Operator's Guide

Intellect 4.11.0-4.11.3 (english)

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1 List of terms used

In the *Intellect* Operator's Manual(see page 11) the following terms are used.

1. System - video surveillance and audio monitoring digital system based on the *Intellect* software system.
2. Software - *Intellect* 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 *Intellect* software.

2 Operator's Guide. Introduction

On page:

- Intellect software function(see page 12)
- General recommendations on Intellect software based security system applications(see page 12)
- Personnel skills requirements(see page 12)

2.1 Intellect software function

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

Intellect 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 facilities, adaptation to actual task, resources used redistribution according to actual number and content of secured objects monitoring tasks.

2.2 General recommendations on Intellect software based security system applications

The following is recommended for correct application of *Intellect* 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 *Intellect* software.

2.3 Personnel skills requirements

For correct Software application Operator shall meet qualifying requirement to *Intellect* software Operator.

3 General description of Intellect software

Intellect software package is the multifunctional open PSIM platform that allows creating integrated security solutions of any scale.

The basic distribution package contains of the core and modules providing general and service functions.

The full list of features and technical specifications can be found in Administrator's Guide[1] in Intellect software functionality[2] and Intellect software package restrictions[3] sections.

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

Intellect core

Intellect core transmits information and interconnects all integrated subsystems and *Intellect* 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 *Intellect*-based security systems. *Intellect* 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 *Intellect*-based security system - multistreaming.

Intellect supports up to 4 video streams that can be used:

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

Managing streams in the network

Intellect performs important digital stream processing functions:

- Auto adjusting video resolution in accordance with display mode;
- Auto adjusting video stream fps in accordance with network bandwidth;
- Parallelizing digital streams using the Videogate module.

GreenStream

Streams transmitted by IP cameras can have multiple resolutions and fps. Video from cameras is not always displayed with highest resolution at remote monitoring workstations. 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 iOS mobile client boosts monitoring functions making it possible to monitor security systems even when your PC or laptop is unavailable or far away.

Analog and IP cameras

Intellect platform is integrated with wide range of equipment including IP cameras and IP Servers by more than 120 vendors.

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1 https://doc.axxonsoft.com/confluence/pages/viewpage.action?pageId=84354171
2 https://doc.axxonsoft.com/confluence/pages/viewpage.action?pageId=107415838
3 https://doc.axxonsoft.com/confluence/display/Int411en/Intellect+software+package+restrictions

Notification systems

SMS and MMS notifications as well as e-mails with attached video fragments notify persons in charge in case of emergencies and other accidents.

Smart functions

Intellect performs smart functions – automatic and partly automatic scripts of reactions on 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 Intellect software operation

4.1 Intellect software start and shutdown

On the page:

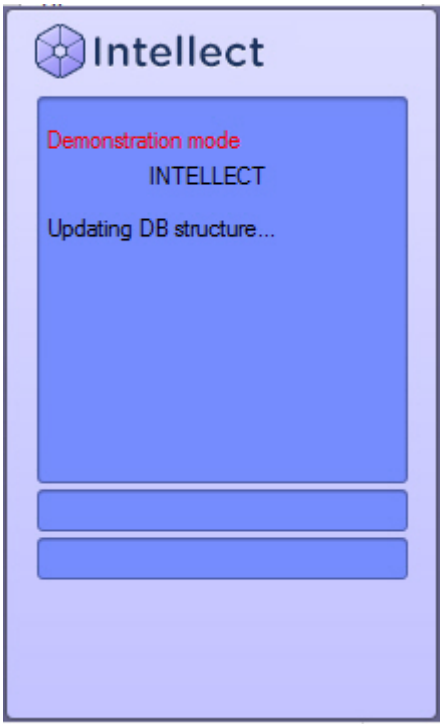
- Start(see page 15)
  - Confirmation by supervisor(see page 16)
  - Password change at logging in(see page 17)
  - Two-factor authentication(see page 18)
- Shut down(see page 19)

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 (**Star**t/**All Programs**/**Intellect**/T**he Client workstation**) or use the shortcut on the desktop.



> **Note.**
>
> If there is no license key and *Intellect* is started in the demo mode, then there is the “Demo mode” message in the startup dialog box.

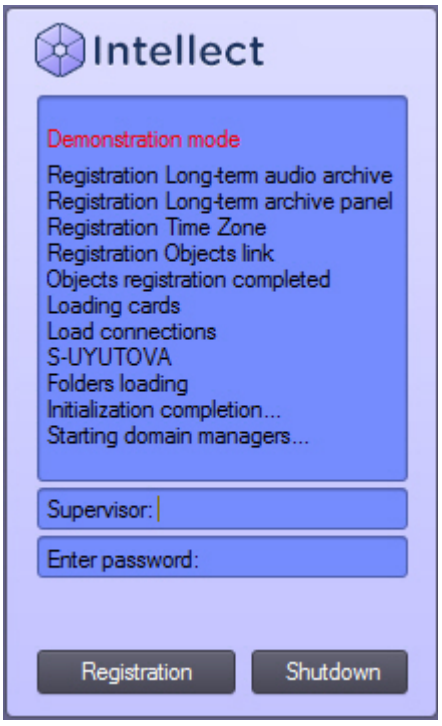
Access to the program can be restricted by a password. The login and password are to be specified at *Intellect* application startup.

> **Note.**
>
> The number of login attempts is limited. If an incorrect password is entered three times, the next 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[4].

Login and password are not required when Windows account information is in use. To start *Intellect*, click the **Registration** button. The **Login** and **Password** fields are to be empty.

4.1.1.1 Confirmation by supervisor

Confirmation by supervisor is required while the user log-in to the system if the authorization by four-eyes rule is configured in the system. After clicking the **Registration** button it will be proposed to enter the supervisor login and password. After entering the supervisor password click the **Registration** button again.



4 https://doc.axxonsoft.com/confluence/display/Int411en/Registry+keys+reference+guide

4.1.1.2 Password change at logging in

The password change can be required while the corresponding settings in the *Intellect* software. It may occur at the first user login to the system or after the current password time-out. In this case after click the **Registration** button you will be proposed to enter and confirm the new password.

The password can be changed by user request while the corresponding settings in the *Intellect* software. 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



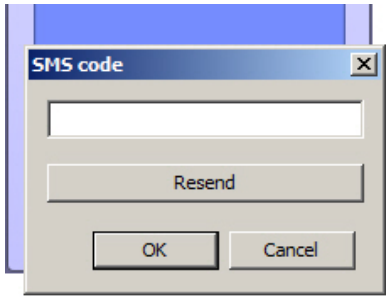
Attention!

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

To start the *Intellect* software after entering the new password, click the **Registration** button.

4.1.1.3 Two-factor authentication

The two-factor authentication function can be configured in Intellect requiring login confirmation by SMS code – see Configuring two-factor authentication[5]. In this case, after entering the login and password and clicking on the **Register** 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 does 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.

5 https://doc.axxonsoft.com/confluence/display/Int411en/Configuring+two-factor+authentication

4.1.2 Shut down

To finish the *Intellect* program 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 left mouse button on the  symbol in the Windows system tray.
> User name may not display if User permissions are not configured in *Intellect*.

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



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

> **Note**

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

4.2 Intellect software user interface

4.2.1 Main control panel

On page:

- Function(see page 20)
- Functions(see page 20)
- Interface description(see page 20)

4.2.1.1 Function

The main control panel is a basic element of the *Intellect* software control interface.

4.2.1.2 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.

4.2.1.3 Interface description

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

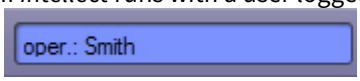


In a dormant state the panel is automatically removed from the screen. To return it, simply move the cursor to the top right corner, then the main program control panel will appear on the screen.
Elements of the main panel interface of *Intellect* software are described below.

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

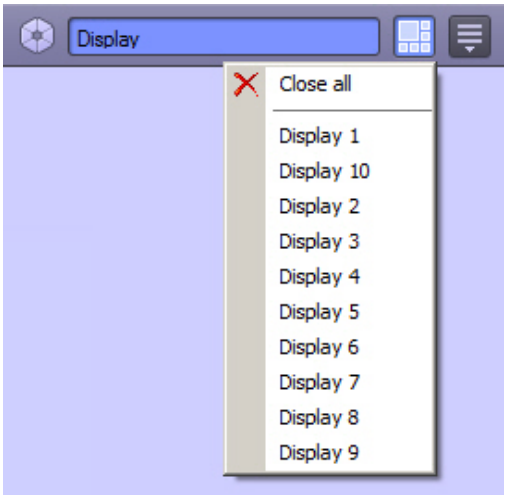
   

   If *Intellect* runs with a user logged in, the user's last name is displayed in the information box.

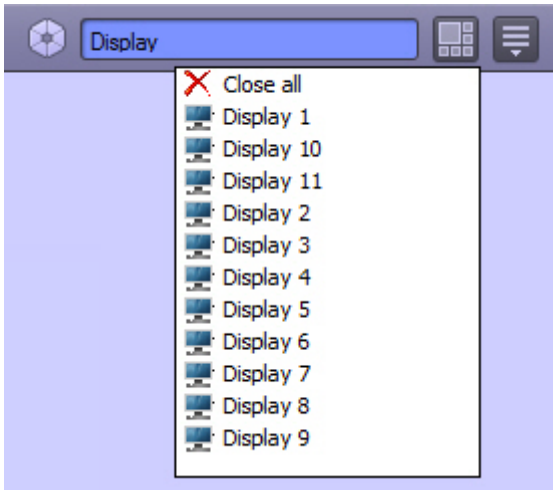
   

The messages in the information box change every several seconds.

2. Screens button  . Chooses and displays screens and some other windows on the desktop. The **Close all** command hides all visible program windows.
The list may appear it 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[6]). On the figures below, see the list of screens with max_disp_menu_items = 10 and the number of screens 10 and 11 correspondingly.

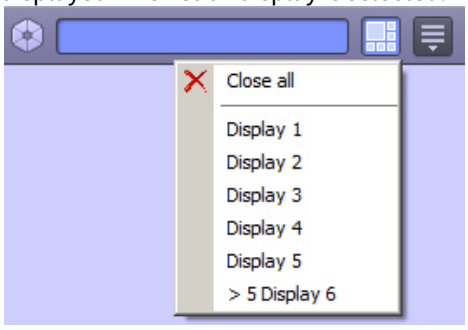


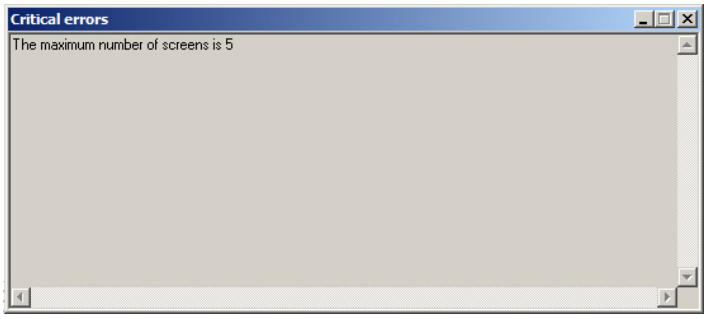
There are 10 displays in the list, so mouse scroll is not available



There are 11 displays in the list, so mouse scroll will be available if the list size exceeds the size of the computer monitor.

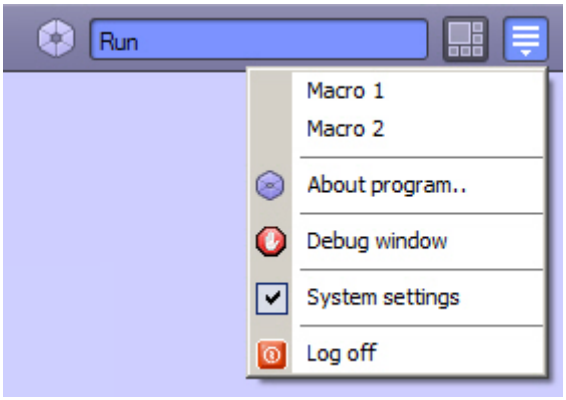
Also, the DISPLAY_MAX_NUM registry key may limit the number of displays assigned to one computer (500 by default). In this case, when more displays are assigned to the computer than allowed by the key, some of the screens are marked with **> N** in the list, where N is the maximum number of displays;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





3.  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

6 https://doc.axxonsoft.com/confluence/display/Int410en/Registry+keys+reference+guide



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[7].

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

4.2.2 Video Monitor

On page:

- Function(see page 22)
- Functions(see page 22)
- Interface description(see page 23)

4.2.2.1 Function

The video monitor is used for displaying and controlling surveillance windows.

4.2.2.2 Functions

The video monitor is used:

7 https://doc.axxonsoft.com/confluence/display/Int411en/Registry+keys+reference+guide

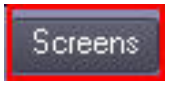
1. to display images from video surveillance cameras;
2. to control surveillance modes;
3. to graphically process images from video surveillance cameras;
4. to control recording of video sequences from surveillance cameras;
5. to work with video archives;
6. to display video camera status data.

4.2.2.3 Interface description

The figure shows the video surveillance monitor interface.

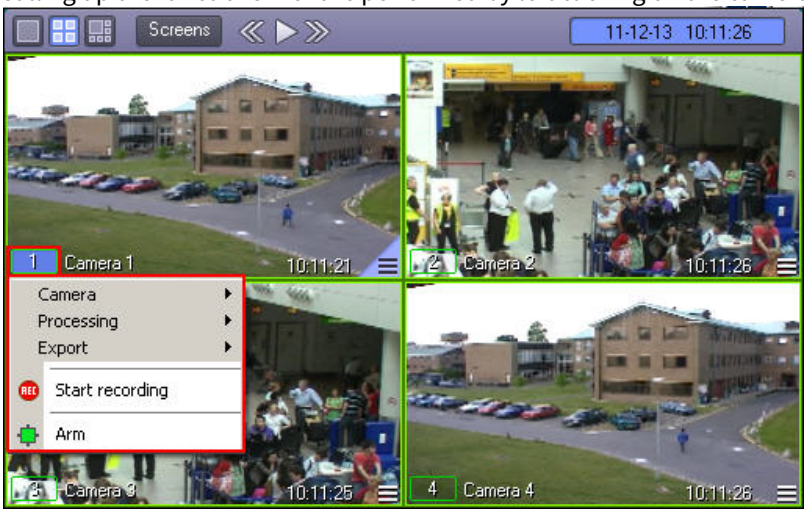


The surveillance monitor window consists of a field for video surveillance windows and a tools panel with:

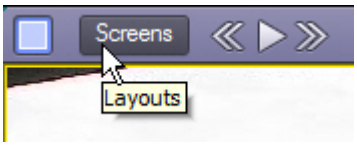
1.  buttons used to alter the number of surveillance windows on the monitor;
2.  button used to control the monitor layout;
3.  buttons used to alter surveillance windows;
4.  field displays current time/date.

Every surveillance window has its functions menu to gain access to arming and disarming cameras, image processing, functional command menus, image processing, video recording control, frame export and printing etc.

Calling up the functions menu is performed by left clicking on the camera number in the surveillance window.



When hovering over the controls in the Video Surveillance Monitor, 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[8]).



Hotkeys for convenient monitor and surveillance windows operation are listed in table.

Hotkeys	Action	Comments
0 .. 9 Num (numeric keypad)	Selecting an active Video Surveillance Window with a camera having ID in the range of 0 to 9	The sequence number of the selected window corresponds to the button number.
Ctrl + 0 .. 9 Num (numeric keypad)	Selecting an active Video Surveillance Window with a camera having ID in the range of 10 to 19	Press Ctrl and the key corresponding to the lower-order digit in the camera ID to activate cameras 10 to 19, e.g. CTRL+0 activates camera 10, CTRL+9 activates camera 19.
Ctrl + 10 or more on numeric keypad	Selecting an active Video Surveillance Window with a camera having ID larger than 10	Press Ctrl and sequentially enter the camera ID digits to activate a camera with two-digit ID, e.g. CTRL+2+3 to activate camera 23.

8 https://doc.axxonsoft.com/confluence/display/Int411en/Registry+keys+reference+guide

Hotkeys	Action	Comments
F1 .. F6	Select the number of windows displayed on the monitor	**F1** – 1 window **F2** – 4 windows **F3** – 9 windows **F4** – 16 windows etc *Note. The documentation can also be opened by pressing the F1 key if Intellect is set up appropriately (see The Settings panel of the Security zone object[9] section in Administrator's Guide(see page 22)).*
F7	Displaying of all Video surveillance windows on the Monitor. This key can only be used if there are more than 36 Video surveillance windows in the Monitor.	
F8	In the archive mode – select date and time for searching records. Long-holding – call the **Execute** menu of the Main control panel. In the video surveillance mode – call the **Execute** menu of the Main control panel.	This hot key can be disabled using the DisableF8 registry key (see Registry keys reference guide[10]).
F9	Calling up the functions menu of the surveillance window	
Ctrl + R **Ctrl + T**	Video recording control,	**Ctrl + R** – video recording startup **Ctrl + T** – video recording stop
Shift + LeftClick/ RightClick	Image scaling in the window	**Shift + LeftClick** - step-by-step zoom-in **Shift + RightClick** - step-by-step image reduction
Tab	Entering and quitting archive mode	See Working with video archives(see page 114) section. By default, pressing **Tab** redirects the user to the main archive of the Server. If it should redirect the user to the external archive, it is necessary to use the

9 https://doc.axxonsoft.com/confluence/display/Int411en/The+Settings+panel+of+the+Security+zone+object
10 https://doc.axxonsoft.com/confluence/display/Int411en/Registry+keys+reference+guide

Hotkeys	Action	Comments
		EnterEdgeStorageDirect key (see Registry keys reference guide[11]).
Ctrl + "/" (on numeric keypad NumPad) **Spacebar** **Ctrl + *** (on numeric keypad NumPad) **Left/Right**	Archive playback control (playback control panel).	**Ctrl + "/"** (on numeric keypad NumPad) – playback **Ctrl + Spacebar** – stop **Ctrl + *** (on numeric keypad NumPad) – pause **Ctrl + Left/Right** – previous/next frame (in pause mode)
Ctrl + A/D	Camera arming	**Ctrl + A** – camera arming **Ctrl + D** – camera disarming
Ctrl + E/P	Operating individual frames	**Ctrl + E** – behaviour depends on the state of a camera. If it 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. **Ctrl + P** – frame printing
Ctrl + W	Increase image contrast	Maximum contrast is set. To retract the previous value, click the hotkeys once more.
Ctrl + S **Ctrl + H**	Setting camera mask	**Ctrl + S** – show camera mask **Ctrl + H** – hide camera mask See Use of basic video detection tools(see page 90) section.
Ctrl+L	Enable/disable PTZ control using the mouse	See Mouse PTZ control(see page 192).

4.2.3 Audio player

On page:

- Function(see page 27)
- Functions(see page 27)

11 https://doc.axxonsoft.com/confluence/display/Int411en/Registry+keys+reference+guide

- Interface description(see page 27)

4.2.3.1 Function

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

4.2.3.2 Functions

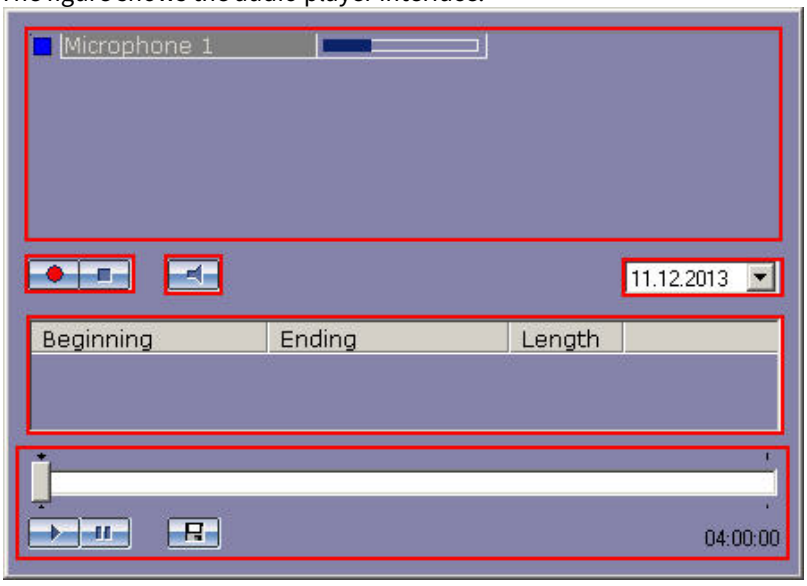
Audio player provides:

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.

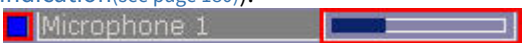
> **Note**
>
> Audio player operation requires headphones or speakers to be connected to the PC soundcard.

4.2.3.3 Interface description

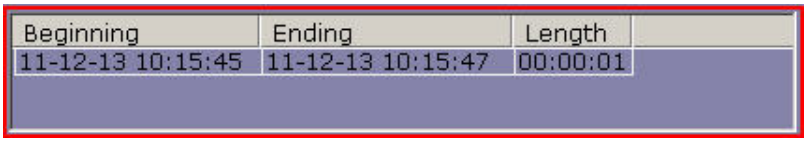
The figure shows the audio player interface.



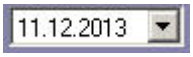
The upper part of the audio player window displays the list of attached microphones. Each microphone has a status indicator (to the left) and microphone signal level dynamic scale (to the right) (see also Microphone status indication(see page 180)).



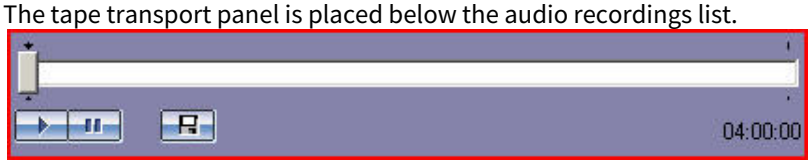
In the middle part of the audio player window the  recording control buttons are displayed (also used for microphone arming and disarming) and the  button used for switching of real time monitoring and the list of recorordings made from a given microphone on a certain day.



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(see page 28)
- Functions(see page 28)
- Interface description(see page 29)

4.2.4.1 Function

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

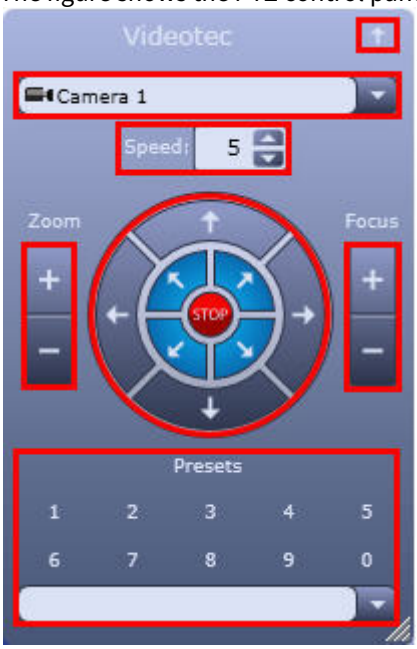
4.2.4.2 Functions

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.

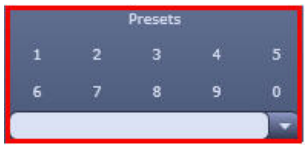
4.2.4.3 Interface description

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(see page 30)
- Functions(see page 30)
- Interface description(see page 30)

4.2.5.1 Function

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

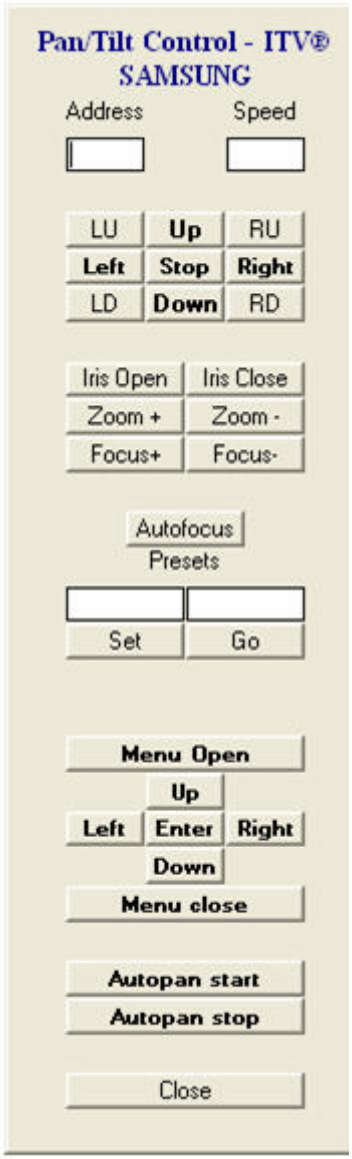
4.2.5.2 Functions

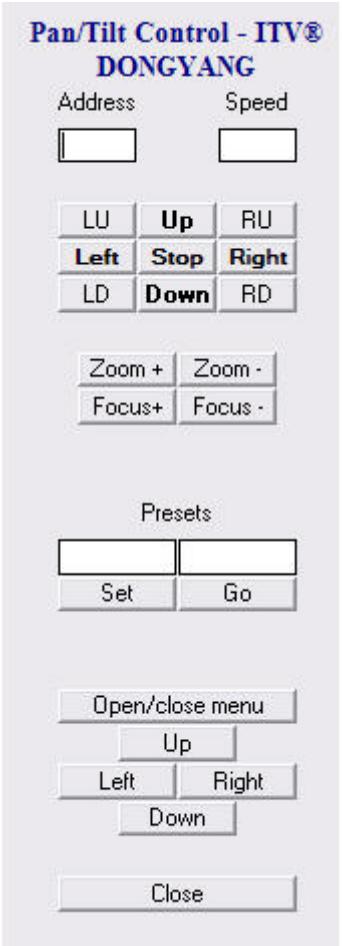
The user dialog box window provides:

1. control of various system devices and modules;
2. access to System user functions.

4.2.5.3 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 page:

- Function(see page 32)
- Functions(see page 32)
- Interface description(see page 32)

4.2.6.1 Function

The Backup archive panel is used to control Backup archiving.

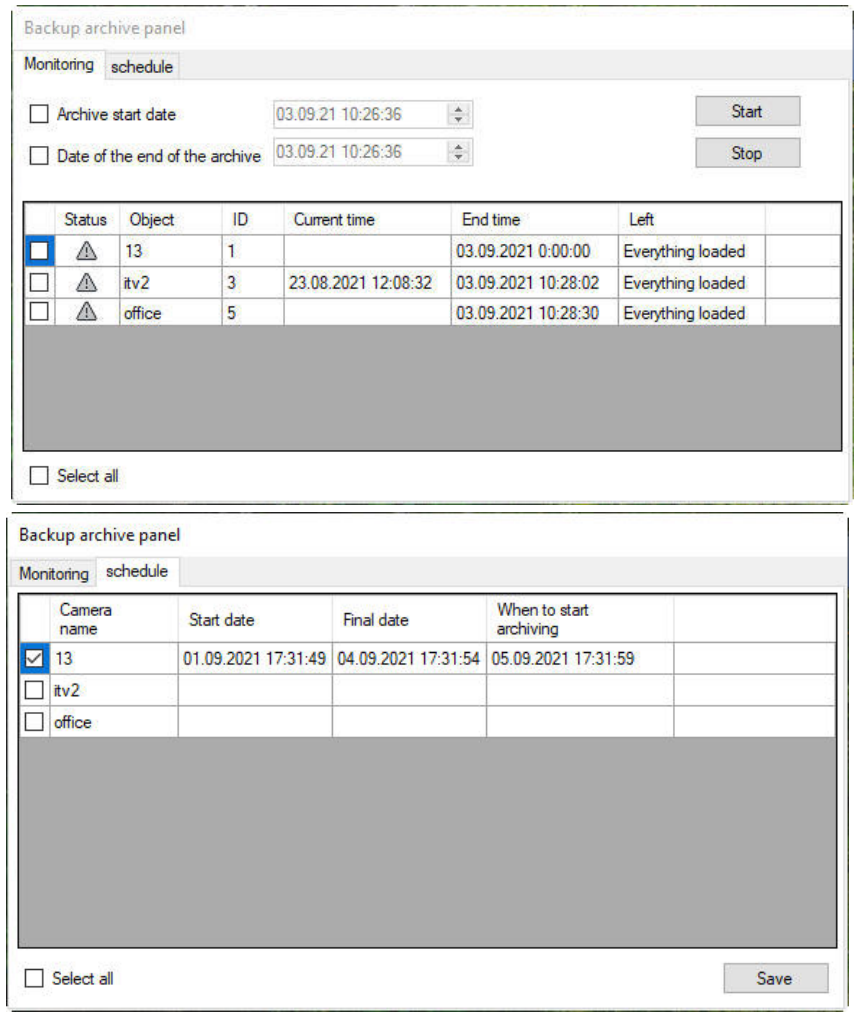
4.2.6.2 Functions

The Backup archive panel provides:

1. Backup archive monitoring;
2. manual video archiving;
3. automatic video archiving;
4. choosing the surveillance camera, whose video recordings are to be archived;
5. entering date/time **from** and **to** values for video archiving (for each surveillance camera individually).

4.2.6.3 Interface description

Figure shows the Backup archive panel interface.



Monitoring and **Schedule** tabs are displayed at the top of the panel. The **Monitoring** tab is used to monitor and control the Backup archive, and the **Schedule** tab – to enter automatic Backup archiving parameters.

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

1. **Start** and **Stop** buttons for manual archiving;
2. Fields for entering archiving date/time **from** and **to** values;
3. Table of cameras selected and archive copying progress;
4. The **Select all** is used to select/deselect all cameras.

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

1. Table of cameras selected and archive copying progress;
2. The **Select all** is used to select/deselect all cameras.
3. The **Save** button is used to save archiving schedule.

Copying video sequence to the Backup archive(see page 206)

4.2.7 Alarm notification window

On page:

- Function(see page 33)
- Functions(see page 33)
- Interface description(see page 34)

4.2.7.1 Function

The alarm notification window is used to inform the Operator about registered alarm and system events.

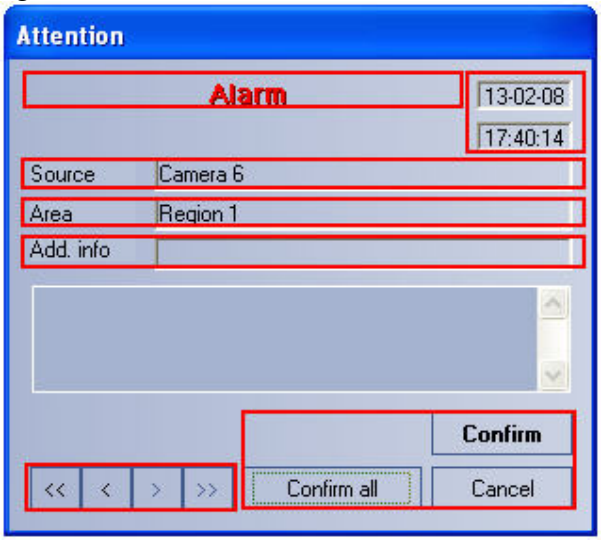
4.2.7.2 Functions

The alarm notification 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.

4.2.7.3 Interface description

Figure shows the alarm notification window interface.

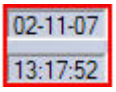


> **Note**
>
> The alarm notification window is not displayed by default – only if the system had registered an alarm or system event is it displayed over all other windows of the program user interface. If an alarm event occurs, the notification window appears on the screen, even if no other UI elements 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.



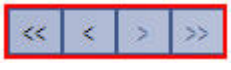
Virtual area (section) of event source location.



Additional information on event.



Control elements block for event processing



Control elements block for event navigation

4.2.8 Events log

On page:

- Function(see page 35)
- Functions(see page 35)
- Interface description(see page 36)

4.2.8.1 Function

Event log is used to display data on events, registered by the system (with data filtering by event type option)

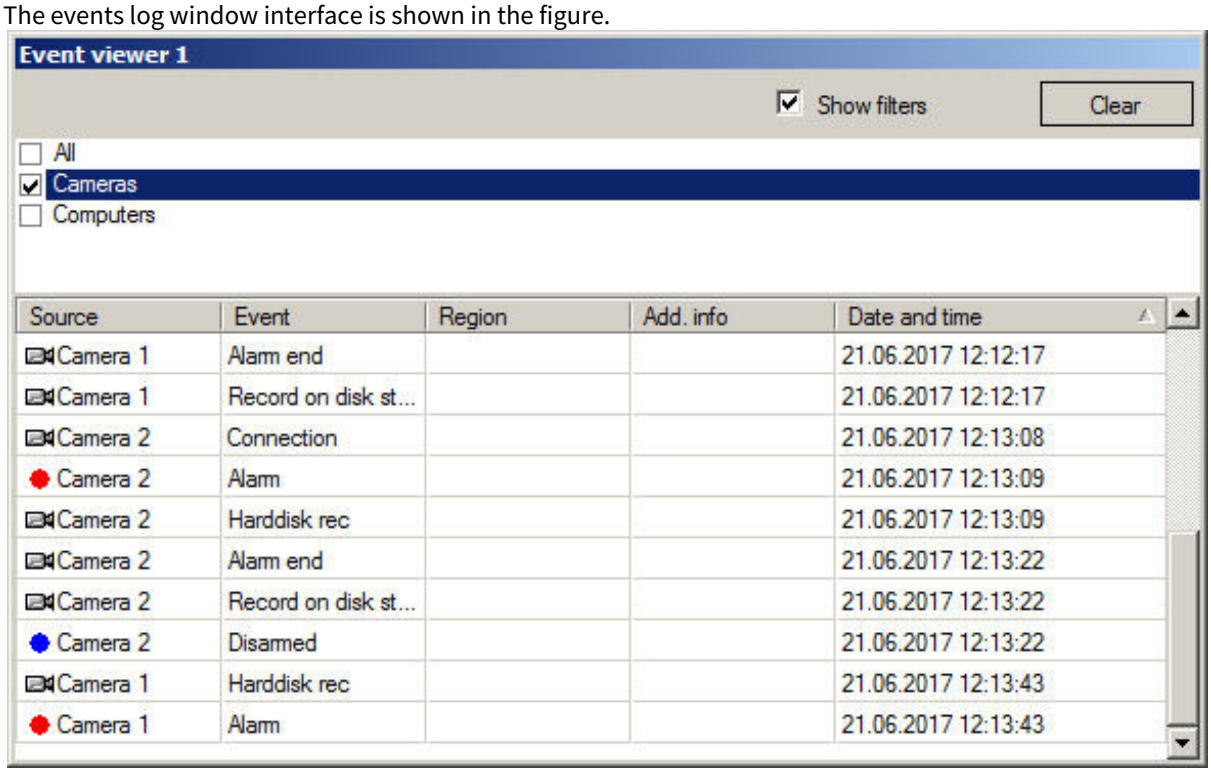
4.2.8.2 Functions

Events log provides:

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 map location;
6. source camera video recording playback option in the events log child window.

4.2.8.3 Interface description

The events log window interface is shown in the figure.



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

Column name	Comments
Source	Event source object
Event	Event name
Section	Virtual area (section) of event source location
Add. info	Additional information on event
Date and time	Date and time of event registration

The **Display filters** checkbox shows the list of event filters created while configuring the system (see Configuring event filters for displaying in the Event viewer[12] section in Administrator's Guide(see page 35)). To activate the filter set the checkbox checked next to its name. Several filters can be activated at the same time.

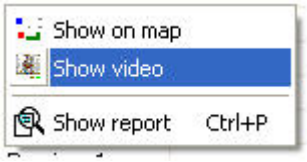
Events of different types are highlighted in different colors depending on the system settings.

12 https://doc.axxonsoft.com/confluence/display/Int411en/Configuring+event+filters+for+displaying+in+the+Event+viewer

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

1. icon is displayed for the Record on disk stopped, Alarm end, Harddisk rec and Record off events.
2. icon is displayed for the Alarm and Armed events.
3. icon is displayed for the Disarmed event.

For every event in the table there is provided a functional context menu,called by clicking the right mouse button upon the line with the name of the coresponding event in the table. The particular content of the functions menu depends on the event source object type. For example, the **Camera** type event source object functions menu 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 if hidden events are to be displayed again, then *Intellect* is to be restarted with the Load protocol checkbox set checked (see Event viewer parameters[13] section in Administrator's Guide(see page 35)).

4.2.9 Operator protocol

On page:

- Function(see page 37)
- Functions(see page 37)
- Interface description(see page 38)
  - The Current events tab(see page 39)
  - The Search in events archive tab(see page 44)
  - The Create report tab(see page 46)
  - The Create event tab(see page 47)

4.2.9.1 Function

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

4.2.9.2 Functions

Operator protocol provides:

1. displaying events registered by alarm objects;

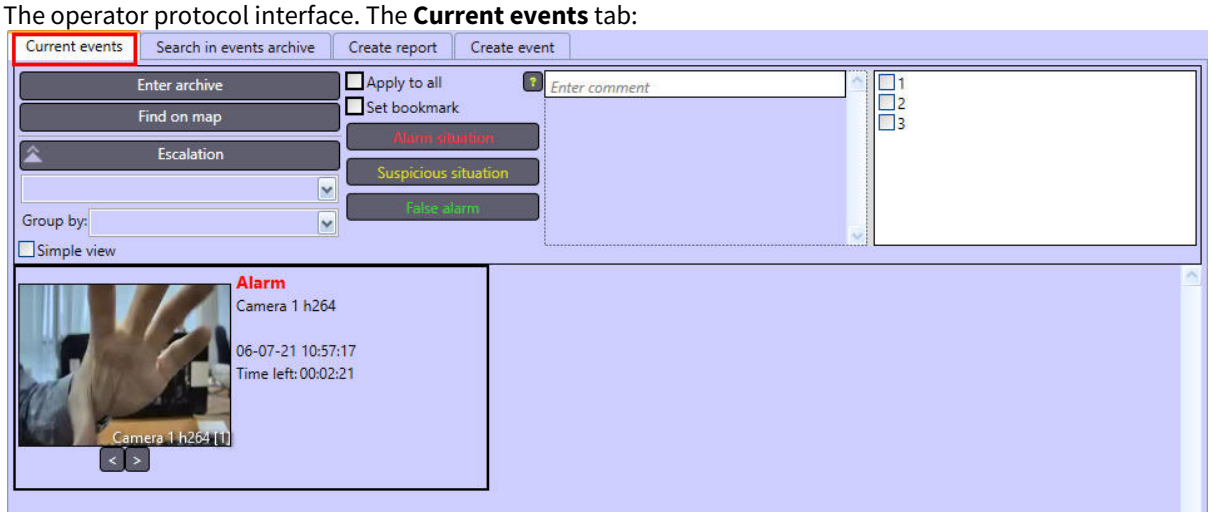
13 https://doc.axxonsoft.com/confluence/display/Int411en/Event+viewer+parameters

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.

