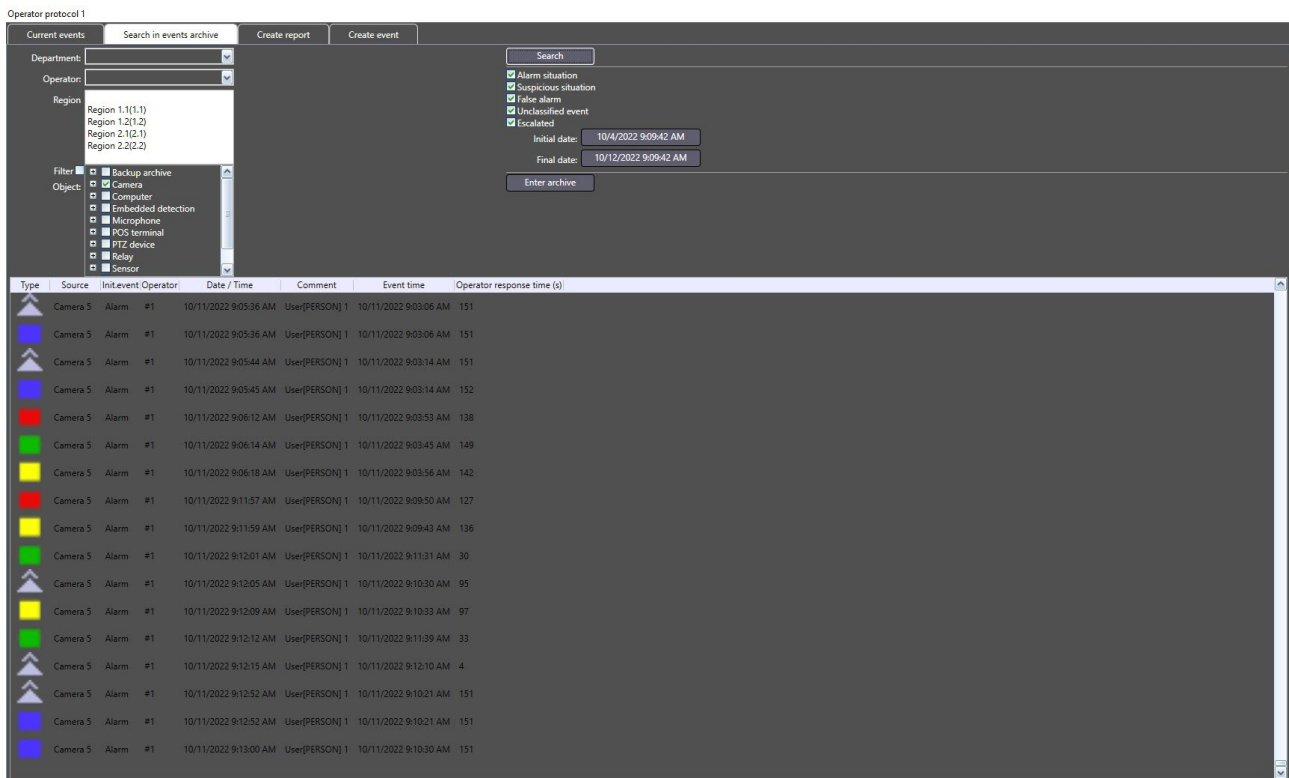
### Search in events archive

A report by operator actions includes info on assigning events with a type, escalation and missing events.

**Note.**

A report by events themselves can also be created – see [Creating report by events logged using the Operator protocol.](#)

Creating a report by operator actions is performed in the **Search in events archive** tab of the Operator protocol.



To create a report by operator actions, do the following:

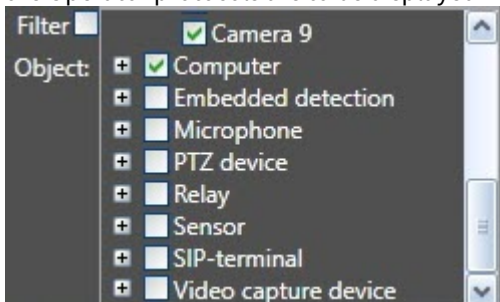
1. In the **Department** dropdown list select the department which the operator belongs to.



2. In the **Operator** dropdown list select the operator that processed the required events.
3. In the **Region** dropdown list select one or several Region objects the objects, from which the events are received, correspond to. To select several objects hold the Ctrl key and left click the required regions.

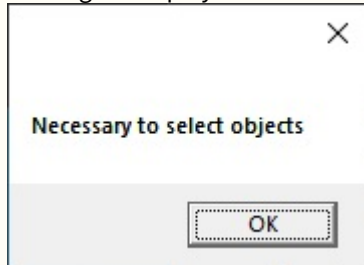


4. In the **Object** list select the object by which the search of events will be performed. If only objects added to the Operator protocols are to be displayed in the list, then set the **Filter** checkbox checked.

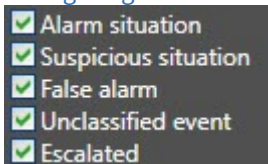


**⚠ Important!**

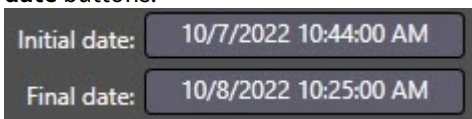
If none of the objects has been selected, the report cannot be created and the corresponding message is displayed:



5. Select the types of events to search for by setting the checkboxes checked next to the names corresponding to the required types. Checkbox names may differ depending on configured buttons names – see [Configuring the interface of the Operator protocol](#).



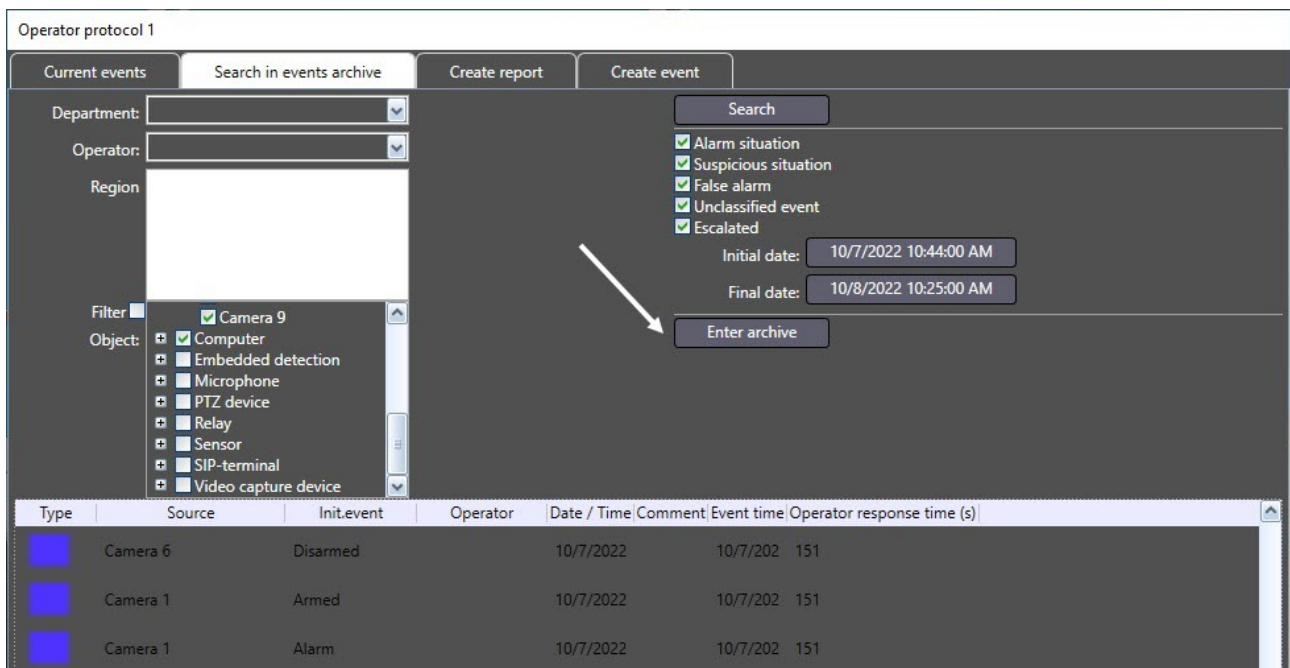
6. Set the time period of search by specifying the initial and final date using the **Initial date** and **Final date** buttons.



7. To start the search click the **Search** button.

The operator actions corresponding to the search requirements will be displayed in the protocol table.

In order to view or export the video recording of the event, in the protocol table go to the event the video of which is to be viewed and click the **Enter archive** button.



The archive of video recordings opens in a separate dialog box and the current position of playback is set at the position corresponding to the beginning of video recording. The interface of the dialog box is similar to the Video surveillance monitor.

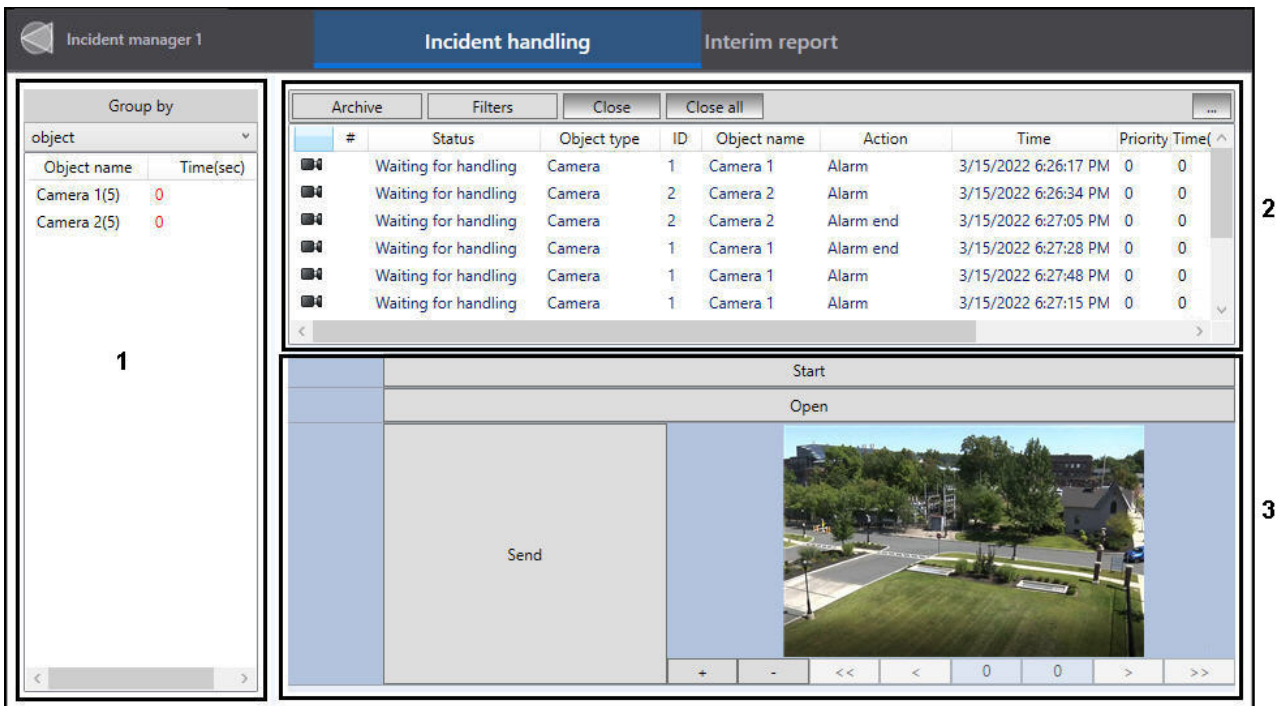
**Note.**

The archive can be opened in the Video surveillance monitor instead of the separate dialog box depending on the **Operator Protocol** object settings.

#### 4.10.4 Events control and processing using the Incident manager

The Incident manager interface consists of three parts:

1. Event grouping interface **(1)** — see [Grouping events](#).
2. Table with a list of events **(2)** — see [Event information](#).
3. Event handling interface **(3)** — see [Events processing](#).



In addition to monitoring and processing events in the Incident manager, you can generate a report on the operator's actions — see [Interim report](#), and view the video or object corresponding to the event on the map — see [Displaying video and object on the map](#).

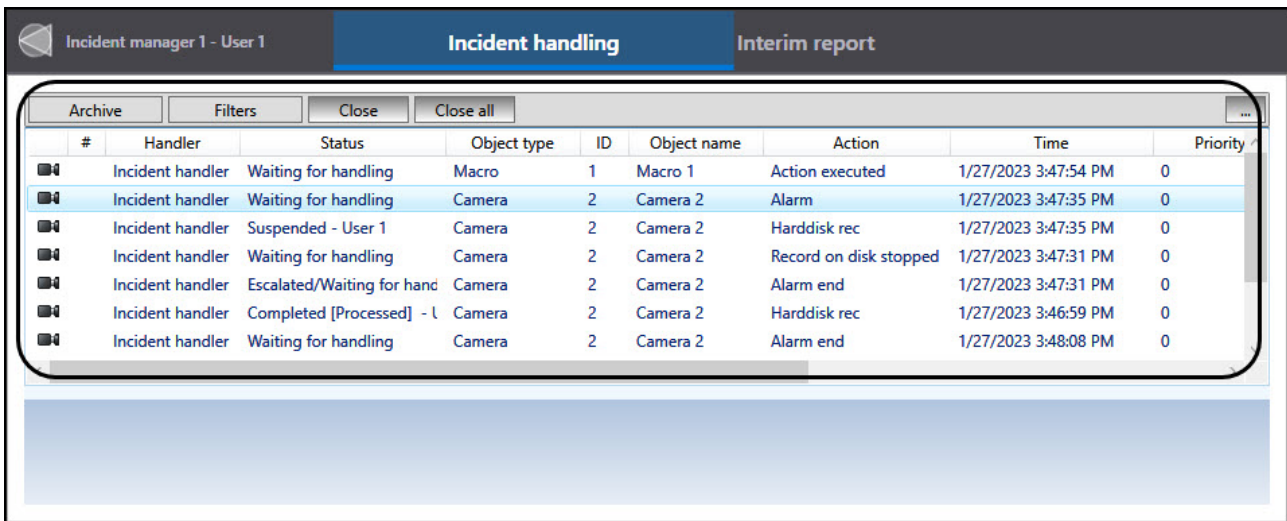
### Event information

**On this page:**

- [Viewing current events](#)
- [Event statuses](#)
- [Grouping events in the list](#)
- [Sorting events](#)
- [Filtering events](#)
- [Events archive](#)

✓ [Incident manager interface description](#)

Information about **Incident manager** events is displayed in the events table located in the upper part of the window interface:




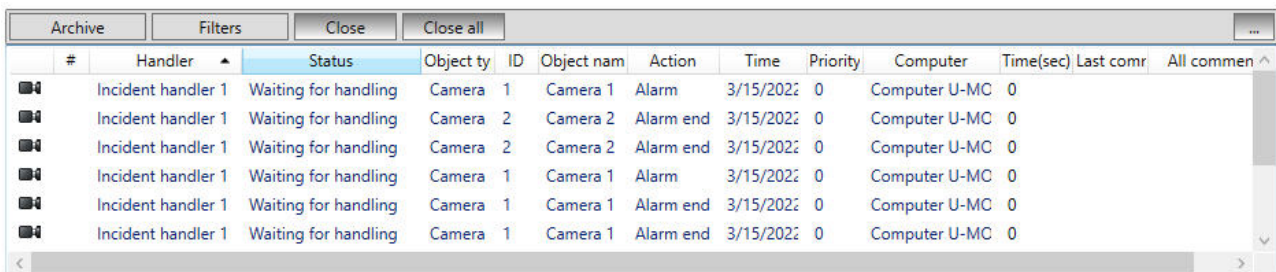
You can group, filter, and sort the events. The list displays the event status, and you can take the event into processing from there (see [Events processing](#)).

When you open the **Incident manager**, the events **Monitoring** mode opens by default, which displays only current events that require processing. To view all **Incident manager** events, go to the [Archive](#).

#### Viewing current events

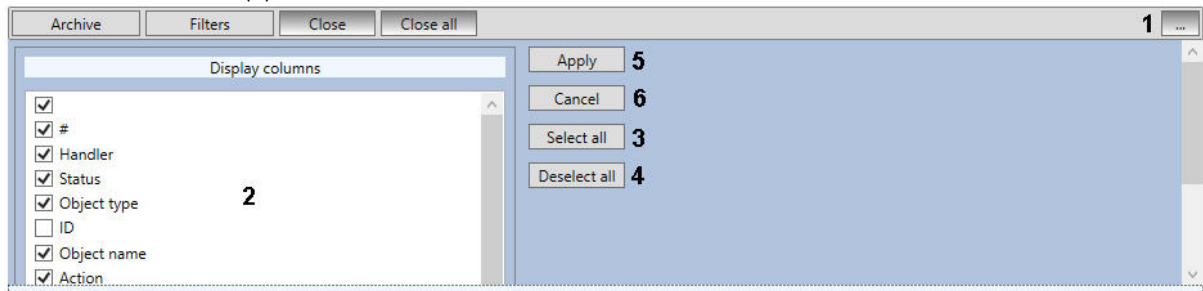
The following information is displayed for each event by default:

1. Indicator of the presence of the camera associated with the event .
2. Incident handler—the name of the Incident handler that will process the event.
3. Event status.
4. Object type.
5. Object ID.
6. Object name.
7. Action—description of the event.
8. Time the event occurs.
9. Priority.
10. Computer—the name of the computer from which the event is received.
11. Time (sec)—the number of seconds since the event occurs.
12. Last comment—only the last comment entered while processing the event.
13. All comments—all comments entered while processing the event.



To change the displayed information columns, do the following:

1. Click the  button (1).



2. Set the checkboxes next to the columns you want to display (2). To set checkboxes for all columns at once, click the **Select all** button (3); to clear the checkboxes, click the **Deselect all** button (4).
3. Click the **Apply** button (5). To cancel the changes, click the **Cancel** button (6).

### Event statuses

By default, an event has the **Waiting for handling** status in the Incident manager. Eventually, an event may receive the following statuses, depending on the operator's actions (see [Events processing](#)):

1. **Acknowledged**. This status is displayed if an event is taken into processing and is currently being processed.
2. **Suspended**. This status is displayed if event processing was started and not completed but suspended.
3. **Taken by others/<Last name of the operator who took the event into processing>**. This status is displayed if the event is being processed by another operator.
4. **Suspended by others**. This status is displayed if event processing was started and not completed but suspended by another operator.
5. **Escalated**. This status is displayed if the event was escalated to another operator. The following options are available:
  - a. **Escalated/Suspended by others**—status immediately after escalation.
  - b. **Escalated/Taken by others**—the escalated event was taken into processing by another operator.

#### Note


Depending on the Incident manager settings, when an event is escalated, it may not change its status, but disappear from the list for the person who escalated the event.

6. **Escalated/<Last name of the operator who escalated the event>**. This status is displayed to the operator to whom the event was escalated.
7. **Escalated/Acknowledged**. This status is displayed to the operator to whom the event was escalated when he took it into processing.

### Grouping events in the list

If event grouping in the list is enabled in the settings (see [Configuring the events grouping in Incident manager](#)), then the events in the list are grouped by object type / object ID / event type / logic ID.

Status	Object type	Object ID	Object name	Action	Time
▼	itv3[4]/CLOSE_FILE/Logic 1 -> Quantity : 85				
▲	itv3[4]/OPEN_FILE/Logic 1 -> Quantity : 85				
	Camera	4	itv3	OPEN_FILE	9/14/2021 12:02:28 PM
▼	sk2[6]/OBJECT_LOST/Logic 1 -> Quantity : 3007				
▼	sk2[6]/NEW_OBJECT/Logic 1 -> Quantity : 3008				
▼	sk3[7]/CLOSE_FILE/Logic 1 -> Quantity : 393				
▼	sk3[7]/OPEN_FILE/Logic 1 -> Quantity : 393				
▼	office[5]/Alarm end/Logic 1 -> Quantity : 268				

To view the events within the group, click the  button.

Depending on the settings, when you expand a group, either the first event or all events in the group are displayed.

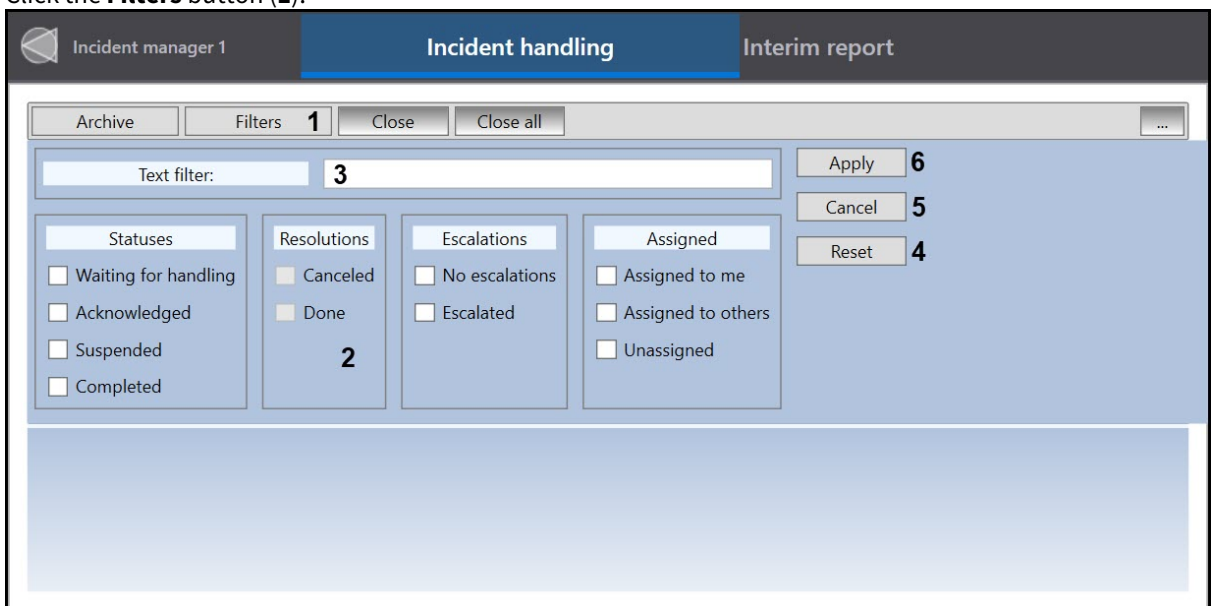
### Sorting events

To sort events alphabetically, click on the name of the required column.