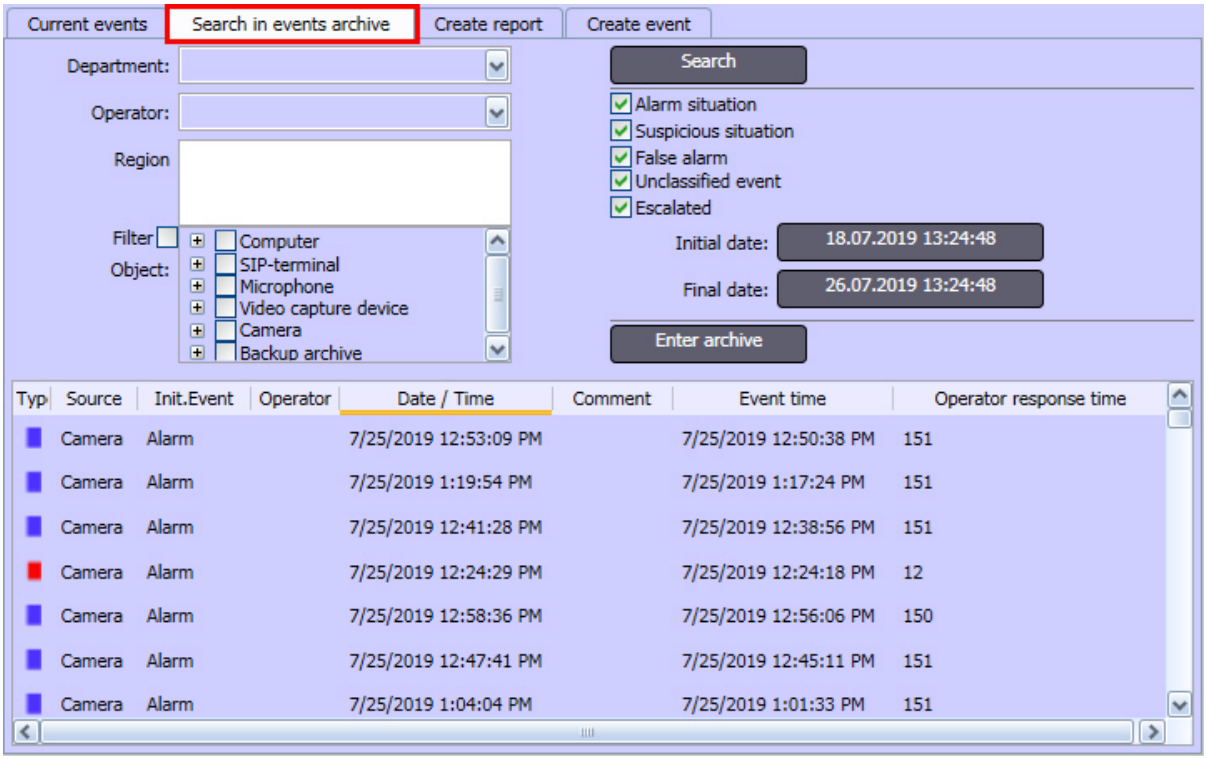
4.2.9.3 Interface description

The operator protocol interface is shown in the following figures.

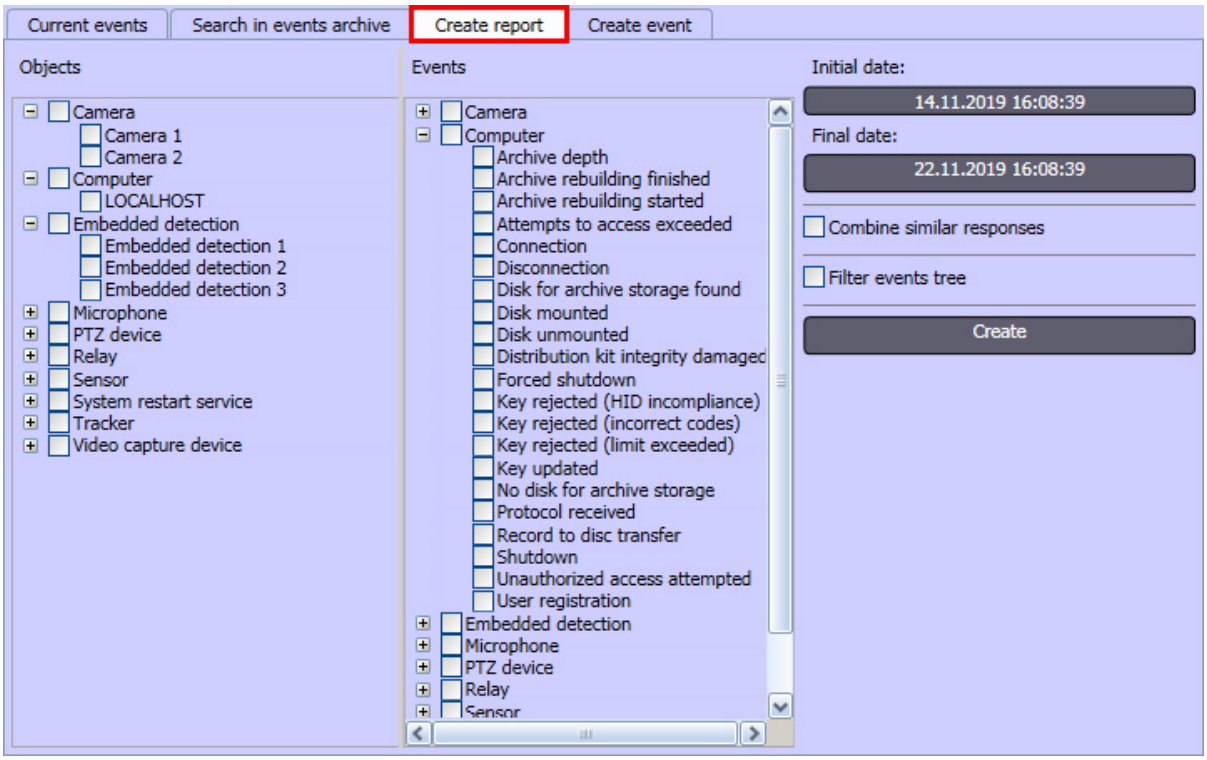
The operator protocol interface. The **Current events** tab:



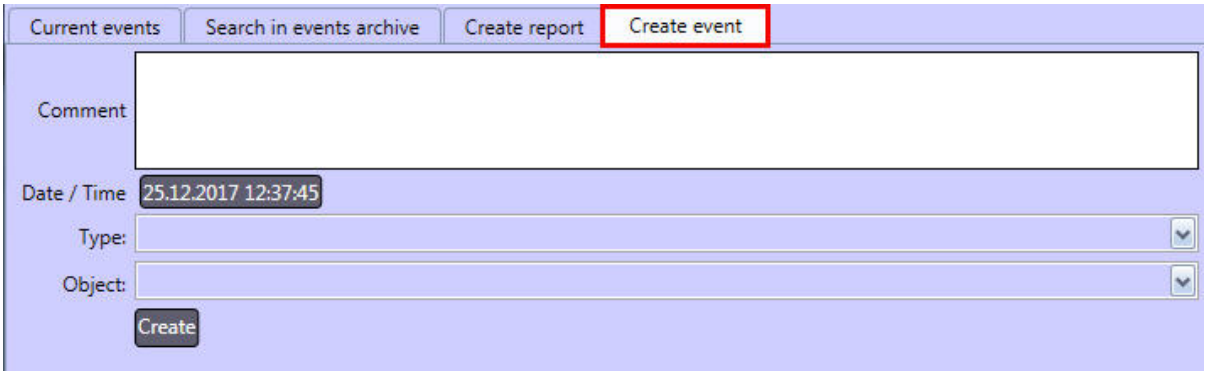
The operator protocol interface. The **Search in events archive** tab:



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.

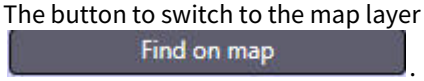
The **Current events** tab

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[14] section of Administrator's Guide(see page 37).

14 https://doc.axxonsoft.com/confluence/display/Int411en/Setting+the+options+for+handling+events+in+the+Operator+protocol

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


.

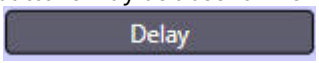
> **Note**
>
> If the event has got the **Escalated** status, then this event will be displayed in the interface of the operator protocol of the higher level. If the **Escalation** button is disabled, it means that no superior interface is assigned to the current Operator.

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

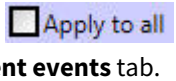

to enable a simple display of events at the bottom of the **Current event**s tab.
6. The buttons to assign the type (status) to the event

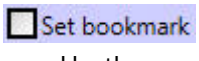

. The buttons for event processing may not be available until a comment is entered if the corresponding setting is enabled. The button names can be changed during the Operator Protocol configuration. Also, if configured accordingly, the buttons may be absent when the line with the name of the event grouping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


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.

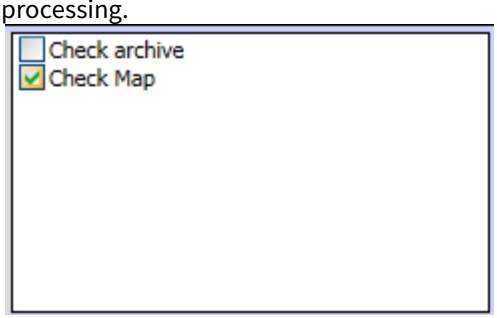

The comment field also contains the information about the completed tasks from the checklist (see below).

10. When enabling the


checkbox, the type assigned to the corresponding event is applied to all events in the **Current events** tab.
11. The


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.

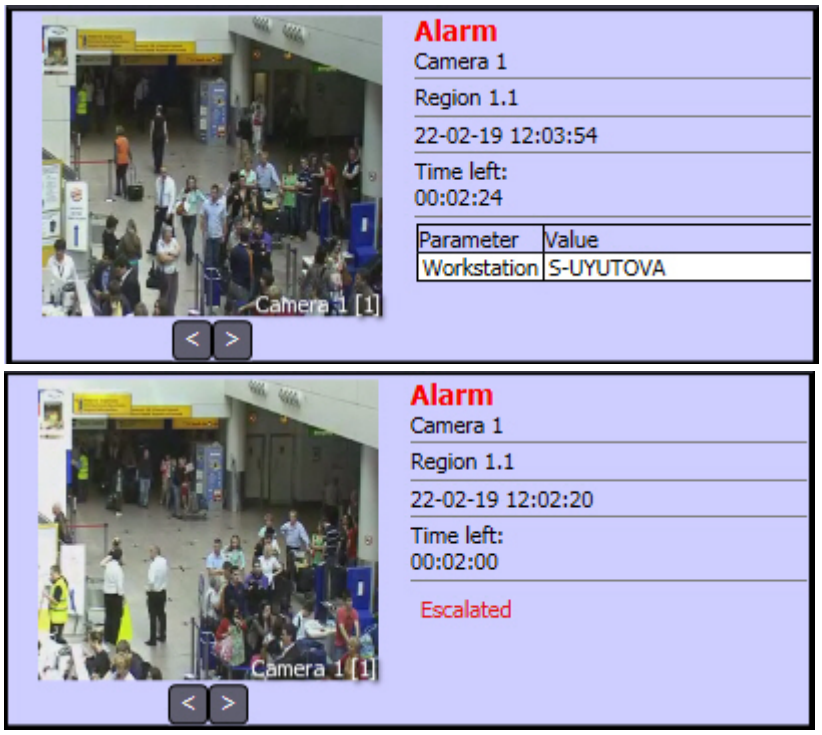


The events are displayed at the bottom of the **Current events** tab. The display type depends on the settings configured on the control panel. The display options:

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[15] in Administrator's Guide[16]). 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.

15 https://doc.axxonsoft.com/confluence/display/Int411en/Connection+of+objects+with+cameras
16 https://doc.axxonsoft.com/confluence/pages/viewpage.action?pageId=136250443



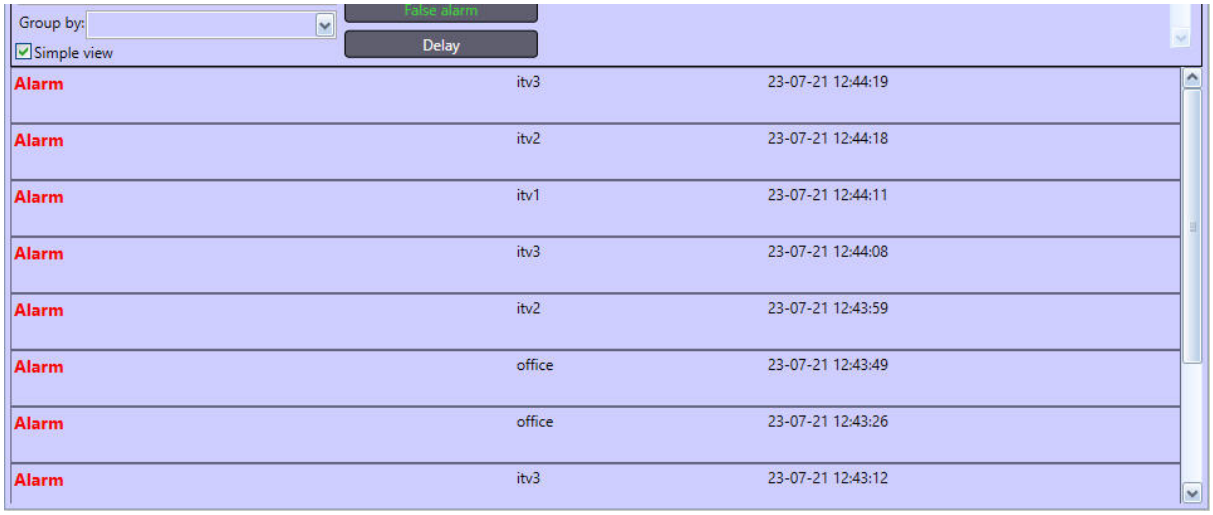
The cell contains the following information:

a. system name of the event;
b. object registered the event;
c. name of the **Region** object corresponding to the area where the event is registered;
d. date and time of event registration;
e. time left before the **Non-processed event** type is assigned to the event;
f. 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[17]).

2. 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:

17 https://doc.axxonsoft.com/confluence/pages/viewpage.action?pageId=136250443



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.



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

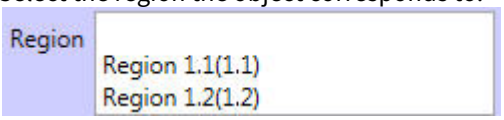


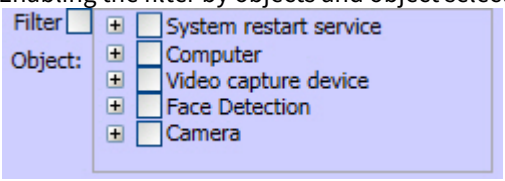
The content of the expanded group depends on whether the **Simple view** checkbox is set or not. If it is disabled, the events will be displayed as cells. If the **Simple view** checkbox is set, then a simplified list will be displayed.

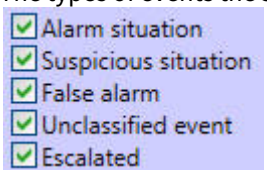
The **Search in events archive** tab

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 

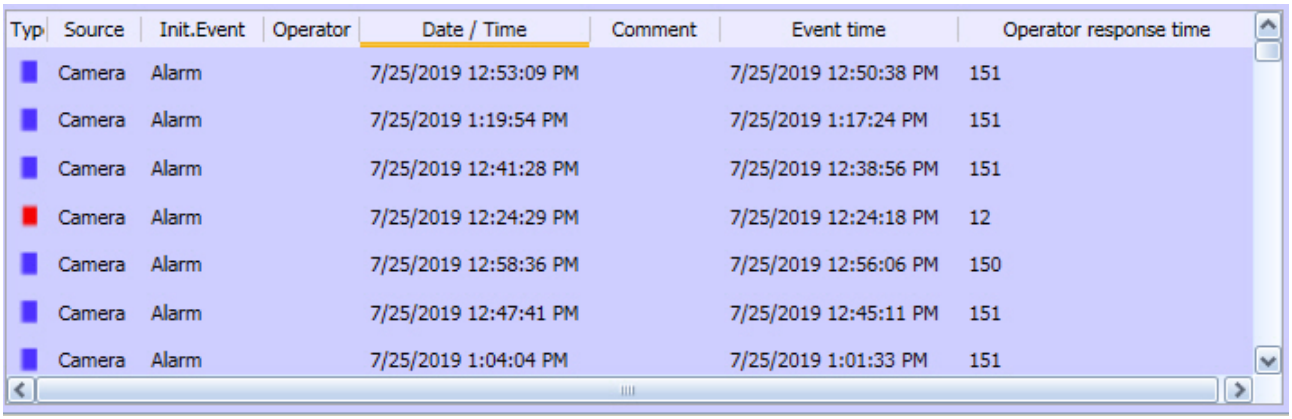
.
7. The button to set the final date 

.
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.



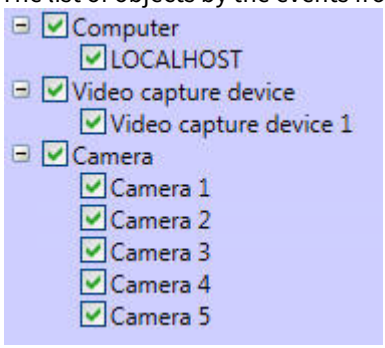
Typ	Source	Init.Event	Operator	Date / Time	Comment	Event time	Operator response time
	Camera	Alarm		7/25/2019 12:53:09 PM		7/25/2019 12:50:38 PM	151
	Camera	Alarm		7/25/2019 1:19:54 PM		7/25/2019 1:17:24 PM	151
	Camera	Alarm		7/25/2019 12:41:28 PM		7/25/2019 12:38:56 PM	151
	Camera	Alarm		7/25/2019 12:24:29 PM		7/25/2019 12:24:18 PM	12
	Camera	Alarm		7/25/2019 12:58:36 PM		7/25/2019 12:56:06 PM	150
	Camera	Alarm		7/25/2019 12:47:41 PM		7/25/2019 12:45:11 PM	151
	Camera	Alarm		7/25/2019 1:04:04 PM		7/25/2019 1:01:33 PM	151

The description of the table is given below:

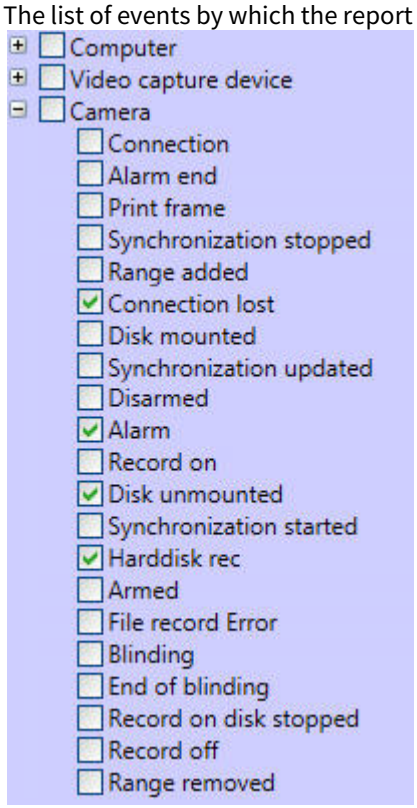
Column	Description
Type	The icon of event type
Source	Source object of the event
Init.Event	Initial event or information that the event was created by the Operator on the **Create event** tab
Operator	Operator processed the event
Date/Time	Date and time when the event was processed
Comment	Operator's comment
Event time	Date and time when the event was registered in the system
Operator response time	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

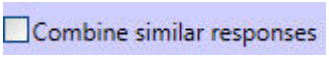


.

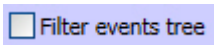
4. The button of setting the date after which events do not get into the report

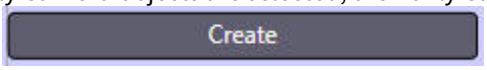


.

5. The 

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.

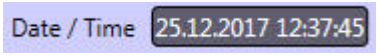
6. The 

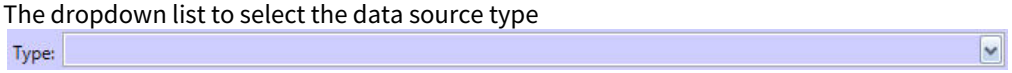
checkbox enables filtration of the events list on the right according to objects selected on the left (e.g., if only **Camera** objects are selected, then only **Camera** events are displayed).
7. The button to create a report 

.

The **Create event** tab

1. The field for description of the event:


.
2. The button of setting the date and time of the event 

.
3. The dropdown list to select the data source type


.
4. The dropdown list to select the source object of the event


.
5. The button to create an event 

.

4.2.10 Incident manager

On this page:

- Purpose(see page 47)
- Functions(see page 47)
- Interface description(see page 47)

4.2.10.1 Purpose

The Incident manager is designed for processing events and generating reports.

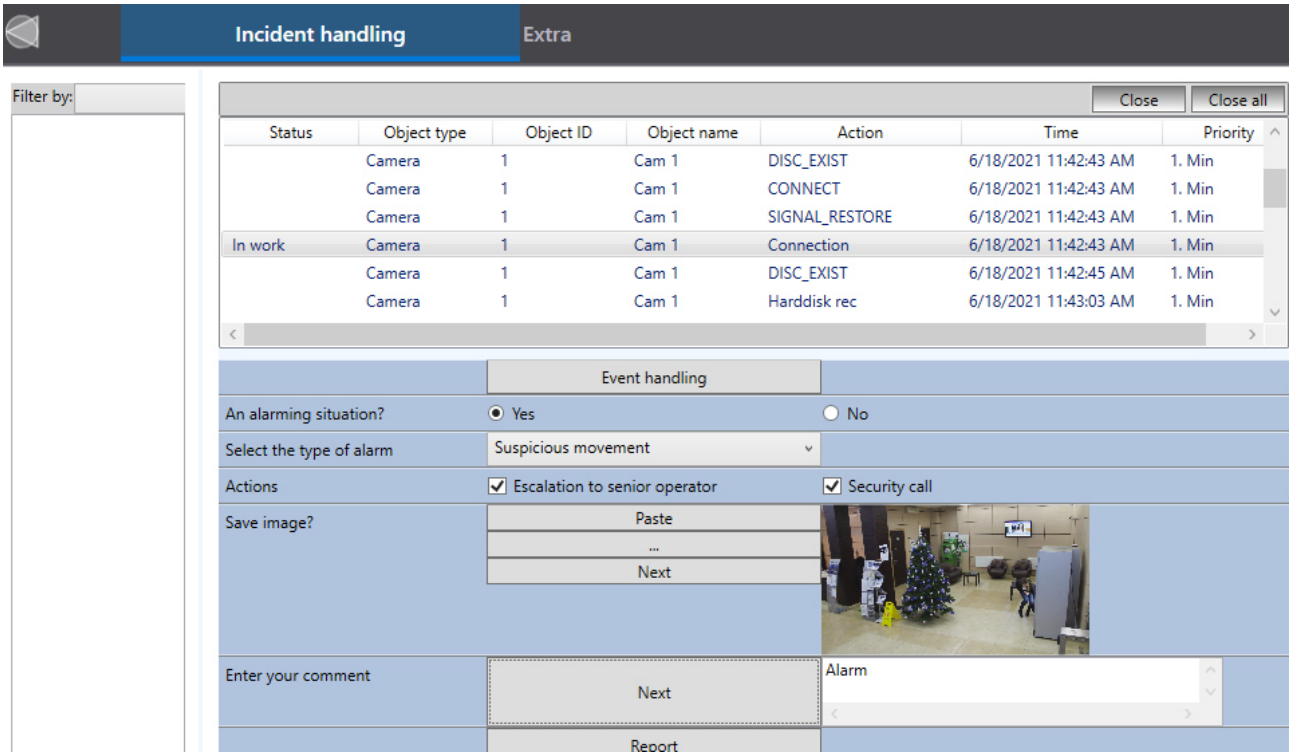
4.2.10.2 Functions

The Incident manager provides the following features:

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

4.2.10.3 Interface description

The Incident manager interface is shown in the figure:



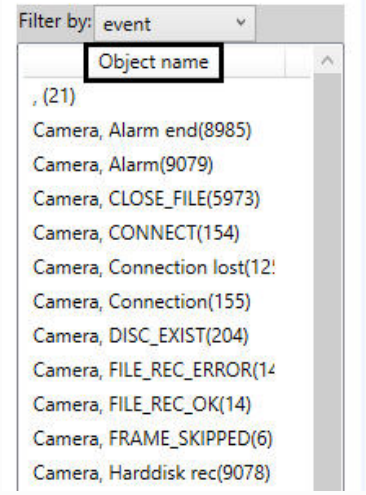
The Incident manager interface consists of three parts:

1. Event grouping interface.
2. Table with a list of events.
3. Event handling interface.

Grouping options:

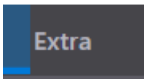
1. By the selected object.
2. By event type.
3. By region.
4. no grouping — all events are displayed.

> **Note**
>
> Groups can be sorted alphabetically by clicking on the **Object name**:



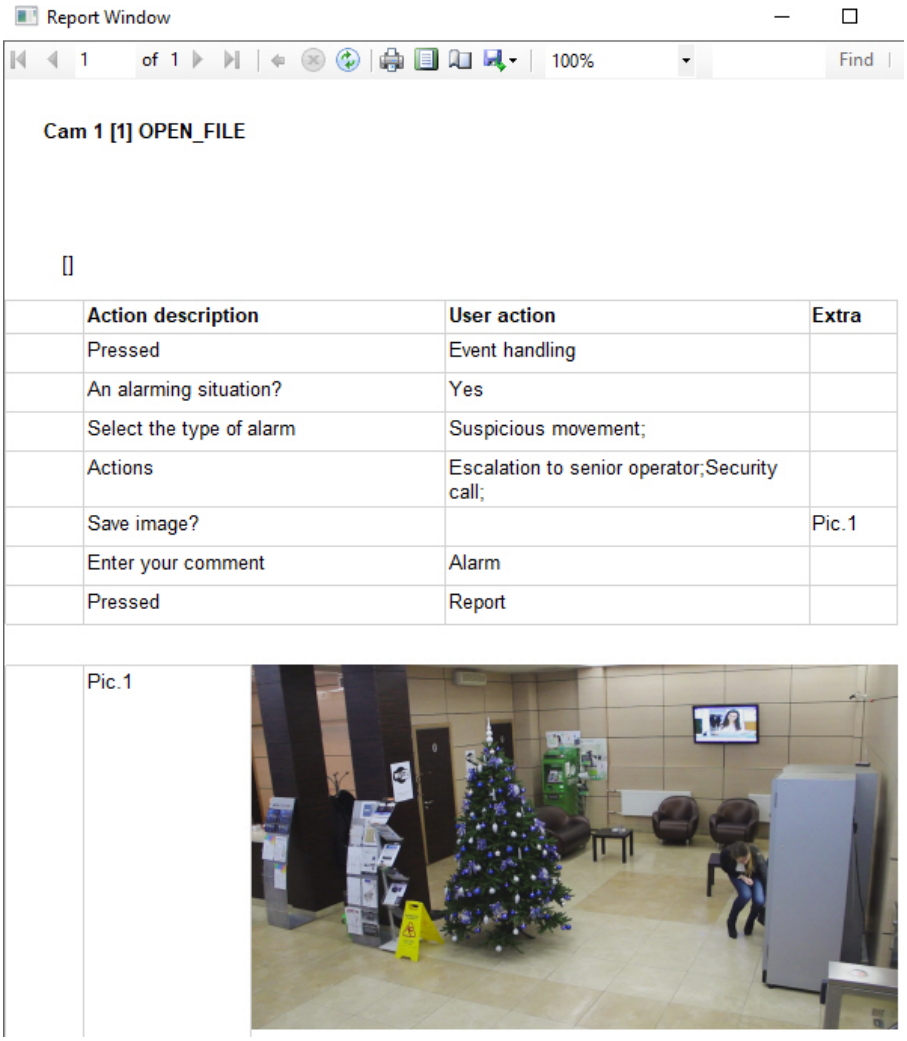
The following information is displayed for each event:

1. Status.
2. Object type.
3. Object ID.
4. Object name.
5. Action.
6. Time — time the event occurred.
7. Priority.
8. Time (sec) — the number of seconds since the event occurred.
9. Last comment.

To go to the report at any time, click the 

button on the top panel.

The report is built on the basis of the operator's actions during event processing. Typically, the report will be opened after completing the entire chain of actions.



To print a report, click the button, to save a report, click and select one of the acceptable formats: XLS, PDF or DOC.

4.2.11 Interactive map

On page:

- Function(see page 51)
- Functions(see page 51)
- Interface description(see page 51)

4.2.11.1 Function

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

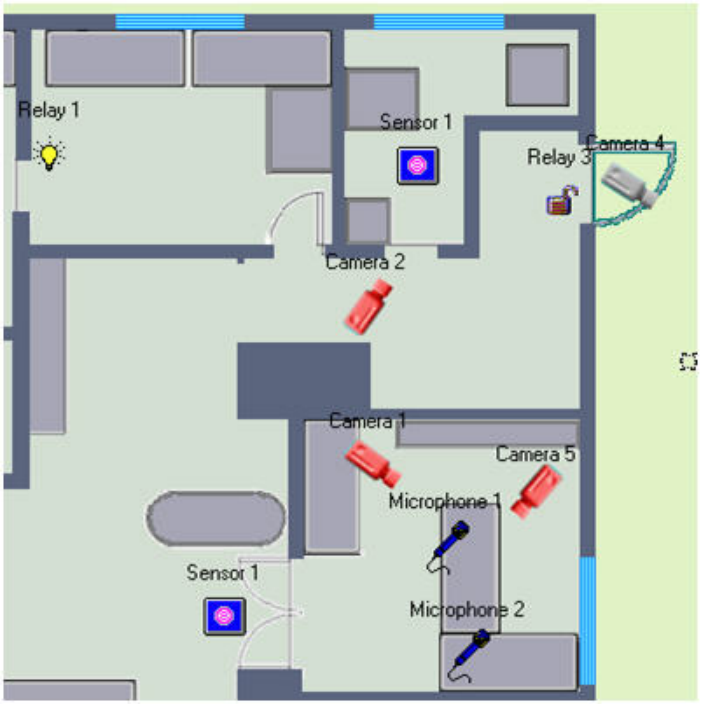
4.2.11.2 Functions

The map provides the following program functions:

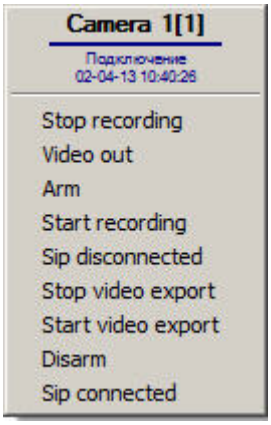
1. multilevel hierarchical object mapping (graphical chart forming) of a secured location;
2. on-line monitoring of the status of all system devices on the map;
3. virtual subdividing of secured objects;
4. possibility of automatic switching and recursive structural event analysis;
5. management of end devices;
6. running macros.

4.2.11.3 Interface description

The shape of the map depends on the secured object structure; it is assigned during the system setup procedure. An example of a map for one floor of a secured object 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

On page:

- Function(see page 52)
- Functions(see page 52)
- Interface description(see page 53)

4.2.12.1 Function

The video surveillance monitor for web browser is intended for TCP/IP based remote video surveillance of chosen secured locations via the web browser. Remote video surveillance requires no *Intellect* software system setup at the Operator's workplace (but the browser has to support Java).

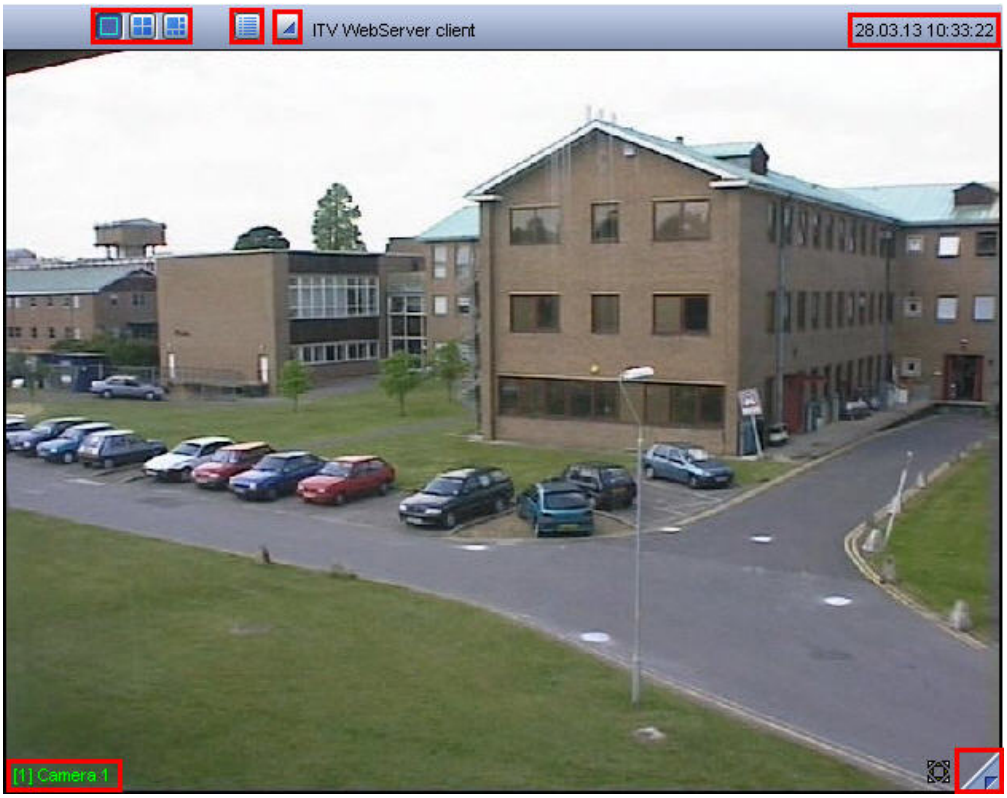
4.2.12.2 Functions

The video surveillance monitor for the web browser supports:

1. remote video surveillance with no *Intellect* software system setup at the Operator's workplace;
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.

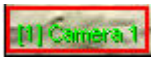
4.2.12.3 Interface description

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 camera;
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. **Note**. 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:

- Function(see page 54)
- Functions(see page 54)
- Interface description(see page 54)

4.2.13.1 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.

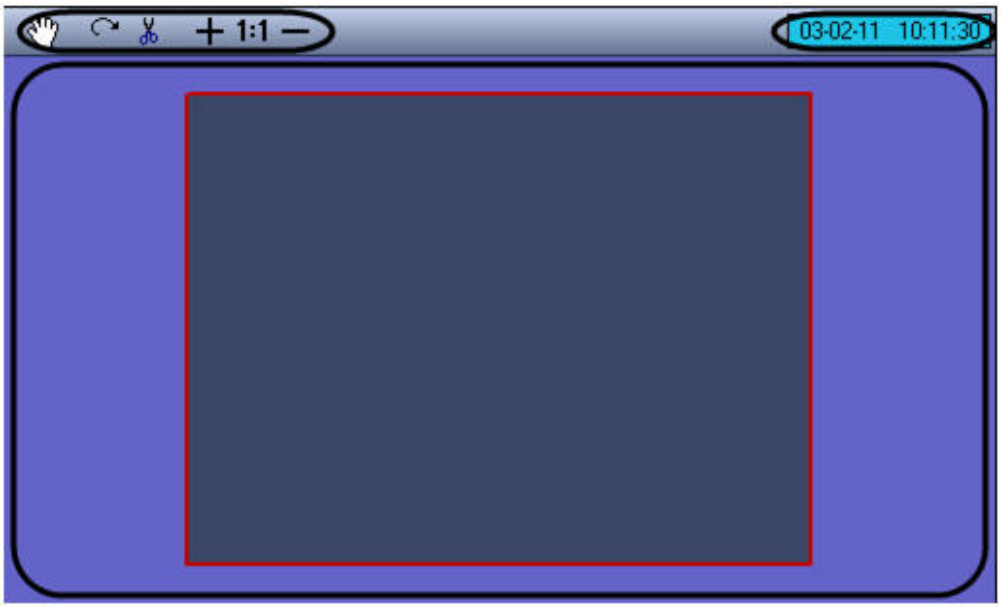
4.2.13.2 Functions

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.

4.2.13.3 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

On page:

- Function(see page 55)
- Functions(see page 55)
- Interface description(see page 56)

4.2.14.1 **Function**

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

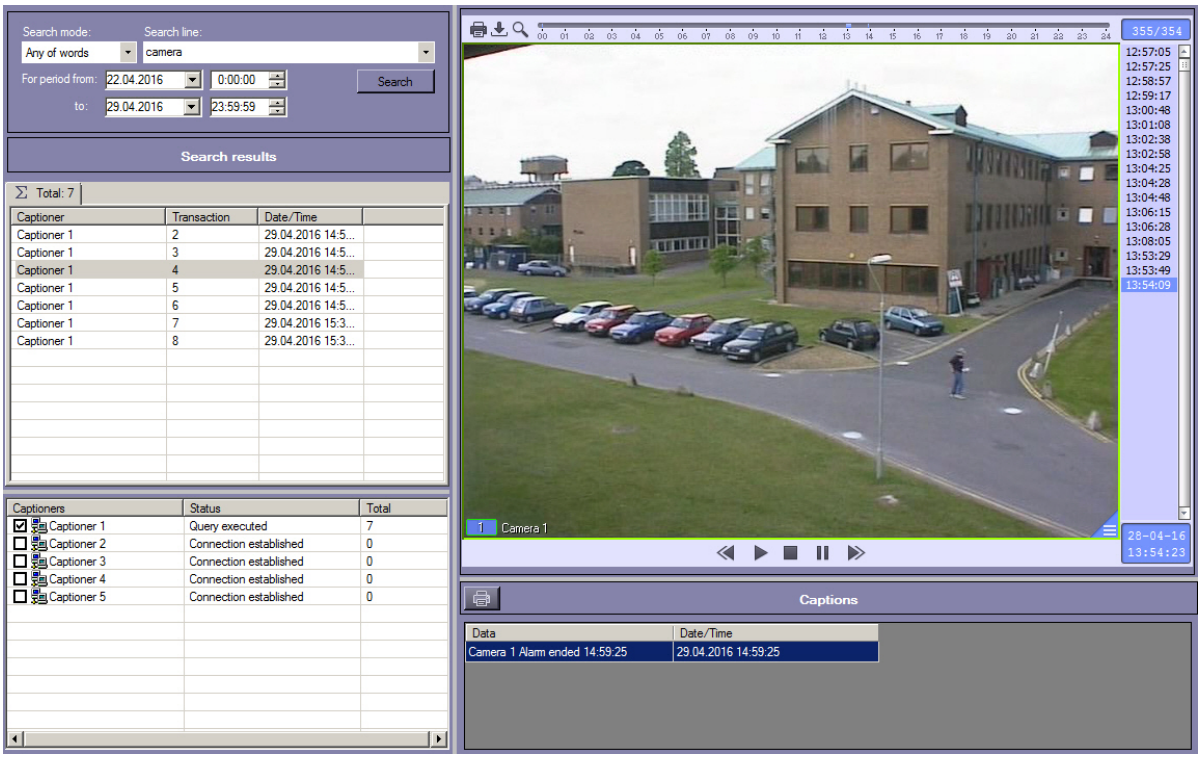
4.2.14.2 **Functions**

Search by captions allows:

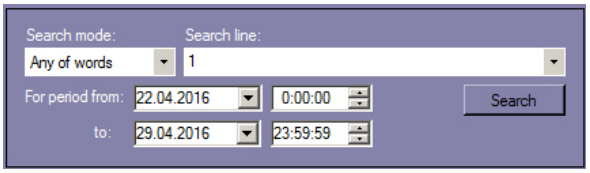
1. Searching in the captions database.
2. Viewing search results.
3. Printing the search results.

4.2.14.3 **Interface description**

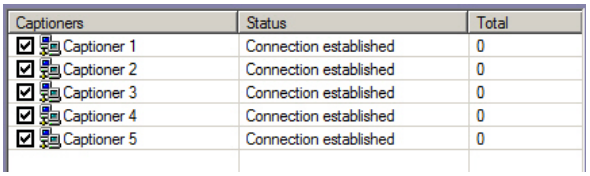
The figure shows an interface of the **Captions search** box.



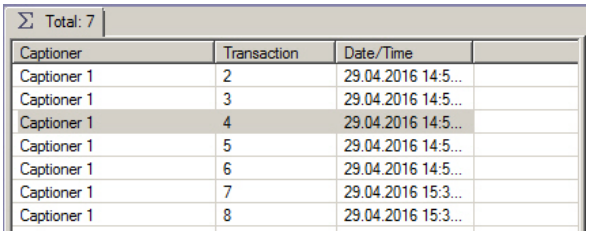
There is a search substring and time search interval in the upper left corner of the box.



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

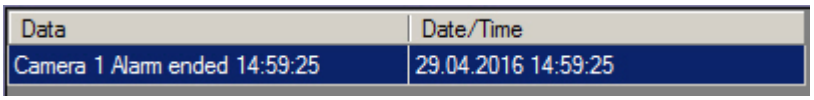


The captions databases the results by which are to be viewed are selected in the Search results area.



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.





4.2.15 HTML interface

On the page:

- Purpose(see page 57)
- List of functions(see page 58)
- Interface description(see page 58)

4.2.15.1 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

4.2.15.2 List of functions

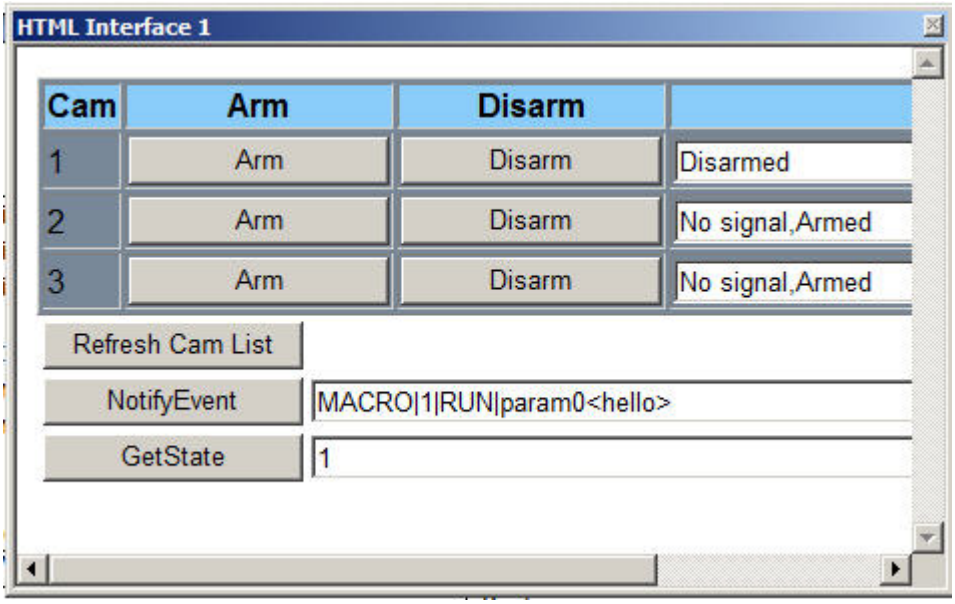
The HTML Interface window performs the following functions:

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

4.2.15.3 Interface description

View of the HTML Interface window entirely depends on settings (see Administrator's Guide[18]).

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



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

Hotkey/ hotkey combination	**Performed action**
Backspace	Back
Alt+left arrow	
Shift+Backspace	Forward
Alt+right arrow	
F5	Update page

18 https://doc.axxonsoft.com/confluence/pages/viewpage.action?pageId=124980307

Ctrl + **+** or **-**	Zoom in/out page

4.2.16 Display manager

On this page:

- Purpose(see page 59)
- Functions(see page 59)
- Interface description(see page 59)
  - The Screen activation group(see page 60)
  - The Setting and activation of monitors group(see page 61)

4.2.16.1 Purpose

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

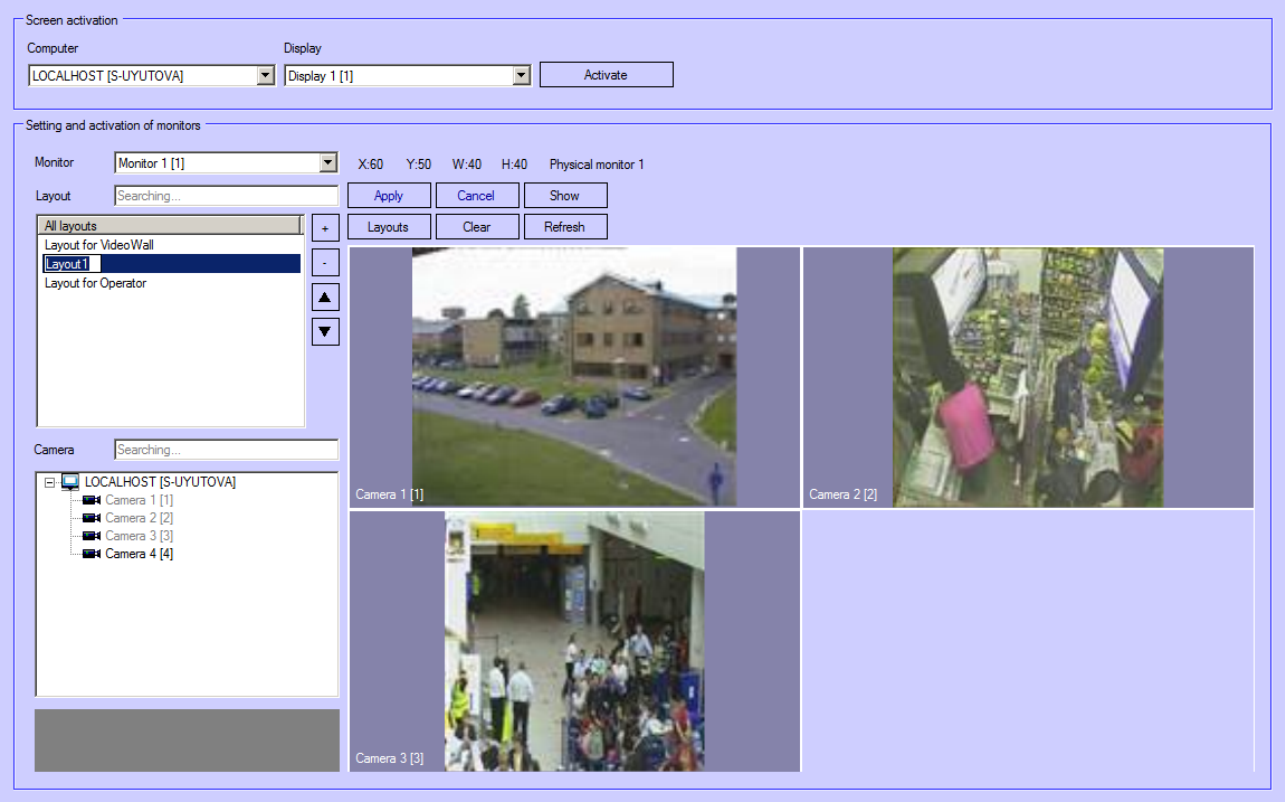
4.2.16.2 Functions

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.

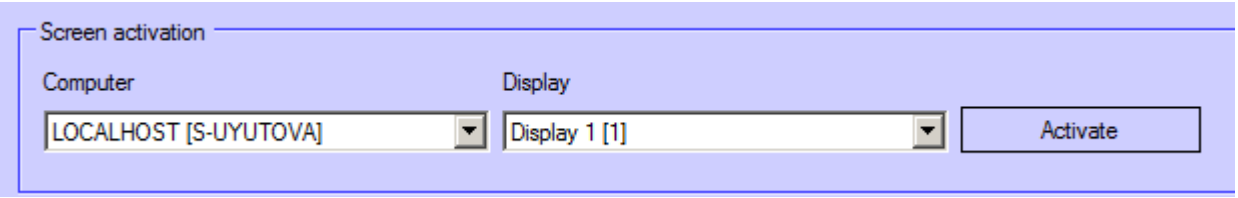
4.2.16.3 Interface description

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[19].

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 screens to the operator workstations[20].

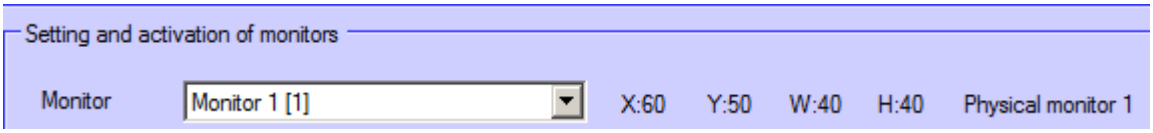
The effect of clicking the **Activate** button is similar to the Screens button on the Main control panel (see Main control panel(see page 20)). When you click this button, the interface windows created on the basis of the selected Display object are displayed on the desktop.

19 https://doc.axxonsoft.com/confluence/display/Int411en/Configuring+the+Display+manager
20 https://doc.axxonsoft.com/confluence/display/Int411en/Assigning+the+screens+to+the+operator+workstations

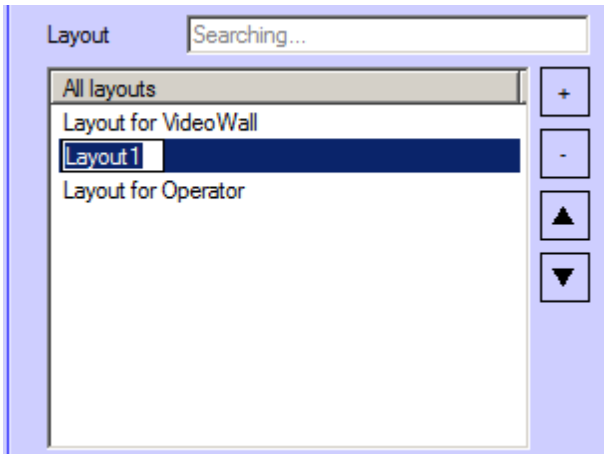
The Setting and activation of monitors group

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.

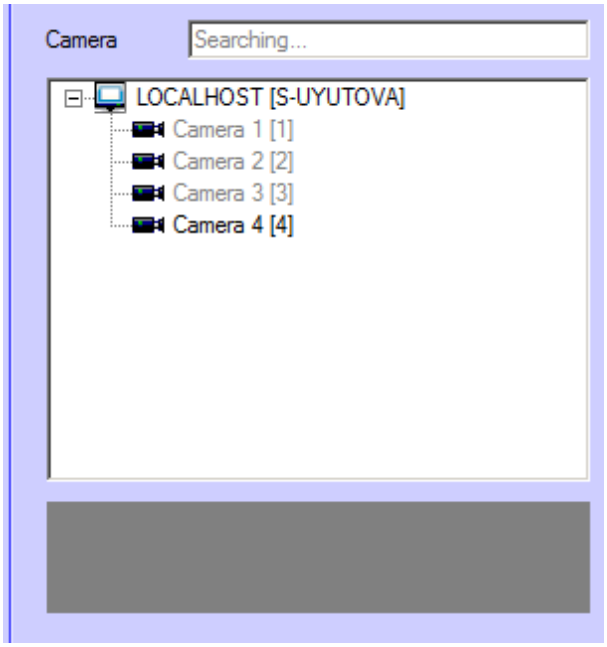


The layouts list is used for selecting the existing layouts, as well as deleting them and creating the new ones (buttons - and +, respectively). You can search for layouts by name using the **Layout** field. To change the order in which the layouts are displayed, use the ▼ and ▲ buttons.



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.

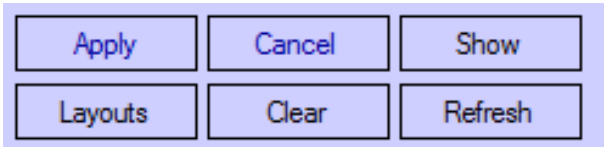
Below the cameras list, the camera preview is displayed.



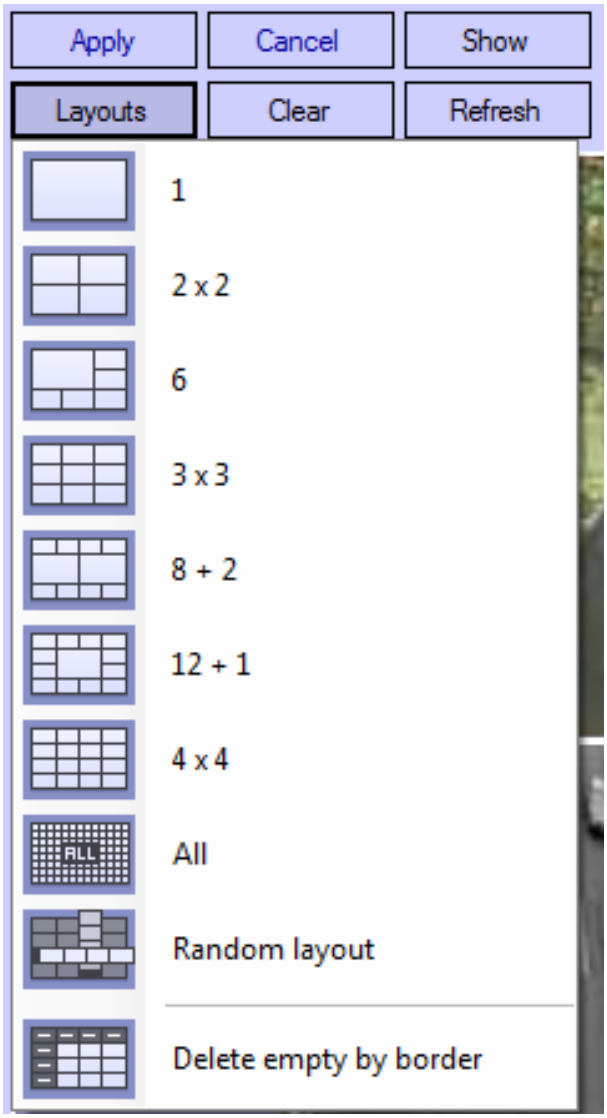
Note

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

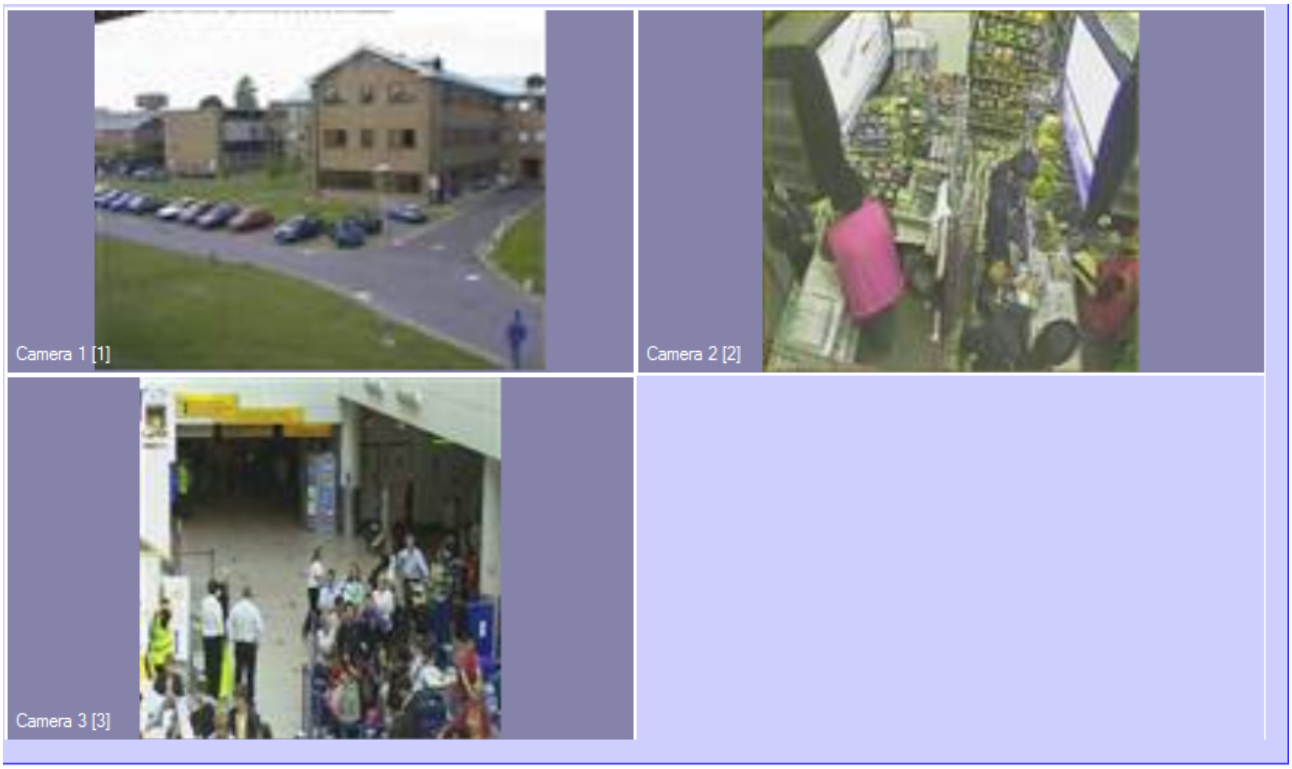
The buttons for managing the layouts:



- **Apply** - save changes in the layout.
- **Cancel** - cancel changes and go to the last saved layout.
- **Show** - display the layout on the selected Video surveillance monitor without saving it.
- **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(see page 64)
- Features(see page 64)
- Interface description(see page 64)

4.2.17.1 Purpose

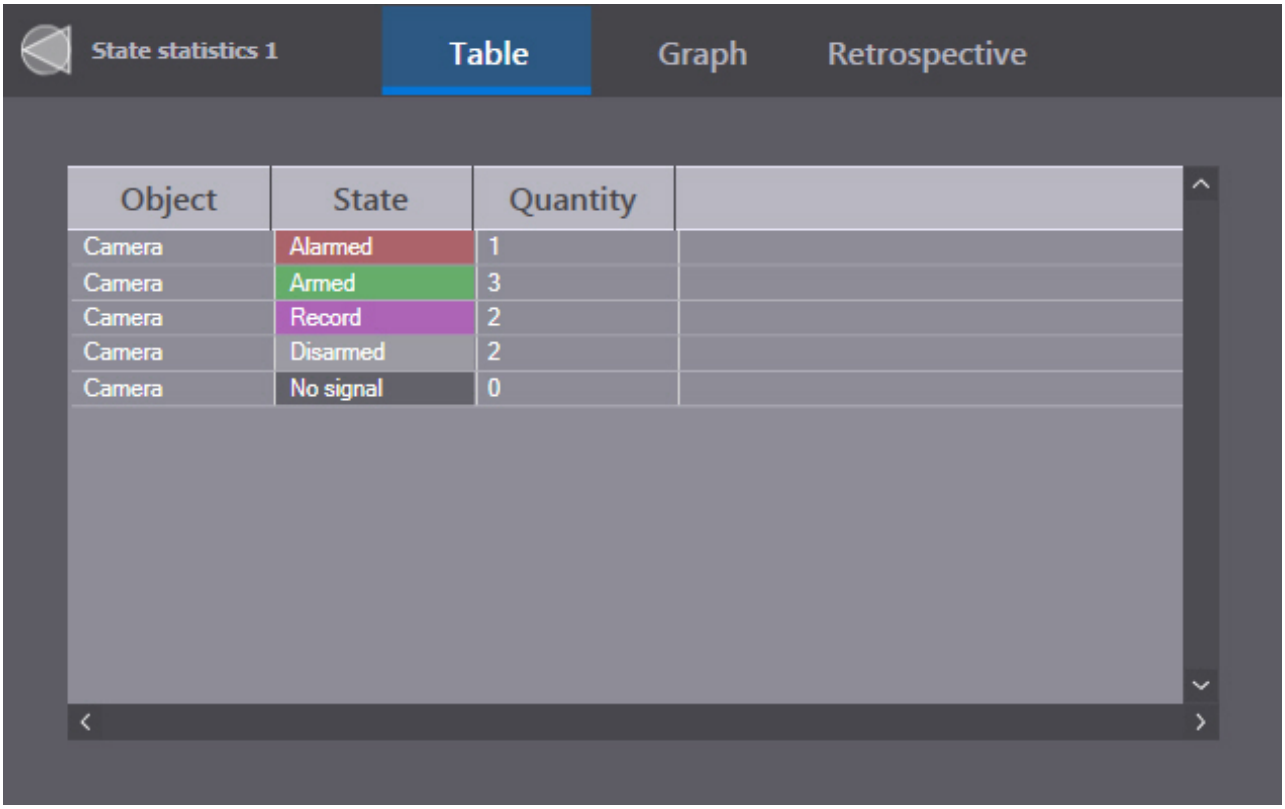
State statistics is designed to monitor the number of objects in the specified states.

4.2.17.2 Features

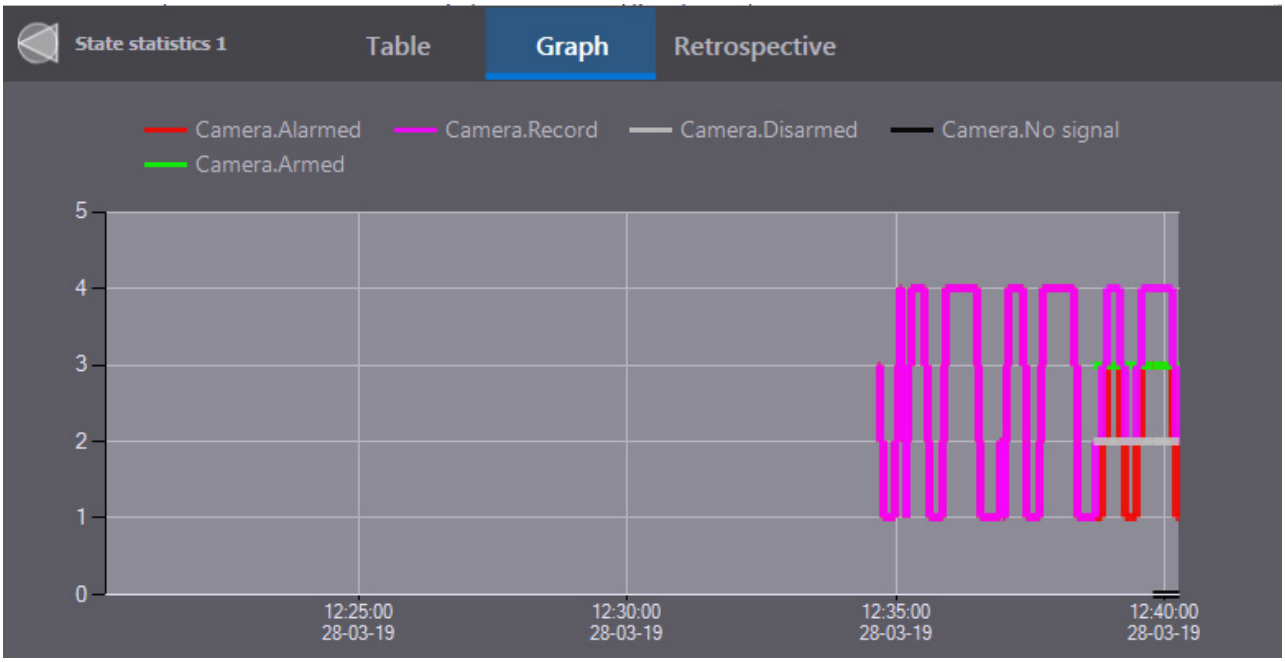
State statistics displays the number of objects of the selected type that are in a particular state, in a table and a graph.

4.2.17.3 Interface description

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

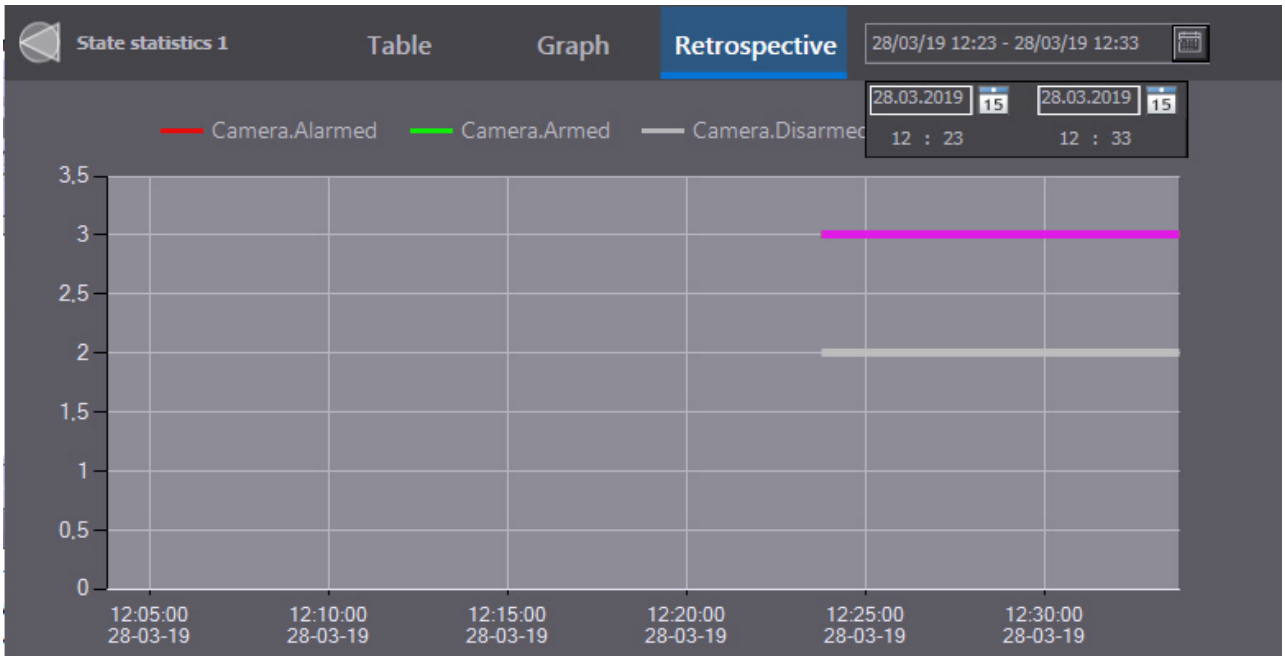


The **Table** tab displays a list of states and the number of objects in each of these states.



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 points number[21]).

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 Graphs

On this page:

- Purpose(see page 66)
- Features(see page 67)
- Interface description(see page 67)

4.2.18.1 Purpose

Graphs are designed to monitor the analog sensor readings, e.g. temperature or humidity sensors, etc.

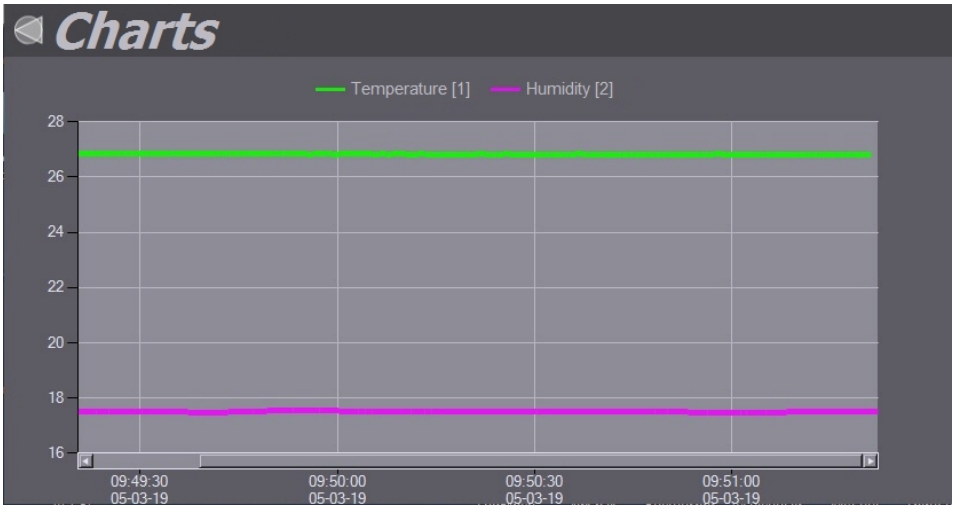
21 https://doc.axxonsoft.com/confluence/display/Int411en/Selecting+the+objects+to+be+included+in+State+statistics+and+configuring+the+points+number

4.2.18.2 Features

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

4.2.18.3 Interface description

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



This window displays the graph of analog sensor readings. The number of points on the graph is configured during the system setup (see Configuring the Charts to display analog sensor readings[22]). 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.

4.2.19 SIP Panel

On this page:

- Purpose(see page 68)
- Features(see page 68)
- Interface description(see page 68)
  - SIP-operator authorization window(see page 68)
  - The Call tab(see page 69)
  - The Archive tab(see page 70)

22 https://doc.axxonsoft.com/confluence/display/Int411en/Configuring+the+Charts+to+display+analog+sensor+readings

4.2.19.1 Purpose

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

4.2.19.2 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 archived calls received or made using the SIP-panel.

4.2.19.3 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[23]). Below is an example when all interface elements are displayed.

The SIP Panel interface consists of two tabs. The **Call** tab allows receiving and making calls. The **Archive** tab lists the incoming and outcoming calls and allows the audio and/or playback of the archived calls with the corresponding controls.

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

> **Note**
>
> The **Call** 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[24]). 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 a 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.

23 https://doc.axxonsoft.com/confluence/display/Int411en/Advanced+settings+of+the+SIP-panel+interface+object
24 https://doc.axxonsoft.com/confluence/display/Int411en/Operator+settings+of+the+SIP-panel+interface+object



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

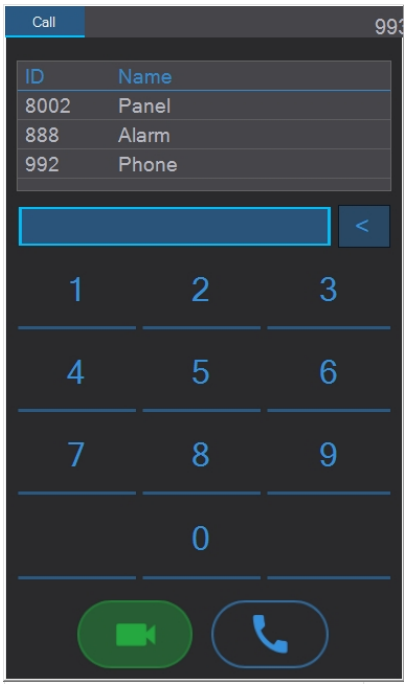
> **Note**
>
> The authorization window may open also in the following cases:
> - If during the Server/Remote Client reboot, the same SIP-operator was logged in on another Server/ Remote Client.
> - If the **User rights** mode is selected and the current registered *Intellect* user does not correspond to this mode (see Operator settings of the SIP-panel interface object[25]).

If, while working with the SIP-panel, you need to log out of the current SIP-operator without unloading the Server/ Remote Client, then 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:

25 https://doc.axxonsoft.com/confluence/display/Int411en/Operator+settings+of+the+SIP-panel+interface+object



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.

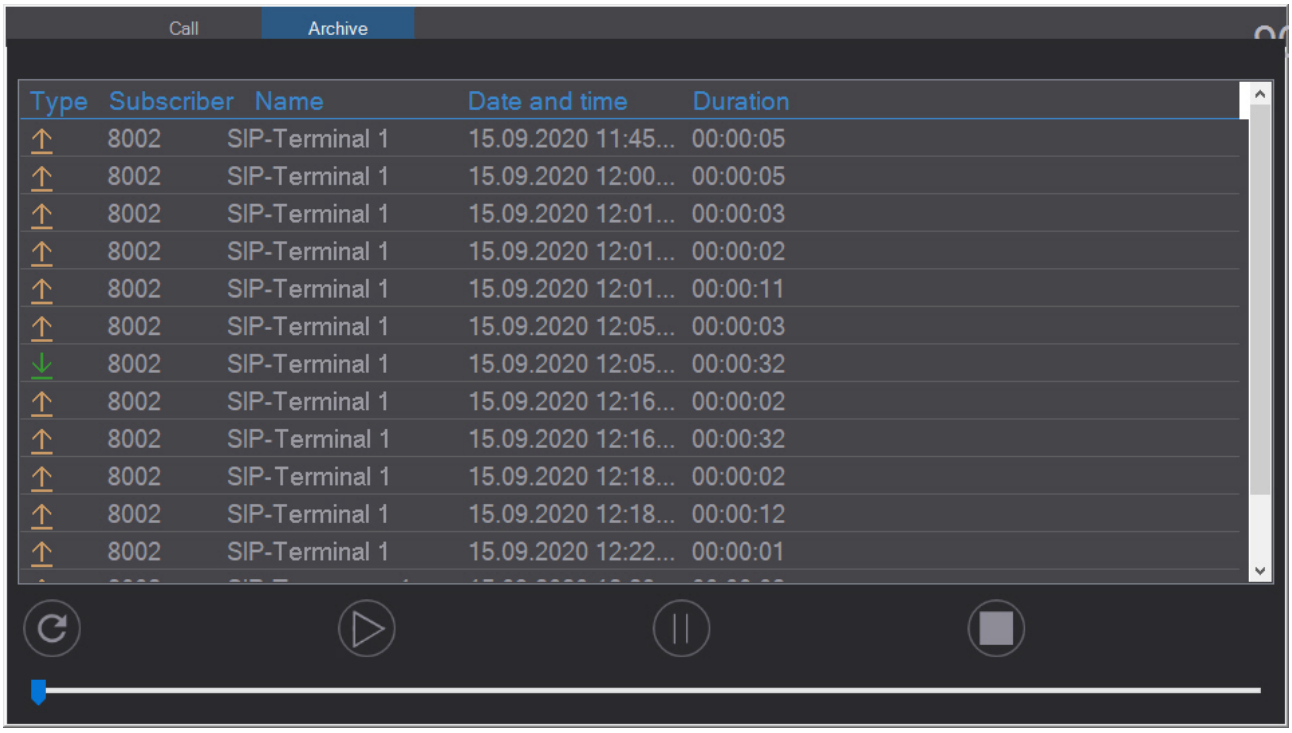
> **Note**
>
> If the SIP-terminal was not specified at the SIP-panel configuration stage (see Basic settings of the SIP-panel interface object[26]), then the subscriber numbers from the address books will not be displayed.

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(see page 297).

The Archive tab

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

26 https://doc.axxonsoft.com/confluence/display/Int411en/Basic+settings+of+the+SIP-panel+interface+object



To ensure the correct playback of archived calls, it is necessary to configure the audio and video archiving (see Configuring video archiving[27] and Configuring audio signals recording[28]).

The table includes the following information:

Column	Description
Type	Call type: incoming or outcoming
Subscriber	The subscriber number
Name	The subscriber name
Date and time	The call start and end time. *Note. The group calls are shown as several calls to different numbers at the same time (see Configuring numbers of SIP-terminal[29] for details on group calls configuration).*
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.

27 https://doc.axxonsoft.com/confluence/display/Int411en/Configuring+video+archiving
28 https://doc.axxonsoft.com/confluence/display/Int411en/Configuring+audio+signals+recording
29 https://doc.axxonsoft.com/confluence/display/Int411en/Configuring+numbers+of+SIP-terminal

Video and/or sound are played back when playing the archived call depending on whether the subscriber (SIP-operator or SIP-device) has camera and/or microphone configured. The operator's speaker (see Selecting speaker, microphone and camera for SIP-operator[30]) is utilized for audio playback and the **Monitor** selected while configuring the **SIP Panel** (see Configuring the SIP-panel interface object[31]) is used to playback video.

Controls for playing archived calls are under the table:

 Update the call list

 Play the selected call

 Pause the playback

 Stop the playback

 Slider to display the playback and rewind process

Working with SIP-devices and SIP-operators from the map(see page 258)
Working with SIP Panel(see page 297)

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 workplace 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;

30 https://doc.axxonsoft.com/confluence/display/Int411en/Selecting+speaker%2C+microphone+and+camera+for+SIP-operator
31 https://doc.axxonsoft.com/confluence/display/Int411en/Configuring+the+SIP-panel+interface+object

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 *Intellect* system (see the Video Monitor(see page 22) section).
2. Cross-platform solution with surveillance via a web browser (see the Video surveillance monitor for web browser(see page 52) section).
3. The video monitor of a mobile client – see AxxonSoft mobile Clients. Documentation[32].

4.3.3 Surveillance windows operation

4.3.3.1 Altering the number of windows

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

> **Note**
>
> If the display of the **Control panel** is disabled (see Selecting the parameters of the Monitor interface box[33]), 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.

32 https://doc.axxonsoft.com/confluence/display/ASmc/AxxonSoft+mobile+Clients.+Documentation
33 https://doc.axxonsoft.com/confluence/display/Int411en/Selecting+the+parameters+of+the+Monitor+interface+box



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

There is a special layout with 6 Video Surveillance Windows featuring one Video Surveillance Window larger than other five. This layout has certain restrictions mentioned below. The special six windows layout can only be displayed by the  button while the Tools panel is enabled in Video Surveillance Monitor. See pictures below for examples of six windows layout with and without the Tools panel.



Double left clicking in the Surveillance window on any layout, except for the six layouts, allows increasing the size of the Surveillance window while some Surveillance windows will be hidden on the Video surveillance monitor. Double right clicking on the video allows returing to the original layout.

The mouse control for Surveillance windows number can be altered with registry keys (see Registry keys reference guide[34]). When using the MaximizeCameraOnDblClk registry key, double left clicking switches the Surveillance window to the single layout mode from any layout, including the six layout mode. Also, the transfer to one-window layout and backwards can be enabled with the UseOneClkToMaximizeOrMinimizeCamera key.

The MaximizeCameraOnDblClk, MinimizeCameraOnDblClk and UseOneClkToMaximizeOrMinimizeCamera keys features are described in the table:

Key values	**Action on mouse double-click**
MaximizeCameraOnDblClk = 0 MinimizeCameraOnDblClk = 0 or 1 UseOneClkToMaximizeOrMinimizeCamera = 0 or 1	Standard behavior, the window size does not increase in the six layout mode.

34 https://doc.axxonsoft.com/confluence/display/Int410en/Registry+keys+reference+guide

MaximizeCameraOnDblClk = 1 MinimizeCameraOnDblClk = 0 UseOneClkToMaximizeOrMinimizeCamera = 0 or 1	The six layout mode is switched to the single layout mode on left double-click, six layout mode is switched to the smaller window size on right double-click.
MaximizeCameraOnDblClk = 1 MinimizeCameraOnDblClk = 1 UseOneClkToMaximizeOrMinimizeCamera = 0	The window size is switched to the single layout mode on left double-click, the window size is switched to the smaller window size on right or left double-click.
MaximizeCameraOnDblClk = 1 MinimizeCameraOnDblClk = 1 UseOneClkToMaximizeOrMinimizeCamera = 1	The window size is switched to the single layout mode on left or right click, the window size is switched to the smaller window size on right or left click. *Note. The first click of the mouse button in the Surveillance window activates the camera, so if the window is not initially active, two clicks will be required to enlarge.*

In addition, the number of video surveillance windows can be changed using the custom layouts - see Windows layout on the monitor(see page 76). However, the left double-click always increases the viewing window to the full-screen single layout mode. Moreover, if the user layout is selected, the layout mode buttons are disabled, regardless of the number of the windows displayed on the selected layout.

If GreenStream is configured (see Configuring an auto select of video stream for displaying[35]), then when changing the number of Surveillance windows and scaling the video, the video streams used for their display can be automatically changed.

Note.

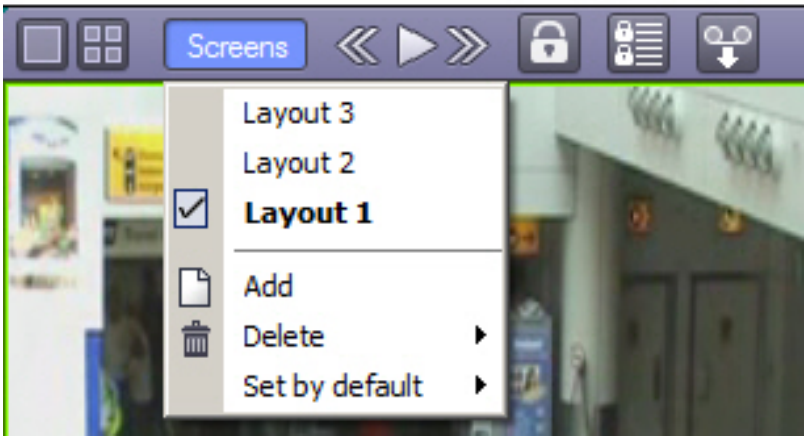
The Monitor tools panel can be disabled due to the system setup.
If the **Overlay 1** mode is enabled during the system setup, then the surveillance window scaling by double-clicking is disabled, and the surveillance windows layout cannot be changed.

4.3.3.2 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.

35 https://doc.axxonsoft.com/confluence/display/Int411en/Configuring+an+auto+select+of+video+stream+for+displaying



Note.