### Filtering events

To filter out and display specific events, do the following:

1. Click the **Filters** button (1).



2. Apply the filter in one of the following ways:
  - a. Set the checkboxes next to those values in the columns by which you want to filter out the events (2). As a result, only those objects that match all the filter criteria at the same time are displayed. To clear all selected checkboxes, click the **Reset** button (4).

 **Note**

In order to display the events assigned to the current Operator or other Operators, it is necessary to set the checkbox next to the **Assigned to me** or **Assigned to others** value in the **Assigned** column, respectively. In order to display the events assigned to both the current Operator and other Operators, set the checkboxes next to both the **Assigned to me** and **Assigned to others** values.

- b. In the **Text filter** field, enter the object name, object ID, or the action of the event (for example, Activated), by which you want to filter out the events (3). It isn't necessary to enter the full object name, object ID, or action. The filter displays all found matches based on the value entered in the **Text filter** field. To delete the entered value, click the **Cancel** button (5).
  - c. Apply the filter using both the checkboxes and text at the same time. To do this, enter the object name, object ID, or the action of the event (3) in the **Text filter** field, and set the checkboxes next to the column values by which you want to filter out the events (2). As a result, events that match both the entered text and the selected checkboxes are filtered out. To clear all selected checkboxes and delete the entered value in the field, click the **Cancel** button (5).
3. Click the **Apply** button (6).

As a result, objects and events that match all selected filter criteria are displayed. For example, if you set the checkboxes next to the **Acknowledged** and **Assigned to me** statuses, then all work events that are assigned to the current user are displayed.

**Note**

If you set all the checkboxes in the **Statuses** column, it means the same as if none is set. The same applies to the **Assigned** column.

Example of applying the event filter by object ID:

The screenshot shows the 'Incident handling' tab in the Incident Manager interface. At the top, there are buttons for 'Archive', 'Filters', 'Close', and 'Close all'. Below these is a 'Text filter' input field containing the number '1'. To the right of the input field are buttons for 'Apply', 'Cancel', and 'Reset'. Below the input field are four filter categories: 'Statuses' (Waiting for handling, Acknowledged, Suspended, Completed), 'Resolutions' (Canceled, Done), 'Escalations' (No escalations, Escalated), and 'Assigned' (Assigned to me, Assigned to others, Unassigned). All checkboxes are currently unchecked.

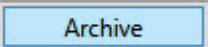
The screenshot shows the 'Incident handling' tab with a table of incidents. The 'ID' column is highlighted with a black box, showing that all incidents have an ID of 1. The table has columns for '#', 'Handler', 'Status', 'Object type', 'ID', 'Object name', and a scroll arrow. The incidents listed are:

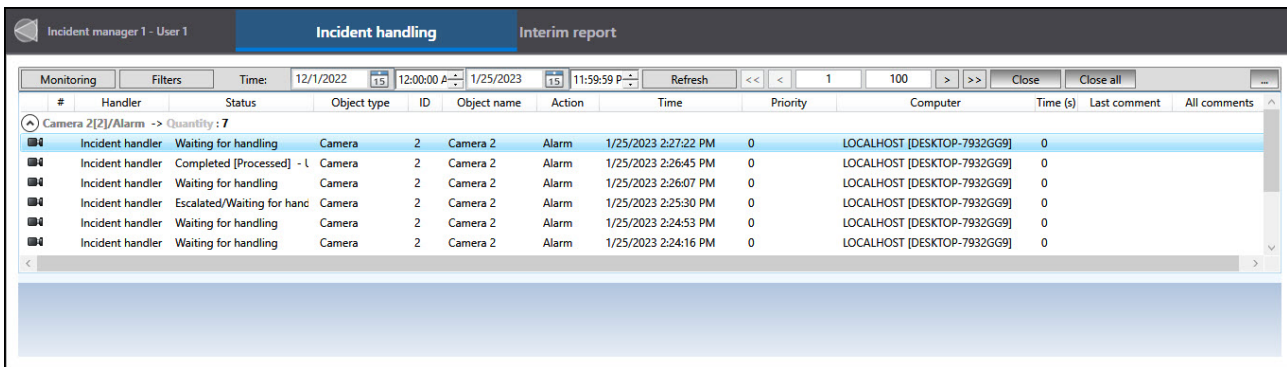
#	Handler	Status	Object type	ID	Object name
1	Incident handler 1	Completed [Canceled]	Camera	1	Camera 1
2	Incident handler 1	Completed [Canceled]	Camera	1	Camera 1
3	Incident handler 1	Completed [Canceled]	Camera	1	Camera 1
4	Incident handler 1	Completed [Canceled]	Camera	1	Camera 1
5	Incident handler 1	Completed [Canceled]	Camera	1	Camera 1
6	Incident handler 1	Waiting for handling	Camera	1	Camera 1
7	Incident handler 1	Waiting for handling	Camera	1	Camera 1

**Note**

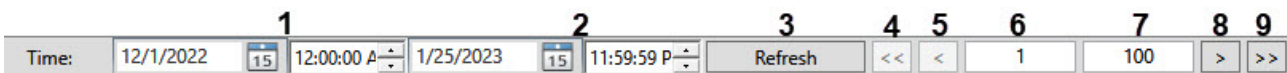
You can also configure the filter using the `SETUP_FILTER` reaction in the IIDK interface (see [INC\\_MANAGER Incident manager](#)).

### Events archive

To go to the events archive, click the  button on the top panel. As a result, a list of archived events opens:

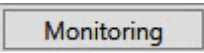


In the events archive mode, you can do the same actions as in the events **Monitoring** mode: apply filters, use the **Close** and **Close all** buttons, generate an interim report, and select columns to display them in the table. Besides that, on the top panel you can set the parameters for displaying the archive:



where:

- the period for displaying the archived events is specified by the date and time of its beginning (**1**) and end (**2**);
- the **Refresh** button is used to update the events list if the display period has changed (**3**);
- item **6** is the number of the displayed page;
- item **7** is the total number of pages;
- buttons **<** and **>** are used to go to the previous/next page (**5** and **8**);
- buttons **<<** and **>>** are used to go to the first/last page (**4** and **9**).

To return to current events, click the  button.

## Grouping events

**On the page:**

- [Grouping options](#)
- [Viewing events in group](#)
- [Group color](#)
- [Sorting the group](#)

### Grouping options

Grouping events sets the event groups according to the specified parameters in the table with the list of events. Possible grouping options are set in the [Configuring the events grouping in Incident manager](#):

1. **disabled** — grouping is disabled, all events are displayed in the list.
2. **region** — events are grouped by region.
3. **event** — events are grouped by event type.
4. **object** — events are grouped by object.

The **Object name** column contains the grouping parameter and the number of events in the group (in brackets). The **Time(sec)** column shows the time in seconds until the countdown timer expires. In this case, the last generated event with timer is taken into account for the group.

Group by	
Object name	Time(sec)
Camera, OPEN_FILE(139)	0
Camera, CLOSE_FILE(137)	0
Camera, Connection lost(45)	0
Camera, Harddisk rec(3)	0
Camera, Alarm(3)	0
Camera, DISC_EXIST(6)	0
Camera, CONNECT(2)	0
Camera, SIGNAL_RESTORE(2)	0
Camera, Connection(2)	0
Computer, UNREGISTER_USER(67)	0
Computer, Shutdown(35)	0
Computer, Disconnection(81)	0
Computer, Record to disc transfer(2)	0

### Viewing events in group

To view the events in the group, click on its name. Events or subgroups of events of this group will be displayed in the table with the list of events:

The screenshot shows the 'Incident manager 1' interface with two tabs: 'Incident handling' and 'Interim report'. On the left, a 'Group by' list shows various event categories. The 'Computer, PING(760)' group is highlighted with a blue border. On the right, a table displays details for this group, including a total quantity of 714 and a sub-total for logic of 46. The table columns are Status, Object type, Object name, Action, Time, Priority, and C.

Status	Object type	Object name	Action	Time	Priority	C
Computer[U-MOROZOVA]/PING/ -> Quantity : 714						
Computer[U-MOROZOVA]/PING/Logic total -> Quantity : 46						
	Computer	U-M Computer	PING	11/25/2021 3:40:13 PM	0	Com
	Computer	U-M Computer	PING	11/25/2021 3:40:43 PM	0	Com

### Group color

If the settings allow processing the events of the entire group at once, then the group names will be highlighted in color depending on the status of the events in the group:

- Green, if events in group are pending, taken into processing, escalated or suspended by the current Operator.
- Red, if the events in group are taken into processing or suspended by another Operator, and also if the processing of events in group is completed by any Operator.
- Black, if there are no Operators in the system (not a single User is registered in *Axxon PSIM*).

Group by	
event	
Object name	
Display, Activated(1)	0
Computer, User registrati	0
Camera, Alarm(4)	0
Camera, Alarm end(3)	0
Computer, Shutdown(1)	0

**Note**

Specific cases of color highlighting of group names:

- if the current Operator takes into processing an event from the “red” group, then after they complete the first step of event processing, the group will become “green”;
- if different Operators take into processing different events of the same group, then the group will be “red” for both operators.
- if Operators use different grouping options, then after one of the Operators completes the first step of event processing, all groups for both Operators will be "red".

Example: Operator 1 uses grouping by objects (cameras), Operator 2 uses grouping by events. Events are generated by cameras. Operator 2 takes into processing an alarm event of any camera. The group becomes "green" for Operator 2. For Operator 1 all groups become "red", because Operator 2 took into processing an alarm event of all cameras. Because of this, for Operator 2 all groups also become "red".

Sorting the group

To sort the groups alphabetically, click on the **Object name** field:

Group by	
event	
Object name	Time(s)
Camera, CLOSE_FILE(125)	0
Camera, OPEN_FILE(126)	0
Camera, Connection lost(32)	0
Camera, Harddisk rec(3)	0
Camera, Alarm(3)	0
Camera, DISC_EXIST(6)	0
Camera, CONNECT(2)	0
Camera, SIGNAL_RESTORE(2)	0
Camera, Connection(2)	0
Computer, UNREGISTER_US	0
Computer, Shutdown(10)	0

## Events processing

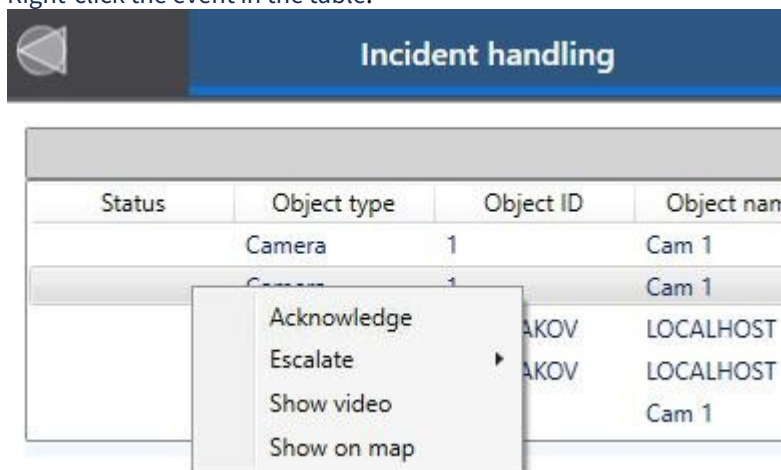
### On this page:

- [Event processing](#)
- [Suspending event processing](#)
- [Event escalation](#)
- [Event group processing](#)
- [Closing events without processing](#)

### Event processing

To start event processing, do the following:

1. Right-click the event in the table.

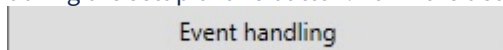


2. Select **Acknowledge**.

The event gets the **Acknowledge** status, and the first element is displayed in the event processing interface. After processing each element, the next element will be displayed. The last element will always be the button. There are seven different types of elements available:

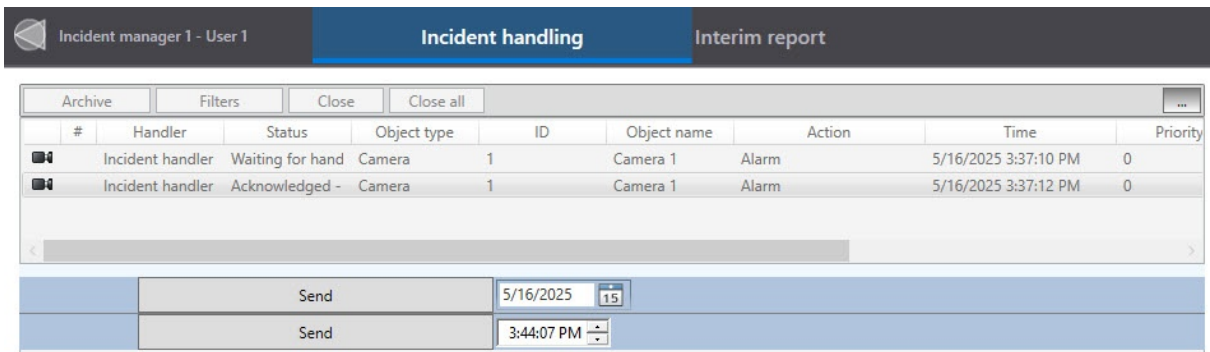
1. **Button.**

To continue the event processing, click the button. If this element is the last in the logic and you want to close the event processing interface after clicking the button, select the **Yes** value for the **Finish** parameter during the setup of this button. For more details, see [Configuring the button](#).



2. **Date/time.**

In the **Incident manager** window, the operator can specify the date and/or time of the processed event. For more details, see [Configuring the date/time](#).

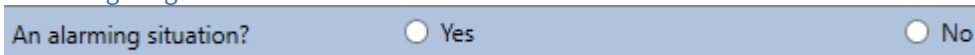


Ways of how you can set it up:

- a. Date setting:
  - i. Manual date entry.
  - ii. Selecting a date via the standard calendar window.
- b. Time setting:
  - i. Manual time entry.
  - ii. Adjusting with up and down buttons.

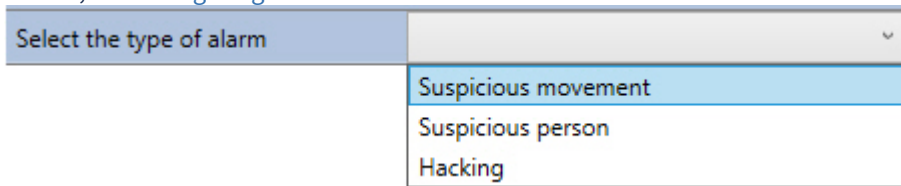
3. **Radio button.**

To continue the event processing, set the radio button in the required position. For more details, see [Configuring the radio button](#).



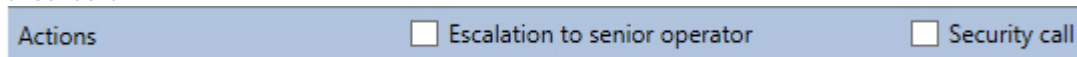
4. **List.**

To continue the event processing, select the required value from the list. There can be several lists. For more details, see [Configuring the combobox](#).



5. **Checkboxes.**

To continue the event processing, set one or more checkboxes. For more details, see [Configuring the checkbox](#).



6. **Comment.**

To continue the event processing, enter a comment and click the **Send** button. The name of the button is set by the user (see [Configuring the button](#)).



**Note**

Depending on the incident manager settings, the comment can be filled in automatically and blocked from editing. For more details, see [Configuring the comment](#).

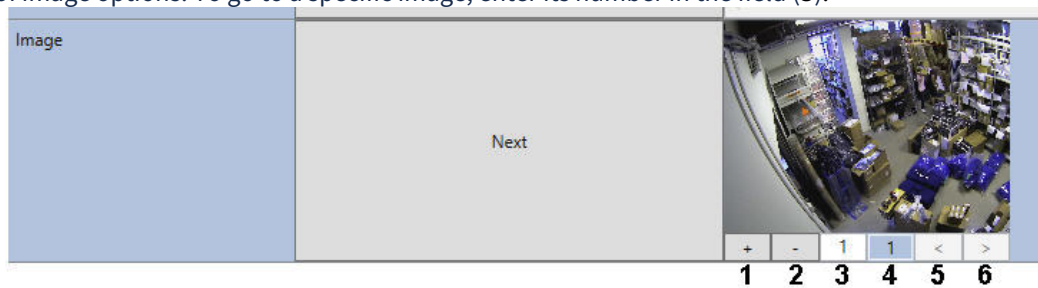
7. **Image.**

To continue the event processing, add an image and click the button. The text on the button depends on the

administrator settings (see [Configuring the image](#)). In the example below, it is the **Next** button.

The options of working with an element:

- a. The element already displays the image specified by the settings or the image from the camera or the map associated with the event. The event can be associated with several cameras, hence, when the event occurs, the images are generated from each associated camera, and you must select one of them. To do this, use the following buttons:
  - i. To update the image, click the **+** button (1). As a result, the image from the camera or the map will be added at the moment when the event occurs. The button is applicable, for example, if the image has been deleted or it must be updated.
  - ii. To delete an image, click the **-** button (2).
  - iii. To scroll images, use the **<** and **>** buttons (5, 6). The field (3) displays the number of the selected image, the field (4) displays the total number of image options. To go to a specific image, enter its number in the field (3).

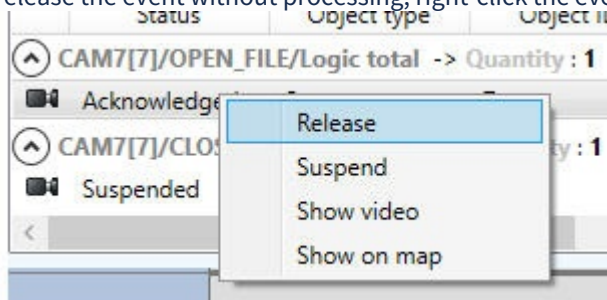


If you create and configure the [Equipment detection \(PPE\)](#) object for a camera, the borders around detected objects can appear on the frame. The border color and thickness are determined by the RectColor and RectLineThickness registry keys (see [Registry keys reference guide](#)).

- b. The element doesn't have any images, and they must be uploaded. To do this, click the **+** button (1), and a standard Windows Explorer window will open, in which you can select an image file in JPG, PNG, or BMP format.

**Note**

The event with the **Acknowledged** status is available for processing only for the operator who took it. To release the event without processing, right-click the event and select **Release**:

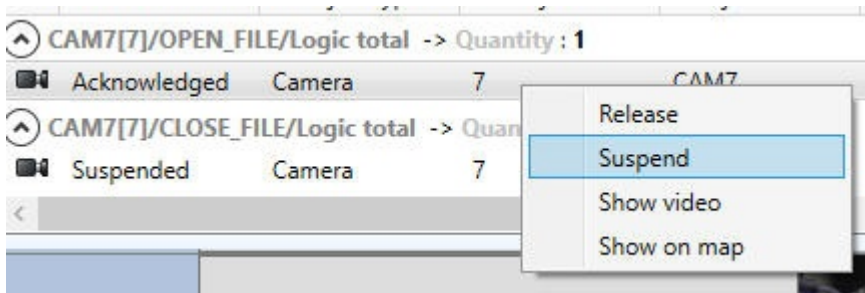


After you complete all stages, the event processing interface will close, and, if it was specified in the logic settings, a report indicating the actions and the user who performed them will be displayed (see [Interim report](#)).

**Suspending event processing**

If the operator goes to process another event without completing the processing of the current one, the event gets the **Suspended** status, and the processing elements become inactive. In this case, the event is unavailable for processing by other operators.

The operator can independently suspend the event processing if the appropriate permissions are given (see [Configuring user rights in Incident manager](#)). To do this, right-click the event and select **Suspend**:



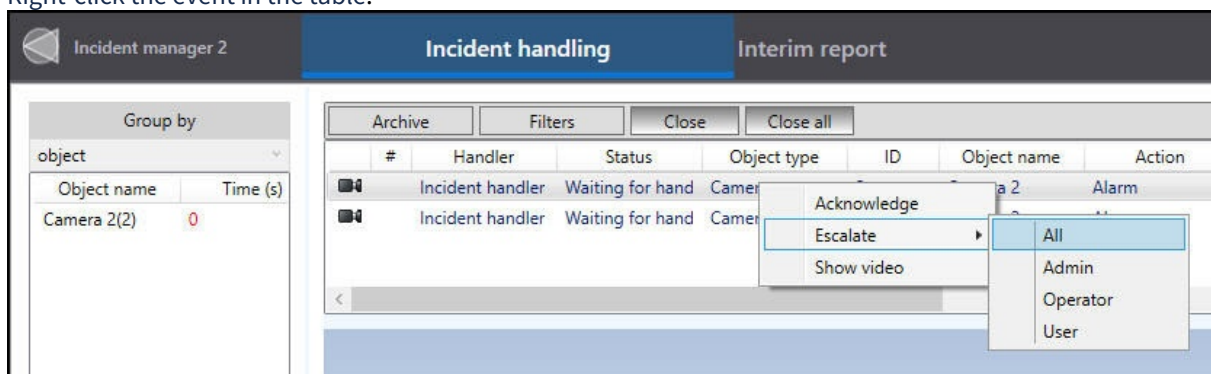
To continue processing the suspended event, right-click the event in the table again and select **Acknowledge**.

### Event escalation

In the settings, you can set the ability to escalate an event for processing to another operator of the system—escalation (see [Configuring user rights in Incident manager](#)).

To escalate manually, do the following:

1. Right-click the event in the table.



2. Click **Escalate**, and select to whom in the drop-down list:
  - a. All—escalation for all users, that is, any user can take the escalated event into processing.
  - b. Specific user from the list—the escalated event is assigned to the selected user.

If you don't set the option to see and work with the escalated events in the settings (see [Configuring user rights in Incident manager](#)), after escalation, the event will disappear from the list and will be displayed for another operator with the **Escalated/<Last name of the operator who escalated it>** status. In this case, the event will be in the state as it was at the time of escalation: if the operator started processing, the event will be at the unfinished stage.

Additionally, you can automatically escalate events after the specified time (see [Selecting events to display and handle](#)). In this case, the automatically escalated event will become unavailable for processing by the current operator and will be displayed with the **Escalated/Waiting for processing** status.

### Event group processing

Event group processing is possible if it is enabled in the [Configuring the events grouping in Incident manager](#).

Possible options:

1. After processing one of a group events, all remaining events of this group will be automatically closed.
2. Only the first event of a group is displayed in the event list display window. The rest of the group events will be automatically closed after the first event is processed.
3. When you escalate one event of a group, all events of a group are automatically escalated.

If the operator processes an event from a group, all events of this group will be blocked for other operators, and new events of a group will automatically change their status. In other words, all events of the selected group, including incoming new events, will be available for processing only to one operator until they process all events of a group. Other operators cannot process events from this group: if they try to process an event from this group, the message **Group is blocked** will be displayed.

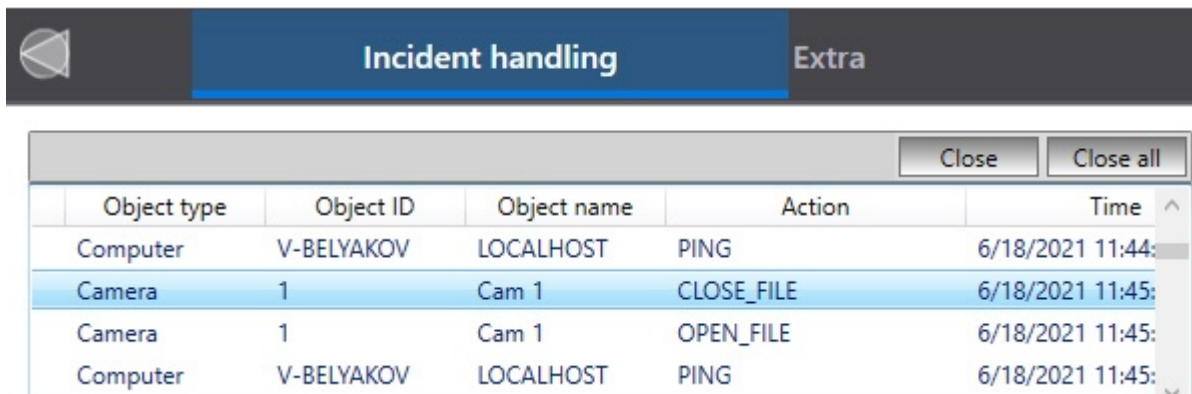
**Note**

If the operator took one event from a group into processing and released it without processing, the blocked events of a group are released again for other operators.

The color of the group name can also be changed at the group processing, see [Grouping events](#).

### Closing events without processing

If you set the ability to close events without processing in the settings (see [Configuring user rights in Incident manager](#)), then two buttons are displayed in the upper right corner of the event table:



The screenshot shows a software interface with a dark header bar containing a back arrow, the text "Incident handling", and "Extra". Below the header is a table with columns: Object type, Object ID, Object name, Action, and Time. The table contains five rows of event data. In the top right corner of the table area, there are two buttons: "Close" and "Close all".

Object type	Object ID	Object name	Action	Time
Computer	V-BELYAKOV	LOCALHOST	PING	6/18/2021 11:44:
Camera	1	Cam 1	CLOSE_FILE	6/18/2021 11:45:
Camera	1	Cam 1	OPEN_FILE	6/18/2021 11:45:
Computer	V-BELYAKOV	LOCALHOST	PING	6/18/2021 11:45:

1. The **Close** button is used to close one event; select it in the table and click the button.
2. The **Close all** button is used to close all events.

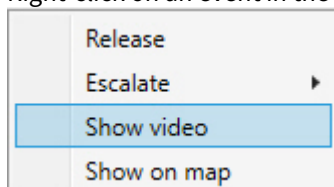
✓ Event statuses are described on the [Event information](#) page.

### Displaying video and object on the map

You can view the video recording of events and highlight the object that triggered the event on the map.

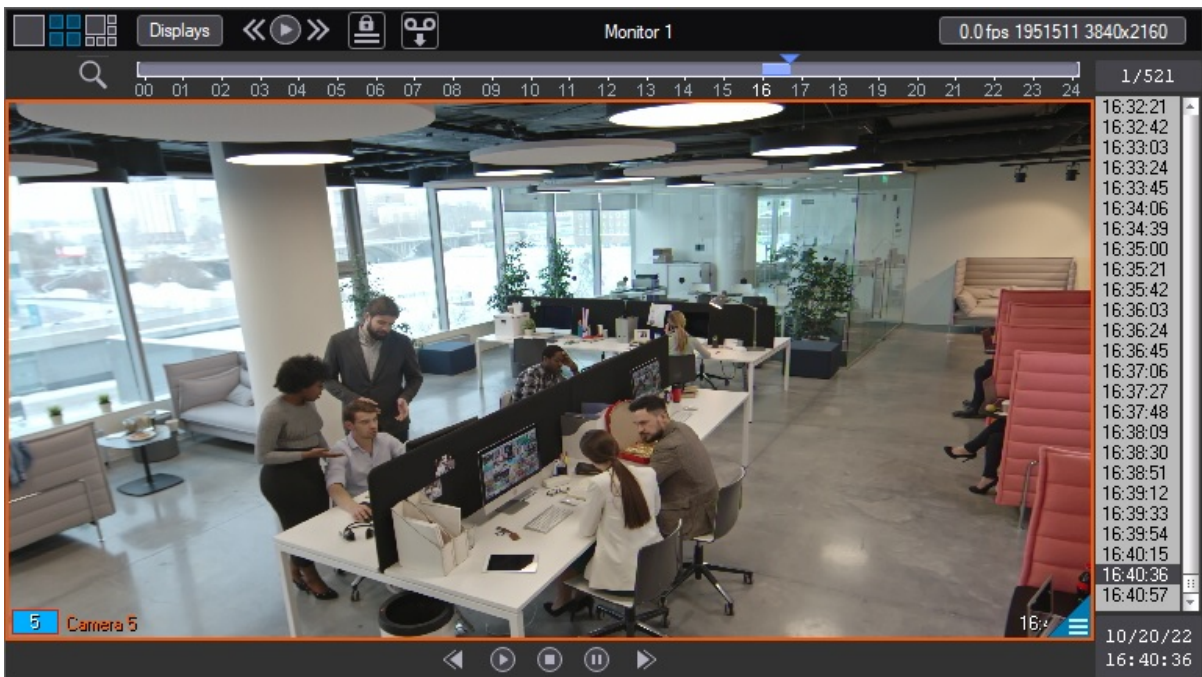
To view the video, do the following:

1. Right-click on an event in the table.



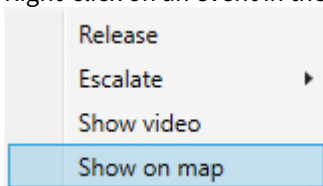
2. Select **Show video**.

As a result, a window for viewing the video archive will open:



To highlight an object on the map, do the following:

1. Right-click on an event in the table.



2. Select **Show on map**.

**Note**

If the Incident manager is not linked with the map in the settings, then this item will not be available (see [Configuring the main parameters of the Incident manager](#)).

As a result, the object will be briefly highlighted on the map.



### Interim report

To view the report on the operator actions during event processing, select an event in the list and click the **Interim report** button:



As a result, the **Operator actions report** window opens:

### Operator actions report

Event	
Object	Camera 4
1 Name	Alarm end
Time	24.07.2025 10:10:19
Add. info	Additional info 4

Operator		
2	Name	
	Surname	

Operator actions		
3 Action description	User action	Time
	Images added : 1	24.07.2025 10:11:24



	Send	24.07.2025 10:11:25
--	------	---------------------

The report displays the following information:

1. The event, the object that initiated the event, the date and time the event occurred, and additional information about the event (1).

**Note**

The time format in the report depends on the localization of the *Windows* OS.

2. Information about the operator who processed the event (2):
  - a. **Name** corresponds to the value of the **Name** field in the operator account (see [Registration of Operator accounts](#));
  - b. **Surname** corresponds to the value of the **Name** field in the operator account.
3. Description and time of operator actions (3).

The report is also generated automatically upon completion of event processing if it is specified in the logic settings.

The actions panel is located at the top of the window:



- 1—print the report;
- 2—open another report saved as a file;
- 3—save the document in rsd or xml format;
- 4—export the document to PDF, XLS, PNG and other formats;
- 5—view the content;
- 6—find text;
- 7—update the report: a new report window opens with updated data. The current window also remains open;
- 8—edit the report;
- 9—enable scrolling mode;
- 10—enable the dynamic scaling mode: the scale changes depending on the movement of the mouse up/down or scrolling the mouse wheel;
- 11—reduce and enlarge the display scale;
- 12—view the selected region of the report on a larger scale;
- 13—fit to page size;
- 14—fit to page width;
- 15—show in real size;
- 16—select the display scale;
- 17—enable one-page view mode;
- 18—enable the mode of viewing the sequence of pages;
- 19—go to the first/previous/next/last page;
- 20—move back/forward.


## 4.11 Working with the Map

### 4.11.1 General information about working with the Map

Map is an interactive graphic diagram of a distributed system used to monitor and control external system devices (cameras, microphones, sensors, relays).

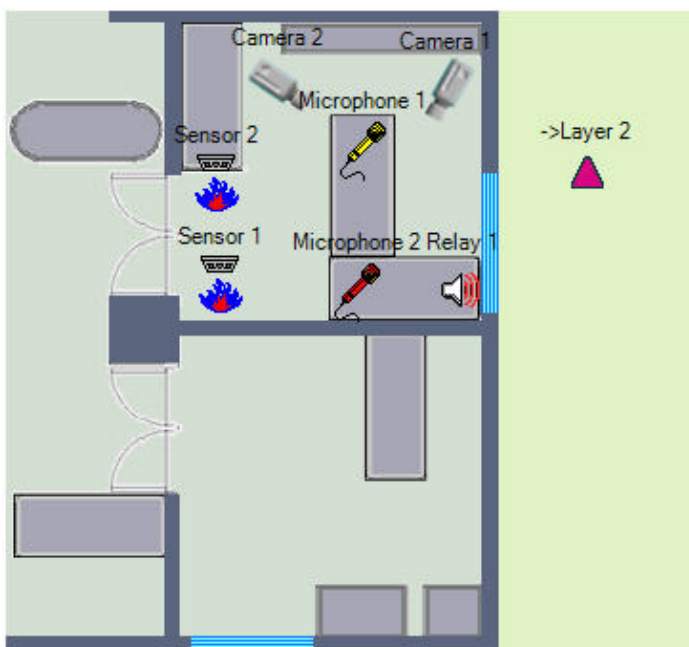
Security devices are displayed on the Map as symbols: status is displayed for each device. Access to the device functions is provided via the function menu, which is called up by a right mouse click on the required device image on the Map. Macros are also displayed in the Map as symbols. Macros are started from the function menu of the given macro symbol.

If the distributed system diagram has only one level (for instance, one protected floor of a building), the Map will consist of one level depicting the system diagram (single level map). If the protected territory has a few levels (for instance, a multi-floor protected building), the Map will be made up of a corresponding number of levels, where each level will depict a system diagram of the corresponding level (multilevel map). Additionally, the system diagram may be shown on the Map broken down into conventional fields and regions.

If the Map is multilevel, you must switch between the layers of the Map. To enable this, special links between the Map layers are established at the program configuration stage. To switch between the Map layers, use the  interlayer link button. Additionally, the interlayer link button shows the device status on the corresponding Map layer. In addition, automated switch-over between the Map layers and recursive search for alarm links in the Map are supported.

### 4.11.2 Graphic objects on the Map

Security devices of the System (cameras, microphones, sensors, relays) are displayed on the Map as icons (conventional characters, see the figure).



The graphic icon of the device in the Map shows the current status of the given device.

Graphic icon of device on the Map	Status of device
Green	Device is disarmed
Grey	Device is armed
Red blinking	Device registers an alarm event
Grey blinking	Device is not connected to the system

**Note**  
 This display circuit is not used for all types of security devices of the system. Certain modifications are possible for certain types of devices.

If the object has several states, then the device icon changes in accordance with these states in some time. When the object is marked on the map, then all its states are displayed next to it as minimized icons.



**Note**  
 The display of the minimized icons can be disabled at the stage of the system configuration—see [Operations with objects in the Map editor utility](#).

The selected object is framed. You can disable the display of the frame by setting the 1 value to the AlternativeSelect parameter (see [Registry keys reference guide](#)).

The layer link icons on the current layer display the status of devices on other layers of the Map.



When any security device registers an alarm event on any of the existing layers, the layer link icon starts blinking. The layer link icon continues blinking until the current alarm event ends, and no other alarm events occur on this layer.

Device functions can be accessed via a function menu displayed by right-clicking the icon of the device shown on the Map. Some items of the function menu are common to objects of different types—see [Common items in the function menu](#). The example of the function menu of the **Camera** object is shown in the figure.

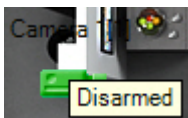


Actions on several devices of the same type can be performed at once. To do this:

1. Select several object icons, for example, several cameras, by left-clicking and holding the Ctrl key on the keyboard.
2. Right-click one of the selected icons.
3. Select an action.

If TouchScreen=1 registry key is set, you can also double-left click an object icon to call the function menu (for more information on the key, see [Registry keys reference guide](#)).

A tooltip with the name of the last event received from the object can be displayed above the object's icon (see [Configuring the event tooltips](#)). The tooltip size does not depend on the map scale.



### 4.11.3 Common items in the function menu

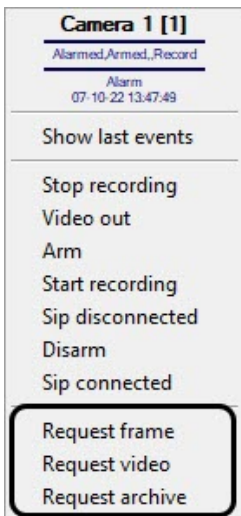
Most of the items available in the object's function menu on the Map differ depending on the object type. The items that are common for all or most of the objects are described in the subsections.

#### Requesting frames or video from the Map

By default, the possibility of requesting a frame or a live/archive video is disabled. You can enable it when configuring the system—see [Enabling the frame or video request function](#).

The frame, live video and archive video can be requested for the **Camera** objects, as well as for the objects linked with cameras (see [Connection of objects with cameras](#)).

To request frames and videos, use the following function menu commands:



Command	Result of execution	Illustration
Request frame	The last frame received from the camera is displayed in the Map window behind the object	
Request video	Live video from the camera is displayed in a separate window. The controls in this window are similar to the standard <b>Video surveillance monitor</b>	
Request archive	A separate window similar to the <b>Video surveillance monitor</b> in archive playback mode opens. The archive is positioned on the last entry	

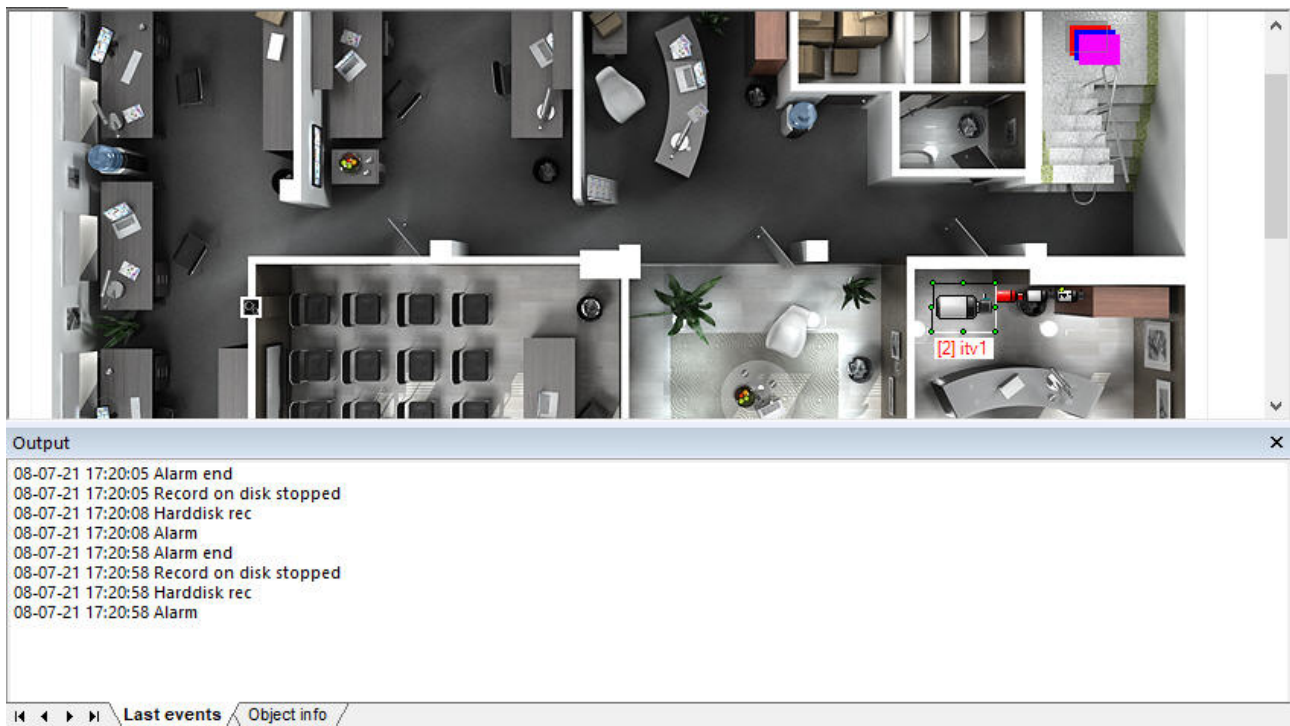
### Viewing the last events of an object on the map

By default, 10 last object events can be displayed in the Map window. You can change this number when you configure the corresponding Map object (see [Configuring the number of events displayed in the Map window](#)).

To display the last object events in the Map window, select the **Show last events** item in the object function menu.

Camera 1 [1]
Alarmed,Armed,Record
Alarm
07-10-22 13:47:49
Show last events
Stop recording
Video out
Arm
Start recording
Sip disconnected
Disarm
Sip connected
Request frame
Request video
Request archive

The **Output** window is displayed at the bottom of the Map window. The most recent events of the selected object are displayed in the **Last events** tab. The events registered before *Axxon PSIM* start may not be displayed depending on the settings.



The screenshot shows a 3D perspective view of an office environment. A red box highlights a specific area in the top right corner of the map. Below the map, an 'Output' window is open, displaying a list of events for the selected object. The events are as follows:

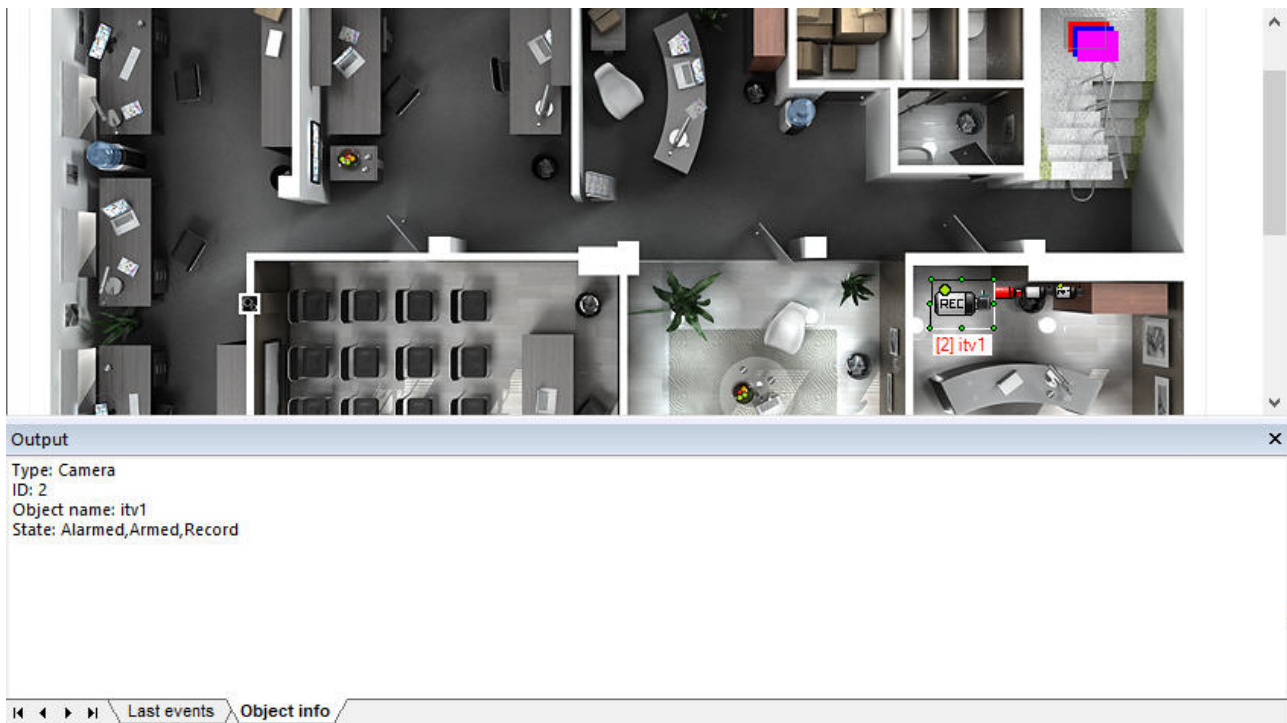
```

08-07-21 17:20:05 Alarm end
08-07-21 17:20:05 Record on disk stopped
08-07-21 17:20:08 Harddisk rec
08-07-21 17:20:08 Alarm
08-07-21 17:20:58 Alarm end
08-07-21 17:20:58 Record on disk stopped
08-07-21 17:20:58 Harddisk rec
08-07-21 17:20:58 Alarm


```

At the bottom of the Output window, there are two tabs: 'Last events' (which is active) and 'Object info'.