The layouts can also be managed using the Display manager - see Configuring and activating the layouts(see page 290).

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[36].

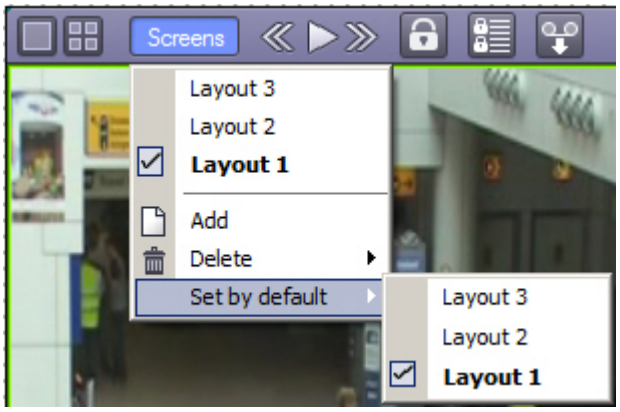
The **Add** and **Delete** functions may not be available depending on the permissions (see Limiting access to the system objects administration, control and viewing functions[37]).

Default layouts

The **Screens** menu also allows assigning default layouts. The default layout will be displayed when *Intellect* 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[38]).

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

36 https://doc.axxonsoft.com/confluence/display/Int411en/Registry+keys+reference+guide
37 https://doc.axxonsoft.com/confluence/display/Int411en/Limiting+access+to+the+system+objects+administration%2C+control+and+viewing+functions
38 https://doc.axxonsoft.com/confluence/display/Int411en/Registry+keys+reference+guide



The default layout is highlighted in bold.

4.3.3.3 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.

Standard paging can be changed so that layouts created in the Video surveillance monitor are paged when clicking the paging buttons. For this set the “1” value for the CycleByLayouts registry key on the computer where the Video surveillance monitor is displayed (see Registry keys reference guide[39]).

4.3.3.4 Active window

The surveillance window may be activated or de-activated. The active window is focused at the moment; the remaining windows are de-activated. To move focus, click another window.



The distinctive feature of the active window is a recordings archive access button (in the left bottom), the archive stores recordings from camera, attached to this window, and the light blue background of the window number. Active and de-activated windows have no functional differences.

Note.

If there are too many windows opened on a monitor, the recordings archive access button may well not be displayed.

The Video surveillance monitor with the activated **Active camera** mode (see Configuring the display mode for camera boxes[40]) is called the Active Monitor. In case both Active Monitor and GreenStream are configured (see Configuring an auto select of video stream for displaying[41]), the video stream in this Video surveillance monitor will depend on the Active Monitor window size.

4.3.3.5 Video image scaling

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

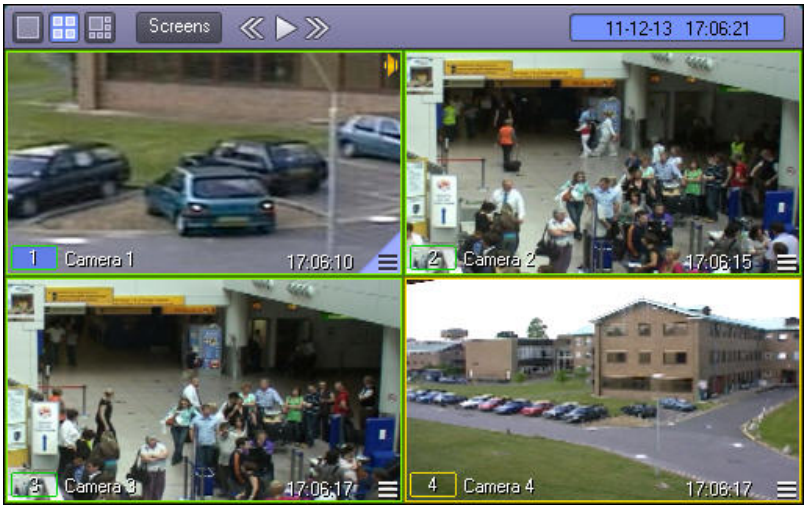
To magnify or reduce the image in an active window, use the mouse wheel (see figures below).

Zooming in the surveillance window (initial state):

39 https://doc.axxonsoft.com/confluence/display/Int411en/Registry+keys+reference+guide
40 https://doc.axxonsoft.com/confluence/display/Int411en/Configuring+the+display+mode+for+camera+boxes
41 https://doc.axxonsoft.com/confluence/display/Int411en/Configuring+an+auto+select+of+video+stream+for+displaying



Zooming in the surveillance window (post-zooming state):



For other zooming modes see Image processing(see page 103) section.

The magnified image can be dragged by using the left mouse button.



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

> **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[42]).

If the additional Video surveillance monitor is configured and has the **Active camera** mode activated (see Configuring the display mode for camera boxes[43]), and also if the GreenStream is configured (see Configuring an auto select of video stream for displaying[44]), then the video streams are automatically switched during the video image scaling in this Video surveillance monitor. However, if the maximum resolution video stream is used initially, then the video stream will not be switched.

> **Note.**
>
> A maximum possible size image is achieved when a single surveillance window is displayed on one monitor. If multiple windows are displayed, their sizes may be automatically reduced.

> **Note.**
>
> In the archive view mode the mouse wheel can also perform the scrolling of video records list if click the left mouse button on the video records list previously. In this case click the left mouse button in the Video surveillance window to scale the video image.

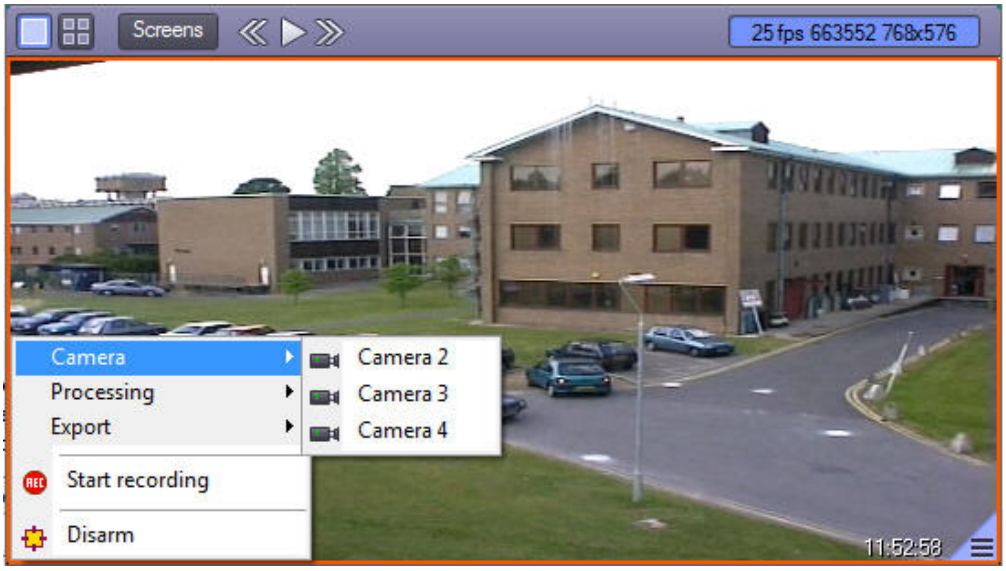
> **Note.**
>
> If lens type is specified while configuring a camera, then fisheye video will be converted instead of being scaled when scrolling (see also Enabling fisheye(see page 113)).

4.3.3.6 Selecting camera to display in Surveillance window

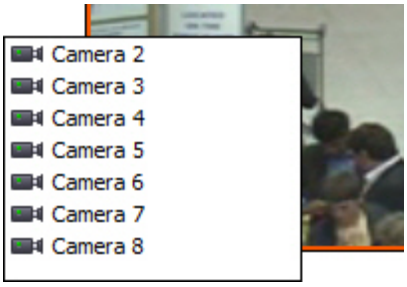
If not all Surveillance windows available on the Surveillance monitor are displayed in the selected layout, one can select a camera displayed in the Surveillance window.

By default, this function is available in the feature menu. Go to the **Camera** submenu and select the required camera in the list.

42 https://doc.axxonsoft.com/confluence/display/Int411en/Registry+keys+reference+guide
43 https://doc.axxonsoft.com/confluence/display/Int411en/Configuring+the+display+mode+for+camera+boxes
44 https://doc.axxonsoft.com/confluence/display/Int411en/Configuring+an+auto+select+of+video+stream+for+displaying



If the camera switching dialog is enabled in the **Monitor** settings (see Configuring Video surveillance windows interface[45]), the special dialog for camera selection is opened when you select **Camera** in the functional menu:

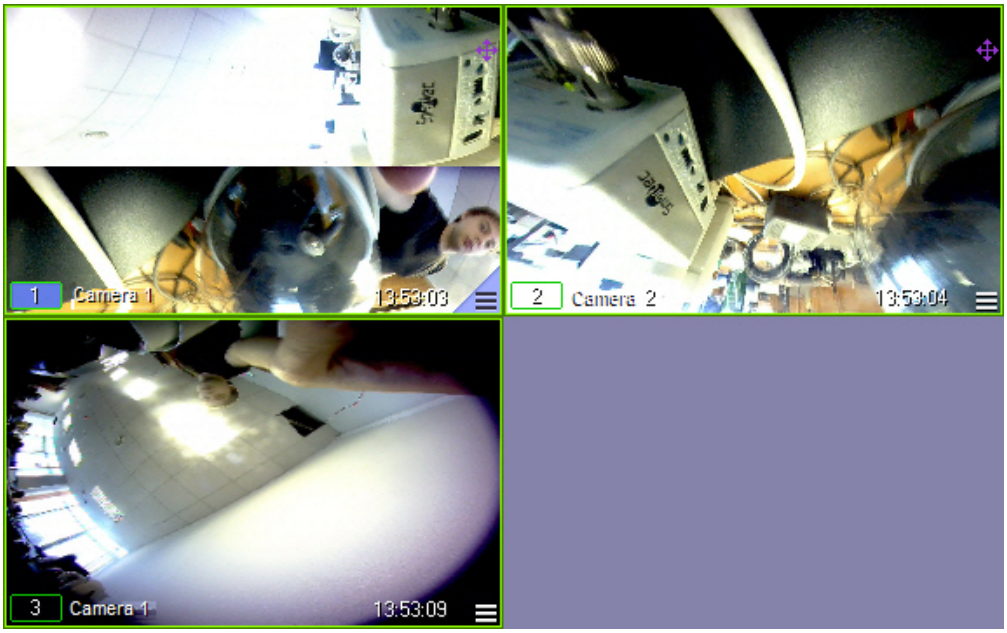


4.3.3.7 Viewing video from fisheye camera

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.

45 https://doc.axxonsoft.com/confluence/display/Int411en/Configuring+Video+surveillance+windows+interface



See how to enable fisheye conversion in the Enabling fisheye(see page 113) section. Information on how to configure fisheye cameras can be found in Configuring fisheye cameras[46] section in Administrator's Guide(see page 82).

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 .

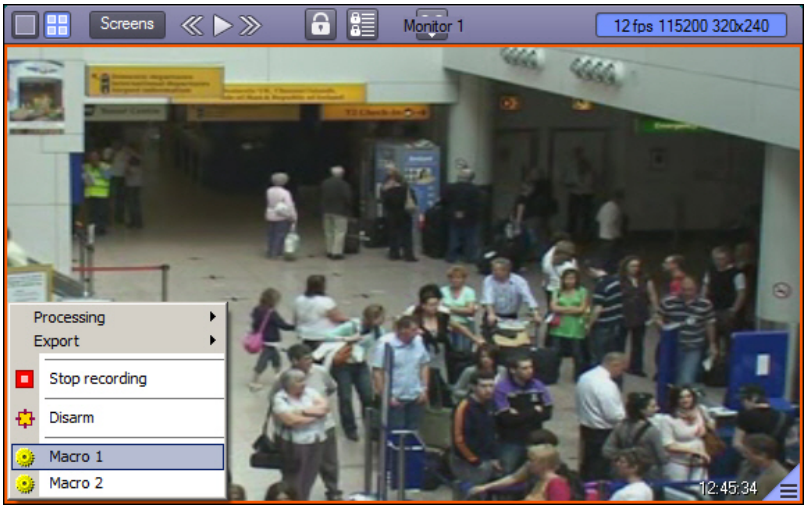
Action	Function
Left-click and hold moving the mouse pointer	Changing orientation of virtual camera lens towards the mouse pointer direction
Scrolling up/down	Digital zoom in/out

4.3.3.8 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[47] and Creating and using macros[48]).

Rut the macro from the Video Surveillance Window functional menu:

46 https://doc.axxonsoft.com/confluence/display/Int411en/Configuring+fisheye+cameras
47 https://doc.axxonsoft.com/confluence/display/Int411en/Selecting+and+configuring+video+cameras
48 https://doc.axxonsoft.com/confluence/display/Int411en/Creating+and+using+macros



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

4.3.4 Camera arming and disarming

4.3.4.1 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).

4.3.4.2 Indication of camera status

> **Note**
>
> This section describes the default parameters of the color indication of the video surveillance window border. They can be changed during the system configuration - see Configuring Viewing tile frame color[49].

The colour of the video surveillance window border indicates the current camera status.

Colour of the video surveillance window border	Camera status

49 https://doc.axxonsoft.com/confluence/display/Int411en/Configuring+Viewing+tile+frame+color

Green	Camera disarmed
Yellow	Camera armed
Red	Camera is armed, alarm event occurred on camera. OR Camera is disarmed, but one ore more auxiliary zones are configured as alarmed and alarm is detected on them – see also Indication of detection tool status(see page 92).

The colour of the camera number indicator border in the surveillance window indicates the current status of the video recording from the camera.

Colour 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 video surveillance window border colour and the colour of the camera number border are described in the following table.

Colour of the window border	**Colour 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 alarmed detection zone, video recording is started by an alarm or the recording, started by Operator's command before the event, goes on,
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 alarmed detection zone, but no video recording by alarm is done.

Note.

If the auxiliary camera detector zone has been armed or disarmed, the border around the video surveillance window retains its colour, but after an alarm event in the auxiliary zone the window border becomes red. So, there is no indication of auxiliary detector zone arming and disarming for the camera by the frame of the Video Surveillance Window. See also Indication of detection tool status(see page 92)

The icon of video absence  appears under 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.

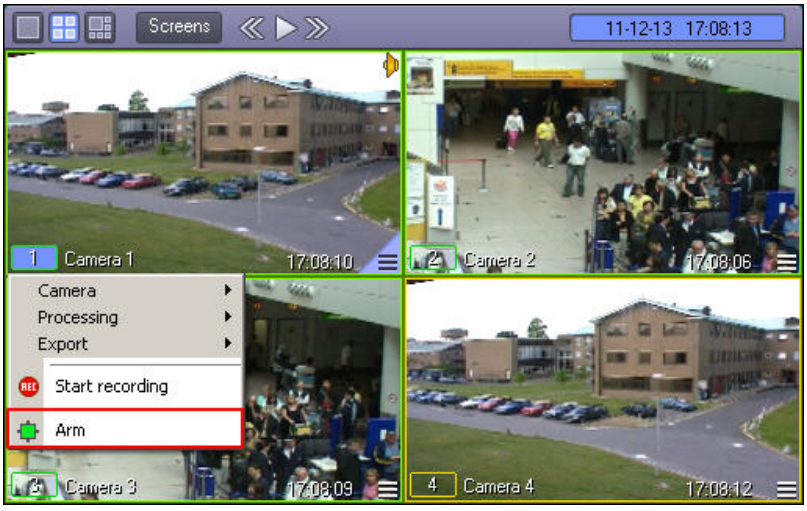
The last video frame or blue screen (depending on the video capture card) is displayed in the Video surveillance window if there is no video signal.

The icon of selected disk absence  appears over the icon of "video camera number" only when disk for archive saving is not selected.

When incorrect camera type is given, the icon of disconnect with the camera  appears over the icon of "video camera number" and the frame of video surveillance window becomes black.

4.3.4.3 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.



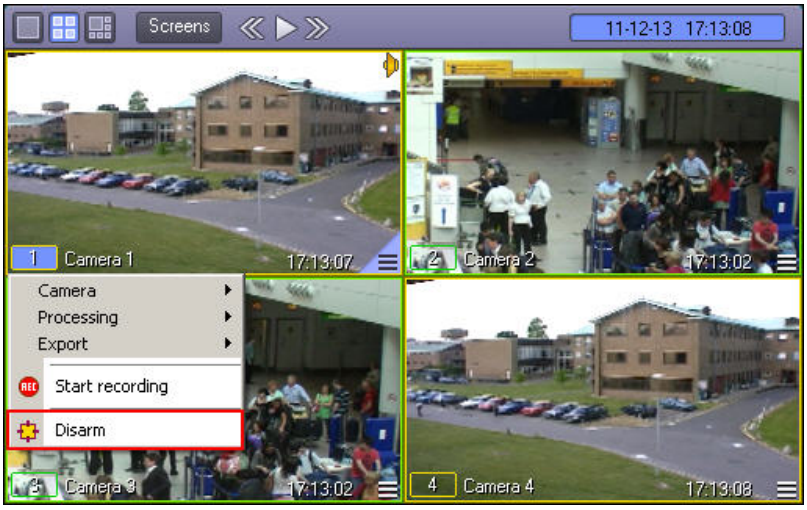
When auxiliary zones are armed, the camera indicator in the functions menu becomes yellow, but the surveillance window border retains its colour.

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.



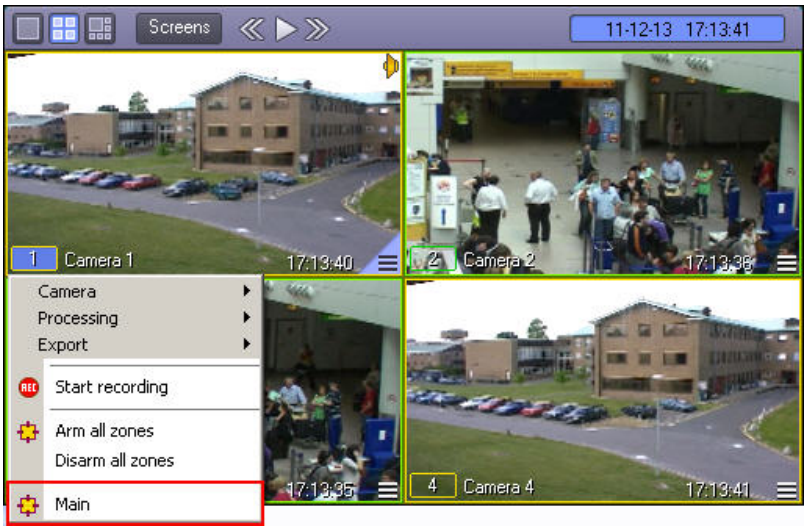
4.3.4.4 Camera disarming

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.



4.3.4.5 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

4.3.5.1 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).

4.3.5.2 Detection tool types

On page:

- Main motion detection tool(see page 91)
- Infrared motion detection tool(see page 91)
- Face detection tool(see page 91)
- Lost items detection tool(see page 91)
- Focusing detection tool(see page 91)
- Video signal stability detection tool(see page 91)
- Background change detection tool(see page 91)
- Camera blinding detection tool(see page 92)
- Lens blocking detection tool(see page 92)

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.

4.3.5.3 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(see page 84)

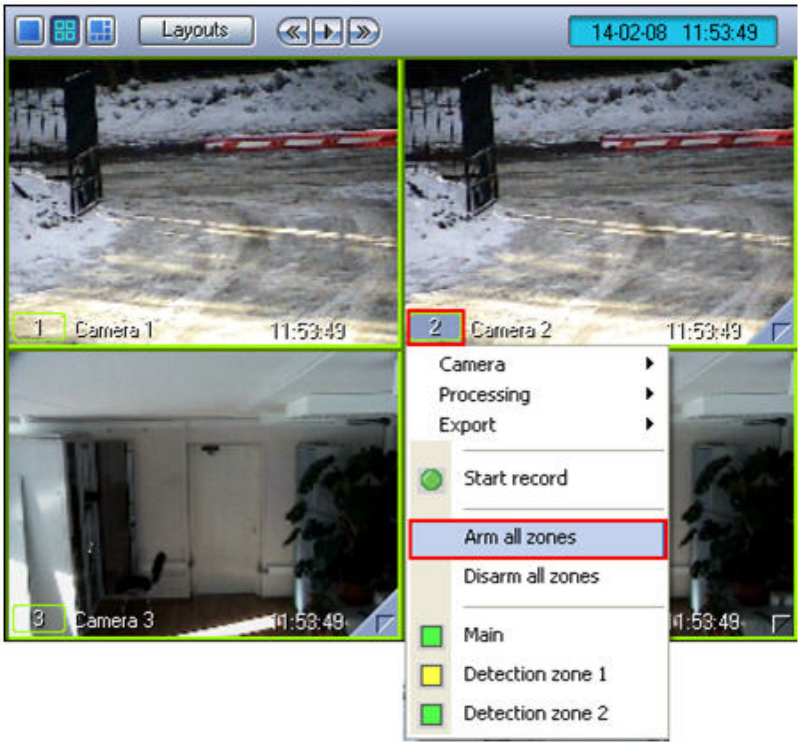
4.3.5.4 Switching detection tools on

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.



4.3.5.5 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.



4.3.5.6 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 objects may be displayed on the video image. The corresponding setting must be enabled either when configuring the **Tracker** object[50] or when configuring the corresponding detection tool (see Creating and configuring VMDA detection[51]). Abandoned objects can be highlighted with a frame if the corresponding setting is enabled when setting up the **Tracker** object.

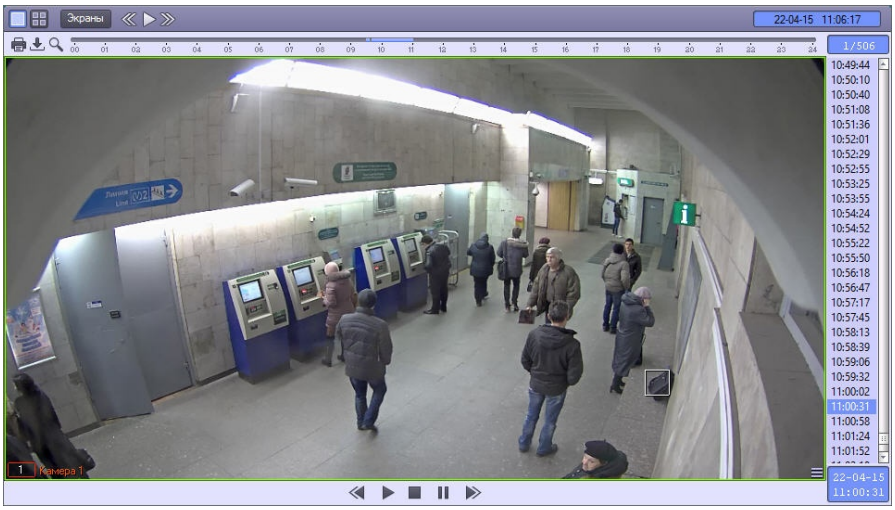
Note.

In order for the frames to show when the Video Surveillance Window of a camera is displayed on a monitor designated for the active camera or alarm cameras (see Configuring the display mode for camera boxes[52]),

50 https://doc.axxonsoft.com/confluence/display/Int411en/Creating+and+configuring+the+Tracker+object
51 https://doc.axxonsoft.com/confluence/display/Int411en/Creating+and+configuring+VMDA+detection
52 https://doc.axxonsoft.com/confluence/display/Int411en/Configuring+the+display+mode+for+camera+boxes

the corresponding camera must be added to this monitor at the system setup stage (see Selecting and configuring video cameras[53]).

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

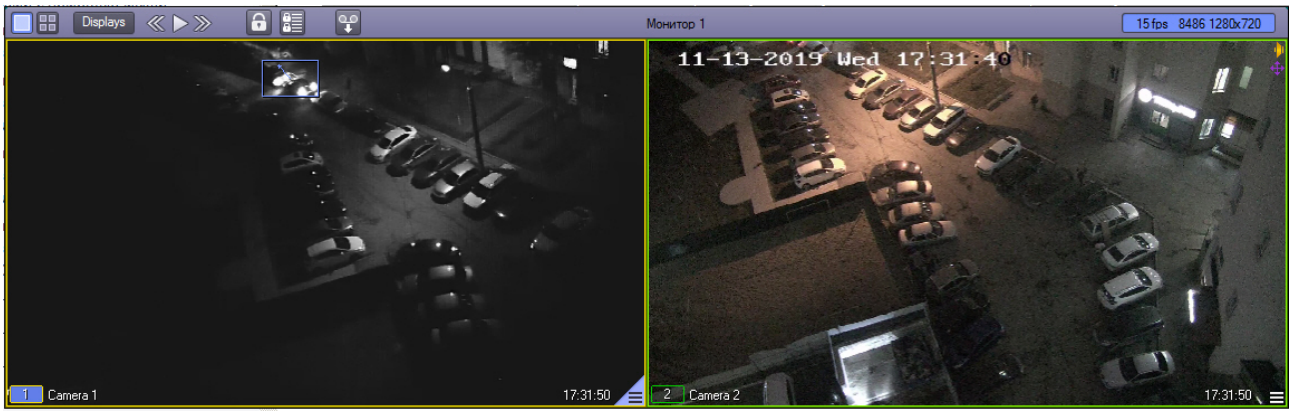


If the smart detection tools are configured to generate an alarm on camera when an object is detected, the alarm indication is standard – see Indication of camera status(see page 84)

The Smart search in the archive(see page 125) is also available if smart detection tools are configured correspondingly.

4.3.7 Using Tag&Track

If Tag&Track is configured in *Intellect* (see Tag & Track configuration[54]), 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[55]).



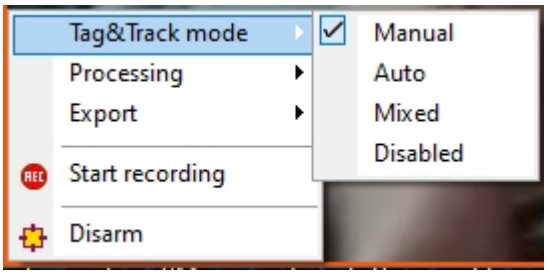
The Tag & Track function can be operated in one of the following modes:

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.

53 https://doc.axxonsoft.com/confluence/display/Int411en/Selecting+and+configuring+video+cameras
54 https://doc.axxonsoft.com/confluence/pages/viewpage.action?pageId=172799581
55 https://doc.axxonsoft.com/confluence/display/Int411en/Configuring+video+display+on+Video+Surveillance+Monitor

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

4.3.8.1 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.

4.3.8.2 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.



4.3.8.3 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.

4.3.8.4 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 .

4.3.8.5 Audio and video synchro recording

Synchro 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.



If synchro 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 colour of the icon indicates if the Operator can hear the sound from a given microphone, which doesn't affect recording.

> **Note.**
>
> Synchro 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 *Intellect* software package has the corresponding configuration.

4.3.8.6 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.

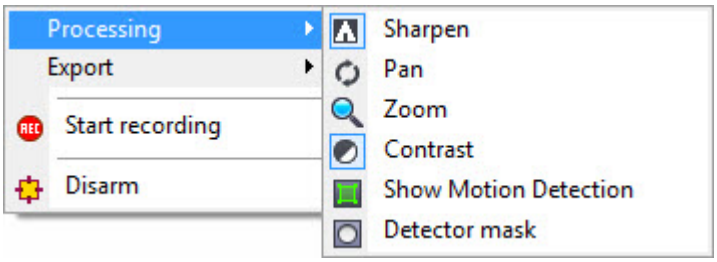
4.3.9 Image processing

4.3.9.1 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.



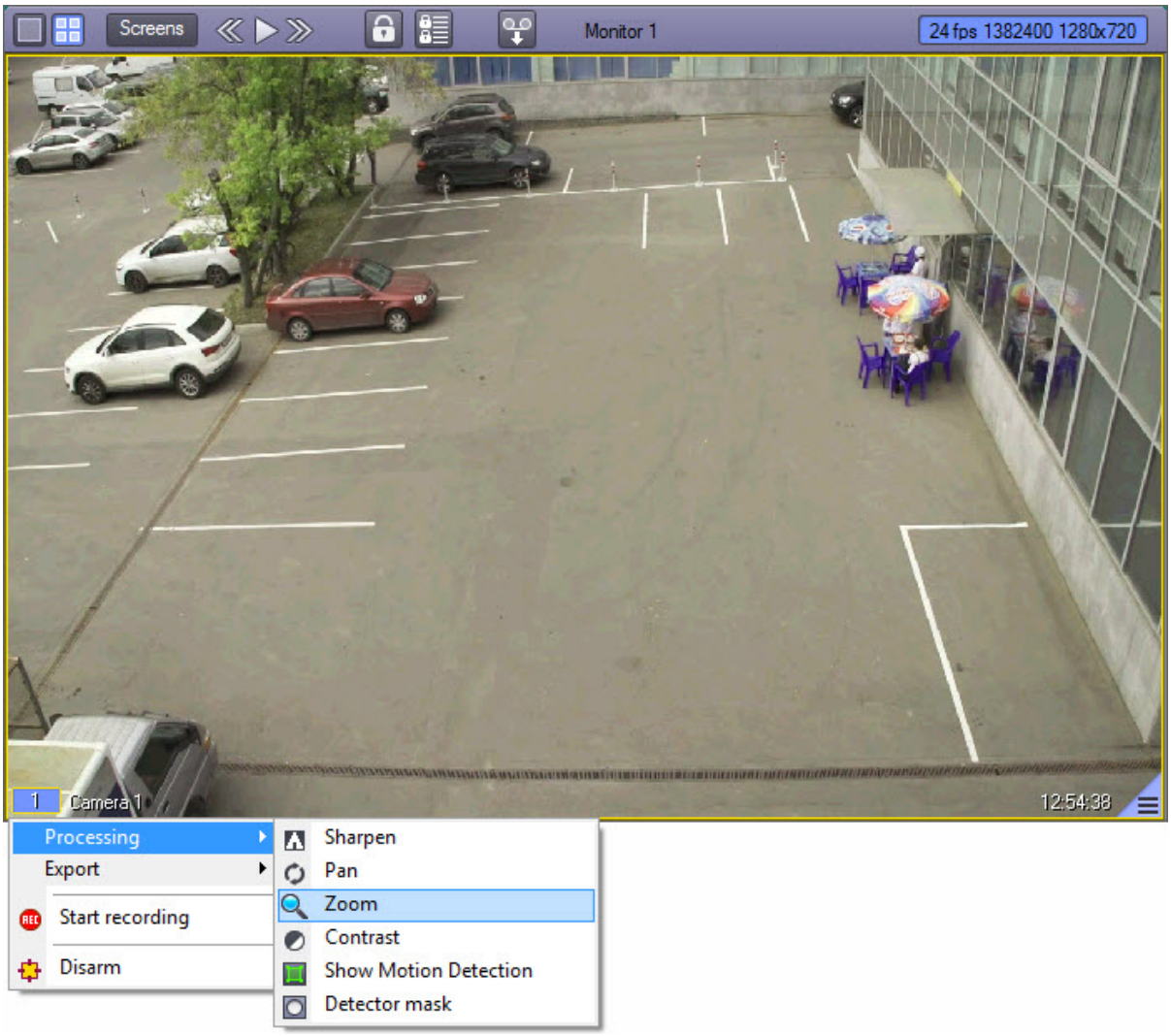
The same image may be processed by several functions at once. Activated options are outlined in the list of options. To switch the option on, click its name or its icon in the list of options. To switch the option off, click its name or its icon once more.



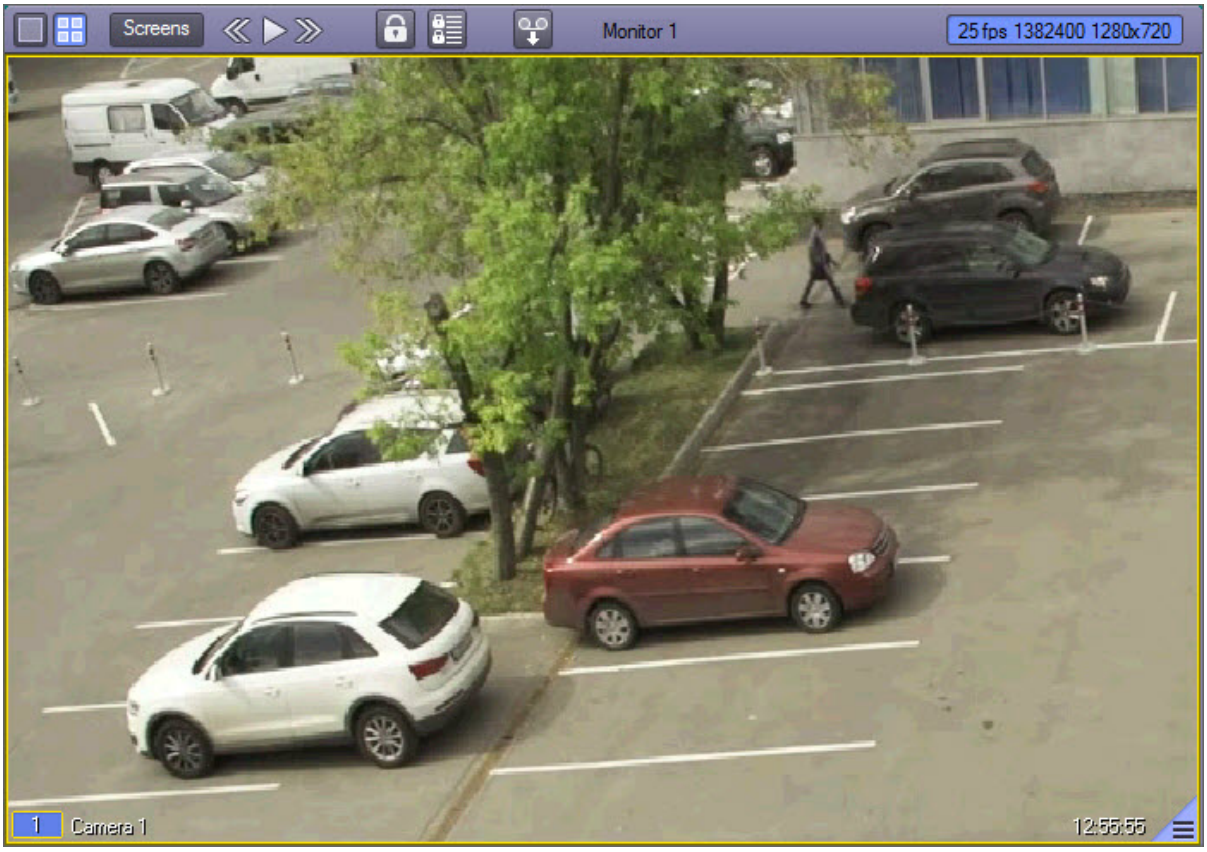
4.3.9.2 Image scaling

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(see page 79) section).

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

> **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[56]).

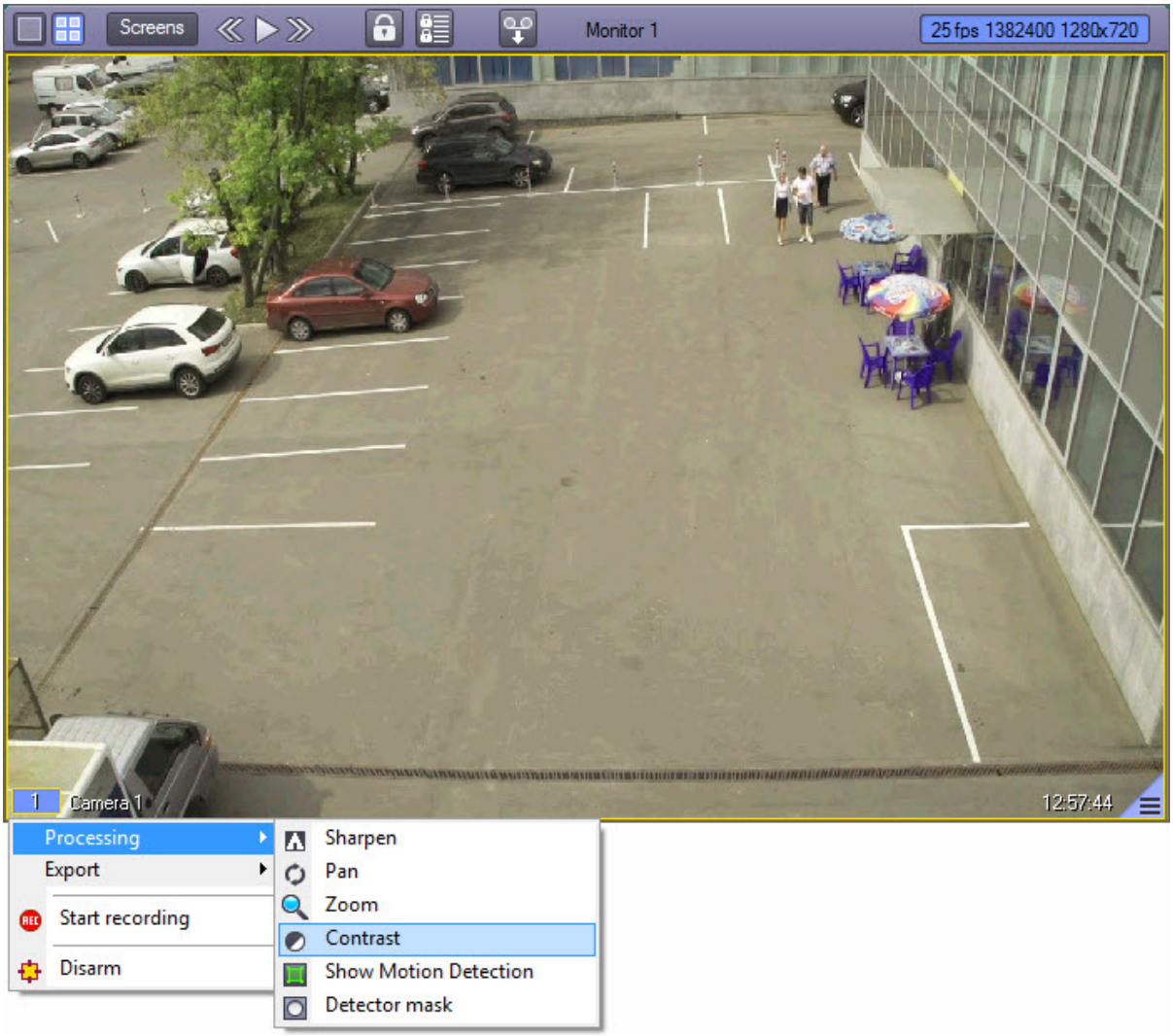
> **Note.**
>
> If the lens type was specified while configuring a camera, then the **Enable fisheye** feature (instead of the **Zoom** feature) is available (see Enabling fisheye(see page 113)).