The general information about the object (type, ID, object name and state) is displayed in the **Object info** tab.



You can change the size of this window by moving any of its borders with the left mouse button. You can also move the **Output** window by left-clicking its title panel and dragging the window to the required part of the screen.

Click the  button in the upper right corner in order to close this window.

#### 4.11.4 Switching between layers of the Map

##### On the page:

- [Switching between the Map layers using the links](#)
- [Switching between the Map layers using the function menu](#)

If the Map is multilayered, you must switch between the layers. Switching between the map layers is performed in one of the following ways:



1. Using the links between layers.
2. Using the Map function menu.

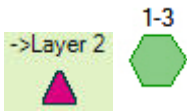
Auto switching between the Map layers is also supported. If auto switching is enabled, the program automatically switches to the Map layer where one of the devices has registered an alarm. For instance, if the Map window displays the **A** layer and at this point of time an alarm is registered on the **B** layer, the program will automatically switch to the **B** layer and show it in the window. In this case, a window displaying the Map may be shown over all

other windows. Auto switching between the Map layers is configured and enabled during the Program configuration.

### Switching between the Map layers using the links

To switch between the map layers, create the special links between the Map layers during the Program configuration.

To switch between the Map layers, use the appropriate  or  icon.



Each layer of the Map may have an indefinite number of link icons referring to any layer existing on the Map. A link icon to the previous layer can also be added.

To switch to another Map layer, left-click the icon corresponding to the required layer.

Moreover, the recursive search for alarm links on the Map is also supported. If this feature is enabled, devices which have registered an alarm, are searched for automatically across all Map layers. For instance, there are three layers, where layer 1 is linked to layer 2, and layer 2 is linked to layer 3. If the **Recursive alarming links search** option is enabled, a layer 3 link icon on layer 2 and also a layer 2 link icon on layer 1 will start blinking as soon as an alarm is registered on layer 3. Otherwise, if **Recursive alarming links search** is disabled, only a layer 3 link icon on layer 2 will be blinking. The **Recursive alarm links search** option is enabled during the Program configuration.

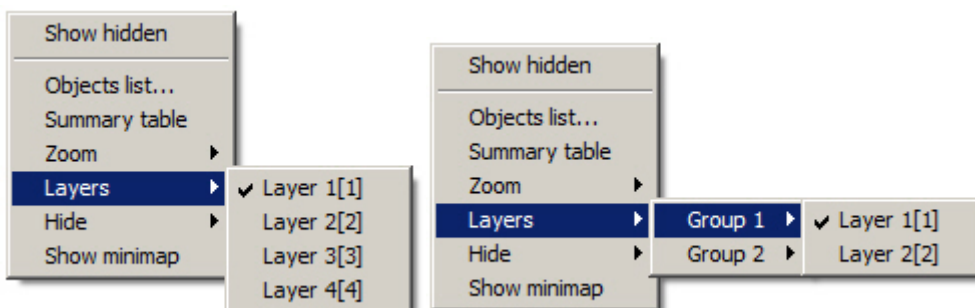
**Note**

If additional alarm indication on the layer is configured using the special alarm icon, then the icon will be changed to the icon specified in the settings and it will blink when detecting an alarm (see [Linking the layers of the interactive map](#)).

### Switching between the Map layers using the function menu

To switch between the map layers using the function menu, right-click the map area free from the object icons.

In the opened function menu, select the **Layers** item and specify the layer to switch to. If Map layers were grouped into folders in the objects tree at the system configuration stage, then at first select the corresponding folder and then the required layer.



This way of switching between the map layers does not require the previous settings and allows switching between the current layer to any other layer permitted to the user by rights.

## 4.11.5 Operations with cameras

### On the page:

- Camera status indication
- Camera operations
- Displaying camera on Video surveillance monitor when selected on Map

### Camera status indication

The camera icon on the Map depends on the type of camera: PTZ camera or regular camera. The camera icons on the Map are shown in the figure:

Camera 2[2]











Regular camera

Camera 1[1]



PTZ camera

The camera status is indicated through different colours and intermittent blinking of the given camera symbol on the Map.

Description	Camera Symbol		Camera Status
	Common	PTZ	
Green, the symbol is not blinking			Camera disarmed
Grey, the symbol is not blinking			Camera armed
Red, the symbol is blinking			Camera is armed, an alarm event is registered OR Camera is disarmed, an alarm is registered on an alarmed auxiliary detection zone
Grey, the symbol is blinking			No signal from the camera

**Note**

If camera performs recording, then the camera icon is marked with REC:  or .

### Camera operations

The camera is operated via the function menu of the given camera symbol shown on the Map.

You can access the function menu of the camera by right-clicking the corresponding camera symbol.

**Camera 1 [1]**  
Alarmed,Armed,,Record  
 Alarm  
 07-10-22 13:47:49

---

Show last events

---

- Stop recording
- Video out
- Arm
- Start recording
- Sip disconnected
- Disarm
- Sip connected

The function menu of the camera provides access to various operating functions of the camera.

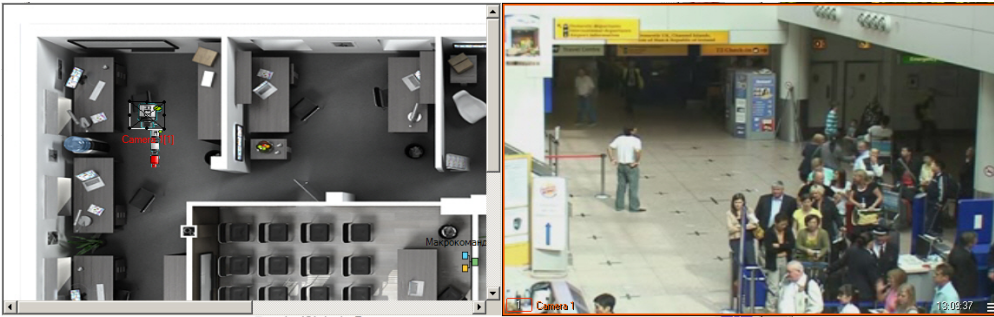
Item of the function menu	Function	Comments
Camera No./ Connection	Displays the identifier of the selected camera, as well as the date and time of the first connection of the camera	
Stop recording	Stops recording	See <a href="#">Stopping the recording</a>
Video out	Outputs the camera image to the analogue monitor connected to the system	See <a href="#">Video surveillance using an analog monitor</a>
Arm	Arms the camera in the main detection zone	See <a href="#">Camera arming and disarming</a>
Start recording	Starts recording on Operator's command	See <a href="#">Recording by Operator command</a>
Sip disconnected	Disconnection of a Sip device	See <a href="#">Intercom subsystem reference and information Guide</a>
Disarm	Disarms the camera in the main detection zone	See <a href="#">Camera arming and disarming</a>
Sip connected	Connection of a Sip device	See <a href="#">Intercom subsystem reference and information Guide</a>

**Note**

The **Start video export** and **Stop video export** menu items cannot be used on the Map, because the reactions corresponding to them need extra settings. You can use these reactions using macros and scripts (see [Administrator's Guide](#)).

## Displaying camera on Video surveillance monitor when selected on Map

If **Video surveillance monitor** in **Active camera** mode was configured at system setup (see [Configuring the display mode of camera windows](#)), then video from a camera is displayed on such a **Video surveillance monitor** when you select the camera icon on the **Map**.



#### 4.11.6 Operations with microphones

##### On the page:





- [Microphone status indication](#)
- [Microphone operations](#)

##### Microphone status indication

The microphone icon on the Map is shown in the figure.



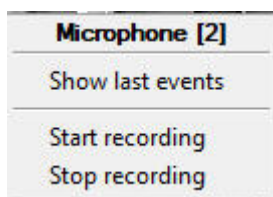
The microphone status is indicated by the colour of the icon used to show the microphone on the Map.

1. Blue  Microphone is ready for recording, but it is not armed
2. Red  Microphone is recording, an alarm event has been registered
3. Green  Microphone is ready for recording and it is not armed
4. Yellow  Microphone is not ready for recording, but it is armed

##### Microphone operations

The microphone is operated via the function menu of the given microphone icon shown on the Map.

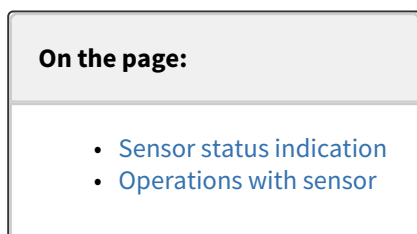
You can access the function menu of the microphone by right-clicking the corresponding microphone icon.



The function menu of the microphone provides access to various operating functions of the microphone.

Item of the function menu	Function	Comments
Microphone No./ Recording date and time	Displays an identifier of the selected microphone in the program, as well as the type, date and time of the latest recording	
Start recording	Arms the microphone, starts recording	See <a href="#">Microphone arming and disarming</a>
Stop recording	Disarms the microphone, stops recording	


#### 4.11.7 Operations with sensors









##### Sensor status indication


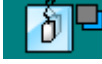
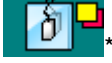
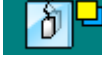


Identification of the sensor icon on the Map depends on the current operating mode and sensor status, as well as the type of intrusion sensor. The sensor is always in two states at the same time, so its icon on the Map is always blinking, and the state icons change in equal time intervals. State icons for different sensor types are shown below. The state written to the `dbo.STATES` database is given in the **dbo.state** column.


**Heat** sensor:

State	dbo.state	Icon on the Map
Armed	ARMED	








State	dbo.state	Icon on the Map
Disarmed	DISARMED	
Alarm	ALARMED	
Alarm confirmed	CONFIRMED	
Connection lost	DETACHED_DISARM	
Normal (off)	OFF	
Active (on)	ON	

**Glass sensor:**




State	dbo.state	Icon on the Map
Armed	ARMED	
Disarmed	DISARMED	
Alarm	ALARMED	
Alarm confirmed	CONFIRMED	
Connection lost	DETACHED_DISARM	
Normal (off)	OFF	





State	dbo.state	Icon on the Map
Active (on)	ON	

**Ceiling sensor:**








State	dbo.state	Icon on the Map
Armed	ARMED	
Disarmed	DISARMED	
Alarm	ALARMED	 *
Alarm confirmed	CONFIRMED	
Connection lost	DETACHED_DISARM	 *
Normal (off)	OFF	
Active (on)	ON	

**Window sensor:**








State	dbo.state	Icon on the Map
Armed	ARMED	
Disarmed	DISARMED	
Alarm	ALARMED	 *

State	dbo.state	Icon on the Map
Alarm confirmed	CONFIRMED	
Connection lost	DETACHED_DISARM	 *
Normal (off)	OFF	
Active (on)	ON	






**Infrared** sensor:



State	dbo.state	Icon on the Map
Armed	ARMED	
Disarmed	DISARMED	
Alarm	ALARMED	 *
Alarm confirmed	CONFIRMED	
Connection lost	DETACHED_DISARM	 *
Normal (off)	OFF	
Active (on)	ON	

**Smoke** sensor:

State	dbo.state	Icon on the Map
Armed	ARMED	
Disarmed	DISARMED	
Alarm	ALARMED	
Alarm confirmed	CONFIRMED	
Connection lost	DETACHED_DISARM	
Normal (off)	OFF	
Active (on)	ON	

**Reed sensor:**

State	dbo.state	Icon on the Map
Armed	ARMED	
Disarmed	DISARMED	
Alarm	ALARMED	
Alarm confirmed	CONFIRMED	
Connection lost	DETACHED_DISARM	

State	dbo.state	Icon on the Map
Normal (off)	OFF	
Active (on)	ON	

**Note**

Reference \* means that the image of the given icon is blinking.

For a **Sensor** security device type with the **Circuit closure** operation mode, an alarm event is generated in case of the sensor closure. For a **Sensor** security device type with the **Circuit interruption** operation mode, an alarm event is generated in case of the sensor interruption.

If the Sensor is armed, then the "Alarm" event is generated in case of the sensor on/off switch depending on the specified alarm mode (see [Creating and configuring the Sensor system object](#)). If the Sensor is disarmed, then the "Closed"/"Opened" events are generated correspondingly. If the connection between the *Axxon PSIM* and the sensor is lost, the "Connection lost" event will be generated.

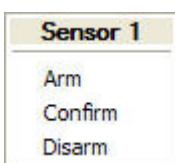
**Note**

When an alarm is registered by any sensor, connected through the Samsung SNC-M300P IP device, sensor icon with 1 channel number is activated (the given IP device supports two connection channels of sensors).

### Operations with sensor

The sensor is operated via the function menu of the given sensor icon shown on the Map.

You can access the function menu of the sensor by right-clicking the corresponding sensor icon.



The feature menu of the sensor provides access to various operating functions of the sensor.

Function menu item	Function	Comments
Sensor No./Date and time of the latest status modification	Shows the identifier of the selected sensor in the program, the current status of the sensor, the date and time of the latest sensor status modification	See <a href="#">Using sensors</a>
Arm	Arms the sensor	

Function menu item	Function	Comments
Confirm	Confirms alarm event registration by the sensor	
Disarm	Disarms the sensor	












### 4.11.8 Operations with the relay

**On the page:**

- [Relay state indication](#)
- [Operations with relay](#)

#### Relay state indication

The relay image on the Map depends on the current state of the relay, as well as on the relay type.

Relay state	Relay image on the Map			
	Relay type			
	No specified type	Light	Acoustic alarm	Lock
Off				 *
On				 *
Connection lost				 *

**Note**

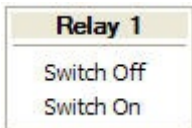
Reference \* means that the image of the given icon is blinking.

If the connection between *Axxon PSIM* and the relay is lost, the "Connection lost" event will be generated.

### Operations with relay

The relay is operated via the function menu of the given relay icon shown on the Map.

You can access the function menu of the relay by right-clicking the corresponding relay icon.



The function menu of the relay provides access to various operating functions of the relay.

Function menu item	Function	Comments
Relay No./Date and time of the latest status modification	Shows the identifier of the selected relay in the program, the current status of the relay, the date and time of the latest relay status modification	See <a href="#">Operations with relay</a>
Switch Off	Switches the relay off	
Switch On	Switches the relay on	

### 4.11.9 Operations with regions

To delimit protected territory in *Axxon PSIM*, the **Region** object is used. Protected territory delimiting helps to monitor and control objects of the security system more efficiently.

Monitoring function is performed by giving information about the **Region**—relative area of event source-object location. If any event comes from alarm object (camera, sensor and so on), this event will contain information on the Region where this object is. Information on object's belonging to one or another Region is displayed in the **Alarm notification window** (see [Alarm Message Window](#)) and **Event Viewer** (see [Event viewer](#)).

The **Map** is used for Region operation in *Axxon PSIM*. The icons of the **Region** object on the **Map** are given below.

1. Region is disarmed:



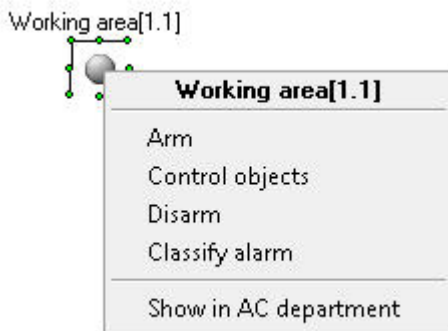
2. Region is armed:



3. Alarm in the Region. Alarm event from one or several objects that belong to this region is detected:



You can set any state to the **Region** by right-clicking the Region icon on the Map and selecting an item in the function menu:



There is general information at the top of the function menu: Region name, name and time of the latest completed action. After general information, there is a list of available commands.

Commands of the function menu of the **Region** object are described in the table.

Command	Description
Arm	Starts monitoring the states of objects in the Region. Region becomes alarmed when it gets corresponding events from objects
Control objects	Sets states to the objects of Region <b>Note 1.</b> To start the <b>Control objects</b> command in the function menu of the <b>Region</b> object, you must add a plug-in. <b>Note 2.</b> This command is available in <b>Macros</b> (see <a href="#">Administrator's Guide</a> )
Disarm	Stops monitoring the states of objects in the Region
Classify alarm	Cancel the alarm state of the Region

Command	Description
Show in AC department	The command can be used if <i>ACFA PSIM</i> is installed and the <b>Access Manager</b> window is displayed on the same display as the <b>Map</b> . The command displays the region and the users in it on the <b>Regions and areas</b> tab of the Access Manager. See also <a href="#">Access Manager Module Settings and Operation Guide</a>

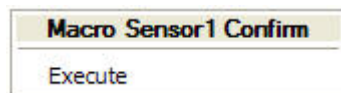
#### 4.11.10 Operations with macros

The macro determines how this or that object would react to events that occurred in the system. The macro icon on the **Map** is shown in the figure.



With the help of macros, you can work with **Regions**. Cameras, microphones, sensors and relays may be combined in the group with the help of these objects, and the system will respond to the events that occurred with them.

Each macro has a function menu that provides access to the execution of the given macro and displays the data about the macro.



The function menu contains the name of the macro and the **Execute** item used to run the macro.

To execute the macro, right-click the icon of the corresponding macro and select **Execute**.

#### 4.11.11 Working with SIP-devices and SIP-operators from the Map

The icons of the **SIP-device** and the **SIP-operator** objects created during [the SIP-terminal configuration](#) can be placed on the map to execute commands, for example, if the **Display only when calling** option was enabled at the stage of [the SIP-panel object configuration](#) (see [Advanced settings of the SIP-panel interface object](#)).

In this case, the SIP-panel is not displayed if there are no incoming calls, and you can initiate a call using a macro (see [Macros for working with SIP-terminal](#)) or from the **Map** in the function menu of the **SIP-device** and/or the **SIP-operator** objects with the following commands:

1. **Audio call (forward/take)**—the device and/or the operator will forward or take the audio call.
2. **Video call (forward/take)**—the device and/or the operator will forward or take the video call.

As a result, the SIP-panel window will be displayed. You can also put the current call on hold, resume the call, or end the call from the **Map** using the corresponding commands.

SIP-device 1 [1] <small>Not in the network</small>	SIP-operator 1 [1] <small>Not in the network</small>
Show last events	Show last events
End call	End call
Audio call (forward/take)	Audio call (forward/take)
Video call (forward/take)	Video call (forward/take)
Hold	Hold

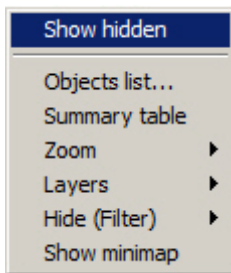
**Note**

If there is no call, the icon of the camera assigned to the SIP-device displays the **Detach** state, because no video from the camera is received. For details on object icons on the **Map**, see [Graphic objects on the Map](#).

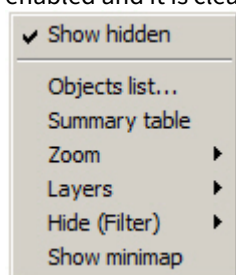
### 4.11.12 Hiding and displaying graphic objects on the Map

The object icon on the **Map** can be visible or hidden. An object can be hidden in one of the following ways:

1. At the system configuration stage. Visible objects are always displayed on the **Map**, whereas hidden objects are displayed only in the hidden objects display mode. The hidden objects display mode is enabled using the **Show hidden** item in the **Map** function menu that you can access by right-clicking any place on the **Map**, which is free from object icons:



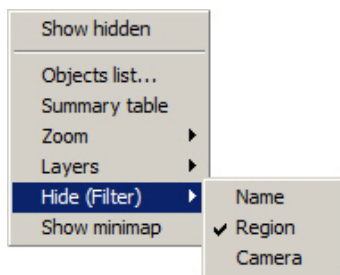
The status of the mode is indicated by a checkbox next to the **Show hidden** item—it is set when the mode is enabled and it is clear when the mode is disabled:



**Note**

The hidden objects display mode applies to all Map layers.

2. With the filter on the map layer. This filter applies only to the current layer and hides all objects of the specified type or the names of objects. Hiding and displaying objects is performed using the **Hide (Filter)** command in the Map function menu that you can access by right-clicking any place on the **Map**, which is free from object icons:



Hidden objects are marked with a checkbox.

The **Name** item is used to hide the names of all objects on the current map layer: if it is selected, then only graphic images of objects (icons, lines, etc.) are displayed on the layer without captions.

Specifics of hiding objects:

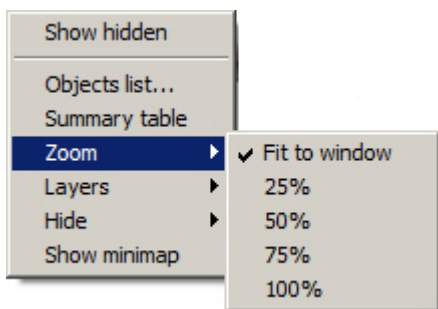
- The hiding specified at the system setup stage has priority over the hiding selected on the map layer. Therefore, if an object is hidden at the setup stage, it will not be displayed even if the checkbox in the **Hide (Filter)** menu item checkbox is clear.
- If the names of objects are hidden and an alarm event occurs, the name of the object with the alarm event will be displayed during the alarm. Similarly, a hidden camera is displayed during an alarm.
- The display mode of hidden objects (the **Show hidden** item checkbox is set) does not affect the object filters applied on the layer: if objects are hidden using the **Hide (Filter)** item, then even if the **Show hidden** item checkbox is set, they will remain hidden on this Map layer.

### 4.11.13 Map scaling

**Map** scaling allows enlarging and reducing the size of the image shown in the **Map** window.

#### Scaling a map with an image or color background

The scale is selected via the function menu of the **Map** that you can access by right-clicking any place on the **Map**, which is free from object icons.



To set the scale, select the required scale value in the **Zoom** submenu or click the **Fit to window** item that is used to set the scale, allowing the full **Map** image to fit into the **Map** window. The selected scale is saved when you restart *Axxon PSIM*.

#### Scaling an external map

If an external map is selected as the layer background (see [Configuring the external Map server](#)), then the map scale is also selected using the **Zoom** item in the function menu, however, the scale is set as a number from 1 to 19 (4 by default). The current value is displayed in the bottom line of the **Zoom** submenu.

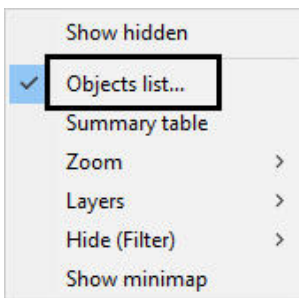


You can also scale the external map using the mouse wheel while holding down the Ctrl key on the keyboard.

#### 4.11.14 Monitoring the object status using the Objects list

The object status can be monitored not only by object icons on the **Map**, but also by using the Objects list.

The Objects list can be accessed via the **Objects list** item of the function menu of the Map that you can access by right-clicking any place on the Map, free from object icons.



The interface of the **Objects list** window is shown in the figure.



When you select an object in the list, it is also selected on the Map, and the Map is centered on the selected object. When you select an object on the Map, the object is also selected in the list.


The middle part of the **Objects list** window displays a table describing object statuses on all layers of the Map: each object is described by the name and current status. The table shows both visible and hidden objects, regardless of the selected hidden objects display mode on the Map. Each object of the **Objects list** has a function menu (right-click the line containing the object's name) that is completely identical to the function menu of the corresponding object on the Map (see [General information about working with the Map](#)).

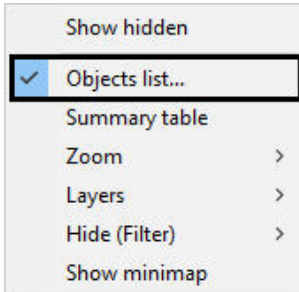
The upper part of the **Objects list** window contains the fields for filtering the object in the status table:

1. The **Type** field is used to filter the objects according to their types.
2. The **State** field is used to filter the objects according to the status of the given object type. The state-based object filtering is only possible, if the type of object is selected in the **Type** field. If the **Disabled** state is selected, the object of the specified type that were disabled when configuring the system will be displayed (it means, objects with the **Disable** checkbox set on the settings panel).
3. The **Layer** drop-down list allows displaying objects from a selected layer. This layer doesn't have to be displayed on the Map.
4. The **Name** field is used to search for an object by its name or a part of the name taking into account the configured filters. Search by name is started automatically after you enter the value into the field.

The lower part of the **Objects list** window contains the **Last event** and **Additional info** fields that are used to display the information about the object selected in the table (to select an object, left-click the line containing the object in the table). The **Last event** field displays the data about the last event registered for the selected object:

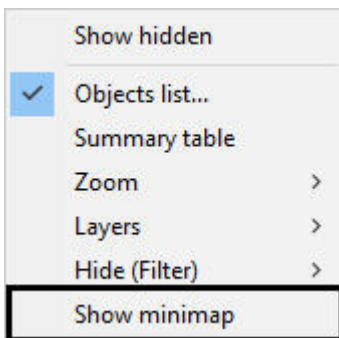
name, date and time of the event. The **Additional info** field is used to display additional information about the event (if any).

To close the **Objects list** window, click the  button in the upper right corner of the window or select the **Objects list** item in the function menu of the Map again.



#### 4.11.15 Minimap

To show the minimap, right-click the map area free from object icons and select the **Show minimap** item in the menu.



#### Note




You can configure *Axxon PSIM* so that the minimap appears when you point the cursor to the top left corner of the map. This is set by the ShowOnMouseMove key (see [Registry keys reference guide](#)).




Minimized object icons are displayed on the minimap. Blue rectangle indicates the part of the layer currently displayed in the map window. The map window is centered on the selected point when you left-click the minimap.

You can drag the minimap window by its header by holding down the left mouse button. You can change the size of the minimap by stretching or shrinking the window by its borders.

In the upper right corner of the minimap window, there is a Map scale control panel:

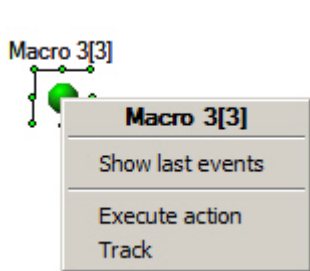
- The  and  buttons are used to zoom in and zoom out the Map by 10%.
- The  button corresponds to the **Fit to window** function.
- The **x1 x2** buttons set the Map scale to 100% and 200% respectively.

To close the minimap window, click the  button in the upper right corner.

#### 4.11.16 Enabling object tracking on interactive map

In *Axxon PSIM*, you can use PTZ cameras that support positioning by absolute coordinates to track objects on the map. Information about this feature is given in [Using absolute telemetry](#) section of [Installing and configuring security system components guide](#).

To start tracking, select the **Track** item in the function menu of an object on the map.



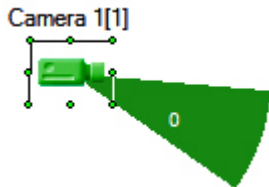
The **Track** item appears in the function menu of an object on the Map only if the following conditions are met:

- Object tracking monitor on the Map is selected.
- Geo tagging is added.
- Object is added to the map as an Image.

If the **Track** menu item is selected, then if coordinates of the tracked object are changed, the camera, in the FOV of which it appeared, rotates to the point where it appeared, and the video from this camera is displayed on the object

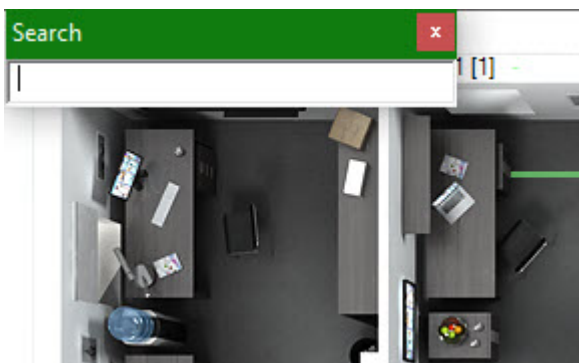
tracking monitor. When all the objects leave the PTZ camera FOV, it stops being displayed on the object tracking monitor.

If the [camera viewing angle display on the Map is preconfigured](#), then the viewing sector position changes when the camera is rotated, and the numerical value of the rotation angle is displayed on top of the viewing sector.



#### 4.11.17 Searching an object on the map by its name and ID

To search for an object on the map by its name or ID, press Ctrl+F on the keyboard. The Search window will be displayed in the upper left corner of the Map window.



Enter the name or ID of the object and press Enter. If you entered an object ID for the search, then the search is performed both by the ID and by name. Press F3 on the keyboard to show the next search result, press Shift+F3 to show the previous result. These hotkeys function if you are positioned on the Map window, that is left-click in the Map window.

The found objects are outlined with green dots and black-and-white circles. After the object is found, its icon blinks for a few seconds.

If the object is not on the displayed layer, then you will be switched to the required layer.

## 4.12 Operations using the Client

### On the page:

- [General information](#)
- [Starting the Client](#)
- [Connecting to the Server](#)

### 4.12.1 General information

Client is a computer on which *Axxon PSIM* is installed with the **Remote Monitoring Workstation (Remote Client)** installation type.

### 4.12.2 Starting the Client

You can start the Client in one of the following ways:

1. Automatically. The program starts automatically as soon as the operating system is downloaded.
2. Manually. To start the program manually, select **Client workstation** in the **Start** menu of Windows (**Start** → **All Programs** → **Axxon PSIM** → **Client workstation**) or use an appropriate shortcut on the desktop.

### 4.12.3 Connecting to the Server

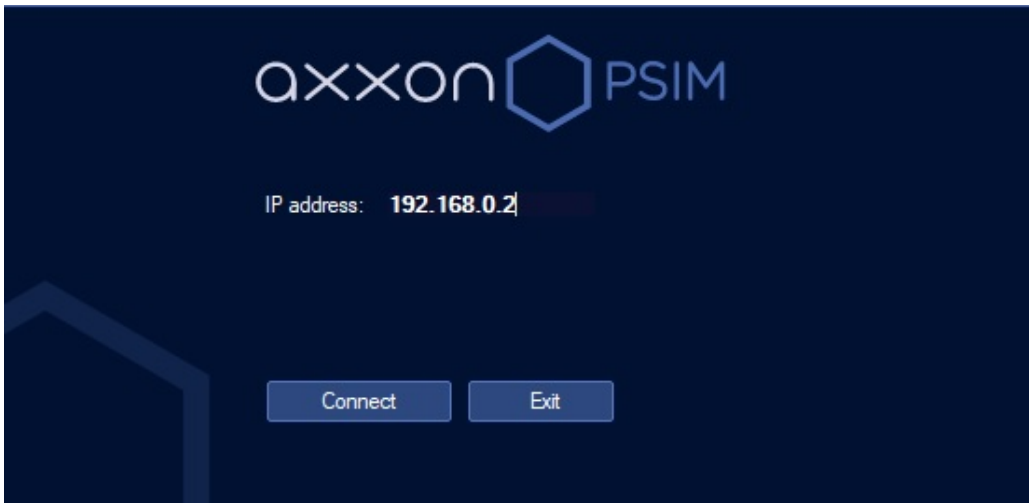
As soon as the Client is started, the system automatically starts a search for an active kernel of the server program.



**Note**

When the Client is started for the first time, the search uses IP address 127.0.0.1 (localhost). In all following cases the search will use the last entered IP address.

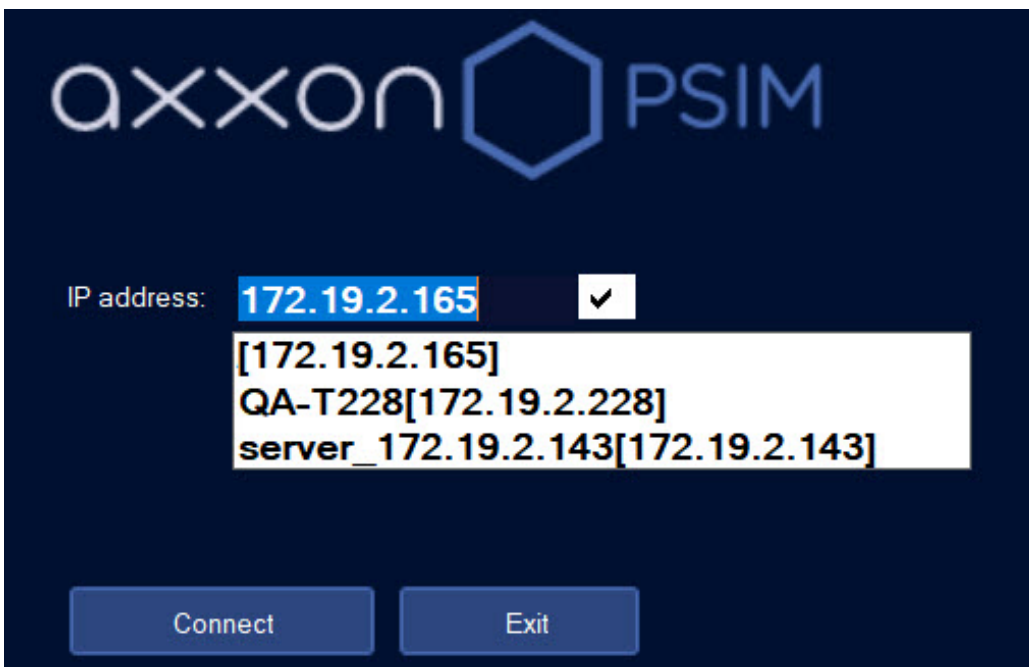
If the program kernel is not found, the Operator will be suggested to manually enter the IP address or DNS name of the computer on which the server part of the program functions, or exit the program.



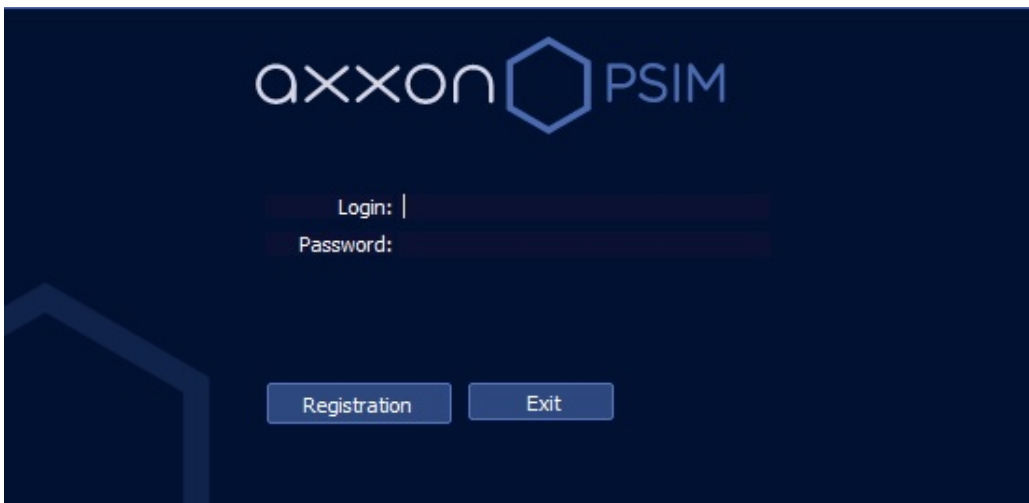
To complete the operations, click the **Exit** button.

To start a search using another IP address or DNS name, enter the required address or name in the **IP-address** field and click the **Connect** button. As soon as you click the **Connect** button, the system will start searching for the active program kernel at the specified address.

If it is provided by the settings, a drop-down list with the last IP addresses used for the connection will be displayed and you will be able to select one of them:



If the active program kernel is found at the given IP address or DNS name, the system will automatically connect to the found program kernel. If required, a login and password will be requested to access the server part of the program.



After you entered the login and password, click the **Registration** button. If connection is established successfully, the user interface of the Client will be downloaded. Otherwise, the system will request the credentials again.

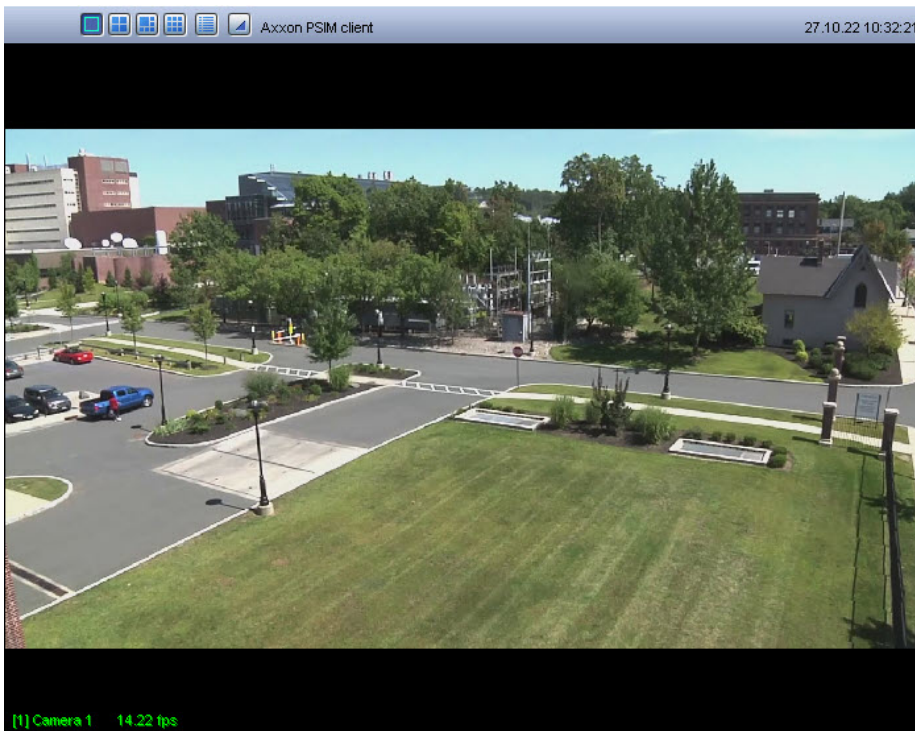
## 4.13 Video surveillance using the Web browser

### 4.13.1 General information about video surveillance using the web browser

The **Video surveillance monitor** for the web browser is used for remote video surveillance over the protected facilities using the web browser and TCP/IP communication environment. However, remote video surveillance through the web browser does not require *Axxon PSIM* to be installed.

**⚠ Attention!**

The browser you are using must support Java. This is why video surveillance using Firefox 52 and later is not supported.



The color of the **Video surveillance window** border and text of the camera name reflect the status of the surveillance camera corresponding to the given **Surveillance window**.

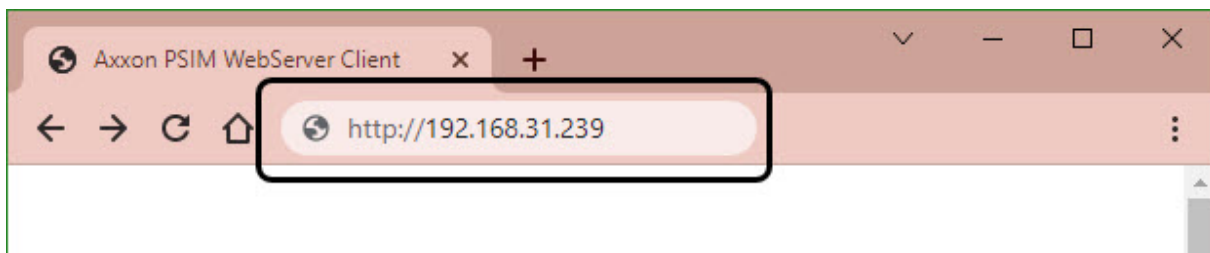
Color of the Surveillance window border	Color of the camera number border	Camera status
Yellow	Yellow	The camera is armed, recording isn't performed
Red	Red	An alarm event has been registered on the camera, recording on alarm is in progress, or recording initiated by the Operator's command before the alarm continues
Green	Red	Camera is disarmed, recording initiated by the Operator's command is in progress or additional recording on alarm is in progress
Yellow	Red	Camera is armed, recording initiated by the Operator's command is in progress or additional recording on alarm is in progress
Green	Green	Camera is disarmed, recording isn't performed
Red	Yellow	An alarm event has been registered on the camera, however recording on alarm isn't in progress

**Note**

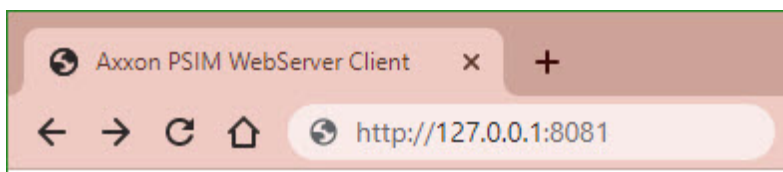
All indication diagrams as presented correspond only to the main detection zones, without auxiliary zones. When a camera is armed or disarmed within auxiliary detector zone, the color of the **Surveillance window** border remains unchanged, however in case of an alarm event in the auxiliary zone, the color of the **Surveillance window** border turns red. That is why indication of arming and disarming of the camera by auxiliary zones isn't performed.