4.3.9.3 Maximizing the image contrast

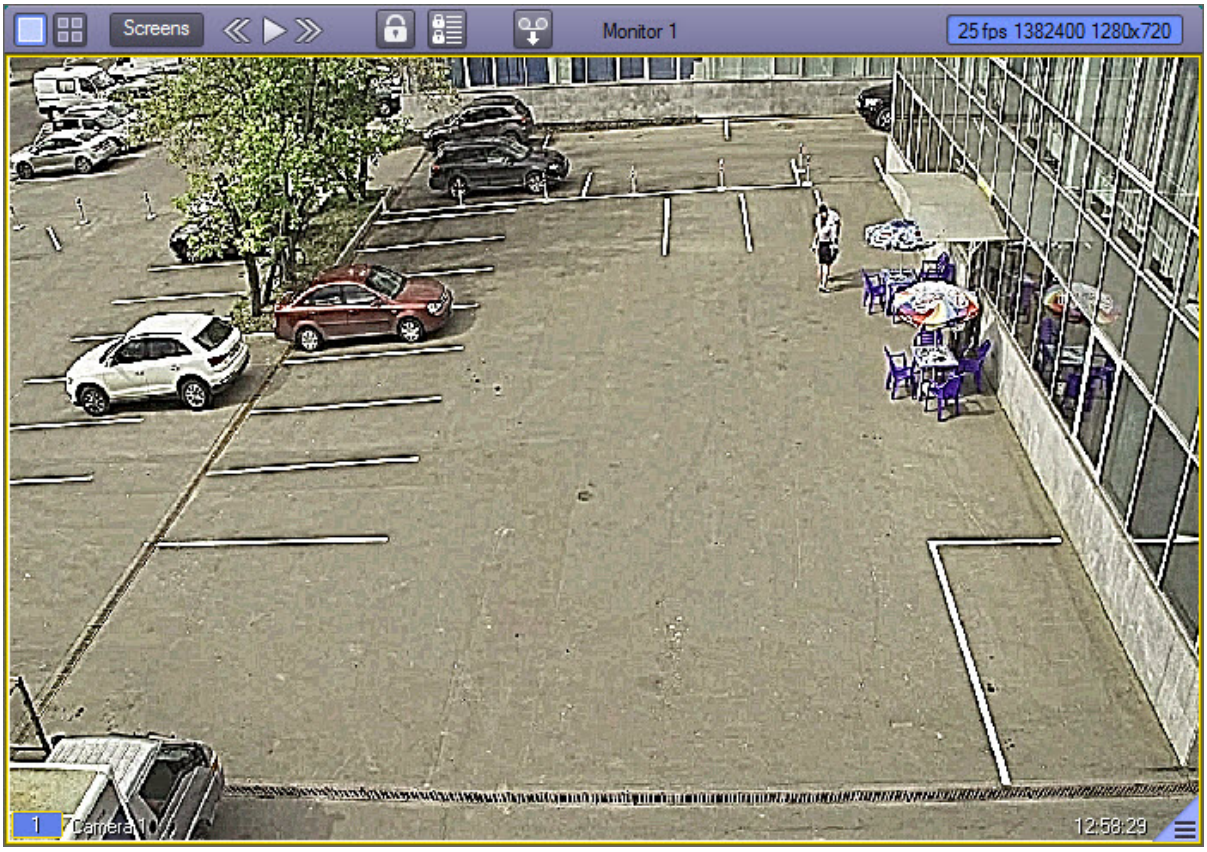
The **Contrast** option provides maximum image contrast.

Contrast option (original image):

56 https://doc.axxonsoft.com/confluence/display/Int411en/Registry+keys+reference+guide

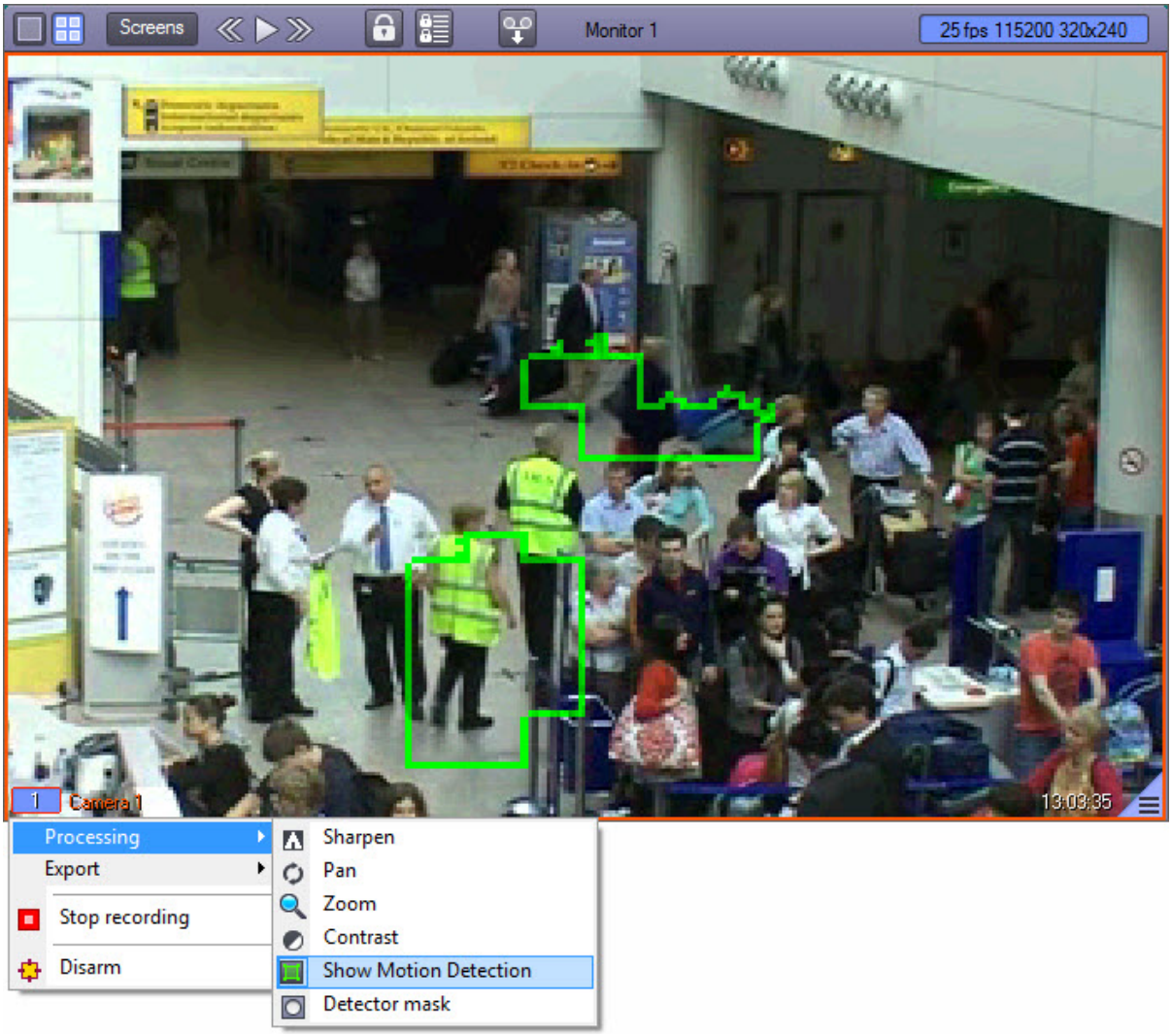


Contrast option (processed image):



4.3.9.4 Outlining of moving objects

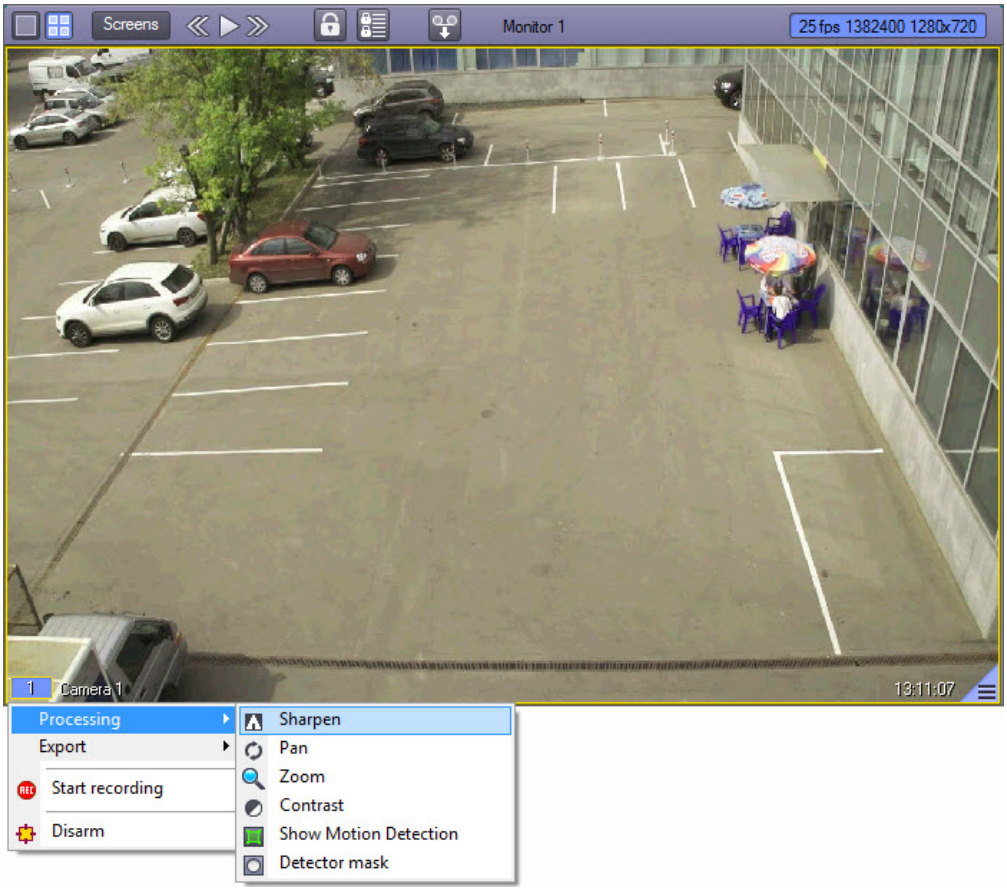
Software supports realtime dynamic outlining of moving objects via the **Show Motion Detection** option. The figure shows how to use the **Show Motion Detection** option.



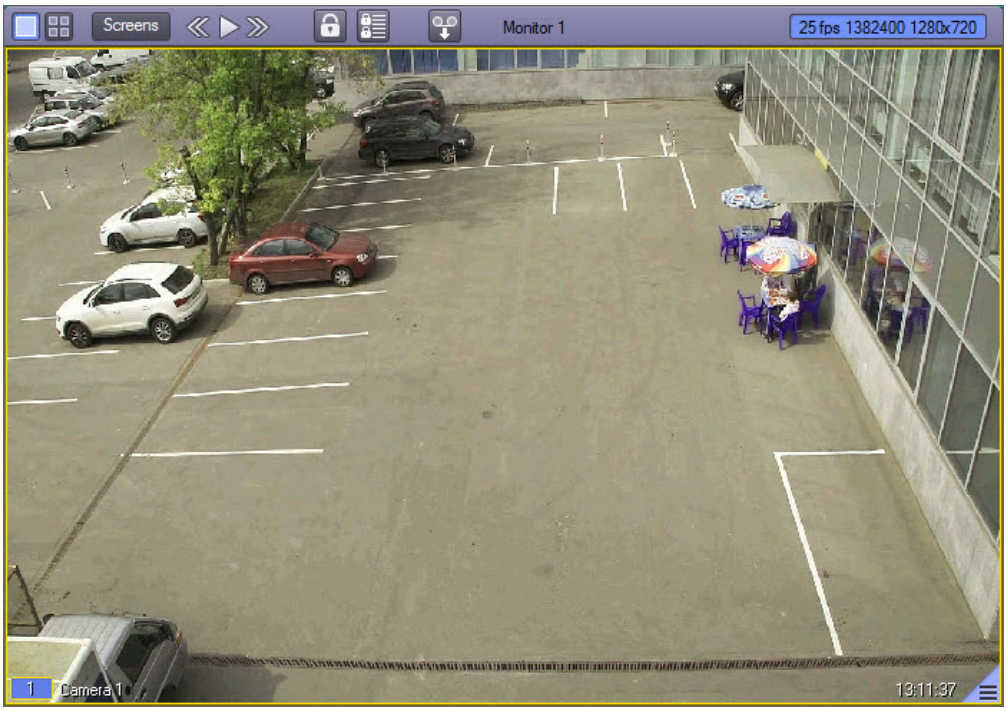
4.3.9.5 Image sharpening

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

Sharpen option (original image):

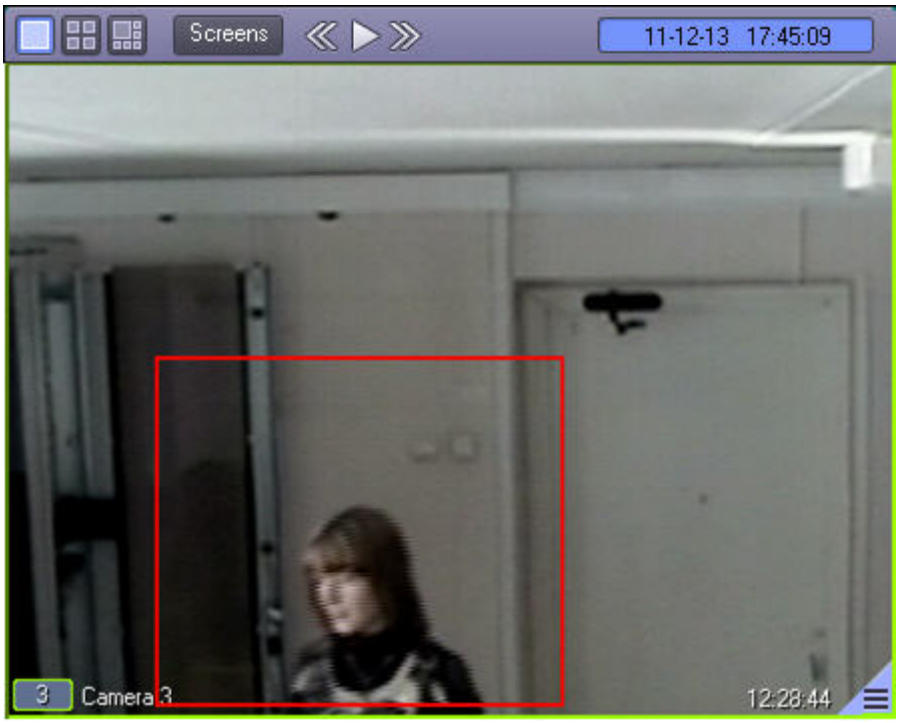


Sharpen option (processed image):

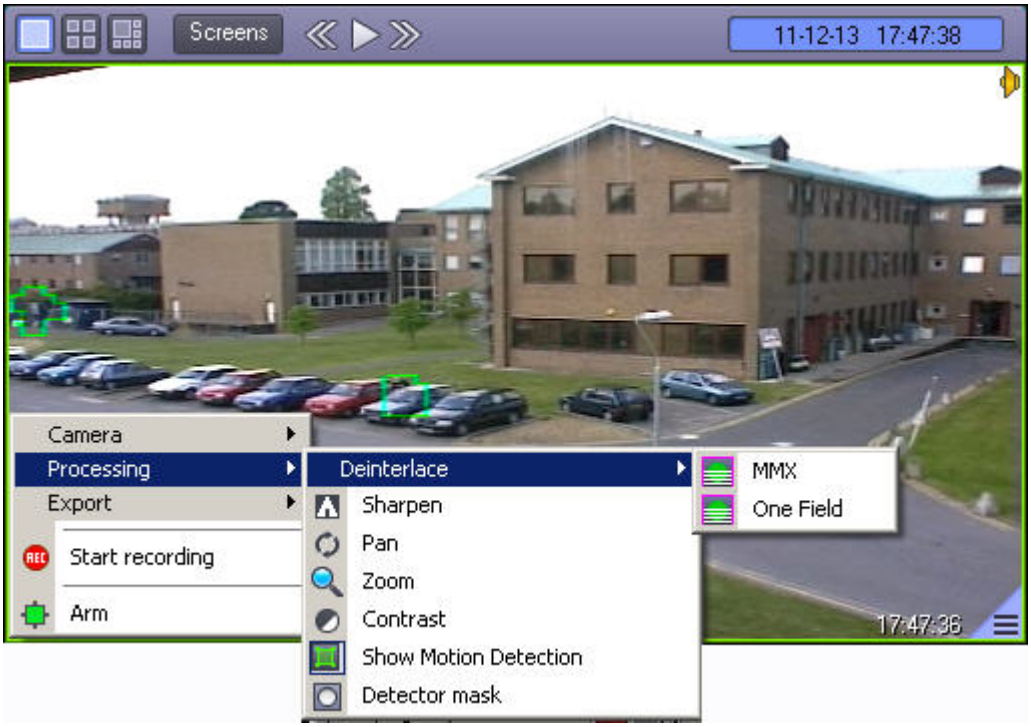


4.3.9.6 Image de-interlacing

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).

4.3.9.7 Video image rotation

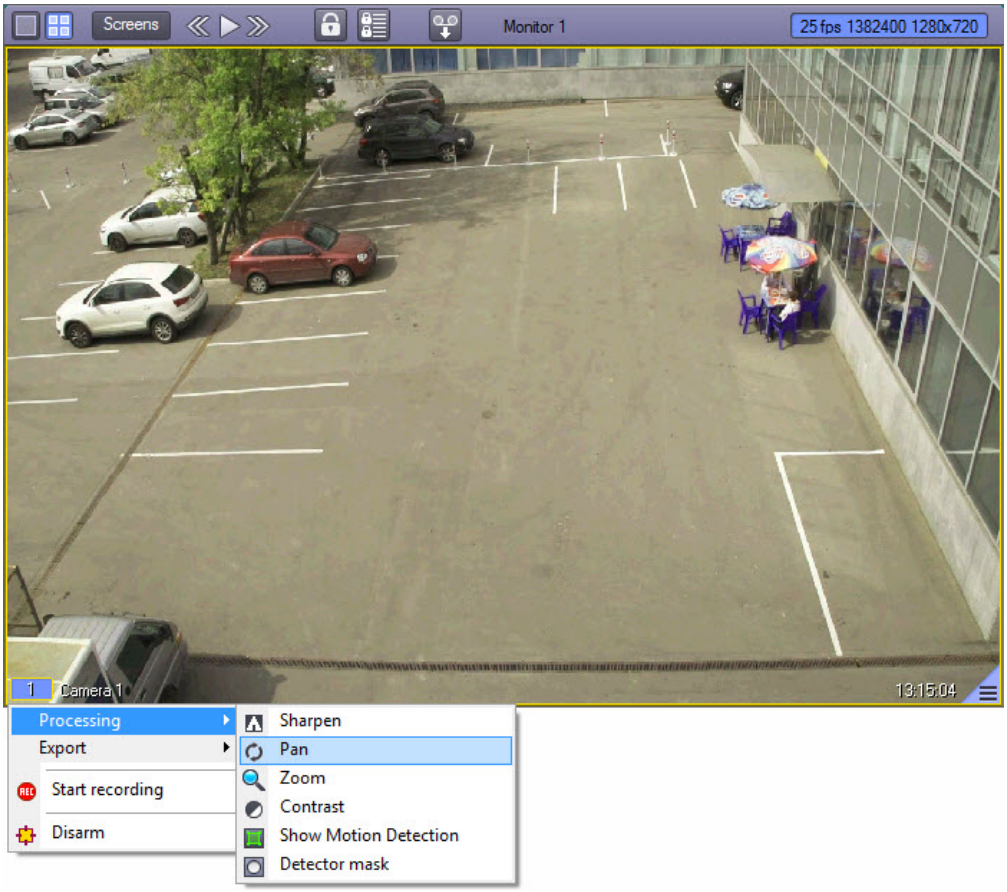
The **Pan** function allows rotating the video image coming from the video camera on the preset angle – 90, 180 or 270 degrees (the angle is set while the system configuration – see the Configuring a rotation angle of video image[57] section in the Administrator's Guide[58] document). Counterclockwise rotation is performed.

Attention!

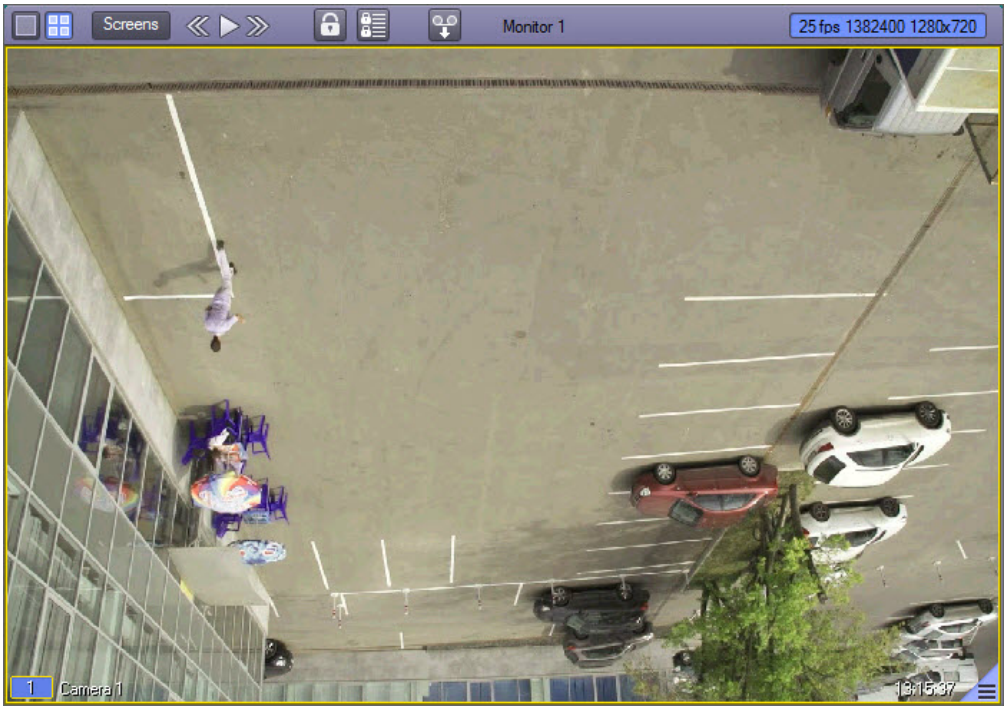
The **Pan** item is available in the functional menu of the Video surveillance window regardless of switching on the possibility of video rotation while the system configuration. To use the rotation function activate this possibility – see the Configuring a rotation angle of video image[59] section in the Administrator's Guide[60] document.

Rotation function (the initial state):

57 https://doc.axxonsoft.com/confluence/display/Int411en/Configuring+a+rotation+angle+of+video+image
58 https://doc.axxonsoft.com/confluence/display/Int411en
59 https://doc.axxonsoft.com/confluence/display/Int411en/Configuring+a+rotation+angle+of+video+image
60 https://doc.axxonsoft.com/confluence/display/Int411en



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

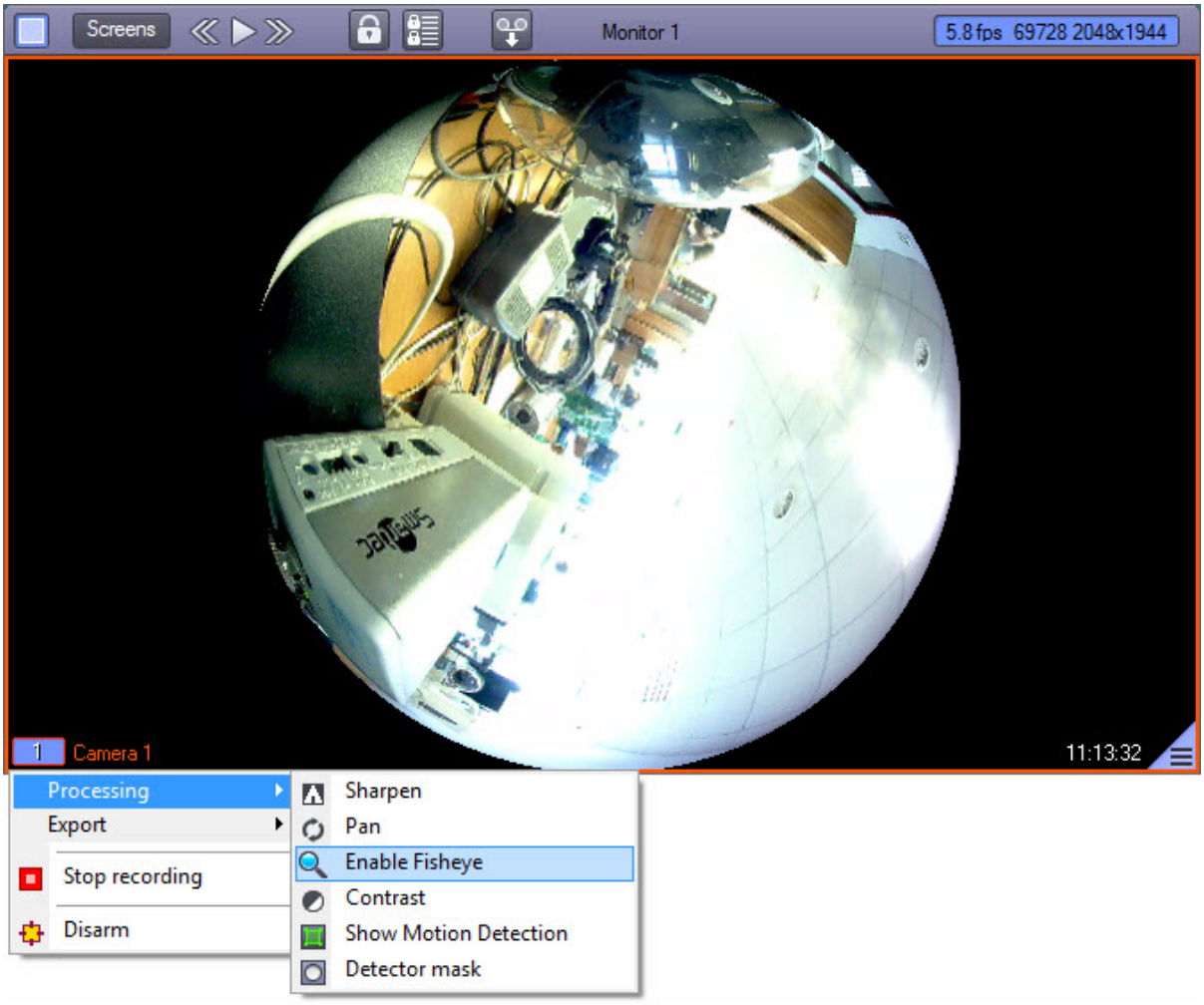


4.3.9.8 Enabling fisheye

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[61] section in the Administrator's Guide[62]).

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



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

61 https://doc.axxonsoft.com/confluence/display/Int411en/Configuring+fisheye+cameras
62 https://doc.axxonsoft.com/confluence/display/Int411en/Documentation



4.3.10 Working with the archives

4.3.10.1 General information on working with archives

Video and audio archives store copies of video and audio recordings created by the *Intellect* 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 an 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**

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 Configuration of multistream video[63] section of the Administrator's Guide(see page 114)).	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 Configuration of multistream video[64] section of the Administrator's Guide(see page 114)).
Selection of cameras for recording	Not available	Available	-	Available

4.3.10.2 Archive browsing modes

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.

63 https://doc.axxonsoft.com/confluence/display/Int411en/Configuration+of+multistream+video
64 https://doc.axxonsoft.com/confluence/display/Int411en/Configuration+of+multistream+video

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



Note.

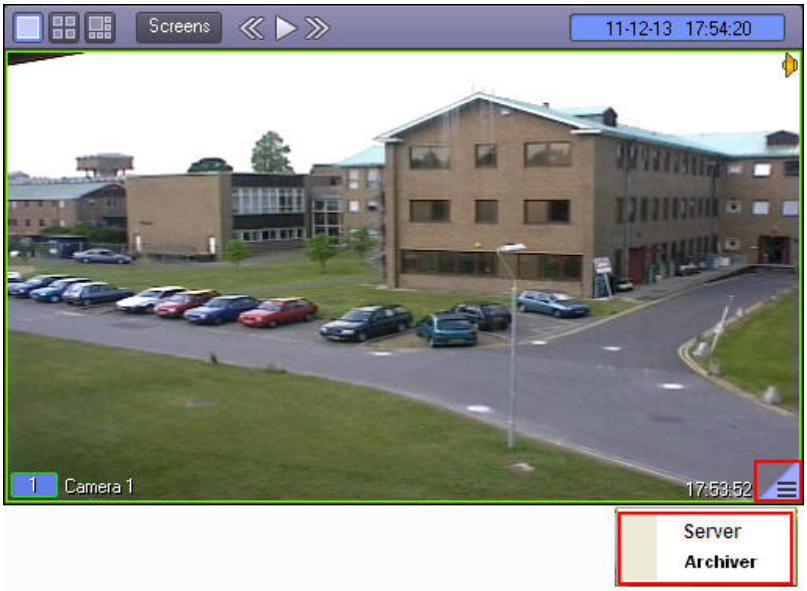
If Video Gateway was selected for the camera when adding it to the Monitor, the Video Gateway archive opens after the above procedure (see Video gateway archive playback(see page 120)).

Backup Archive Playback

To start playback of the backup archive, generated by the Backup archive functional module, the following steps are required:

1. point the mouse cursor at the  icon in the surveillance window of the appropriate camera;
2. press and hold the left mouse button for a few seconds.

Then 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, the surveillance window should be enlarged. 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, instead of the backup archive.

Select **Archiver** in the displayed context menu. The playback control panel will be displayed, which will contain 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 *Intellect* file system (import). Information on how to configure import from edge storages is given in Administrator's Guide(see page 118).

Video gateway archive playback

If Video Gateway was selected for the camera when adding it to the Monitor (see Selecting and configuring video cameras[65]), 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.

65 https://doc.axxonsoft.com/confluence/display/Int411en/Selecting+and+configuring+video+cameras

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.

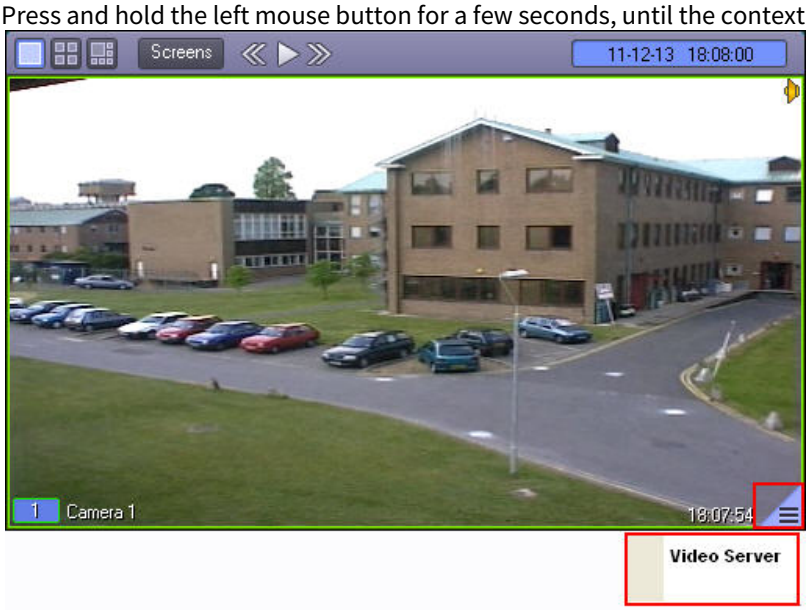
If Video gateway was not enabled for the video camera displayed in the Video Surveillance Window, then the Server archive is displayed after the above procedure – see Server archive playback(see page 116).

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(see page 117)) 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.

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



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

4.3.10.3 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[66] section of the Administrator's Guide[67] 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 browsing with the time scale

The archive may be browsed with the time scale (covering from 0 to 24 hours) as shown in the figure.



Blue colour corresponds to the periods of recording, grey colour shows that no recordings were made.

If there are records for some hour in the archive then this hour is marked black, if there are no records - grey. Records of hour for which there are records display in the time scale on left clicking this hour; in this case the time scale allows browsing by minutes of the selected hour (0 to 60).



Right click the time scale to come back to displaying of records from 0 to 24 hours.

66 https://doc.axxonsoft.com/confluence/display/Int411en/The+Convert.exe+utility+for+correcting+modification+dates+of+video+archives
67 https://doc.axxonsoft.com/confluence/pages/viewpage.action?pageId=84354171

Created bookmarks are displayed on the time scale. The color the time period is marked is set when the bookmark is created. The bookmark name (comment entered when creating the bookmark) is displayed when hovering the cursor over the period added to the bookmark.



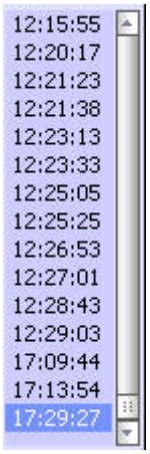
Note.

See also Create a bookmark(see page 142) and List of bookmarks(see page 144).

If you click directly on the time scale, you can set the current playback position with reference to the selected recording segment, which was recorded during a certain period of time. For smooth browsing by archive recordings move the cursor by time scale in horizontal direction holding the left mouse button.

Video sequence browsing

Apart from the time scale, the archive may be browsed across the list of video sequence, contained in the time stamp column.



To switch over to the required recording segment, click the corresponding time stamp.

To scroll the list of video records up/down click the left mouse button on the list of video record and scroll the mouse wheel.

Note.

In case of clicking the left mouse button on the video image after this the mouse wheel will perform the function of video image scaling.

Fragment search by the date and time of creation

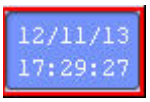
Apart from time scale browsing, the playback control panel also allows searching for certain recording fragments by the exact date and time.

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



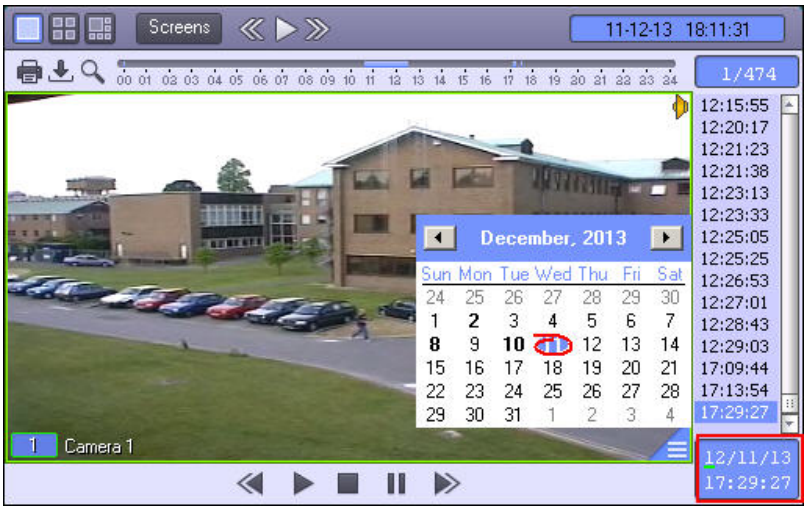
The upper part of the table shows the date, whereas the current playback position is shown in the bottom part.

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[68] section in Administrator's Guide(see page 123)).

Note.

68 https://doc.axxonsoft.com/confluence/display/Int411en/Permissions+for+working+with+archives

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 Intellect software package. Administrator guide(see page 123) 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 video camera archive taking into account the trajectories of objects registered by the **Tracker** object and stored in the trajectory database.

The *Intellect* software supports the following smart search types:

1. Search by motion in the area(see page 131)
2. Search by moving from one area to another – see Search by motion in the area(see page 131)
3. Search by line crossing(see page 128)

An additional search condition – the color of the searched object – can be set for any of those smart search types, see Search by colour(see page 125).

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 *Intellect* software package (see Configuring smart video detection tools[69]).
2. Select the **VMDA metadata storage** for the corresponding camera on the **Monitor** object settings panel (see Selecting and configuring video cameras[70]).

Search by colour

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

Note.

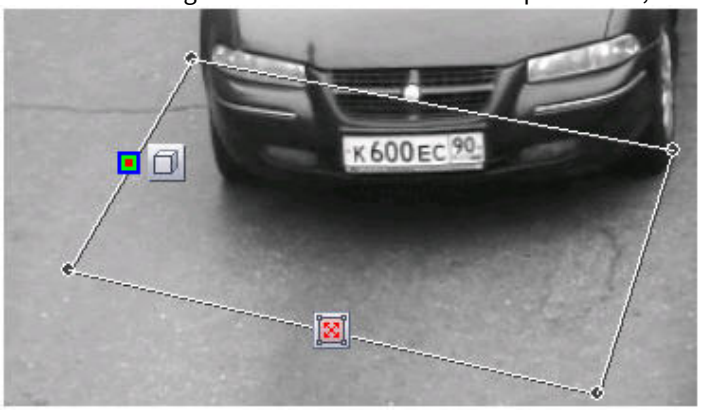
Colour range setting is a part of search by line crossing or search by motion parameters setting.

To search by colour do the following:

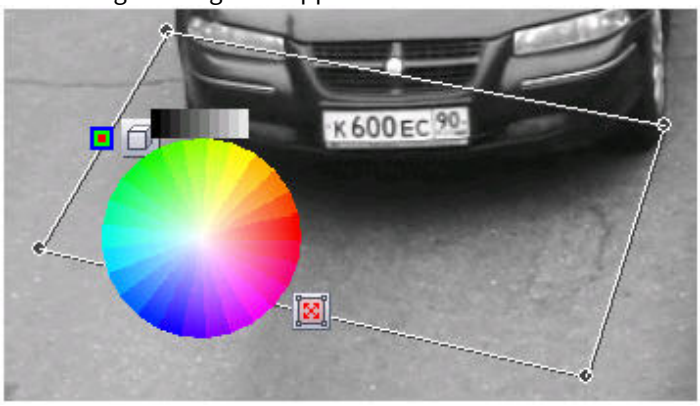
1. Select the type of search (search by line crossing or search by motion in the area).
2. Search by selected type (see Search by line crossing(see page 128), Search by motion in the area(see page 131) parts).

69 https://doc.axxonsoft.com/confluence/display/Int411en/Configuring+smart+video+detection+tools
70 https://doc.axxonsoft.com/confluence/display/Int411en/Selecting+and+configuring+video+cameras

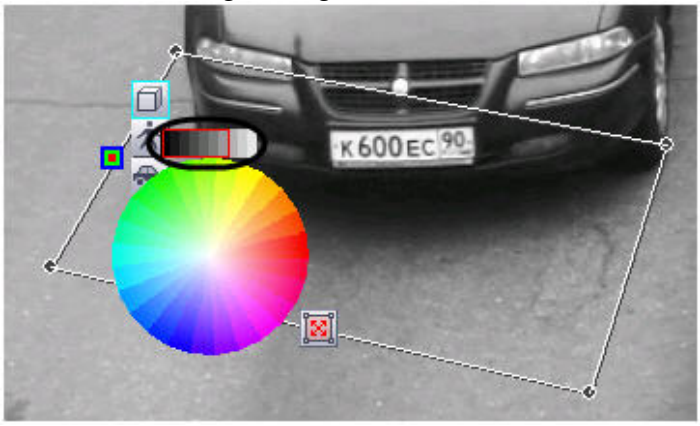
3. To set colour range for which the search will be performed, click at the set line or area.



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:



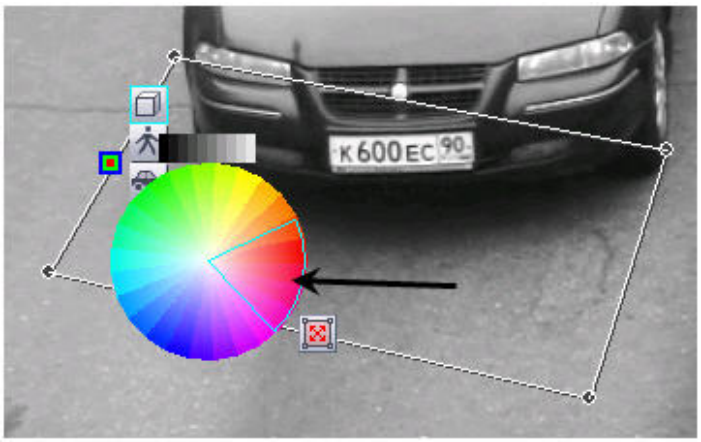
Coloured range setting:



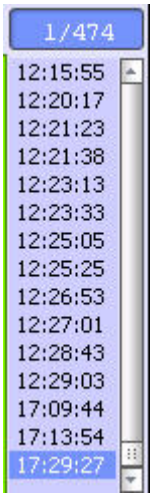
5. The Color range setting form will be automatically hidden after specifying the color range for search. To discard the specified color values open the form again (using the button) and click the right mouse button on it. The search will be performed without taking into account the color of moving object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

> **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).

> **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.



Search by line crossing

It's possible to search the video recording by line crossing from the functional menu of Video archive window.