### 4.13.2 Connection to the Server

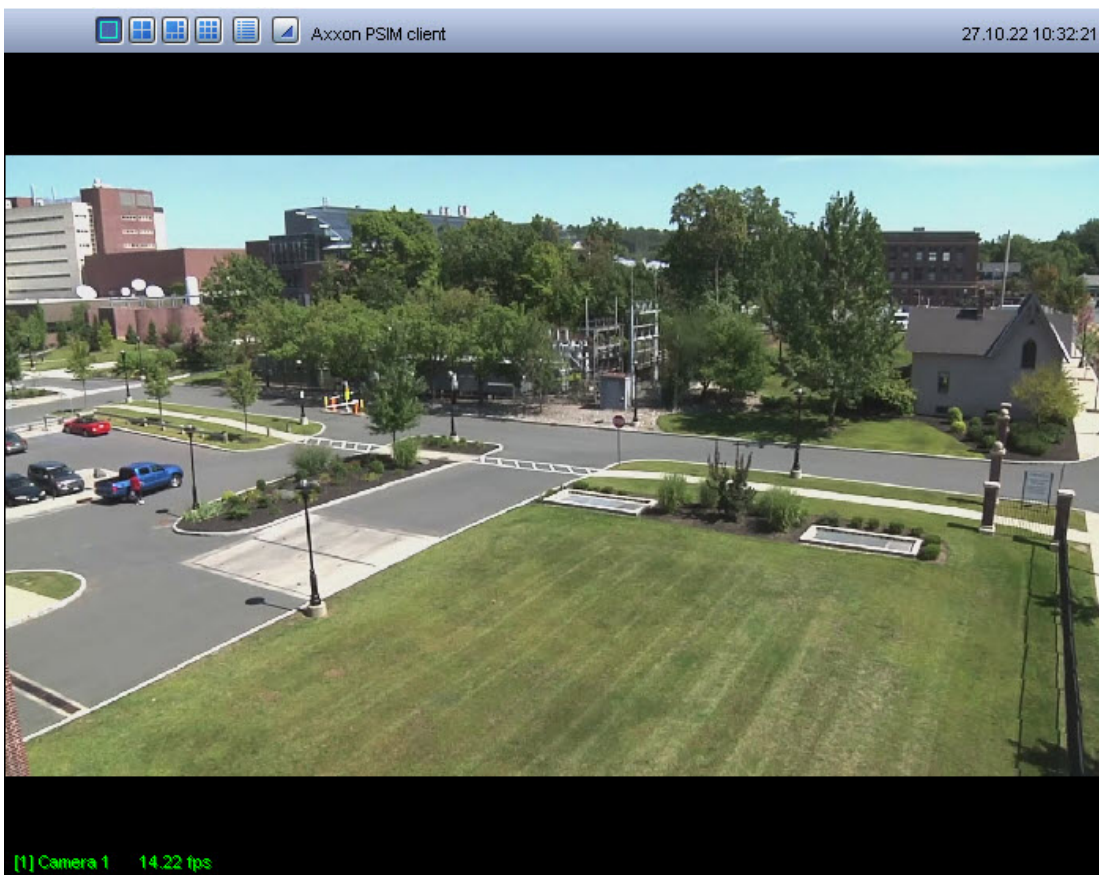
To start the **Video surveillance monitor** of the web server, enter the IP address of the corresponding server in the browser address bar and press **Enter**.



If the default value of the HTTP-server port was changed when configuring the **Web-server** object, to connect to the web server, you will need to enter the IP address and the specified port number separated by a colon. See also [Parameters of connecting Clients to the Web-server](#).



Interface of the **Video surveillance monitor** for the given web server will be downloaded in a few minutes.



#### Note

Remote access to the Web-server can be restricted due to the certain settings. In this case, a login and user password will be required to access the Web-server. Depending on the user permissions configured in *Axxon PSIM*, the login/password can be as follows:

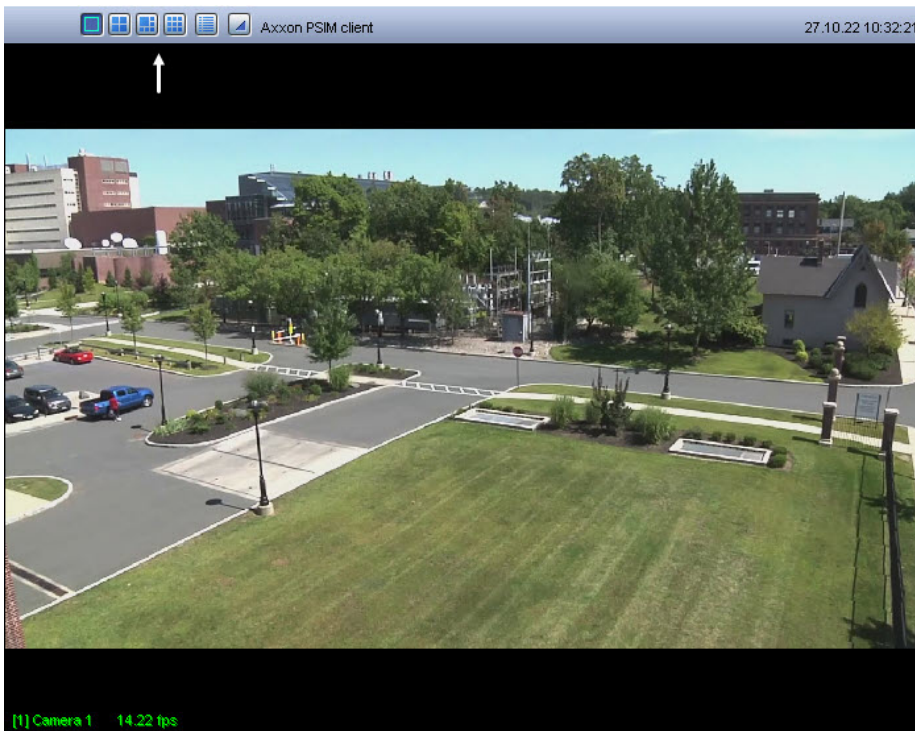
1. The login and password assigned to the user when adding the user to the user permissions.
2. The login and password of the Windows user outside the domain. In this case, the username is entered in the `\\COMPUTER-NAME\` format. For example, `\\USER-COMP\`
3. The login and password of the Windows user within the domain. In this case, the username is entered in the `\\DOMAIN\user_name` format. For example, `\\DOMAIN\user.name`. You can also enter username without specifying the domain, for example `user.name`.


### 4.13.3 Changing the number of Surveillance windows during surveillance from a web browser

You can change the number of **Surveillance windows** on one monitor of the web browser using the set of buttons



on the toolbar of the **Video surveillance monitor** of the web browser.

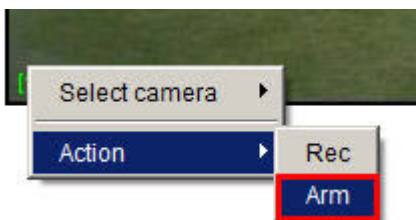


The one-fold  button is used to open only one window. Other buttons are used to display a certain number of windows (4, 6 or maximum 9) on the **Video surveillance monitor** of the web browser.

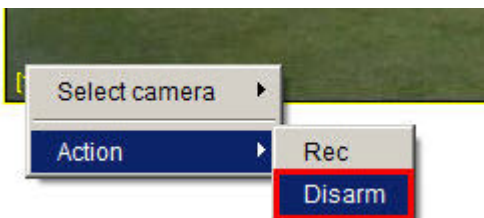
#### 4.13.4 Arming and disarming a camera during surveillance from a web browser

You can arm and disarm a camera using the function menu of the **Surveillance window** of the web server monitor.

To arm the camera, select **Arm** in the function menu.



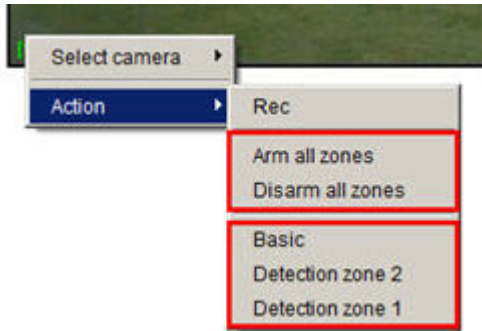
To disarm the camera, select **Disarm**.



Camera arming and disarming is supported with the corresponding indication (see [General information about video surveillance using the web browser](#)).

### 4.13.5 Enabling and disabling detection during surveillance from a web browser

You can enable and disable camera detection tools using the function menu of the **Surveillance window** of the web server monitor.



To enable or disable a detection tool, click its name in the detection tools list in the **Action** submenu of the function menu of the **Surveillance window**.

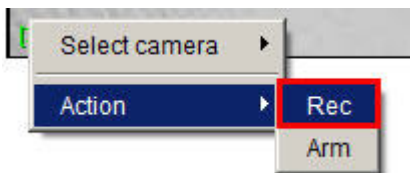
To enable (disable) all camera detection tools at the same time, select **Arm all zones (Disarm all zones)**.

Enabling and disabling detection tools is indicated appropriately (see [General information about video surveillance using the web browser](#)).

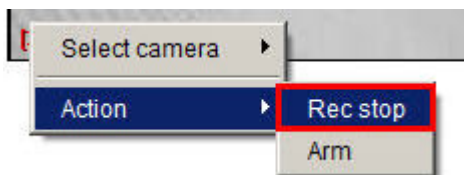
### 4.13.6 Video recording during surveillance from a web browser

You can control video recording using the function menu of the **Surveillance window** of the web server monitor.

To start video recording on the camera, select **Rec** in the function menu of the **Surveillance window** that corresponds to the given camera.





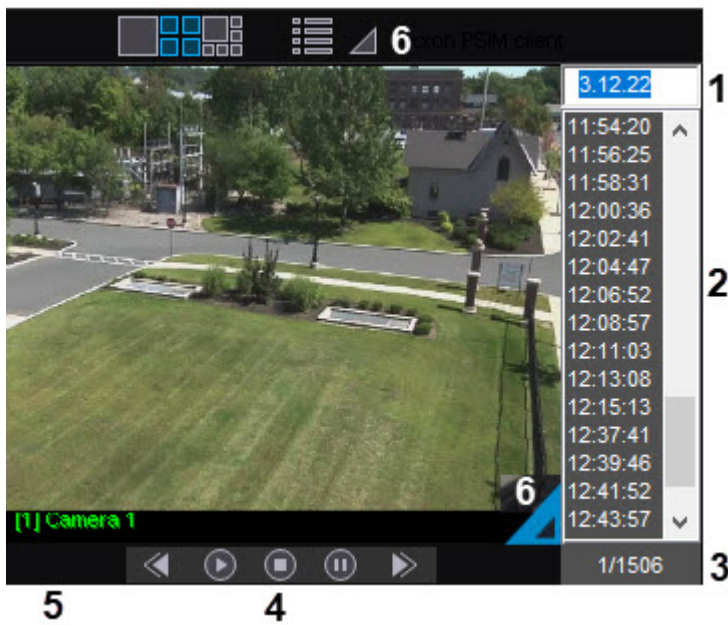
To stop recording, select **Rec stop** in the function menu of the **Surveillance window**.



The current status of recording is indicated by the color of the camera number border in the **Surveillance window** (see [General information about video surveillance using the web browser](#)).

### 4.13.7 Working with the archive using a web browser

To access the archive playback mode, click the  icon in the bottom right corner of the **Surveillance window** of the web server monitor or the  icon on the toolbar of the **Video surveillance monitor** of the web browser. The archive playback control panel will be displayed.



Elements of the playback control panel are described in the table.

Element image	Description	Comments
1	Recording date filter	Editable field used to filter the displayed recordings by date
2	List of recording segments	Lists recording segments made on the date indicated on the recording date filter
3	Playback position indicator	Shows the current playback position in the frame relative to the selected recording segment
4	Playback control panel	Controls video playback
5	Camera indicator	Indicates the camera status and used to display the function menu of the <b>Surveillance window</b>
6	Exit archive playback mode	Exits the archive playback mode and returns to video surveillance

An algorithm for navigating through the archive can be as follows:








1. Select the camera, the archive of which you want to access, using the function menu of the **Surveillance window**.



2. Select the day during which the required archive was recorded, specifying the appropriate date in the recordings date filter.
3. Select the video segment based on the timestamp from the list of recording segments.
4. Playback the selected segment, using the control panel.




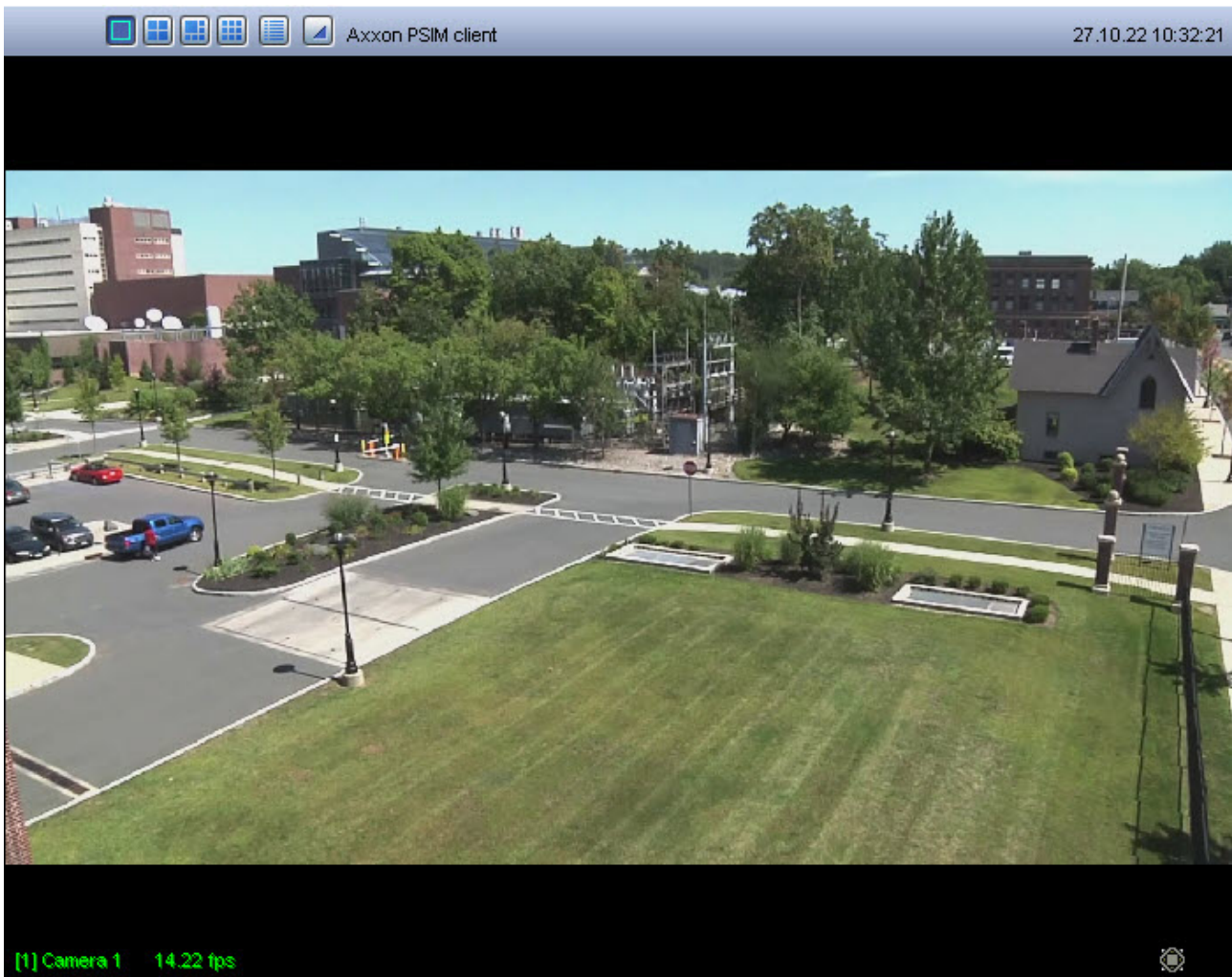
The  button starts playing back the selected recording segment, the  button stops the playback.


The  and  buttons are used to rewind and fast forward the recording segments in the playback mode, as well as to list the frames in the pause mode. If you stop the recording playback using the  button, then the  button is used to go to the beginning of the recording and the  button is used to go to the end of the recording. To go to the pause mode, click the  button, to resume the playback, click the  button.

#### 4.13.8 Controlling PTZ devices during surveillance from a web browser

You can control the PTZ device of a camera in the **Surveillance window** of the web server monitor.

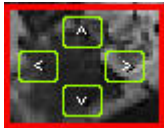
If you can control the PTZ device of a camera, the icon  will be displayed in the **Surveillance window** of the corresponding camera:







To access PTZ device controls, click the  icon with any mouse button. The PTZ device control panel will be displayed.

Elements of the PTZ device control panel interface are described below.



1. Control elements for camera lens adjustment:



- a.  —upward movement of the lens
- b.  —downward movement of the lens
- c.  —left-side movement of the lens
- d.  —right-side movement of the lens

2. Control elements for zoom adjustment of the camera lens:




- a. —reduce image scale (zoom out)
- b. —enlarge image scale (zoom in)

 **Note**

You can perform an action by clicking the control elements with left mouse button. Holding down the left mouse button for a long time doesn't repeat the specified actions.

3. PTZ device control panel element:

—hide/display the PTZ device control panel.

To hide the PTZ device control panel, click the icon  with any mouse button again.

## 4.14 Video surveillance using the mobile Clients

You can connect to the *Axxon PSIM* Server remotely using iOS and Android devices.

For more information about functionality, configuration and operation of mobile Clients, see [AxxonSoft mobile Clients. Documentation.](#)

## 4.15 Working with panoramic video surveillance window

The Panoramic video surveillance window is designed for creating and using the panoramic image.

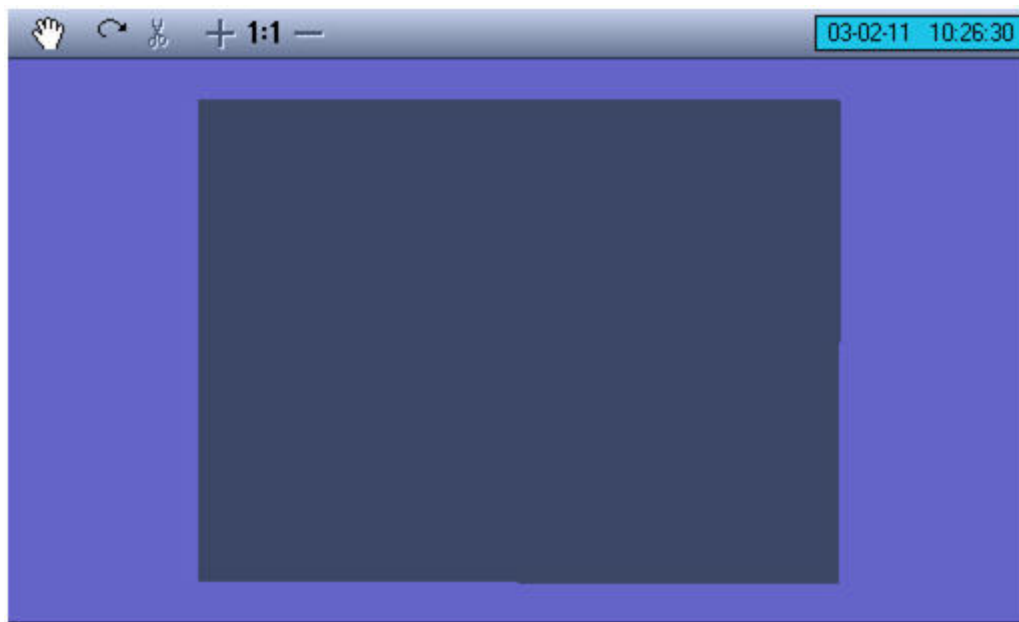
### 4.15.1 Starting the panoramic video surveillance window

You can start the Panoramic video surveillance window in the following way:

1. Display the Main control panel (see [Main control panel](#)).
2. Select the **Interface** button on the Main control panel.



3. As a result, the *Axxon PSIM* user interface control menu will be displayed.
4. Select the **Screen** menu item.
5. As a result, the Panoramic video surveillance window will be displayed.



#### 4.15.2 Navigation mode

You can use the Navigation mode to monitor the created scene. To enable this mode, click the **Navigation** button. You cannot enable other video processing modes in this mode (buttons are inactive).

By default, this navigation mode is disabled.

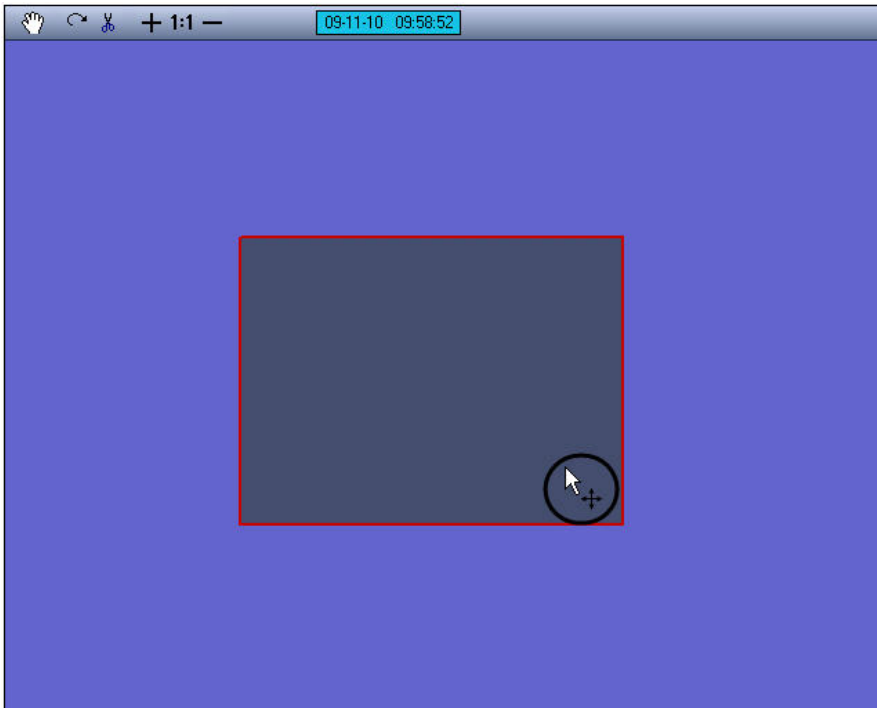


#### 4.15.3 Video image arrow mode

Video image arrow mode is used for convenient placement of video images within the **Surveillance window**.

You can move video images by dragging them with the mouse.

You can enable the arrow mode by clicking the left mouse button on the video image window that you want to move. The presence of the moving indicator means that the mode is enabled.