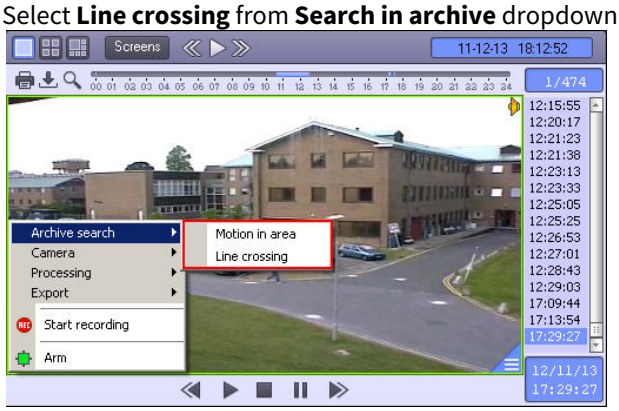
> **Note.**
>
> Search by line crossing is possible only when:
> 1. **VMDA metadata storage** and the **Tracker** objects are created for the camera that is used for searching in *Intellect* software package (see Configuring smart video detection tools[71]); and
> 2. **VMDA metadata storage** is selected for the corresponding camera on the **Monitor** object settings panel (see Selecting and configuring video cameras[72]).

Search by line crossing runs only on a given day.

> **Note.**
>
> How to set a date is described in Fragment search by the date and time of creation(see page 123) section.

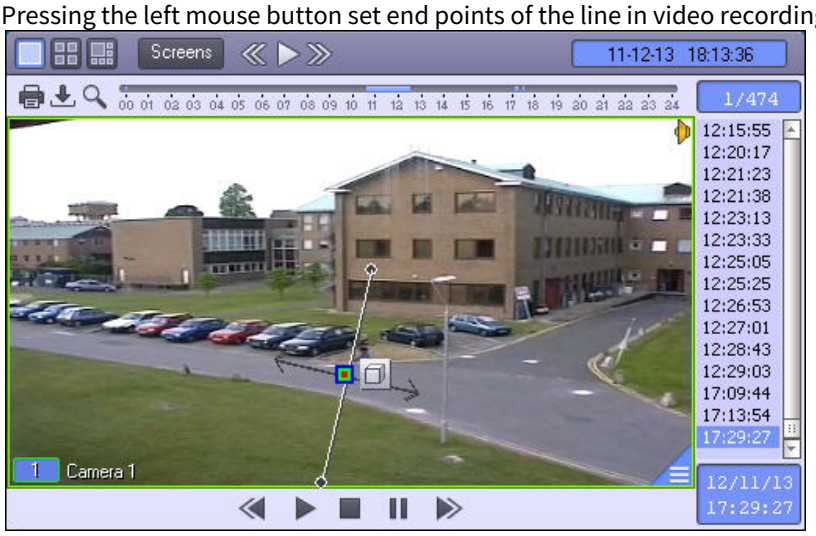
To search by line crossing do the following:

1. Select **Line crossing** from **Search in archive** dropdown menu in the functional menu.



71 https://doc.axxonsoft.com/confluence/display/Int411en/Configuring+smart+video+detection+tools
72 https://doc.axxonsoft.com/confluence/display/Int411en/Selecting+and+configuring+video+cameras

2. Pressing the left mouse button set end points of the line in video recording display field.

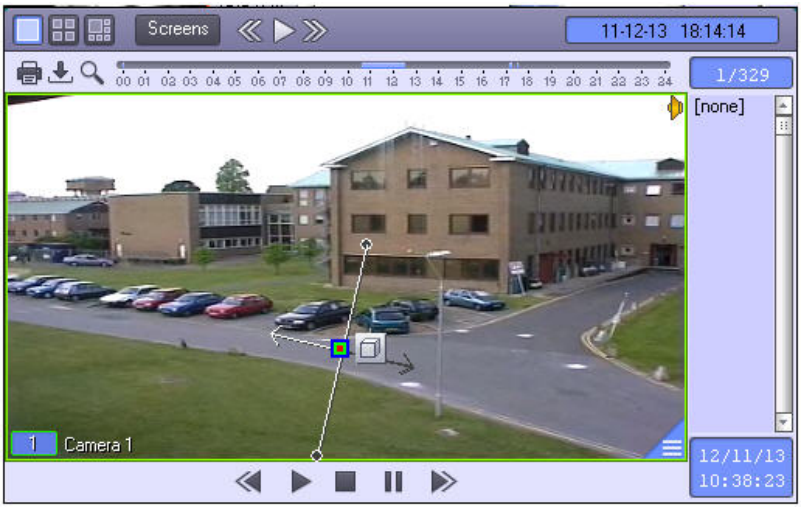


3. Do all necessary operations with the line. Operations with the line are performed in the table.

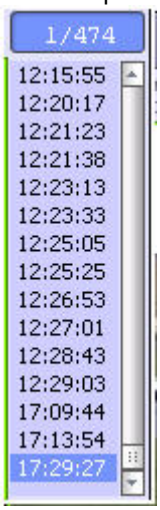
Operation	Operation result
Press the left mouse button in video surveillance window	End point of the line creating
Hover cursor over the end point and pressing the left mouse button shift the mouse	End point of the line shift
Hover cursor over the end point and click the right mouse button	Line deleting

4. To select the type of the object that was crossing the set line it's necessary to click . Available types of the object are performed below.
   a. Any object. Search will give out the video recordings in which line is crossed by any object
   b. Human being. Search will give out the video recordings in which line is crossed by an object which width is less than height.
   c. Car. Search will give out the video recordings in which line is crossed by an object which width is greater than height.
5. By default, the search is set to find line crossings in both directions. Click the left mouse button to one of arrows to exclude crossings in one of the directions. De-selected arrow becomes gray.
   Approximate speed of objects which are to be found is displayed close to arrow. At minimal and maximal value of speed the "?" sign will display, and only records containing line crossing regardless of speed will be searched for. It is possible to change value of speed by changing arrow length moving arrowhead with pressed left mouse button.

> **Note.**
>
> Arrow has minimal length while adding.



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



Search by line crossing can be canceled 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 completed, pressing the **Esc** key clears the list of search results, and exits the search by line crossing mode.

Note.

Setting the traffic direction of the object by VMDA detector depends strongly on **Tracker** object settings (see Intellect software package: Administrator's Guide(see page 128) manual). With bad settings the traffic direction can be determined incorrectly and, consequently, results can be wrong while searching in line crossing archive. The settings of **Tracker** object should be used experimentally for every case.

Search by motion in the area

It's possible to search the video recording by motion in the area from the functional menu of Video archive window.

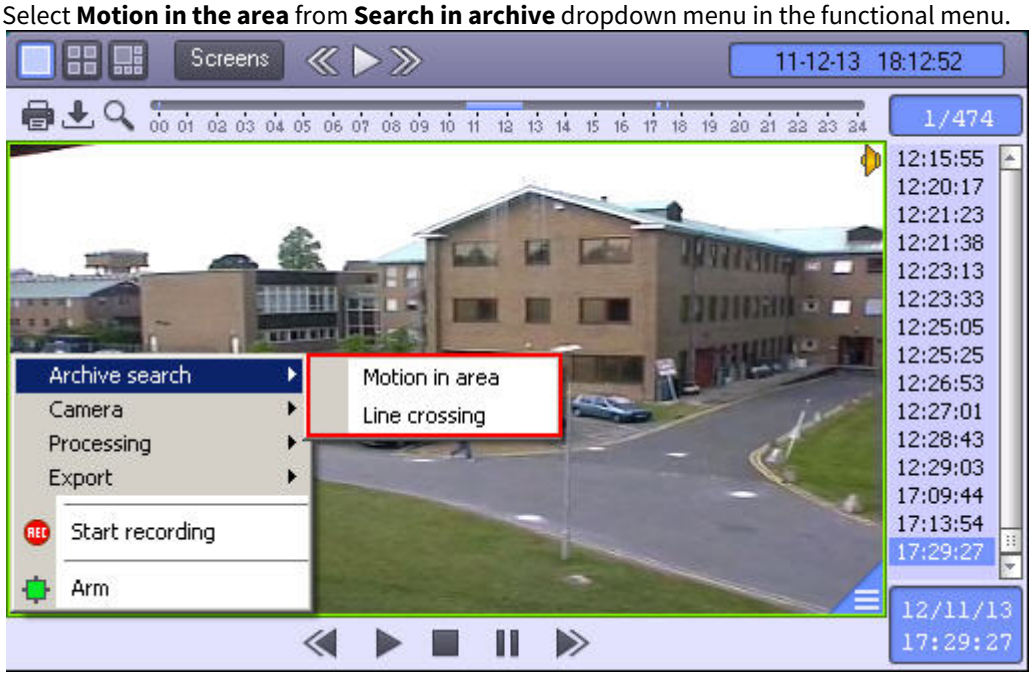
> **Note.**
>
> Search by motion in the area is possible only when:
> 1. **VMDA metadata storage** and the **Tracker** objects are created for the camera that is used for searching in *Intellect* software package (see Configuring smart video detection tools[73]); and
> 2. **VMDA metadata storage** is selected for the corresponding camera on the **Monitor** object settings panel (see Selecting and configuring video cameras[74]).

Search by motion in the area runs only on a given day.

> **Note.**
>
> How to set a date is described in the Fragment search by the date and time of creation(see page 123) section of this manual.

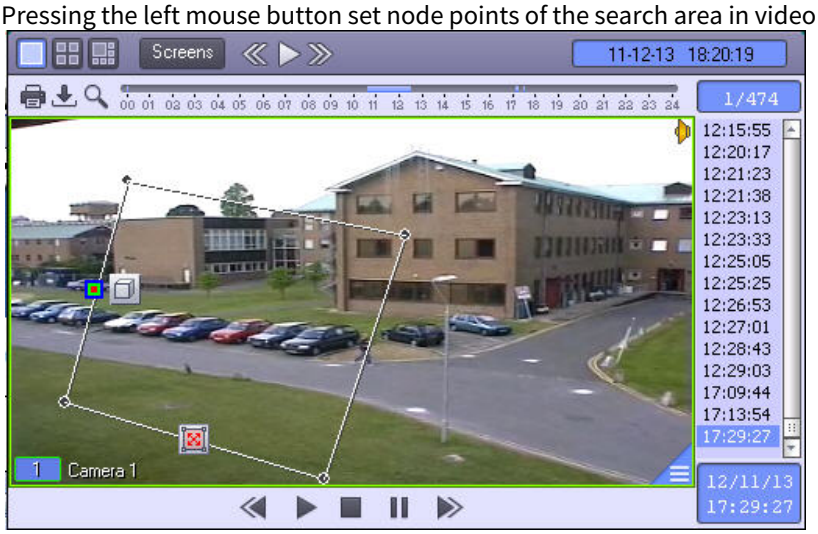
To search by motion in the area do the following:

1. Select **Motion in the area** from **Search in archive** dropdown menu in the functional menu.



73 https://doc.axxonsoft.com/confluence/display/Int411en/Configuring+smart+video+detection+tools
74 https://doc.axxonsoft.com/confluence/display/Int411en/Selecting+and+configuring+video+cameras

2. Pressing the left mouse button set node points of the search area in video recording display field.



Adding of two areas is possible. The search will find video recordings in which the object passed from one area to another.



3. Do all necessary operations with the area. Operations with the area are performed in the following table.

Operation	**Operation result**
Press the left mouse button in video surveillance window	Node point adding
Hover cursor over the node point and pressing the left mouse button shift the mouse	Node point shift
Hover cursor over the node point and press the right mouse button	Line deleting. In the presence of three node points the whole area is deleted.

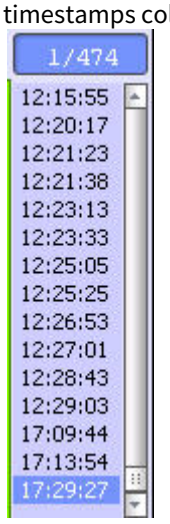
4. To select the type of the object that was moving in the area it's necessary to click  . Available types of the object are performed in the following table.

a. Any object. Search will give out the video recordings in which any object moves in the area
b. Human being. Search will give out the video recordings in which an object which width is less than height being moves in the area
c. Car. Search will give out the video recordings in which an object which width is greater than height moves in the area

5. To select the type of the search it's necessary to click . Available types of the search are performed in the following table.
   a. Any movement in the area. Video recordings of any motion in the area will be found
   b. Entering the area. Video recordings of object entering the area will be found
   c. Leaving the area. Video recordings of object leaving the area will be found.
   d. Appearance in the area. Video recordings of object appearing in the area are found.
   e. Disappearance in area. Video recordings of object disappearing in the area are found.
   f. Stop in the area. Video recordings of object stop in the area will be found
   g. Staying in the area for more than 10 sec (i.e. loitering detection). Video recordings of object being in the area more than 10 sec will be found
   h. An abandoned object. Video recordings of left object in the area will be found

   > **Note.**
   >
   > **Appearance in the area** and **Disappearance in area** search types are not available.

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

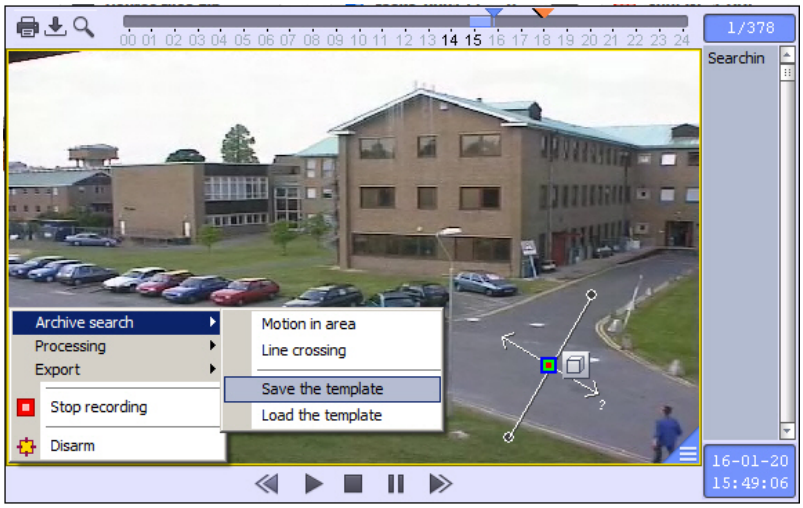


Search by motion in the area can be canceled at any time by pressing the **Esc** button on the keyboard. In this case, no search results are displayed, and the text **[none]** is displayed in the list of video fragments. After the search is completed, pressing the **Esc** key clears the list of search results, and exits the search by motion in the area mode.

Smart search templates

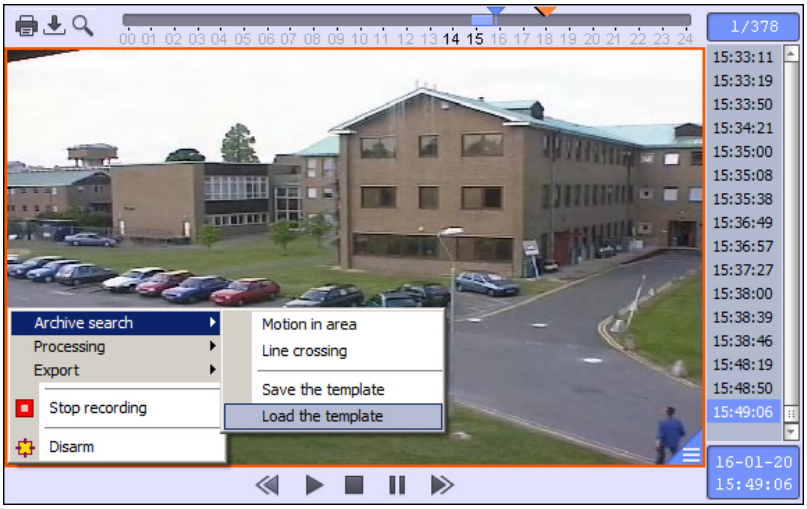
Having search by line crossing(see page 128) or search by motion in the area(see page 131) along with search by color(see page 125) (optionally) set up, you can save the search template and then use it to quickly start the search without setting any parameters.

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 *Intellect* 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 the area or line with the configured search parameters (direction, speed, color, etc.) is displayed on the video and the search is launched automatically.

4.3.10.4 Video playback

Video playback controls

Browsing across a selected recording segment uses playback controls.



The  button starts playing back the selected recording segment, the  button stops playback.

When the  button is left-clicked, the fast-forward playback is performed, when right-clicked – rewind playback.

Only the current selected recording of the archive is played back when the  button is short-clicked. Hold the  button to start playing pack the next recording after the end of playing back the previous one.

> **Note**
>
> It is possible to 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 the LButtonClickContinuousPlayEnable registry key can be used (see Registry keys reference guide[75]).

The  and  buttons increase or decrease the frame rate or slide show rate in the pause mode.

Speed-up or speed-down level is displaying in the place of the  button while fast or slow motion. The maximum possible speed-up is 998 times, the maximum possible speed-down is 8 times.



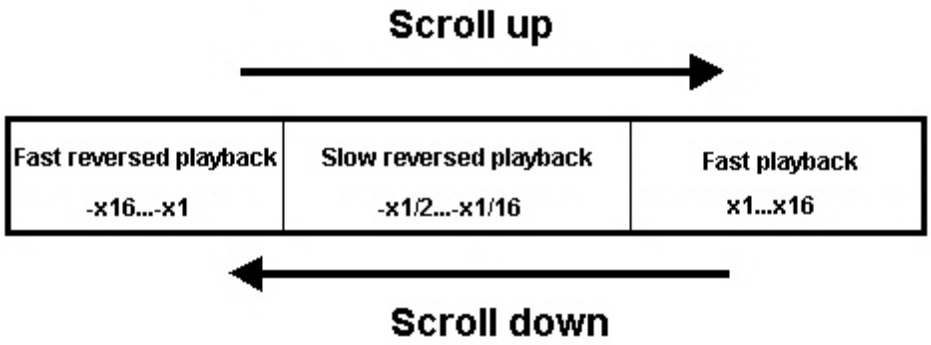


When there is fast and slow playback of video from the archive, the recorded sound of the archive recording is not played back.

> **Note**
>
> When there is fast playback of the archive in H264 and MPEG4 format, starting at x10 speed when playing back forward and at x6 speed when playing back backward, only the key frames are played back.

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

75 https://doc.axxonsoft.com/confluence/display/Int411en/Registry+keys+reference+guide



If playback is not started, then when hovering the mouse cursor over the playback control panel, mouse wheel scrolling allows switching between the archive recordings (see Video sequence browsing(see page 123)).

If the cursor is hovered over the video, then mouse wheel scrolling scales the video (see Video image scaling(see page 79)). It is possible to 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[76]. 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(see page 192)).

To shift to the pause mode, press the  button, to restore playback – press the  button.

Synchronous playback of a few video recordings

The program allows to synchronously playback a few archived video recordings on one monitor. The number of archived videos played back simultaneously is only limited by the hardware capacity.

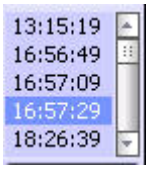
> **Note**
>
> Simultaneous playback of video recordings is affected by the read rate of the disks on which the video archive is stored. If reading speed is slow, then playback problems may occur.

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

76 https://doc.axxonsoft.com/confluence/display/Int411en/Registry+keys+reference+guide

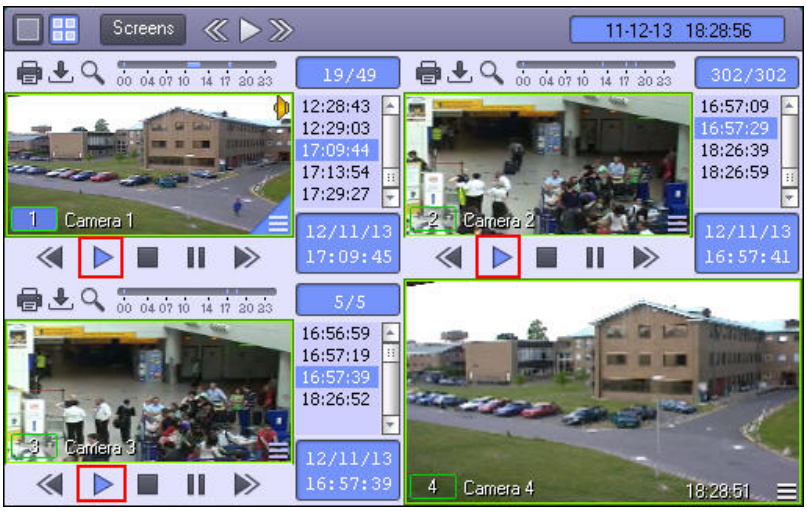


Set entries in the surveillance windows, as required, using, for instance, the time stamp column.



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

Synchro playback of video recordings (playback is on):

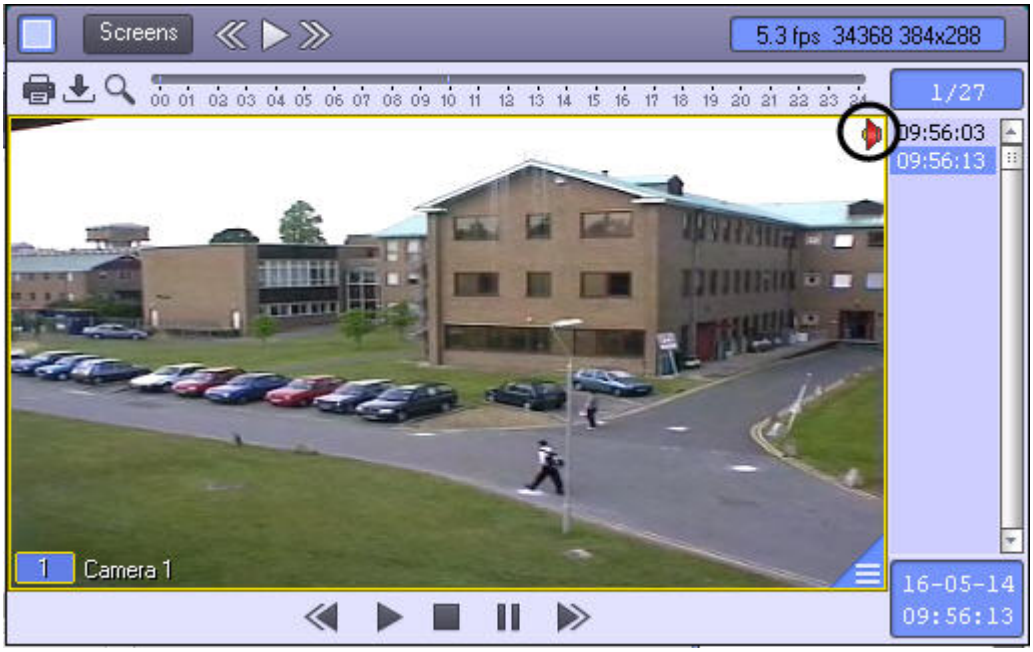


Synchro playback of video recordings (playback is paused):



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[77] section of the Administrator's Guide(see page 138).

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.



4.3.10.5 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 *Intellect*.
2. The User who started *Intellect* has rights to remove files from the archive.

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

77 https://doc.axxonsoft.com/confluence/display/Int411en/Configuring+audio+signals+playback+using+the+video+monitor

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[78] section of *Programming Guide* (not available in English).

The video recording is now deleted from the archive.

4.3.10.6 Rewrite protection of archive files

General information about rewrite protection and bookmarks

Record to archive is performed on a loop in the *Intellect* software package (see the General information on video archiving[79] 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(see page 140) document, Permissions to protect archive files from rewriting[80] section).

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

> **Note.**

78 https://doc.axxonsoft.com/confluence/display/Int410ru/CAM
79 https://doc.axxonsoft.com/confluence/display/Int411en/General+information+on+video+archiving
80 https://doc.axxonsoft.com/confluence/display/Int411en/Permissions+to+protect+archive+files+from+rewriting

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(see page 114) section).

Furthermore, Intellect 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.

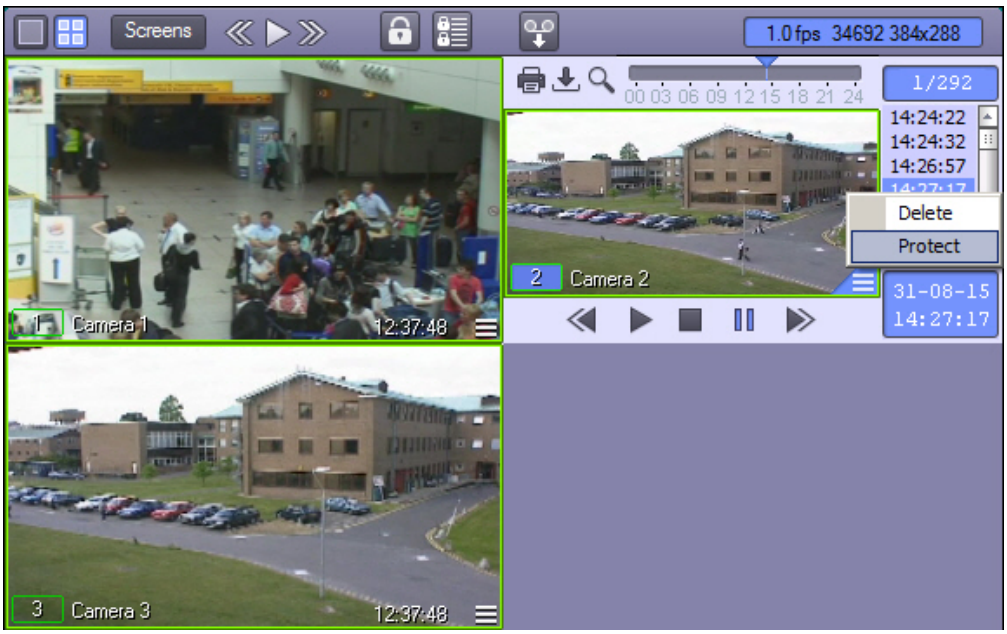
Protection of separate record and disable of protection

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(see page 144)).

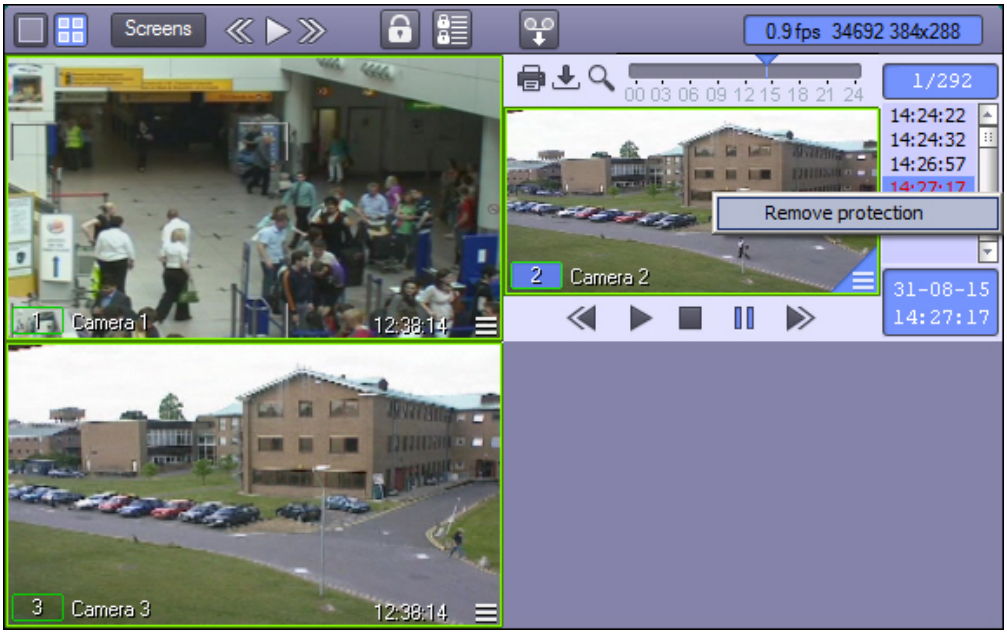


To remove protection click the right mouse button on required record and select the **Remove protection** item.

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 process of loop recording, the record won't display in the list.



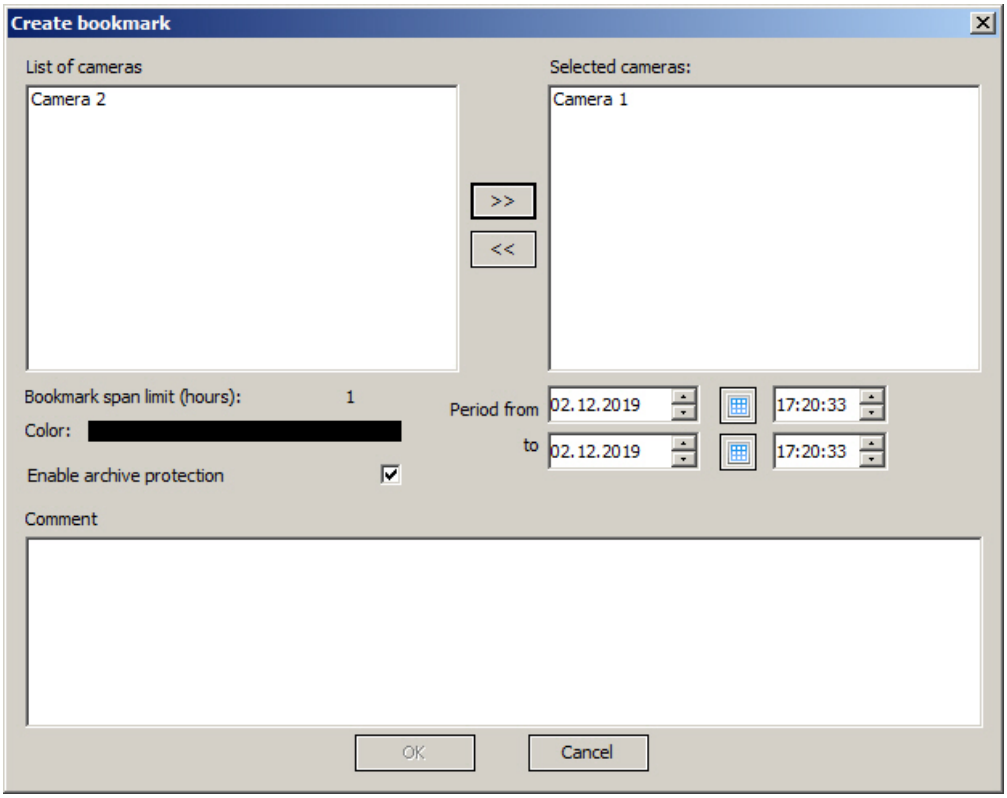
Create a bookmark

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[81]).

81 https://doc.axxonsoft.com/confluence/display/Int411en/Selecting+the+disks+for+video+archive+storage



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.

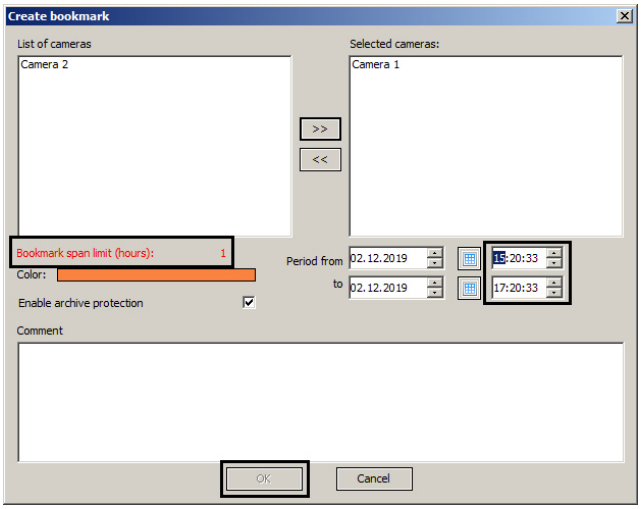
> **Important!**
>
> When updating to Windows 10 Creators Update, date and time selection can appear disabled in *Intellect* version before 4.10.2. In this case update *Intellect* to version 4.10.3 or newer.

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[82]). 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.

82 https://doc.axxonsoft.com/confluence/display/Int411en/Registry+keys+reference+guide



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 browsing with the time scale(see page 122) and Video sequence browsing(see page 123)).

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[83]).

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

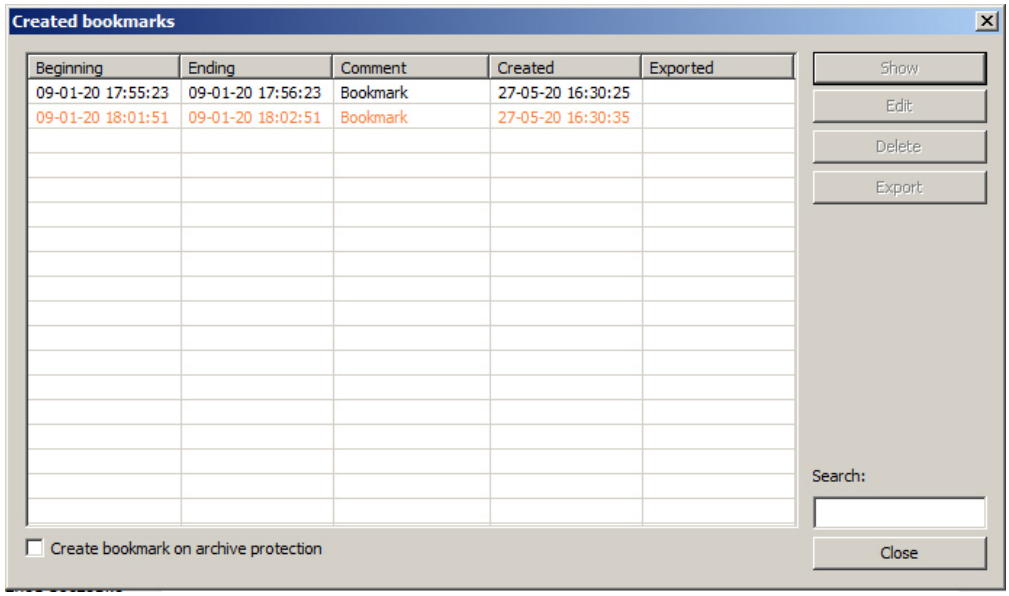
If the **Enable archive protection** checkbox is selected, the protected videos will be marked in red in the list in the Video Surveillance Monitor, and the protected video files will be moved to the PROTECTED folder in the VIDEO folder on the archive disk. If this check box is not selected, then files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

List of bookmarks

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

> **Note.**
>
> The  button is not displayed if disk for record is not selected (see Administrator's Guide(see page 144), Selecting the disks for video archive storage[84]).

83 https://doc.axxonsoft.com/confluence/display/Int411en/Registry+keys+reference+guide
84 https://doc.axxonsoft.com/confluence/display/Int411en/Selecting+the+disks+for+video+archive+storage



The list of bookmarks is presented as table. Fields of table are described as follows.

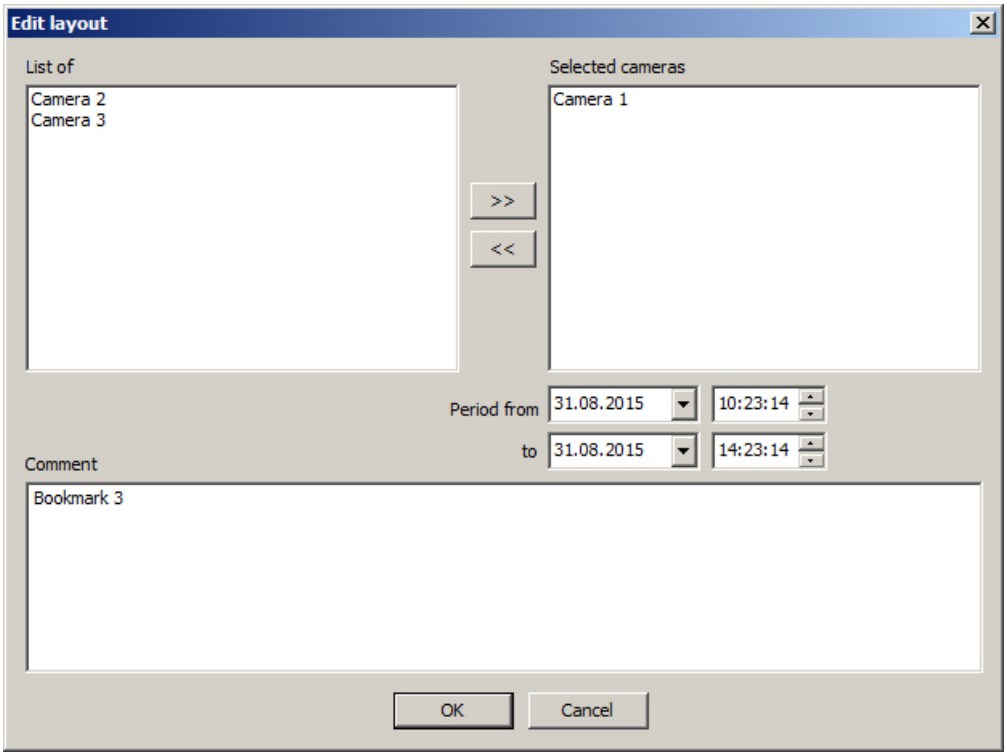
Field	Description
Beginning	Date of start period included in bookmark.
Ending	Date of end period included in bookmark.
Comment	Comment entered while bookmark creation.
Created	Date of bookmark creation.
Exported	Date of bookmark creation (see The AviExport utility(see page 157)).

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

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

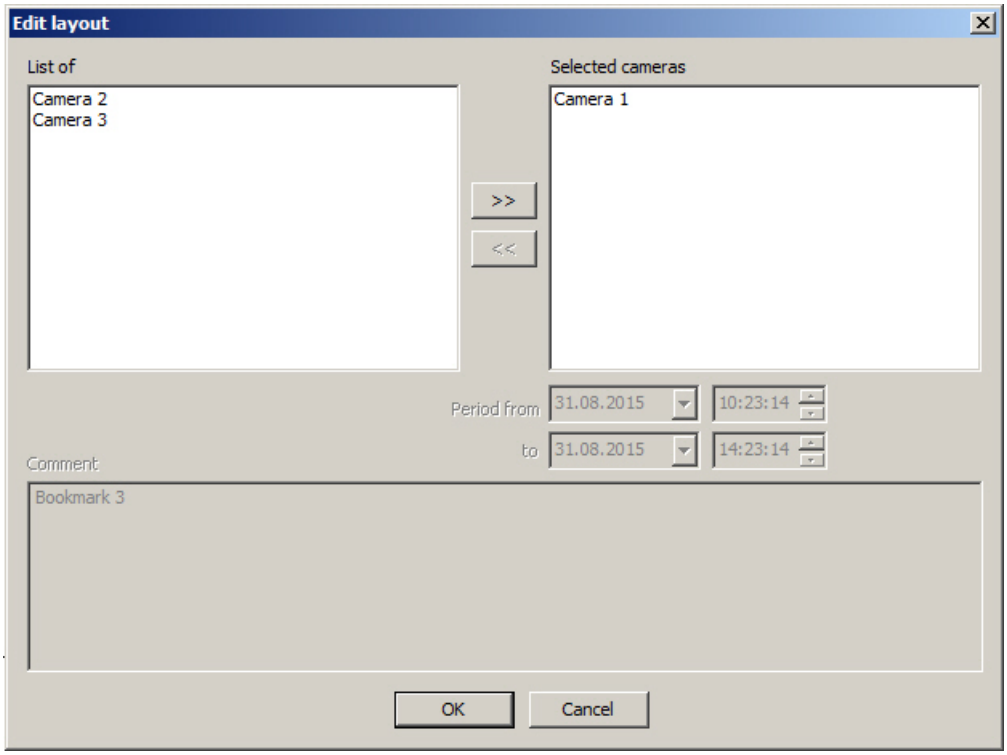
The **Show** button is designed for transition to the first of protected records for the specified period in the Video surveillance window in the archive mode. The **Created bookmarks** window is closing in this case.

The **Edit** button allows to change bookmark: set another list of cameras, time period and comment.



Editing is performed in the **Edit bookmark** window, interface of which is similar to the **Create bookmark** window (see the Create a bookmark(see page 142) section).