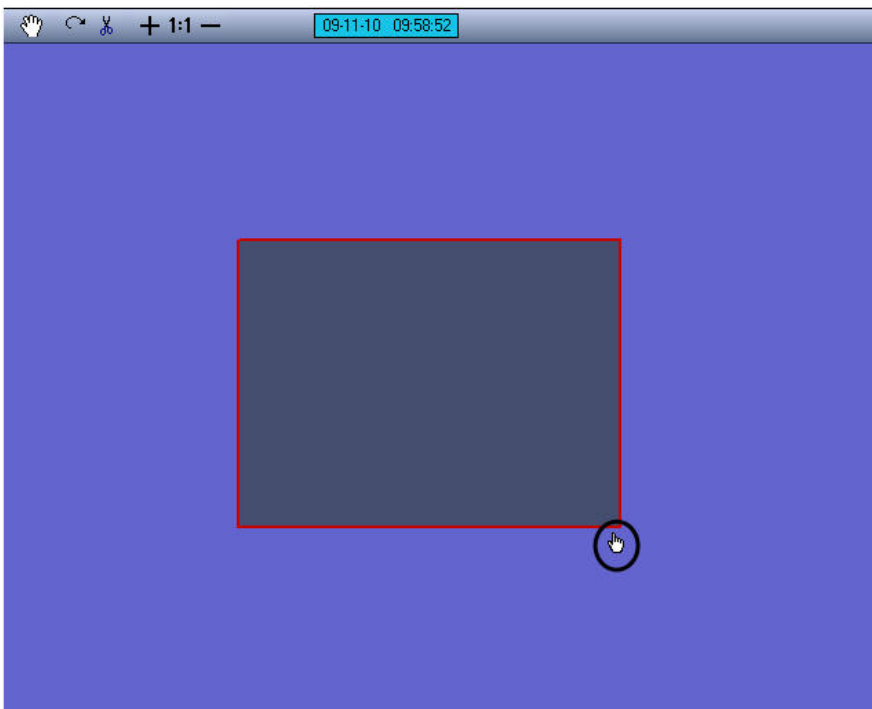
To move video images, do the following:

1. enable the arrow mode;
2. point the mouse cursor to the video image that you want to move;
3. click left mouse button and, holding it down, move the cursor to the required area of **Surveillance window**;
4. release the left mouse button.

#### 4.15.4 Perspective correction mode

Perspective correction mode is used to change the shape of the video image arbitrarily.

You can enable the perspective correction mode by clicking the left mouse button on the **Surveillance window**, for which you want to perform the correction. The presence of the perspective indicator next to the frame of the selected video image means that the mode is enabled.



To correct the video image perspective, do the following:

1. enable the perspective correction mode;
2. point the mouse cursor to a corner of active image. The cursor will look like a hand with an index finger up;
3. click the left mouse button and, holding it down, move the image corner to the required area of the **Surveillance window**;
4. release the left mouse button.

#### 4.15.5 Video image panning mode

Video image panning mode is used to pan the video image relative to the axis perpendicular to the video image plane and running through its centre. You can pan the video image about this axis to any angle.

You can enable the video panning mode by clicking the **Pan** button on the control panel.



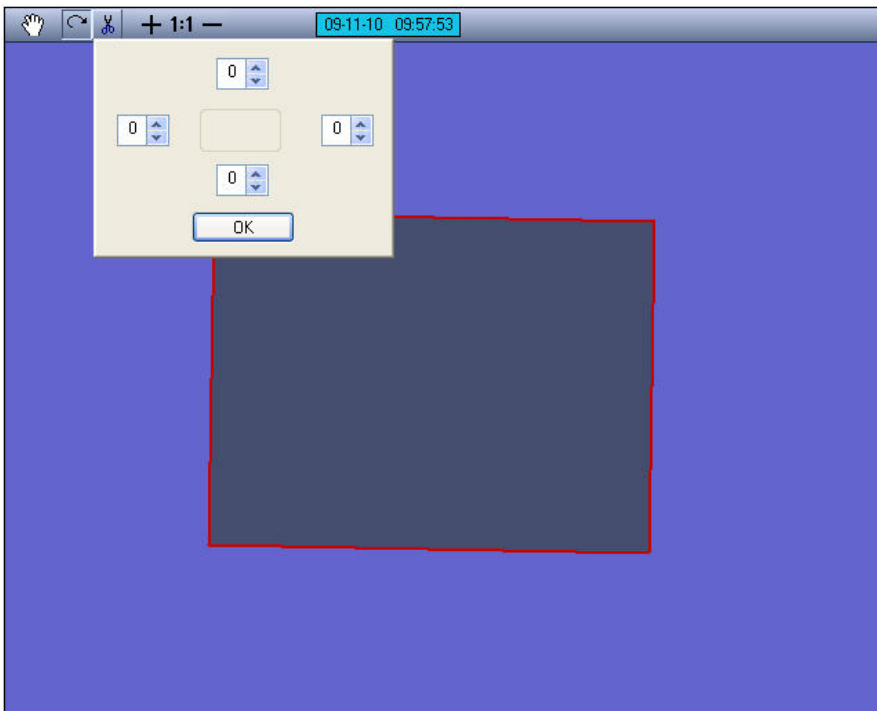
To pan the video image, do the following:

1. enable the panning mode;
2. point the mouse cursor to video image that you want to pan;
3. click the left mouse button and, holding it down, move the cursor to the required area of the **Surveillance window**;
4. release the left mouse button.

### 4.15.6 Video image cut borders mode

Video image cut borders mode is used for more detailed video images adjustment. Cutting borders is performed by the set number of pixels, counted from the image borders. The area, left after cutting the borders, will be enlarged to original image sizes.

To enable the video image cut borders mode, select the video image that you want to cut and click the **Cut borders** button on the control panel.



The panel for setting the sizes of the video image area that has to be cut will be displayed. In the fields of this panel, set the width of the video image area in pixels that you want to cut. Every field corresponds to one of the video image borders: upper field—upper border, right field—right border, and so on.

After you set the width of the video image area that you want to cut, click the **OK** button located at the bottom of the panel.

#### **Note**

If you click the **Accept** button after setting the width of the video image area that you want to cut, you can return to the original image size only by resetting the previously set cut borders and clicking the **OK** button.

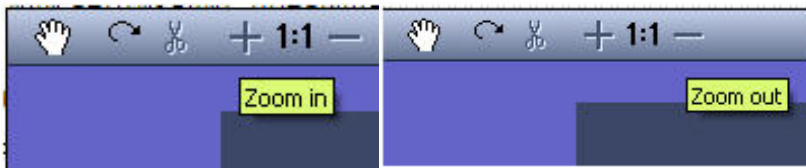
#### **Note**

You can cut each border of the selected video image by 15 pixels maximum.

### 4.15.7 Zooming in and out the video image

The zoom in and zoom out modes are available in any of the video processing modes.

To zoom in a video image, select the video image that you want to process and click the **Zoom in** button that looks like a plus + icon until the image gets the required size.



If you zoom in the video image to a size (horizontally and/or vertically) that exceeds the size of the **Scene** object window, a scroll bar will appear at the bottom and/or right side of the **Scene** object window. You can go to the part of the enlarged video image not displayed on the screen by moving the rectangular sliders of the scroll bar to the required position.

To zoom out a video image, select the video image that you want to process and click the **Zoom out** button that looks like a minus - icon until the image gets the required size.

#### **Note**

There are no restrictions on the minimum video image size when working with the **Scene** interface object. Note that the video image can disappear if you repeatedly zoom it out.

### 4.15.8 Restoring video image

Video image restore mode is used to restore video images (restore the default sizes, shape, and location parameters).

The video image can be restored in the 1:1 aspect ratio. The 1:1 aspect ratio corresponds to the video image display according to its actual resolution. For example, if a frame has a resolution of 352x288 pixels (standard), then in the 1:1 aspect ratio, its size on the screen will be 352 pixels horizontally and 288 pixels vertically.

Video image restore mode is available in any of the video processing modes.

To restore the video image in the 1:1 aspect ratio, select the video image. A red border will appear around it. Click the **Restore** button that looks like a **1:1** icon.



## 4.16 Working with the Captions search interface object

### 4.16.1 Search in the captions database

Before start searching, you must create a query.

The screenshot shows a search interface with the following fields:

- Search mode:** A dropdown menu set to "All words".
- Search string:** A text input field containing "camera".
- Period from:** A date and time selector set to "10/11/2022" and "12:00:00 A".
- to:** A date and time selector set to "10/18/2022" and "11:59:59 P".
- Search:** A button to execute the search.

You must enter the key phrase that you want to search in the **Search string** field. The key phrase can include both individual words and combinations of words.

When making a key phrase for combining several elements (words and/or combinations of words), select one of the following search modes from the **Search mode** drop-down list:

1. **All words**—to search captions containing all elements of a key phrase (a space is a separating character).
2. **Any word**—to search captions containing at least one element of a key phrase (a space is a separating character).
3. **Substring**—to search captions containing all the key phrase elements in the specified order (the number of spaces is ignored).

You can also use the \* character when making a key phrase. It means any number of any characters in a word.

You can set the time interval for data search in the **Period from** and **to** fields.

Before searching, you must select captioners by setting the checkboxes next to the required captioners in the captioners status table.

Captioners	Status	Total
<input checked="" type="checkbox"/> Captioner 1	Query executed	7
<input type="checkbox"/> Captioner 2	Connection established	0
<input type="checkbox"/> Captioner 3	Connection established	0
<input type="checkbox"/> Captioner 4	Connection established	0
<input type="checkbox"/> Captioner 5	Connection established	0

To start the search, click the **Search** button.

When the search is performed, the query status is displayed in the captioners status table (Executing query status for all selected captioners).

Captioners	Status	Total
<input checked="" type="checkbox"/> Captioner 1	Executing query ...	8
<input type="checkbox"/> Captioner 2	Query executed	0
<input type="checkbox"/> Captioner 3	Connection established	0
<input type="checkbox"/> Captioner 4	Connection established	0
<input type="checkbox"/> Captioner 5	Connection established	0

You can cancel the search by clicking the **Cancel** button.

When the search is complete, all transactions found in the selected captioners are displayed in the search results table.







Export and processing functions similar to those of the **Video surveillance monitor** are available in this window. In particular, you can export videos with superimposed captions. For more details on using the **Video surveillance monitor** functions, see [Operator's Guide](#).

When watching a video, the selection of caption text in the search results field is shifted in accordance with the time of the video archive. Transactions are not switched if the video continues to play after transaction end.

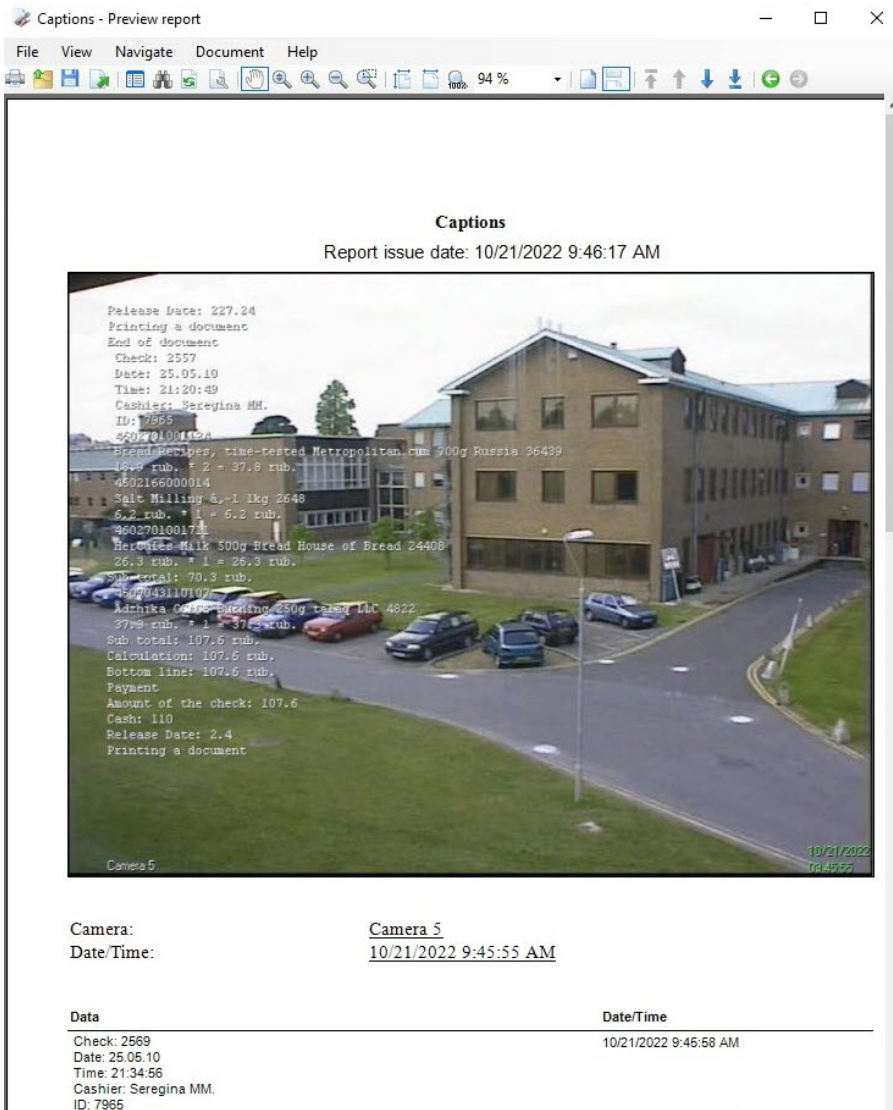
#### 4.16.2 Printing the search results

You can print the search results, including video screenshots, as well as export them to different formats.

Use the **Print** button  to print the search results.



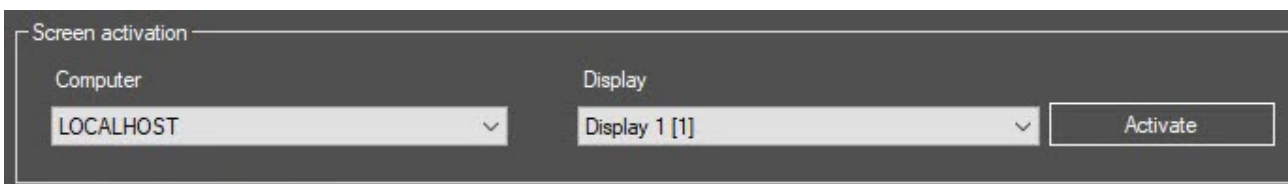
The availability of this feature depends on the system settings. The **Print** button can be unavailable. The search results report will be automatically created and displayed in a new window.



## 4.17 Managing the displays using the Display manager

### 4.17.1 Selecting and activating the display

To select a display, in the **Computer** drop-down list, select a computer to which the required display is assigned (see [Assigning the screens to the operator workstations](#)). Then in the **Display** drop-down list, select the required display.



As a result, the required Video surveillance monitor objects, created on the basis of the **Display** object will be available in the **Setting and activation of monitors** group.

In order to display the selected display on the desktop of the specified computer, click on the **Activate** button.

## 4.17.2 Configuring and activating the layouts

The procedure of configuring and activating the layouts

The layout are configured and activated in the following order:

1. [Selecting the Video surveillance monitor.](#)
2. [Selecting, creating, and scrolling layouts.](#)
3. [Configuring the cells and adding the Surveillance windows to the layout.](#)

### Selecting the Video surveillance monitor

The Video surveillance monitor is selected using the **Monitor** drop-down list:

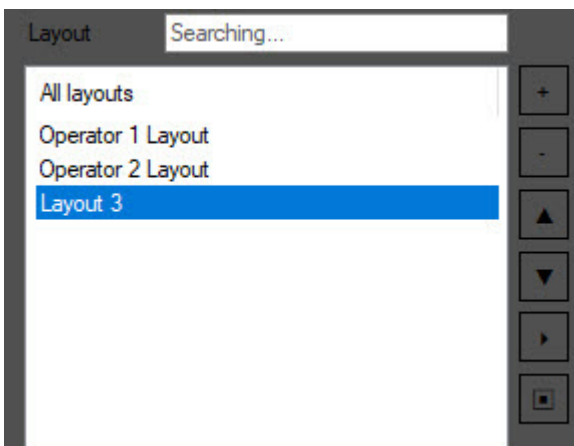


After the Video surveillance monitor is selected, its coordinates and dimensions are displayed on the right, as well as the number of the physical monitor on which it is displayed.

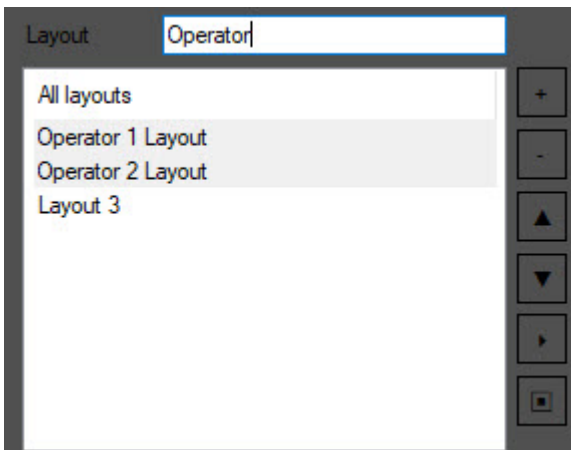
The Video surveillance monitor objects created on the basis of the selected **Display** object are available in this list (see [Selecting and activating the display](#)).

### Selecting, creating, and scrolling layouts


You can use the following group of settings to select, create, delete, rename, sort, search, and scroll layouts:

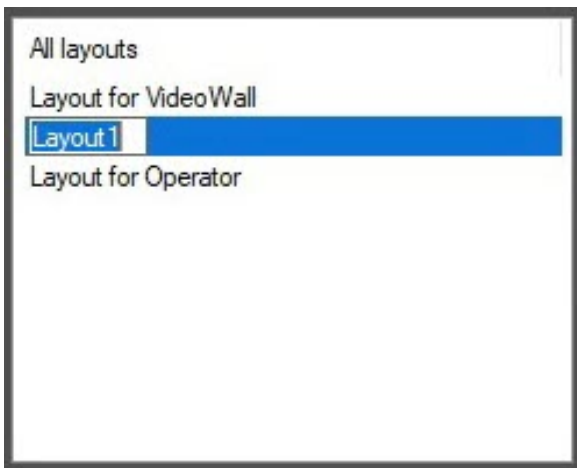



To search for the required layout, start entering the layout name in the **Layout** field. The found elements are highlighted in grey.




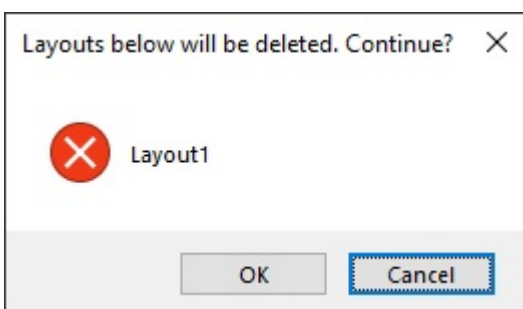
To select a layout to be displayed on the layout creation panel, left-click its name in the list.

To create a layout, click the  button. The layout is added to the list with the default name ("Layout <number>"). To rename the layout, select it in the list, then left-click its name and enter a new name.

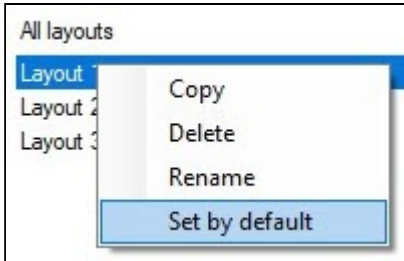




To delete a layout, select it and click the  button. You can select several layouts with the Ctrl key pressed on the keyboard.

When you click the  button, a window opens. This window confirms the deletion of the list of layouts. Click **OK** to delete the layouts or **Cancel** to cancel the operation.



To move a layout up or down in the list, use the  and  buttons, respectively. You can also delete or rename a layout using the corresponding commands in the menu that you can open by right-clicking the layout name:



To scroll the layouts, you can use the  (start scrolling) and  (stop scrolling) buttons or macros (see [Examples with Cameras and Video surveillance monitors](#)).

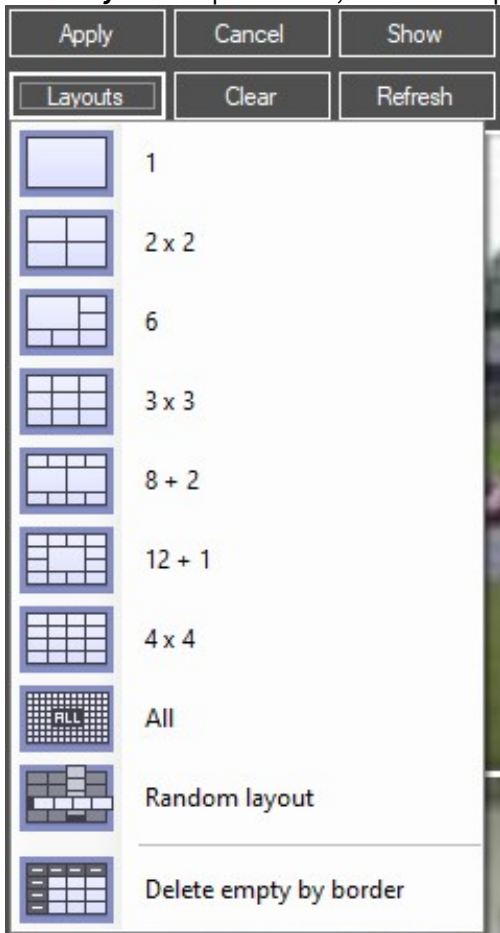
## Configuring cells and adding Surveillance windows to a layout

### Configuring cells

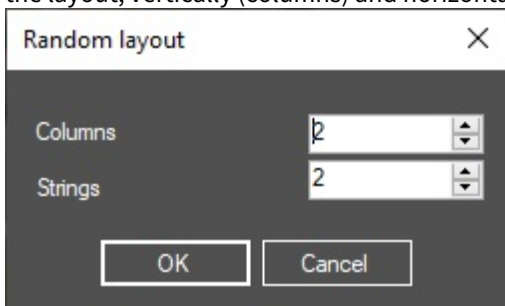
After you [select or create a layout](#), you must configure the location and size of cells and add **Surveillance windows** to them.

You can select the number and form of cells in one of the following ways, or both at the same time:

1. In the **Layouts** drop-down list, select the required layout form.



If you select the **Random layout** item, the window opens, in which you must specify the number of cells in the layout, vertically (columns) and horizontally (strings).



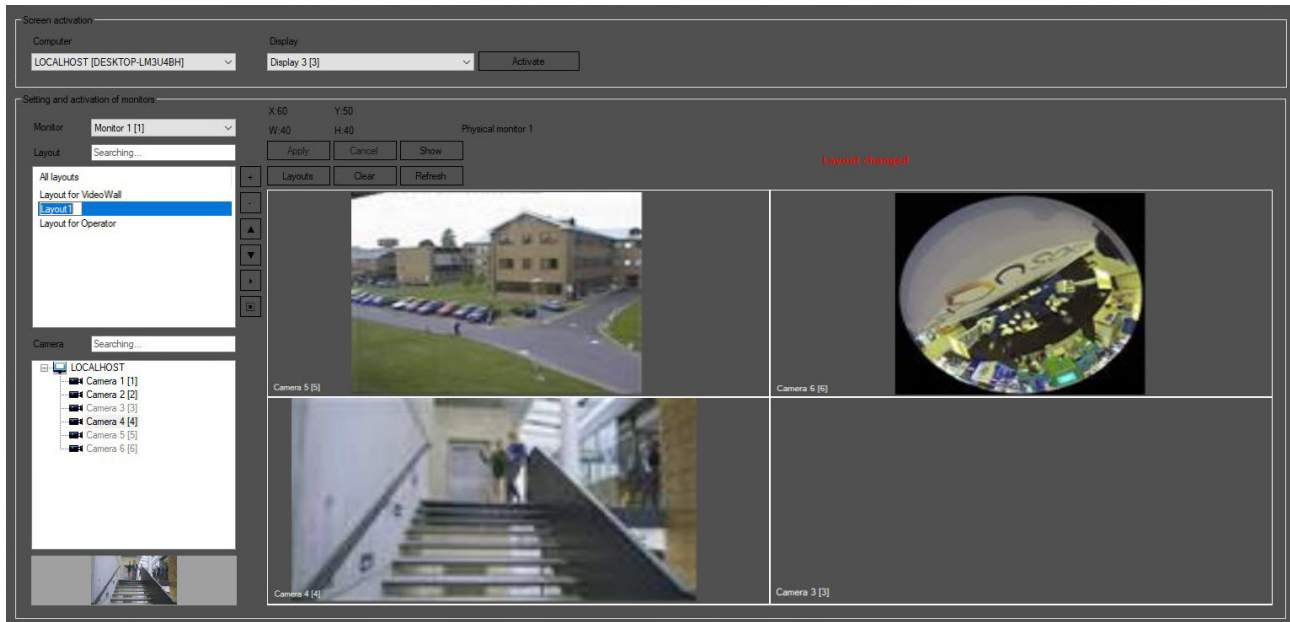
2. You can adjust the layout form manually using the <, >, V, ^ buttons. Each click of these buttons expands the cell by one position in the corresponding direction.  
In order to remove unnecessary empty cells along the border, select the **Delete empty by border** item from the **Layouts** drop-down list.

**Note**

Separators between cells are two pixels wide.

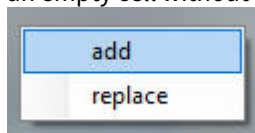
## Adding cameras to a layout

After you configured the required form and number of cells, you must add **Surveillance windows** to a layout. To do this, drag the cameras from the list to the layout cell using the left mouse button. The list displays cameras selected on the settings panel of one or several **Monitor** objects (see [Selecting and configuring video cameras](#)) created on the basis of the selected **Display** object (see [Selecting and activating the display](#)).



## Features of adding cameras to a layout:

- You can add the **Surveillance window** of a single camera to a layout only once. The cameras that are already added to a layout are highlighted in gray in the list.
- If you drag a camera into a cell that already displays a **Surveillance window**, a menu with the following items opens: **replace** the current camera in the cell with the camera that you drag, or **add** a new camera to an empty cell without replacing it:



- To search for a camera, enter the camera name or ID in the **Camera** field. The first found camera is highlighted in the list. To move to the next search result, press Enter on the keyboard.

### Note

If you don't select any layout, or if no matches are found when you search for a layout, no cameras are displayed in the list.

- To display the configured layout on the **Video surveillance monitor**, click the **Show** button. Prior to that, save the layout using the **Apply** button.
- If a layout was created using the **Display manager**, then the frames displayed in the camera at the moment when it was added to the layout are displayed in the **Surveillance windows**. If a layout was created using the **Video surveillance monitor**, then in order to display these frames in the **Surveillance windows**, click the **Refresh** button.
- To delete all cells from a layout, click the **Clear** button.
- To save a layout, click the **Apply** button.

- To undo the changes and return to the last saved layout, click the **Cancel** button.

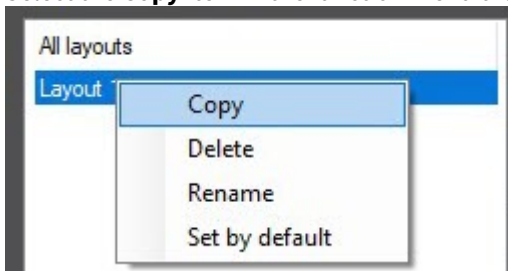
### **Attention!**

If after changing the layout, you select another layout, another **Monitor** or another **Display**, the changes are automatically saved and cannot be undone.

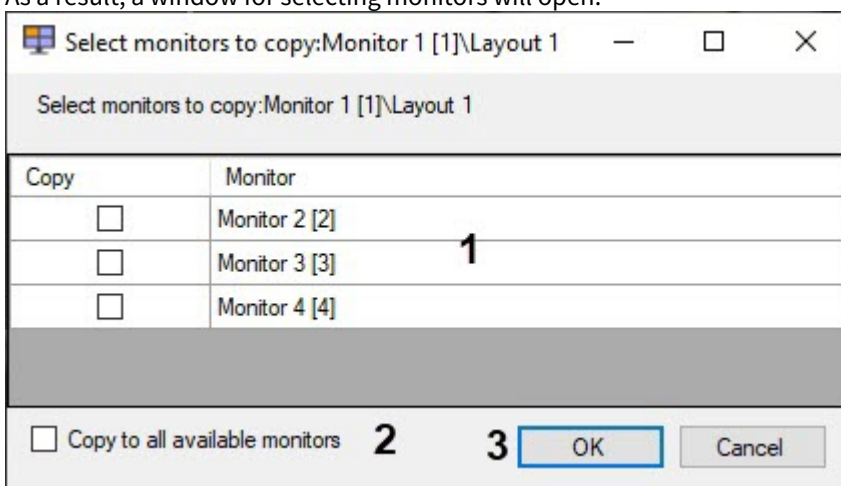
## Copying a layout

After you have configured the layout (see [Selecting, creating, and scrolling layouts](#) and [Configuring cells and adding Surveillance windows to a layout](#)), you can distribute the layout to other monitors. To do this, do the following:

1. Select the **Copy** item in the function menu that opens by right-clicking the layout name.



2. As a result, a window for selecting monitors will open:



3. Set the checkboxes next to the monitors to which you want to copy the layout (1).  
If at least one of the cameras on the layout is not added to the monitor, then the monitor name will be grayed out in the list. The layout cannot be copied to such a monitor.
4. To select all available monitors, set the **Copy to all available monitors** checkbox (2).
5. Click the **OK** button (3).

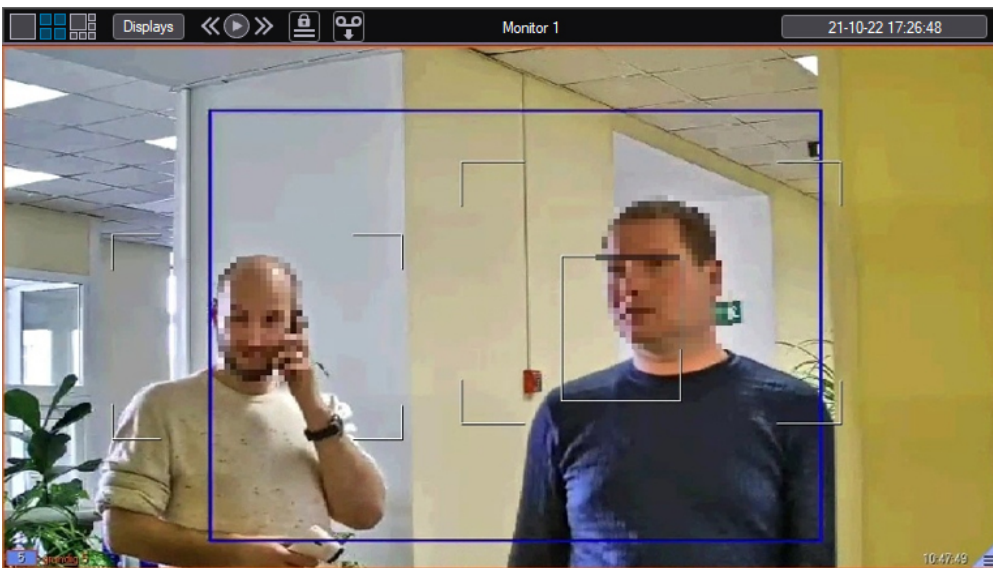
As a result, the layout will be available in all selected monitors.

## Selecting the default layout

You can set any of the created layouts as a default layout. The default layout will be displayed when you start *Axxon PSIM*. Use the `UseDefaultLayoutOnlyAtStartup` registry key to display the default layout each time the corresponding screen with the **Video surveillance monitor** is displayed (see [Registry keys reference guide](#)).

To select the default layout, right-click the required layout in the list and select **Set by default** in the function menu.





The processing of obtained body temperature data is also implemented in *Face PSIM* (for more details about this function, see [AxxonSoft documentation repository](#)).

## 4.19 Working with SIP-panel

The **SIP-panel** is used for making calls within a distributed system configuration. With the **SIP-panel** you can make **calls** and **group calls** between the operators and SIP-devices.

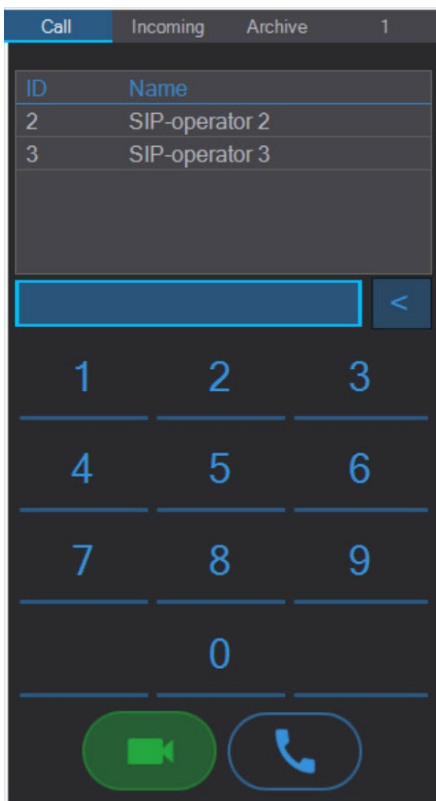
### 4.19.1 Making calls using SIP-panel

#### On the page:



- [Starting a call](#)
- [Displaying the SIP-panel when calling](#)
- [Managing a call](#)
- [Ending a call](#)

#### Starting a call

The calls are made on the **Call** tab of the [SIP-panel](#).



To make a call from the panel, select a number in the address book or dial the number manually, and then click one of the following buttons:

-  — to start a call with video and audio. If the camera, the microphone and the operator speaker were selected at the system configuration stage and the SIP-device supports the corresponding function, video and audio from the camera and audio from the operator microphone will be transmitted to the device.
-  — to start a call with audio only.

In both cases, both video and audio are transmitted from the SIP-device, but in the second case, the video stream from the operator camera is not transmitted to the device.

**Note**

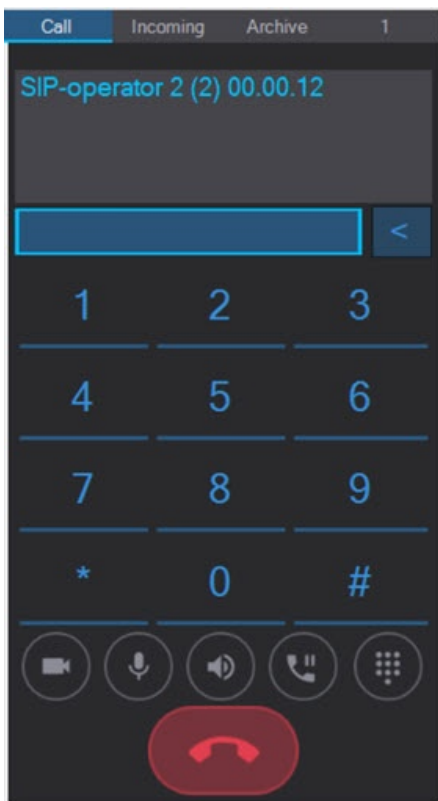
If a microphone and a speaker weren't selected at the system configuration stage, the call from the SIP-device will be transmitted to the device, but you won't be able to transmit the audio message or hear it.

**Note**

You can also make calls using the macros (see [Macros for working with SIP-terminal](#)).

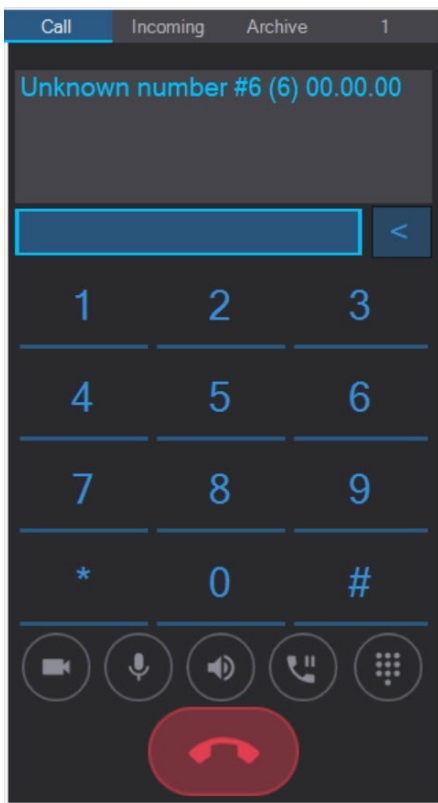
## Displaying the SIP-panel when calling

During the call, the SIP-panel window will be displayed on top of all windows and will look like this:



The information field at the top of the window displays the number and duration of the call.

If the option to call unknown subscribers is enabled, then when you call an unknown number, it will be displayed as "Unknown number + #number".



If an unknown number exists, the call will be successful, if not, the call will be ended.

## Managing a call

The buttons at the bottom of the panel manage the call:



— Enable/disable the operator camera.





— Enable/disable the operator microphone.



— Enable/disable the operator speaker.



— Hold the call. The **Incoming** tab will open with a list of all incoming calls that can be accepted/resumed using the buttons  (with the video from the operator) and  (without the video from the operator):

### Note

When the call is on hold, the image and the sound of the SIP-operators are not transmitted. The audio message "Call on hold" is played back on the SIP-operator that was put on hold.

### Note

By default, clicking the buttons on the SIP-panel, macros dialing and calls are accompanied by sound signals. The sound of clicking the buttons can be turned off at the stage of configuring the SIP-panel interface object (see [Advanced settings of the SIP-panel interface object](#)).



The calls in the list are sorted by the SIP-operators and SIP-devices priority, that was set at the system configuration stage. If several operators or devices have the same priority, the calls from them are sorted by the receiving time. By default, the new calls are added to the top of the list, but the sorting order can be changed during the system configuration, so that the new calls are added to the end of the list regardless of the operators and devices priority (see [Advanced settings of the SIP-panel interface object](#)).

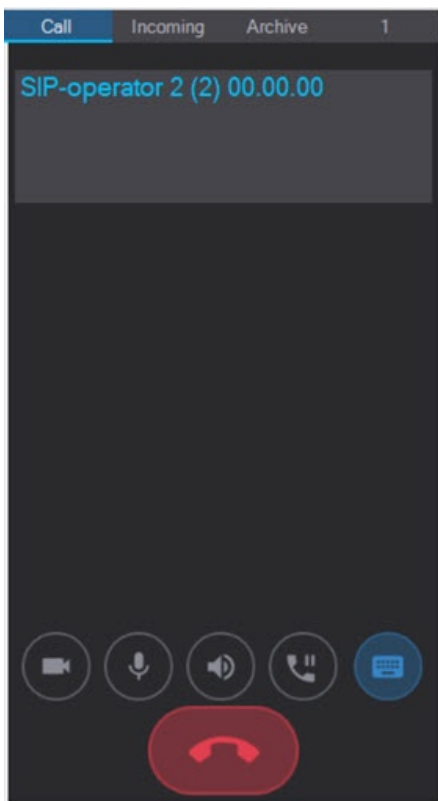
The window with the call list is displayed on top of all windows during a call and a call on hold.

**Note**


If the **Switch to incoming** checkbox was not set at the SIP-panel configuration stage (see [Advanced settings of the SIP-panel interface object](#)), then the **Incoming** tab will not automatically open for incoming calls or calls on hold.



— Display/hide the dialing panel in the tone mode. This panel displays the macros added while configuring the SIP-device (see [Configuring SIP-devices of the Axxon PSIM's SIP server](#)).



## Ending a call

To end a call, click the  button.

If there is no answer, the call automatically ends in 30 seconds (this timeout is configurable by the CallTimeout registry key, see [Registry keys reference guide](#)).

### Note

If you use a playback file after answering a call, the call will end automatically as soon as the file is played back. For example, a playback file lasts for 10 seconds. When you answer after 10 seconds, the call will end automatically.

If the file playback loop was set, the file will be played back until the manual end of the call (the playback file, as well as the playback file loop can be set using the macro, see [Macros for working with SIP-terminal](#)).

## 4.19.2 Making group calls using SIP-panel

### On the page:

- [Starting a call](#)
- [Displaying the SIP-panel when calling](#)

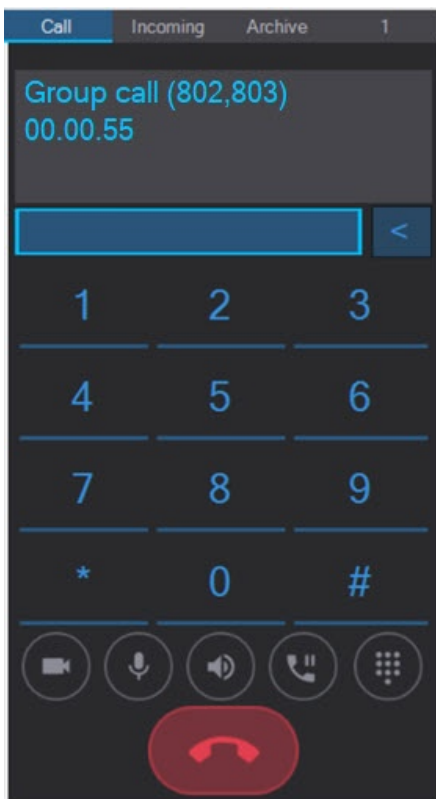
- [Ending a call](#)

## Starting a call

A group call is made as a [regular call](#) from the SIP-panel to a number with configured forwarding to several numbers (see [Configuring numbers of SIP-terminal](#)).

## Displaying the SIP-panel when calling

During the group call, the SIP-panel window will be displayed on top of all windows and will look like this:



The information field at the top of the window displays the numbers to which the forwarding was made and the duration of the call.

### **Note**

When making a group call, if there is an unknown number in the list of the subscribers, only the number of the unknown subscriber is displayed in the SIP-panel call window.

For example, a group call is made to the numbers 1, 2 and to the unknown number 3. In this case, the unknown number will be displayed as "Group call (1,2,3)" in the SIP-panel call window.

## Managing a call

Group call controls are similar to [regular call](#) controls.

## Ending a call

Ending a group call is similar to ending a [regular call](#).

 **Note**

If you use a playback file after answering a group call, the call will end automatically as soon as the file is played back for each subscriber (see [Macros for working with SIP-terminal](#)).

 **Note**

There are two options for ending a call when using a loop file:

1. The operator who makes the call can end the call — then the call will end for all subscribers.
2. The subscriber who receives the call can end the call — then the call will end for them and continue for other subscribers.

## 5 Operator's Guide. Conclusion

More detailed information on the Axxon PSIM software package is presented in the documents titled:

1. [Installing and configuring security system components guide](#);
2. [The Script object. Programming using the JScript language](#);
3. [Administrator's Guide](#).

If while operating the given software product you have faced difficulties and problems, you are welcome to contact us. However before addressing us, we kindly ask you to answer the following questions:

1. What is the problem?
2. When did the problem occur and what had happened before it occurred?
3. Which conditions gave rise to the problem?

Remember, that the more detailed and precise information you give us, the faster our experts will resolve your problem.

We are striving to improve the quality of our products, and hence welcome any proposals and suggestions how to improve our software and documentation.