If user have no permissions to create and delete bookmarks, he or she can only add cameras to the bookmark. Other parameters of bookmark are not available for editing.



The **Delete** button is designed to delete bookmarks and remove protection from video records.

The **Export** button opens the **Export** window in which required cameras are selected and export period corresponding to selected bookmark in the list of created bookmarks is specified (see The AviExport utility(see page 157)).

> **Note.**
>
> **Delete** and **Export** buttons can not to display if user have no corresponding permissions.

The **Create bookmark on archive protection** checkbox enables the automatic creation of bookmarks when the archive is protected (see Protection of separate record and disable of protection(see page 141)). The bookmark name is assigned in the format "User Name + Camera Name + Start Date and Time + End Date and Time".

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

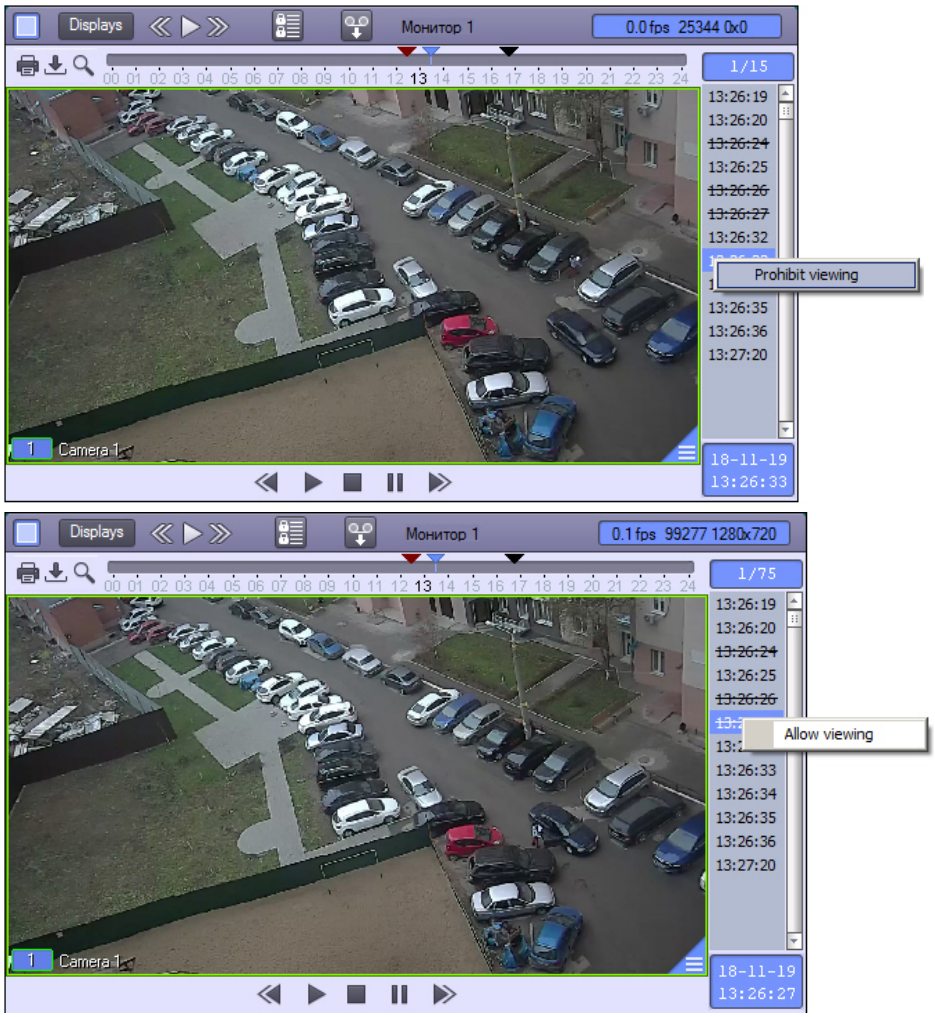
4.3.10.7 Working with the hidden archive

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[85].

The hidden archive functions are available for the main Server archive, Backup archive and Video Gateway archive. See also Archive browsing modes(see page 116).

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.

85 https://doc.axxonsoft.com/confluence/display/Int411en/Permissions+to+the+hidden+archive



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.

4.3.11 Export and print out

4.3.11.1 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 recordings export – saving video recordings as standard Windows video files; Video recordings in this case may be saved together with the synchro sound.

Note.

Date and time in format specified by regional system settings (transferring to the regional system settings is performed from the **Start -> Control panel -> Language and regional standards** menu) are displayed in the right bottom corner of the video image while exporting. It doesn't refer to printed frames and to video received with the help of Converter.exe utility.

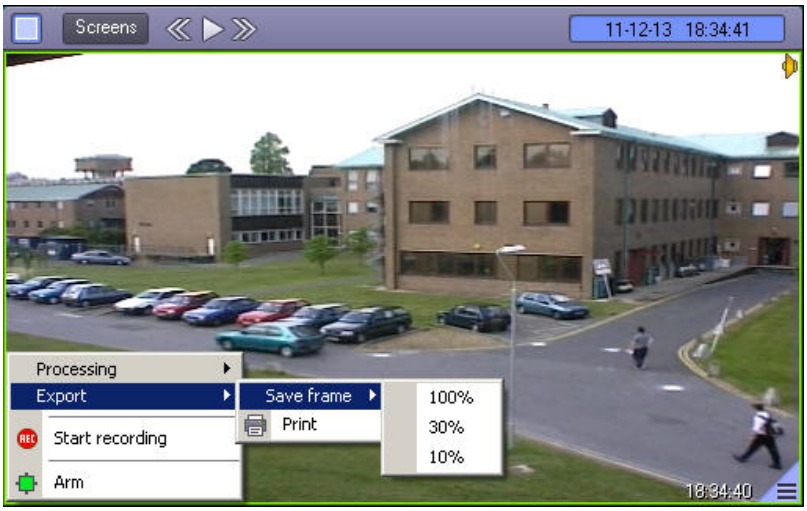
To demonstrate the above functions, we use the camera window as an example.

4.3.11.2 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.

Note

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 to the C:\Users\%current user name%\Documents\Intellect\export\ directory. The file name is generated as follows: *<camera number> (<date> <time>)*. For instance, *02 (03-10-07 16'28'06).jpg*.

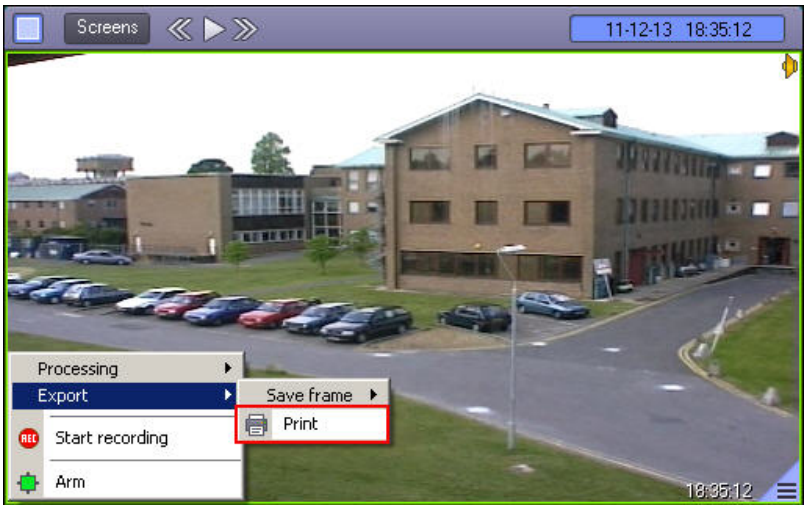
Note

If the additional information was specified while configuring the camera (see Intellect software package. Administrator guide(see page 149)"), 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[86]), 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[87]).

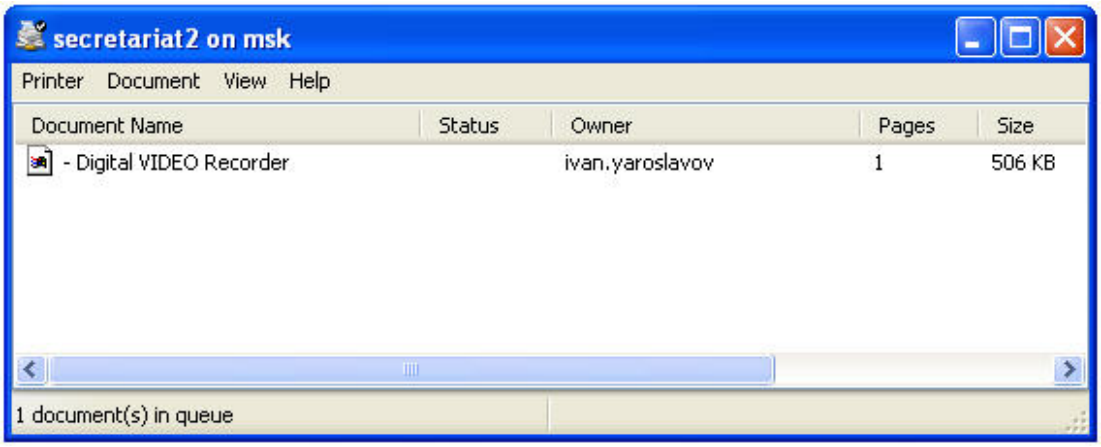
86 https://doc.axxonsoft.com/confluence/display/Int411en/Configuring+the+captions+showing
87 https://doc.axxonsoft.com/confluence/display/Int411en/Registry+keys+reference+guide

4.3.11.3 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.



Note.

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

4.3.11.4 Export of silent video recordings

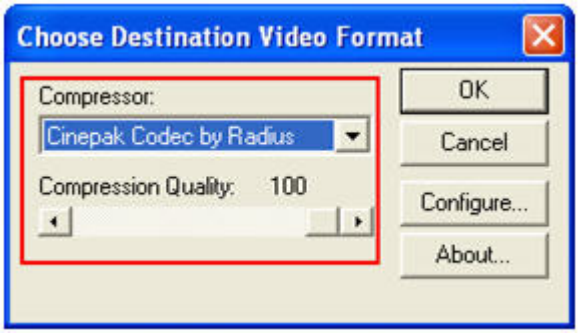
The video recording segment without sound is exported using the playback control panel. The main archive of video server can be exported as well as backup archive, video gate archive and external archive depending on playback mode selected – see Archive browsing modes(see page 116).

Choose **Export** in the functions 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 window.

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(see page 155).

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.

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\Intellect\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).

> **Note.**
>
> If captions are added to the video image (see Configuring the captions showing[88]), 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[89]).

88 https://doc.axxonsoft.com/confluence/display/Int411en/Configuring+the+captions+showing
89 https://doc.axxonsoft.com/confluence/display/Int411en/Registry+keys+reference+guide

Note.

If AVI format is used, the final file is not to be bigger than 2 GB.

4.3.11.5 Export of video recording supported with sound

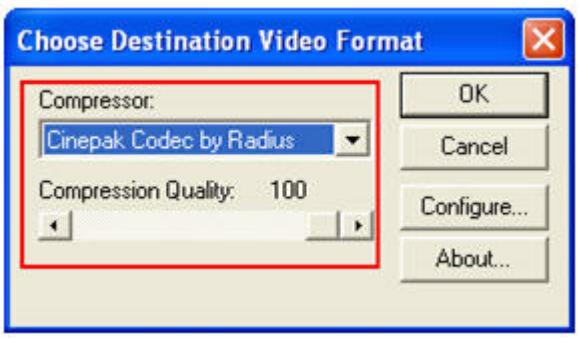
Video recording segment with sound is exported using the playback control panel. The main archive of video server can be exported as well as backup archive, video gate archive and external archive depending on playback mode selected – see Archive browsing modes(see page 116).

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



Parameters of the video and sound, which will be saved, may be configured in the displayed sub-menu.

Compression quality is selected in the standard Windows dialog box.

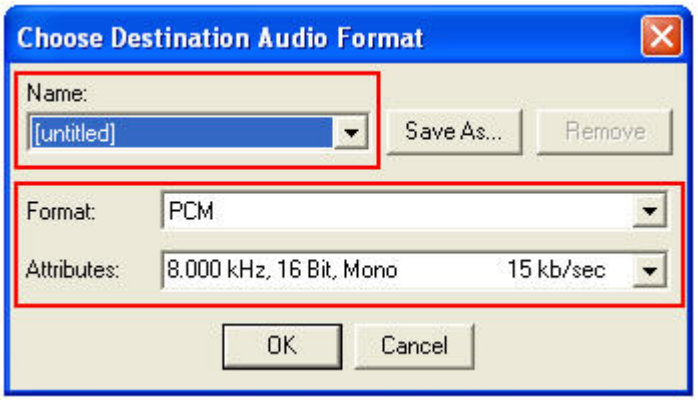


Select **Codec** in the dialog box and, if available, compression quality.

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(see page 155).

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



Choose the 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. 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.

Attention!

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

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 not longer highlighted.



The file containing the saved video recording supported with sound is saved to the C:\Users\%current user name%\Documents\Intellect\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).

> **Note.**
>
> If captions are added to the video image (see Configuring the captions showing[90]), 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[91]).

> **Note.**
>
> If AVI format is used, the final file cannot be bigger than 2 GB.

4.3.11.6 Export of the archive period

On page:

- Main archive export(see page 156)
- Export of a period of an archive located on edge storage(see page 157)

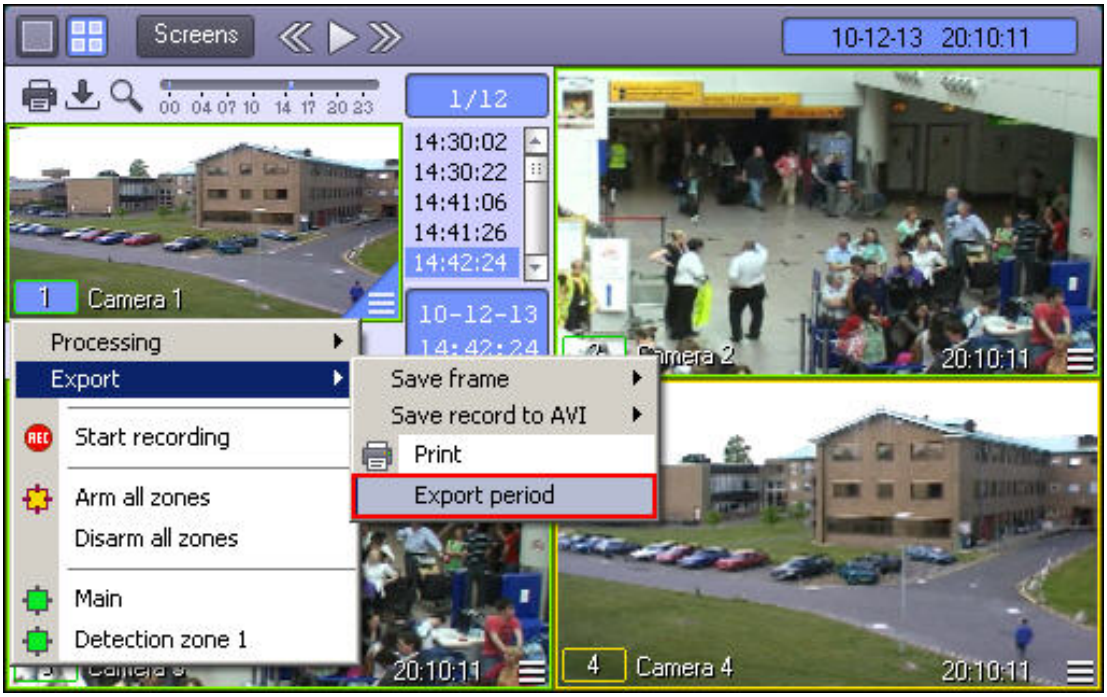
90 https://doc.axxonsoft.com/confluence/display/Int411en/Configuring+the+captions+showing
91 https://doc.axxonsoft.com/confluence/display/Int411en/Registry+keys+reference+guide

Main archive export

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

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

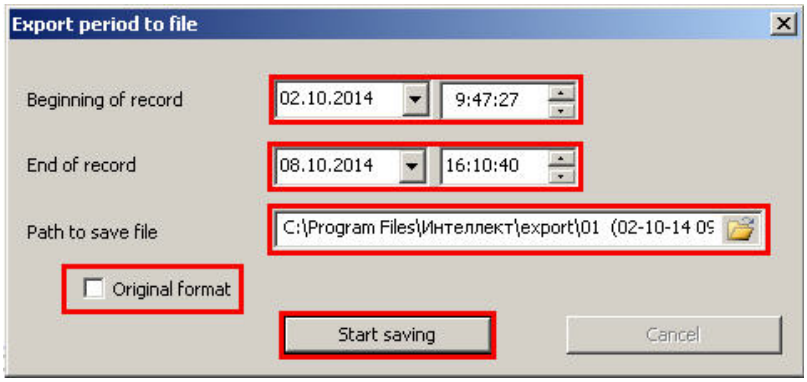
To export the archive period, select the **Export period** item in the **Export** submenu of the **Viewing tile** feature menu.



Set the export parameters in the displayed **Export period to file** box:

1. Date and time of the beginning of recording.
2. Date and time of the end of recording.
3. The path to the file to which the recording will be exported.
4. If video is to be saved in the same format as the archive on the disk, set the **Original format** checkbox checked — the video will be saved in AVI format.

> **Note.**
>
> The **Original format** checkbox is not set on default and export is performed in the specified format (see Export of video recording supported with sound(see page 153) and Export of silent video recordings(see page 150) sections). If the **Export period to file** window will be closed and the **Original format checkbox** won't be deselect, export will be performed in original format without codec settings. To perform export with recoding, open the **Export period to file** window and close it or set 0 value to the NativeFormat parameter in the HKEY_LOCAL_MACHINE/SOFTWARE/ITV/Intellect/Video registry section.



When the parameters are set, click the **Start saving** button.

To stop video exporting, click the **Cancel** button. In case when video saving is cancelled the AVI file will contain only that part of the archive that has already been exported by the moment of stop.

Note.

If captions are added to the video image (see Configuring the captions showing[92]), 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[93]).

Note.

The final file is not to be bigger than 2 GB.

Export of a period of an archive located on edge storage

Exporting a period of an archive from edge storage happens in the same way as exporting from the primary Intellect archive, except for the following differences:

1. To export a period of an archive from edge storage, you must switch to edge storage playback.
2. Files will be exported in a format supported by the edge storage, not necessarily .avi.
3. If the edge storage does not support exporting video recordings, then the period of the archive cannot be exported. In this case, **Export period** in the **Export** submenu will not be available in the Video Surveillance Window's feature menu.

4.3.12 The AviExport utility

4.3.12.1 General information about the AviExport utility

The AviExport utility is designed for exporting video archive for the specified period in format of file system of the *Intellect* software package or in the avi format with possibility to change the coding format (codec). AviExport allows exporting main archive as well as backup archive or video gate archive (see General information on working with archives(see page 114)). Also there is a possibility to specify size of exported files, i.e. size of volume.

92 https://doc.axxonsoft.com/confluence/display/Int411en/Configuring+the+captions+showing
93 https://doc.axxonsoft.com/confluence/display/Int411en/Registry+keys+reference+guide

It is also possible to export video after fisheye conversion or rotation (see Select export mode(see page 166)).

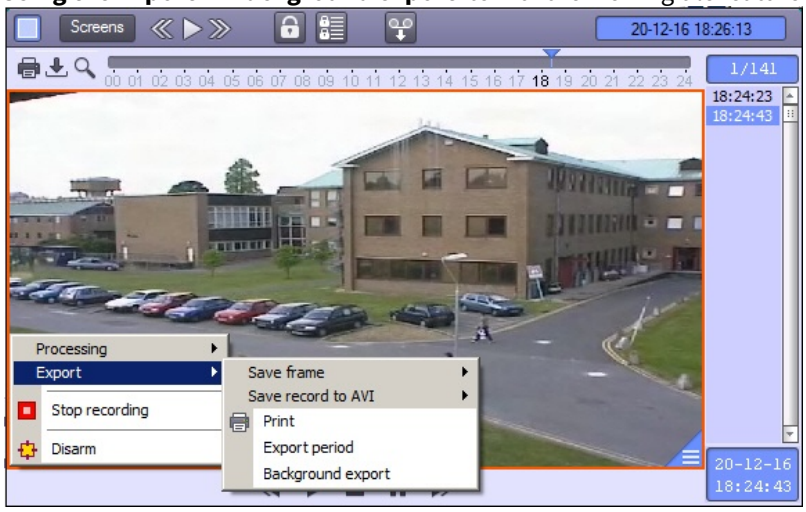
> **Note.**
>
> While converting video and audio records created synchronously, the output file will be with sound.

Utility allows to export by schedule and by connecting USB, CD or DVD storage media. Recording exported files to a CD or DVD is also supported if CD/DVD is formatted for use Like a USB flash drive.

Both 32 and 64 bit versions of the AviExport are available. The 64 bit version is run when the 64-bit modules are enabled (see Configuring of using 64-bits modules[94]).

AviExport utility is run in the Monitor interface in one of the following ways:

1. Clicking the  button on the control panel. The control panel is to be enabled in the Monitor – see Selecting the parameters of the Monitor interface box[95] section of Administrator's Guide[96].
2. In the **Created bookmarks** window (see List of bookmarks(see page 144)).
3. **Using the Export -> Background export** item of the Viewing tile feature menu in the archive mode.



The  button and **Export -> Background export** menu item are not displayed if the disk for recording (see Selecting the disks for video archive storage[97] section of Administrator's Guide[98]). They can also be not displayed if the export is forbidden in the user rights.

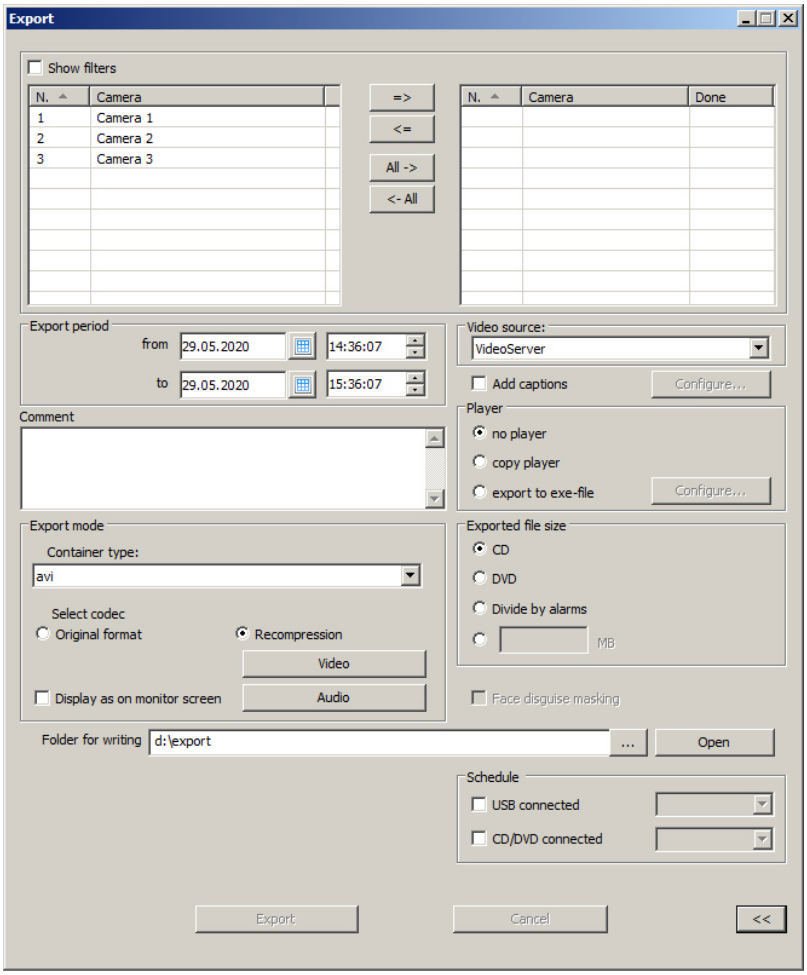
> **Note.**
>
> The  button is not displayed if disk for record is not selected (see Administrator's Guide[99], Selecting the disks for video archive storage[100]).

Several utility windows may be opened to execute several export tasks simultaneously.

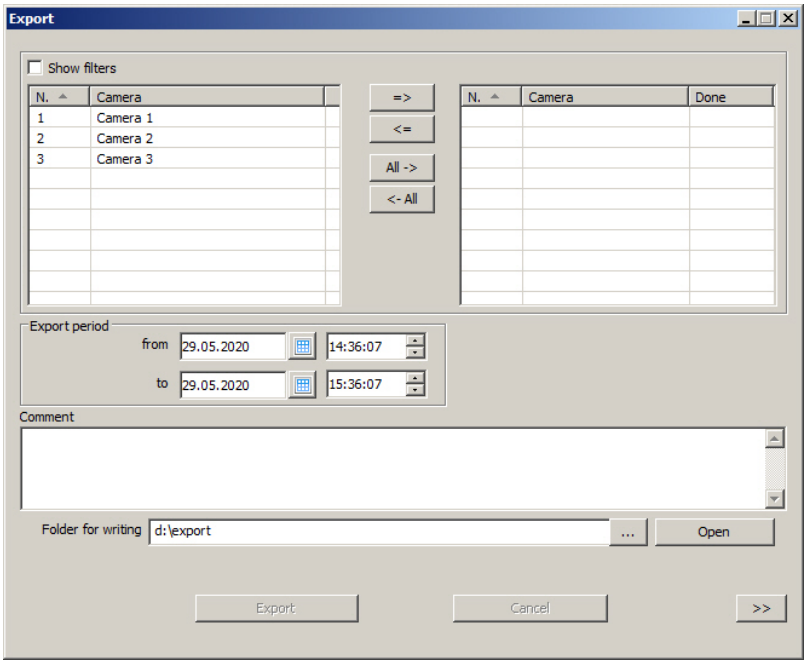
Interface of the AviExport utility is presented in the figure.

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94 https://doc.axxonsoft.com/confluence/display/Int411en/Configuring+of+using+64-bits+modules
95 https://doc.axxonsoft.com/confluence/display/Int411en/Selecting+the+parameters+of+the+Monitor+interface+box
96 https://doc.axxonsoft.com/confluence/display/Int411en/Administrator%27s+Guide
97 https://doc.axxonsoft.com/confluence/display/Int410en/Selecting+the+disks+for+video+archive+storage
98 https://doc.axxonsoft.com/confluence/display/Int411en/Administrator%27s+Guide
99 https://doc.axxonsoft.com/confluence/display/Int411en/Administrator%27s+Guide
100 https://doc.axxonsoft.com/confluence/display/Int411en/Selecting+the+disks+for+video+archive+storage



Click **<<** in the bottom right corner to hide advanced settings leaving cameras 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 expanded and basic settings may not be available when the SimpleDlgModeLock registry key is set to 1 (see Registry keys reference guide[101]).

Note.

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

4.3.12.2 Using the AviExport utiility

Working with the AviExport utility is performed the following way:

1. Select video cameras for archive export (see Select video camera(see page 161)).
2. Select video source – main archive, backup archive or video gate archive (see Selecting video source(see page 161)).
3. Specify general parameters of export (period, folder for saving files, etc.) (see General settings of export(see page 162)).
4. Change captions export parameters if required (see Setting caption export parameters(see page 165)).
5. Select export mode: without converting or export to AVI in initial or specified format) (see Select export mode(see page 166)).
6. Configure schedule of export if it's needed (see Configure export by connecting removable media(see page 169)).
7. Start export (see Start export(see page 170)).

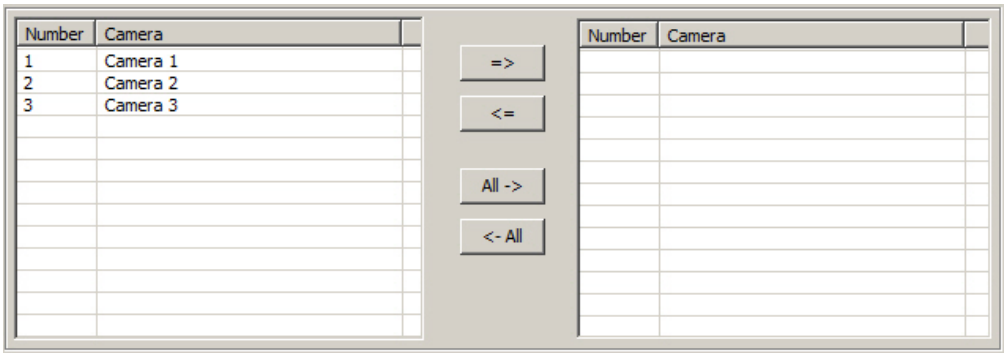
Note.

101 https://doc.axxonsoft.com/confluence/display/Int411en/Registry+keys+reference+guide

Selecting of camera and specifying of period are performed automatically if the AviExport utility is launched from the **Created bookmarks** window (see the List of bookmarks(see page 144) section).

Select video camera

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



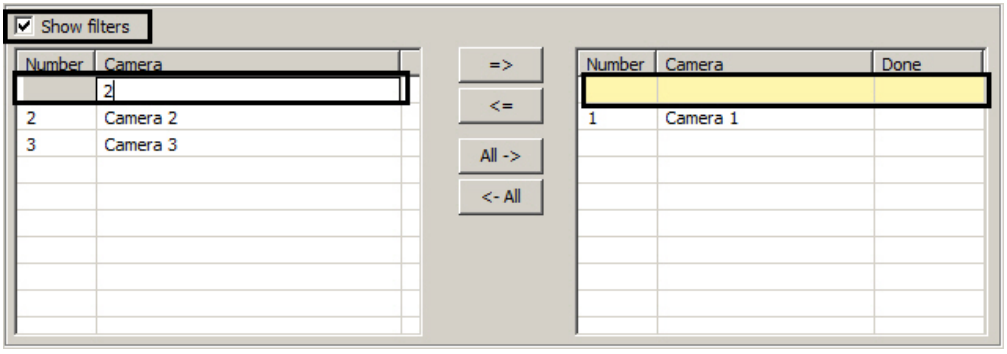
Cameras allowable for select are presented in the left list, selected cameras for archive export - in the right list.

Select camera in the list and use => or <= buttons to replace camera from one list to another

Use the All -> button to replace all cameras from the left list to the right list, use the <- All button to replace 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** check box to perform 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.



Selecting video source

Note.

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

AviExport utility is designed for exporting main archive as well as backup archive or video gate archive or edge storage archive (see General information on working with archives(see page 114)).

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



The following items may be available in the list:

1. **VideoServer** – export main archive.
2. **Archiver** – export Backup archive.
3. **Gate** – export Video Gate archive.
4. **Edge storage** – export archive from Edge Storage.

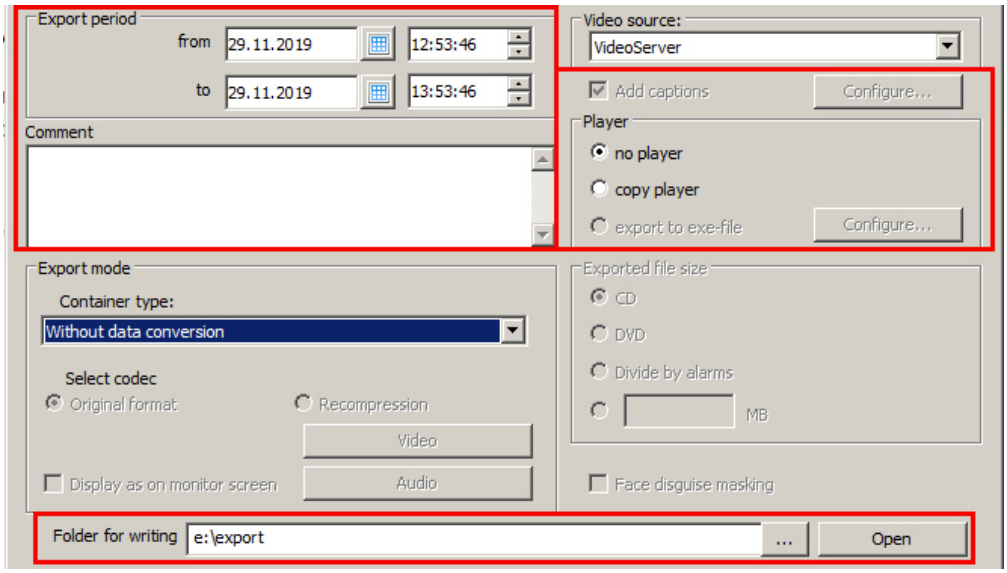
When configuring the Surveillance monitor, if no **Video gate** or **Backup archive** or **Edge Storage** (see Selecting and configuring video cameras[102]) was selected for any camera added to the list for export (see Select video camera(see page 161)), then the corresponding list items will not be available for selection.

> **Note**
>
> If the **Video gate** (see Selecting and configuring video cameras[103]) was selected for the camera added to the list for export (see Select video camera(see page 161)) when configuring the Surveillance monitor, then the exported video file will not contain any audio regardless of the selected video source.

If the **Video gate** is in use but its archive is not recorded and the **Gate** source is selected, the main archive of the Video Server is exported instead of the Video Gate archive.

General settings of export

General settings of export consist of:



1. Export period. It is specified in the **Period from** and **to** fields. When the utility is launched, the **from** field is filled with the time one hour less than the current system time, and the **to** field is filled with system time. If

102 https://doc.axxonsoft.com/confluence/display/Int411en/Selecting+and+configuring+video+cameras
103 https://doc.axxonsoft.com/confluence/display/Int411en/Selecting+and+configuring+video+cameras

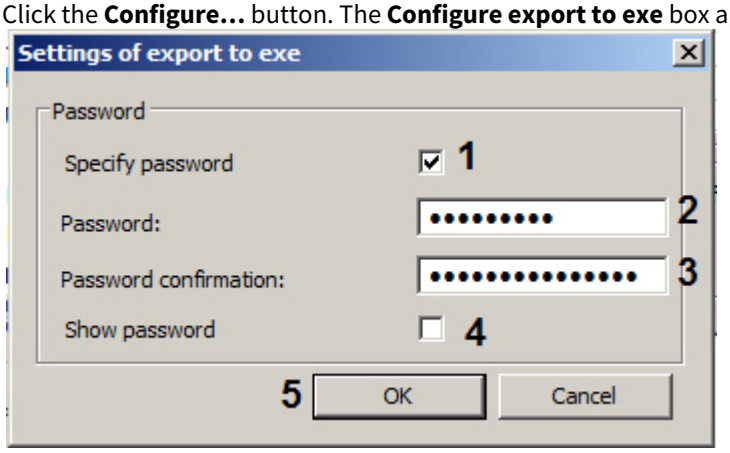
one or several archive records were selected in the Video Surveillance Window in the archive mode at the moment of the *AviExport* start, the **from** field is set to the time of the earliest selected record start and the **to** field is set to the time of latest record end.

> **Important!**
>
> When updating to Windows 10 Creators Update, date and time selection can appear disabled in *Intellect* version before 4.10.2. In this case update *Intellect* to version 4.10.3 or newer.

2. Copying of the Axxon 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** box. Click **>>** in the bottom right corner to display it.

   a. If the switch is set to the **no player position**, then only archive files in the specified format will be exported.
   b. If the switch is set to the **copy player position**, then Axxon_player_portable.exe file along with archive files will be stored to the folder. The file includes a portable version of *Axxon player*. Information on how to work with this utility is given in The Axxon Player utility for viewing and converting the video archive[104].
   c. If the switch is set to the **export to exe file position, then the archive will be exported** to exe file that can be played back without *Intellect* or *Axxon 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. For this do the following:
      i. Click the **Configure…** button. The **Configure export to exe** box appears.



      ii. Set the **Set password** (1) checkbox checked.
      iii. Specify the password (2) and confirm it (3).
      iv. By default all specified password characters are masked. If these characters are to be shown, then set the **Show password** (4) checkbox checked.

   Click the **OK** button (5).

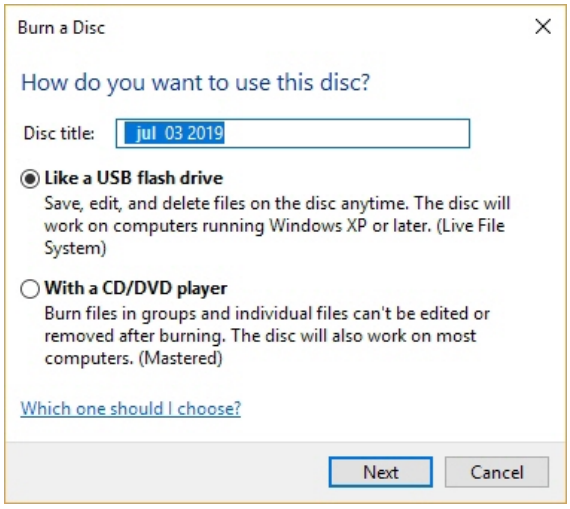
3. Video image titling. If the **Captions** checkbox is set checked, then video is exported with captions saved in the captions database.
   Moreover, if there are titles from POS terminals or ATMs, then these titles are also exported.
   Video with titles is to be played back in the Axxon Player (see The Axxon Player utility for viewing and converting the video archive[105]). The video with titles can also be played back in other players, for instance,

104 https://doc.axxonsoft.com/confluence/display/Int411en/The+Axxon+Player+utility+for+viewing+and+converting+the+video+archive
105 https://doc.axxonsoft.com/confluence/display/Int411en/The+Axxon+Player+utility+for+viewing+and+converting+the+video+archive

in Windows Media player with enabled Title View function though proper display of titles is not guaranteed. Change captions export parameters if required (see Setting caption export parameters(see page 165)).

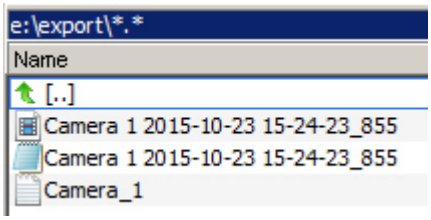
> **Note.**
>
> If export without data converting is selected then titles disabling is impossible - see the Select export mode(see page 166) section.

4. A comment is written in the **Comment** field; it is saved in the "Camera_<camera id>.txt" text file in the folder specified for storing.
5. Select folder for export using the ... button close to the **Folder for recording** field. The **Open** button is designed for passing to the specified folder in the Windows guide.
   If a CD or DVD is selected as export destination, the **Burn a disc** box appears; enter the disk name and set the switch to **Like a USB flash drive**.

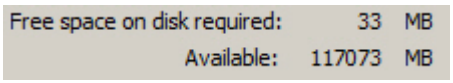


   Click **Next**.

Here is an example of the folder contents (see Start export(see page 170)) when the **Captions** checkbox is checked and the **Comment** field is filled in:



Disk space required for saving specified period of archive is automatically calculated while period changing.



> **Note.**

Information about the required disk space is displayed when exporting without data conversion or in the initial format, but is not displayed while exporting with recompression i.e. in specified format (see Select export mode[106]). Information about available disk space is always displayed.

If it is not enough disk space to save exported files, the **Start** button becomes inactive and the "It is not enough free disk space" message is displaying at the bottom of the window.

Setting caption export parameters

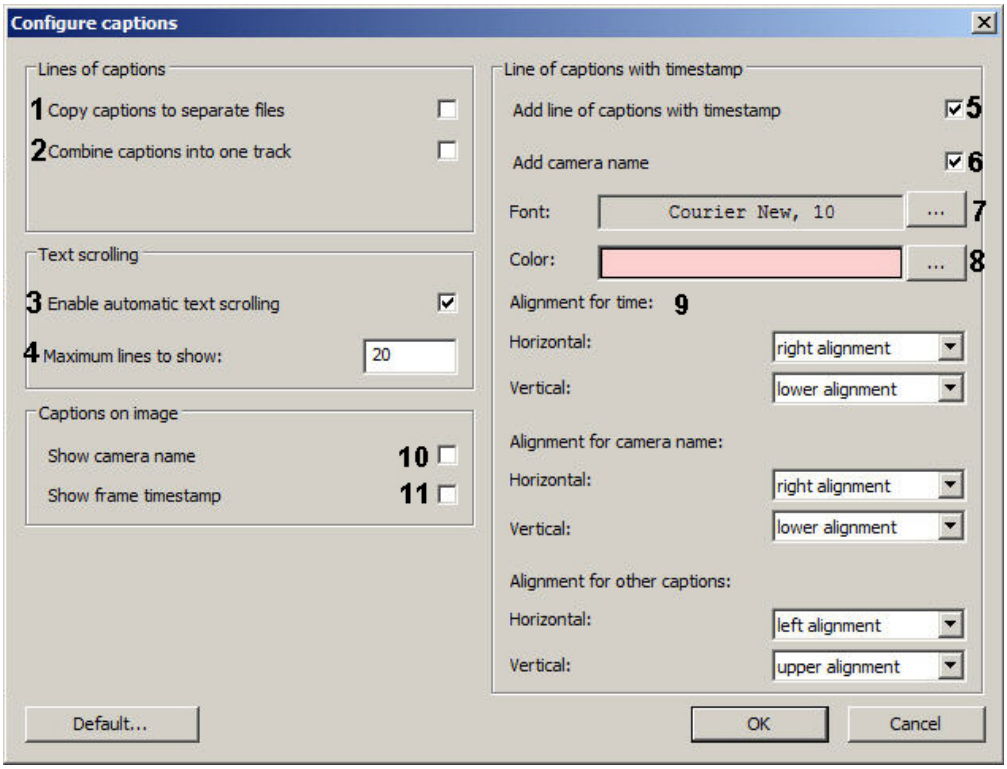
Note.

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

By default when the **Add captions** checkbox is set checked only captions stored in the captions database overlay the exported video with default display parameters. These parameters can be changed and captions specifying camera time and/or name can be added. For this click the **Configure...** button next to the **Add captions** checkbox.



The **Edit captions** box will appear.



The following parameters can be set in this box:

1. Caption line export parameters:

106 https://doc.axxonsoft.com/confluence/display/Int410en/Select+export+mode

1. The **Copy captions to separate files** checkbox enables saving exported captions as an individual file with .srt extension (1). The file with captions has .srt extension and is saved to the specified folder. Captions are exported as an individual line.
2. 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 set unchecked, then the time and camera name captions are exported separately from the captions from the captions database.

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

- Text scroll parameters:

1. The **Enable automatic text scrolling** checkbox is used to limit the number of lines in captions overlaying exported video (3).
2. 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 captions that are to be displayed on the video, then the lines will be displayed partially with 1 second interval.

- The captions may be added as a track or built in over the video.

1. Parameters for time and name caption track:
   a. The **Add line of captions with timestamp** checkbox enables overlaying camera time and date captions track on the exported video (5).
   b. The **Add camera name** checkbox enables overlaying camera name captions track on the exported video (6).

> **Note.**
>
> Captions of time and camera name are exported as individual lines.

   c. The **Font** button opens the standard Windows box to specify font parameters for captions (7).
   d. The **Color** button opens the standard Windows box to select the color of captions (8).
   e. The **Horizontal alignment** and **Vertical alignment** dropdown lists allow positioning of time, name and other captions on the video (9).
2. Parameters for built in caption:
   a. The **Show camera name** checkbox enables built-in captions with the camera name (10). These captions are always located in the bottom left corner on the video.
   b. The **Show frame timestamp** checkbox enables 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 adjust the built in captions size (see Registry keys reference guide[107]).

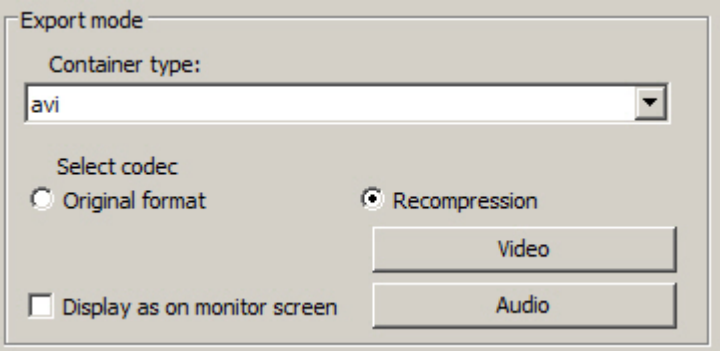
Select export mode

> **Note.**

107 https://doc.axxonsoft.com/confluence/display/Int411en/Registry+keys+reference+guide

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

Following export modes (container types) are available:



1. Export **Without data conversion**, if the **Original format** check box is selected. Export is performed in format of file system of the *Intellect* software package, i.e. format in which archive is stored on a disk. Export without conversion is not available for Edge Storage.
   The following functions are NOT available in this mode:
   a. Watermark is not added to the video.
   b. Captions enabling and disabling are not available while export. If archive record have captions, they will be exported. While switching on the **no data conversion** position the **Captions** checkbox is set automatically and becomes not available for editing.
   c. The conversion is not available: the **Display as on monitor screen** check box is hidden.
   d. Export in .exe format is not available.
2. Export to **AVI, MKV, MP4, FLV, ASF** file in **Original format** without change of codec. The following restrictions should be considered:
   a. **ASF** format does not support MxPEG, h265, MW codecs
   b. **MP4** format does not support MxPEG, MW codecs, Microsoft Video 1
   c. **FLV** format does not support H265, MxPEG, MPEG4, MW, MJPEG codecs, Microsoft Video 1
   d. **MKV** format does not support MW, MxPEG codecs, Microsoft Video 1.
3. Export to **AVI, MKV, MP4, FLV, ASF** file with **Recompression** to specified format. Video codec is specified using the **Video format** button, audio codec is specified using the **Audio format** button.
   The following functions are available in this mode:
   a. If fisheye conversion, rotation or scaling is applied to the image in the Surveillance window, then in order to export the video using this conversion, it is necessary to set the **Display as on monitor screen** check box (see Image processing(see page 103)). 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 Surveillance window.
   b. A watermark is added to the video when export to AVI, MKV, MP4, FLV, ASF format is selected in the original or set format. This watermark is overlaid on the video when archive footage is replayed in AxxonPlayer (see Watermarks[108]).

   Note

   If the export with recompression is used, then the MP4, MKV and FLV containers do not support Microsoft Video 1 codec.

108 https://doc.axxonsoft.com/confluence/display/axplay/Watermarks

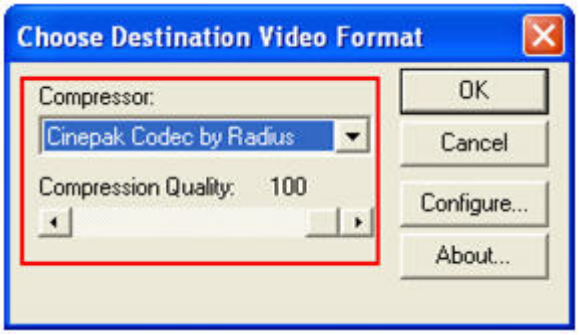
Note.

100 fps will be displayed in the properties of the exported AVI file. This value is set by software, as the frames of the original video can be arranged unevenly. When exporting, frames are allocated so that the final AVI file is played smoothly.
The size of the exported AVI file is limited to 1.97 GB. For other formats and modes, there is no size limit.

Note

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 will be exported to a separate file. It is possible to splice such video fragments into one file using the **UseFfmpegConcat** registry key (for details, see Registry keys reference guide[109]); in this case the resulting exported file will be in **MKV** format regardless of the selected container type.

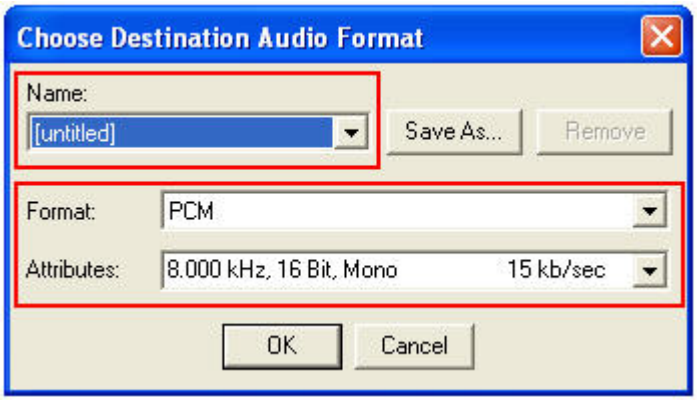
While clicking the **Video format** button the dialog window in which codec and compression ratio are to be selected will open.



Note.

When recompressing to x264vfw - H.264 / MPEG-4 AVC codec format, the first few seconds in the resulting exported file may be lost.

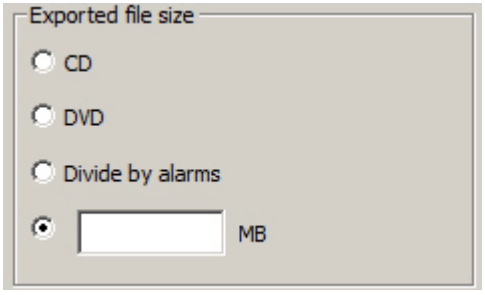
While clicking the **Audio format** button the dialog window in which format of audio file and set of sound quality parameters or ready settings profile are to be selected.



109 https://doc.axxonsoft.com/confluence/display/Int411en/Registry+keys+reference+guide

> **Note**
>
> For **ASF** and **MKV** containers, when exporting with recompression, it is necessary to select an attribute value of 8,000 kHz or less in the PCM audio format parameter.

While exporting to AVI, MKV, MP4, FLV, ASF it is possible to specify size of exported file using the same-name switch. If size of the exported file will be more than specified value, then the file will be divided into several parts - volumes. Positions of the **Exported file size** switch correspond to following ways of defining the volume size:



1. **CD** – size of these files is suitable for record on CD-disk (670 MB).
2. **DVD** – size of these files is suitable for record on DVD-disk (4,7 GB, for AVI file – 2 GB).
3. **Divide by alarms** – division into files is performing if there are pauses between records. Alarms are not considered while permanent record.
4. Specify volume size in megabytes in the field for entering. Do not set this field to more that 2048 MB for AVI file: if larger value is set, the files will still be no larger that 2 GB.

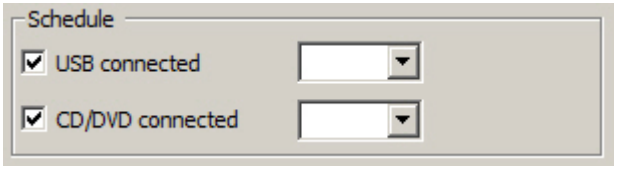
Configure export by connecting removable media

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

The AviExport utility allows to export archive while connecting USB-media or CD/DVD .

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 the List of bookmarks(see page 144) section.

Configuring of schedule is performed in the **Schedule** group.



Set the **USB connected** checkbox and select the character of the USB-media if bookmarks are to be exported while USB-media connection.

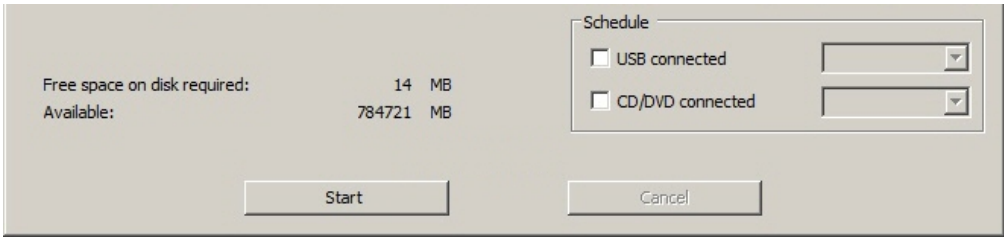
Set the **CD/DVD connected** checkbox and select the character of the CD/DVD media if bookmarks are to be exported while CD/DVD media connection.

> **Note.**

Also export by schedule can be configured. Export by schedule is performed using macros or scripts and time zones. Detailed information about their creation is presented in the Administrator's Guide(see page 169) and Programming Guide (JScript)[110].

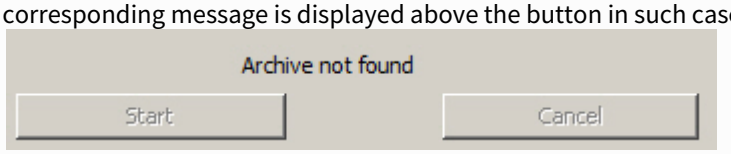
Start export

After configuring required export parameters click the **Start** button to start the process.



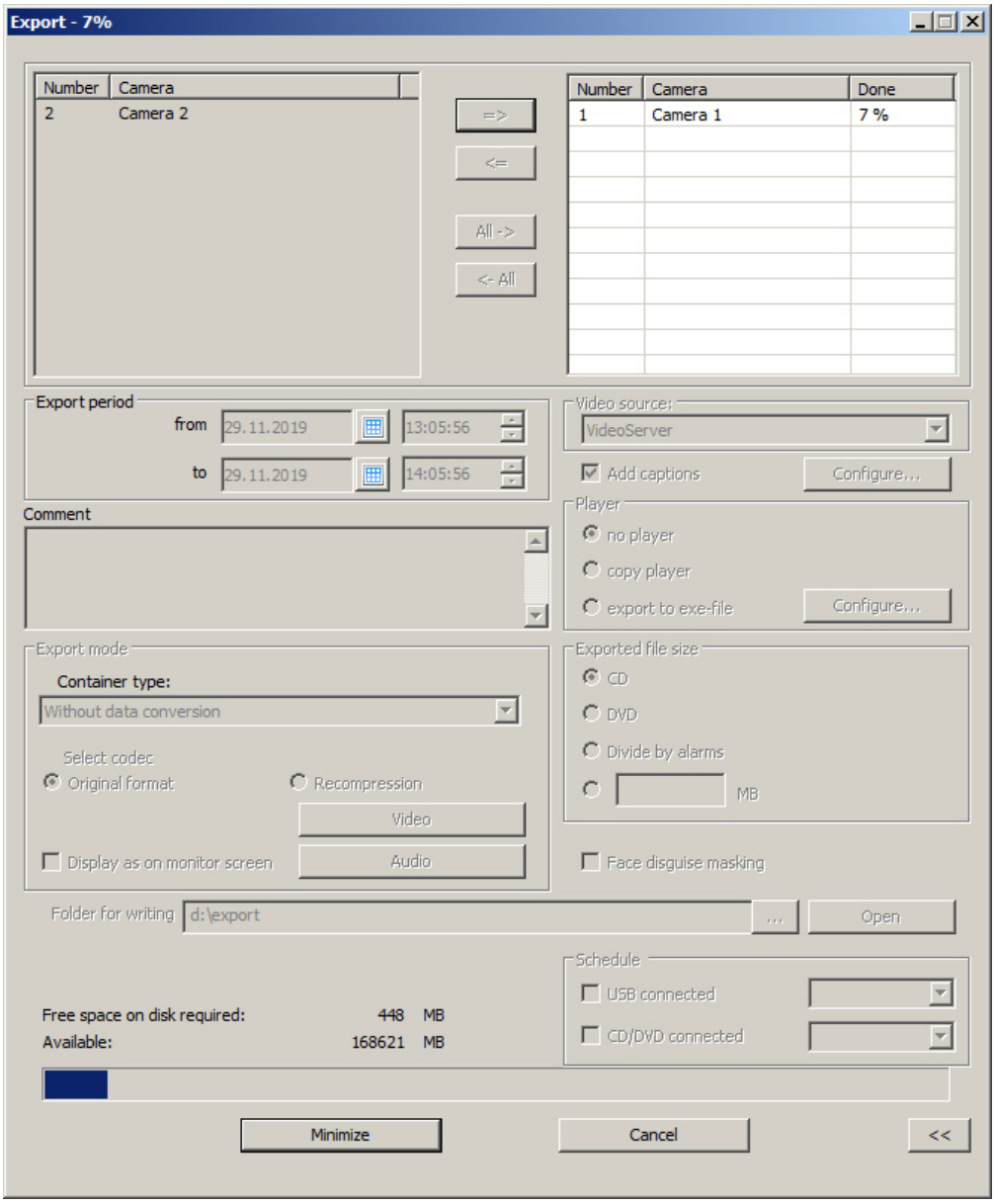
Note.

The **Start** button is inactive if there are no archive files by selected cameras at specified period. Also the corresponding message is displayed above the button in such case.



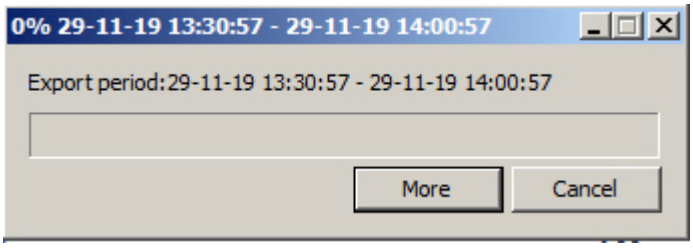
After clicking the **Start** button all elements of utility configuring become inactive and indicator of export performing will display at the bottom of the utility window. Percent of export performing will display in the window title and next to each camera name.

110 https://doc.axxonsoft.com/confluence/pages/viewpage.action?pageId=136250338



It is possible to stop export at any time clicking the **Cancel** button.

When the AviExport window is minimized during export, the progress is shown in the tile:



Click **More** to re-maximize the AviExport window.

Avi-file with «camera_id_YYYY-MM-DDTHH-MM-SS.avi» name or VIDEO folder containing archive files if export performed without conversion will be created in the specified folder after export completion.

If there are special characters in the Camera name, such as \, /, :, *, ?, |, ", they are replaced by underscore _ in the file name. Anyway, if camera name is overlayed on video as captions, it is displayed with special characters (see also Setting caption export parameters(see page 165)).

> **Note.**
>
> If the resolution is changed during the export, then the exported file will be divided into several parts containing archive intervals with different resolutions. If the **UseFfmpegConcat** registry key is enabled to join such parts to one file (for details, see Registry keys reference guide[111]), this exported file will be in **MKV** format regardless of the selected container type.
> If only the codec (not the resolution) is changed during the export, then the exported file won't be divided into parts.
> The change of a codec and resolution can be caused by the selection of different streams for recording upon alarm and continuous recording – see Configuration of multistream video[112] section in Administrator's Guide[113].

4.3.12.3 Using AviExport utility from command line

AviExport utility is used from the command line using AviExport.run located in <*Intellect* installation folder>\Modules folder.

> **Important!**
>
> AviExport utility can be used from the command line only while *Intellect* is running.

The following parameters are used when using AviExport utility from command line:

-format:format – output container format. This is an optional parameter, avi is by default.
Available values:

- **fs** - *Intellect* file system
- **avi** - avi container
- **mkv** - mkv container
- **asf** - asf container
- **flv** - flv container
- **mp4**- mp4 container

-extr:path – the path to the player (Axxonplayer.exe) including .exe mapping mode. This is an optional parameter. By default it is disabled.
-period:[start time;end time] – export period. Time is set in YYYY-MM-DDThh:mm:ss format, for instance, 2015-09-29T12:10:50. This is a mandatory parameter.
-dst:path – path to the file or folder. If the path ends with '\' symbol, then it is identified as a path to folder, file names are generated automatically. The path is always identified as the path to folder when export to *Intellect* file system is performed. If the path does not exist, then the utility tries to create it. This is a mandatory parameter.

-src:[path to source] – data source (audio and video) and its parameters. At least one (or more) data source must be specified.
There are several ways to specify a path:

1. [ip-address:port;id=camera ID]. Example -src:[127.0.0.1:900;id=5]

111 https://doc.axxonsoft.com/confluence/display/Int411en/Registry+keys+reference+guide
112 https://doc.axxonsoft.com/confluence/display/Int411en/Configuration+of+multistream+video
113 https://doc.axxonsoft.com/confluence/pages/viewpage.action?pageId=124980307

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]
3. ["path to Intellect archive";id=camera ID]. Example -src:["C:\Path to Intellect Archive\";id=5]

When the data source is specified, optional parameters can be specified separated with ";":

- **vcodec: value** – video codec settings. It is not in use when packing *to Intellect* 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 there is any in the archive (used by default).
- **audio:off** – audio is not exported for this camera.
- **audio:[path]** – specifying path to the audio source in the [ip-address:port;id= microphone ID] or ["path to Intellect archive";id=microphone ID] format.
- **titles:[parameters]** – titles settings. It is not in use when packing *to Intellect* file system is performed. Parameters:
- **int** – titles are exported in the bin body.
- **ext** - titles are exported to external .srt file.
  By default titles are not exported.

-options:[parameters] – extra options during export. All parameters are optional. It is not in use when packing *to Intellect* file system is performed.
Possible parameters:

- **holesplit=[number]** – time (in milliseconds) allowed between archive intervals during which intervals are merged in 1 file. If time between intervals exceeds the specified one, then there is no merge. Further data is recorded to a new file. By default all intervals are merged. When multiple channels are exported into .avi file, the parameter is not in use.
- **maxsize=[number]** – maximum size of file (in MB). If the size is bigger, then further data is recorded to a new file. Maximum allowed value as well as default value is 4096.
- **duration=[number]** – maximum duration of 1 file (in seconds). If the duration is longer, then further 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\AxxnPlayer.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\itv\Documents\Intellect\export\" -tmp:"C:\Users\itv\Documents\Intellect\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\itv\Documents\Intellect\export\" -tmp:"C:\Users\itv\Documents\Intellect\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]

4.3.12.4 Face masking at export

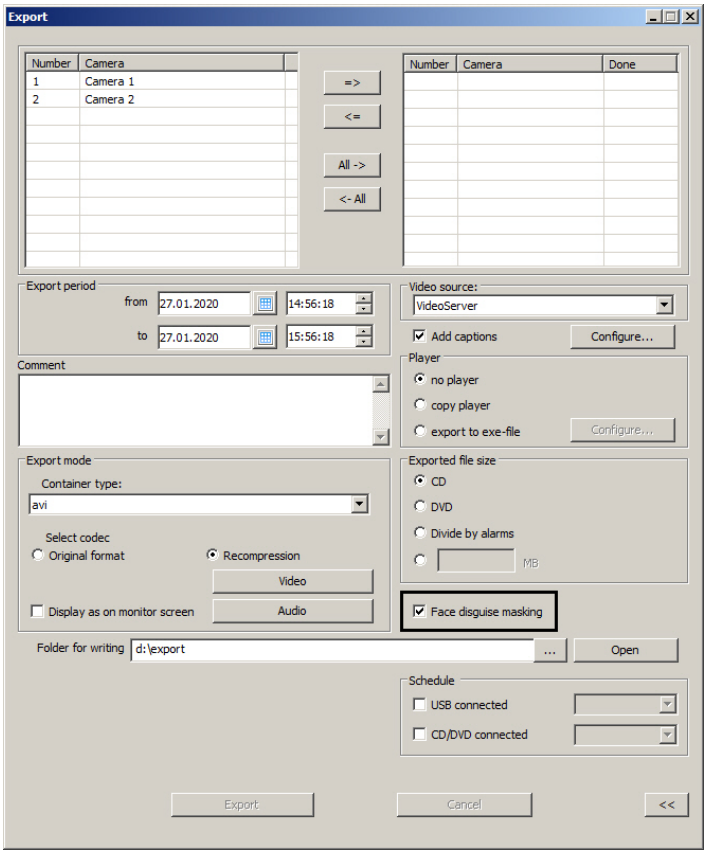
The *AviExport* utility allows face masking in the exported video. This function is based on neural network.

> **Note.**
>
> Faces can also be masked on live video if the Face detection tool is in use – see Configuring Face detection tool[114].

Perform the following settings to make the face masking function:

1. Install *Detector Pack* 2.6 or newer. The installation kit and documentation are available on the AxxonSoft web site: https://www.axxonsoft.com/resources/downloads/intellect.php
2. Enable 64-bit modules – see Configuring of using 64-bits modules[115]
3. Select export with data conversion and recompression in the *AviExport* utility – see Select export mode(see page 166)

As a result of the above steps, the **Face disguise masking** checkbox becomes available. If it is set, then a mask appears over the faces in the exported file.



Example masking in the exported video:

114 https://doc.axxonsoft.com/confluence/display/Int411en/Configuring+Face+detection+tool
115 https://doc.axxonsoft.com/confluence/display/Int411en/Configuring+of+using+64-bits+modules



This function is configured using the SmallFacesDetector.config configuration file located in the *Intellect* software installation directory in the Modules64/caffewrapper folder. The following options can be configured:

- mode – calculation mode: CPU or GPU.
- deploy_file, model_file – neural network configuration file. At the time of this instruction publishing, 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.

4.3.12.5 Masking areas on video at export

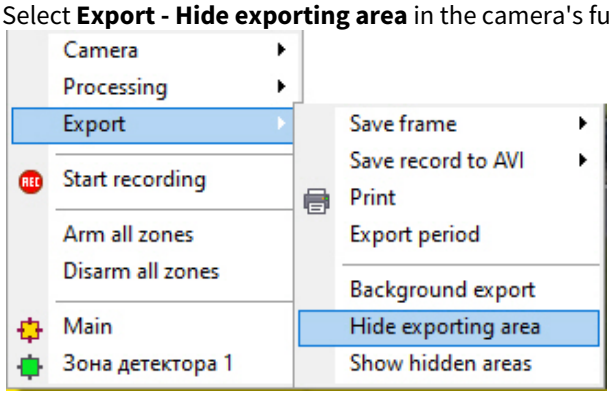
In exported videos, you can either hide any object by masking it, or hide the area around the selected object.

In order for the masked area to be displayed in the exported video file, select the export with recompression in the AxiExport utility – see Select export mode(see page 166). The masked area will not be displayed if the export is performed in any other way.

You can set the mask as follows:

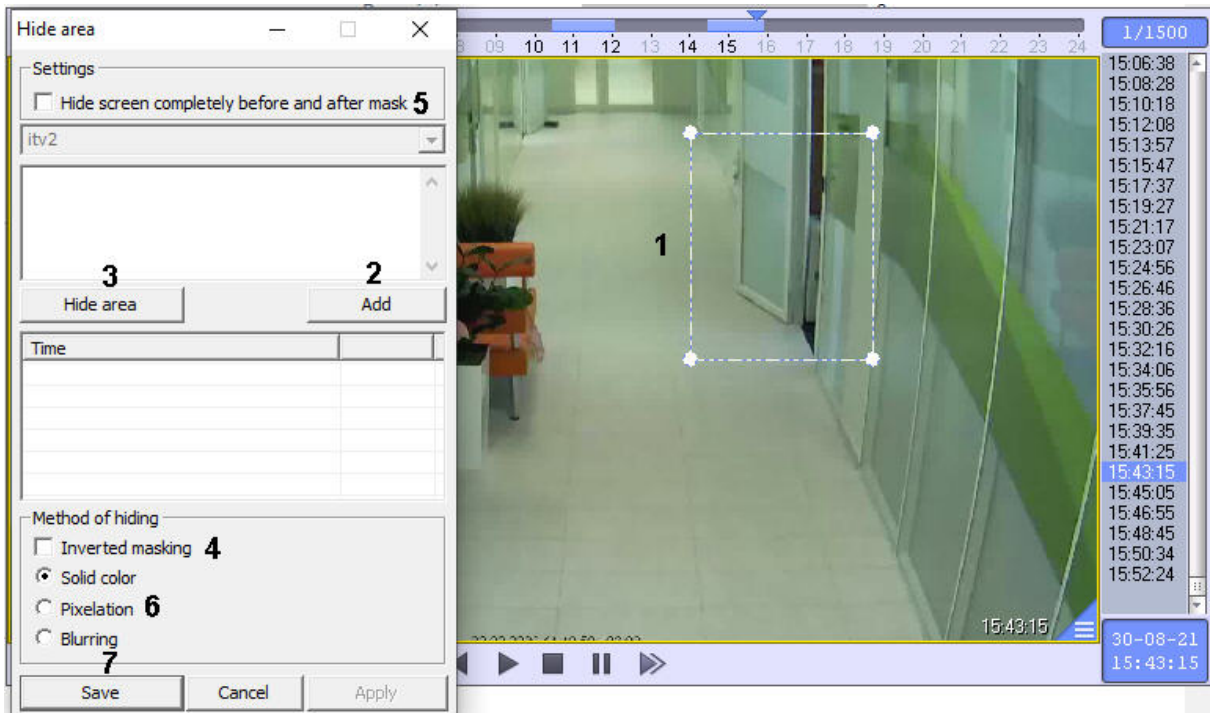
1. Go to the archive playback mode(see page 116)

2. Select **Export - Hide exporting area** in the camera's functional menu.



> **Note.**
>
> Later, when viewing the archive, you can uncheck or check the **Show hidden areas** checkbox to hide or show the mask when playing the archive.

3. As a result, the **Hide area** window opens, and an area with anchor points will be displayed in the viewing tile.



4. Find a frame on which the object appears for the first time. You can search for videos using one of the methods described in the Archive browsing(see page 122) section.
5. Set the required position and size of the mask by dragging an area with anchor points across the viewing tile (**1**).
6. 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.

7. 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.
8. 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.

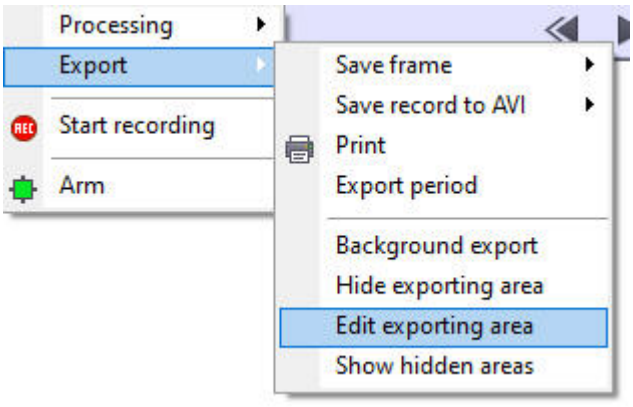
> **Note.**
>
> For the convenience of tracking an object, you can hide the mask using the **Hide area** button (**3**). When the area is hidden, the **Add** button is disabled.

9. If necessary, you can enter a comment in the text box in the **Hide area** window.
10. If in the exported file it is necessary to hide the area around the selected object, 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.
11. If, when viewing a live or archive video in the Surveillance 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[116]).
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 Surveillance Monitor, the area is masked in black.

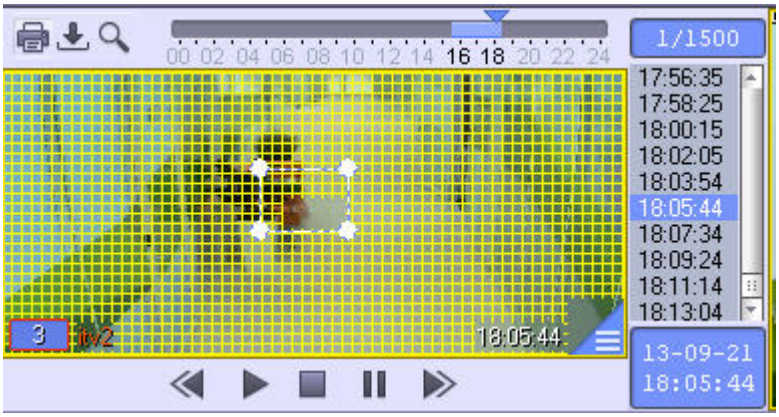
13. After completing the settings for masking areas, click the **Save** button (**7**).

To change the previously created masking area, select **Export - Edit exporting area** in the camera's functional menu:



As a result, an editing window will open, in which the masked area is shown in the form of a grid:

116 https://doc.axxonsoft.com/confluence/display/Int411en/Registry+keys+reference+guide



To edit a previously created area, repeat the steps 4-13.

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

4.4.2.1 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.

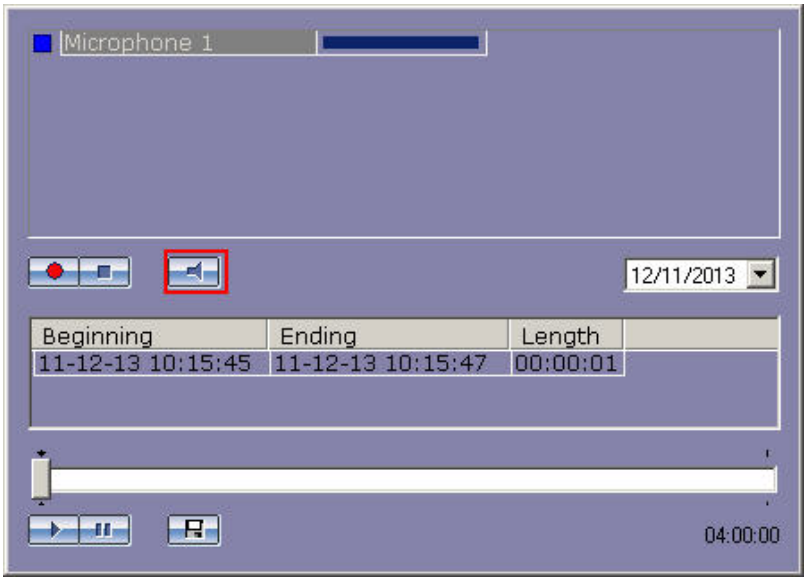
If no microphones are selected for synchro recording with a camera, the button will not be displayed in the Video surveillance window for that camera.
If you hide the **Display** under which the **Audio Player** is created to play the synchro audio signal, the audio signal will not be played.
To get 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[117] section of the Administrator's Guide[118].

117 https://doc.axxonsoft.com/confluence/display/Int411en/Configuring+audio+signals+playback+using+the+video+monitor
118 https://doc.axxonsoft.com/confluence/display/Int411en/Administrator%27s+Guide

4.4.2.2 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.

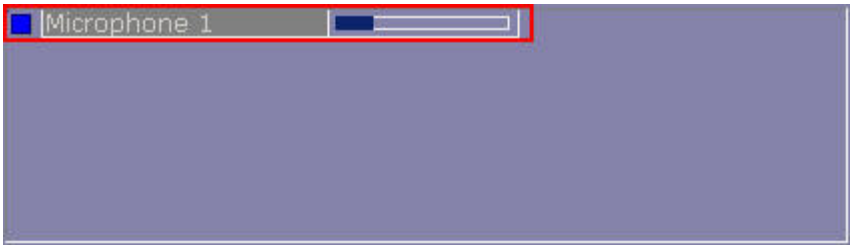
> **Note.**
>
> If the **Display** object, on the basis of which the **Audio Player** object was created, is assigned to several computers in the distributed system, then commands to enable and disable listening are performed simultaneously on all computers where this **Audio Player** is displayed. If 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 Recordings by acoustic start(see page 183) section).

4.4.3.1 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.

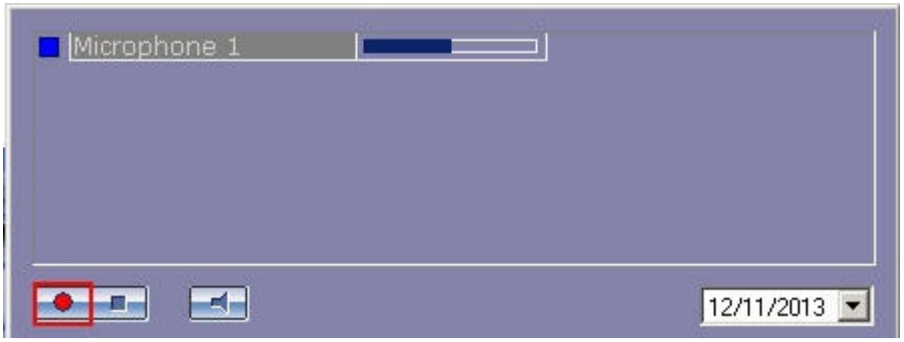


Microphone status indication is shown in the table.

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	

4.4.3.2 Arming the microphone

To arm a microphone, select it in the microphone list and click  .

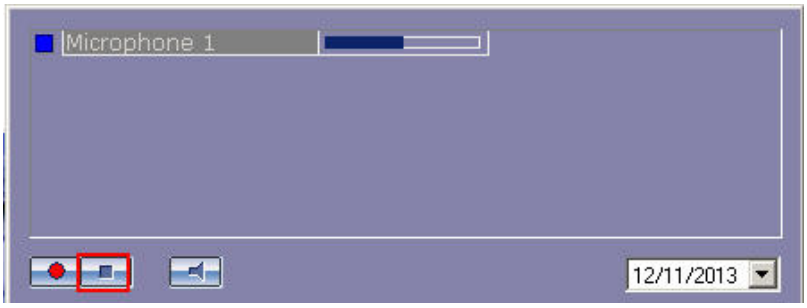


If the signal strength of the microphone, while being armed, exceeds the threshold, recording will start. Otherwise, the microphone will be armed, and recording will start, when the pre-defined threshold level of the microphone is exceeded. The current status of the recording process is indicated by the microphone indicator (see the Recordings indication[119] section).

119 https://doc.axxonsoft.com/confluence/display/Int490en/Aurio+recording+indication

4.4.3.3 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(see page 183) section).

4.4.4 Audio recording of events

4.4.4.1 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 synchro recording is controlled through the Camera window.

The current status of the recording is displayed by the microphone indicator.

4.4.4.2 Aurio recording indication

The status of microphone recordings is displayed through the corresponding microphone indicator.

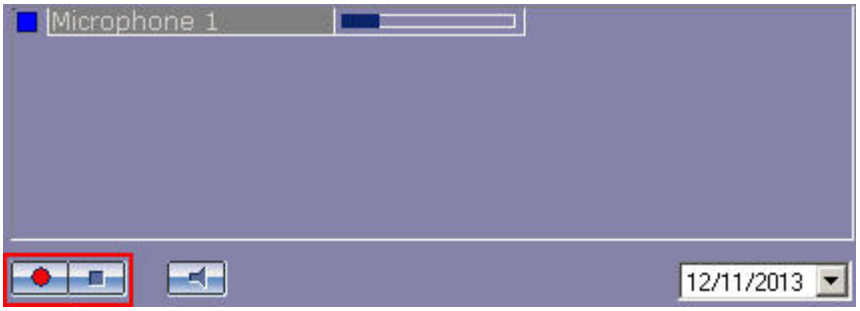


The microphone recordings status indication is shown in the following table.

Indicator Color	Recording Status
Red	Microphone is currently recording
Blue	Microphone is not currently recording
Green	
Yellow	

4.4.4.3 Recordings by acoustic start

To initiate recording by acoustic start, the microphone should be armed. To arm a microphone, select it in the microphone list and click  .



If the sound level when arming a microphone is lower that the threshold acoustic start level, the microphone indicator becomes yellow.



If the sound level at the time of arming (or any other time after the microphone has been armed) exceeds the threshold acoustic start level, the recording starts and the microphone status indicator becomes red.



The recording will continue as long as the microphone sound level is above the threshold acoustic start level. If the microphone sound level decreases below the threshold acoustic start level, the recording stops and the microphone status indicator becomes yellow.

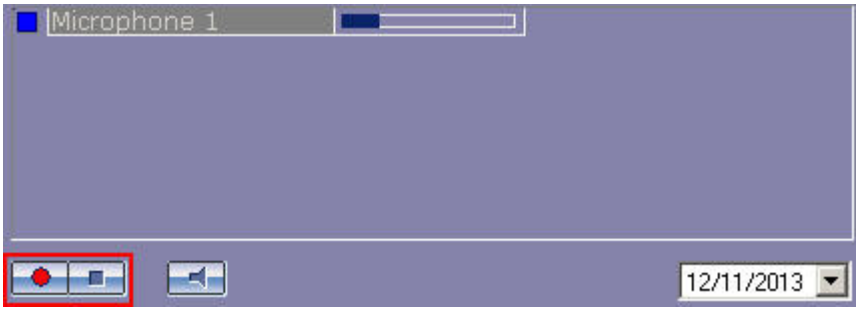
To disarm the microphone and stop recording, press the  button.

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.

4.4.4.4 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.

4.4.4.5 Synchro audio and video recordings

Video recordings supported by synchro sound are controlled in the same way as video recordings without synchro sound support, for instance, through the Camera window (see the Synchronous playback of video and audio recordings(see page 138) section). However, the Camera window, which besides the camera is connected to the microphone, will also display a synchro recording symbol.



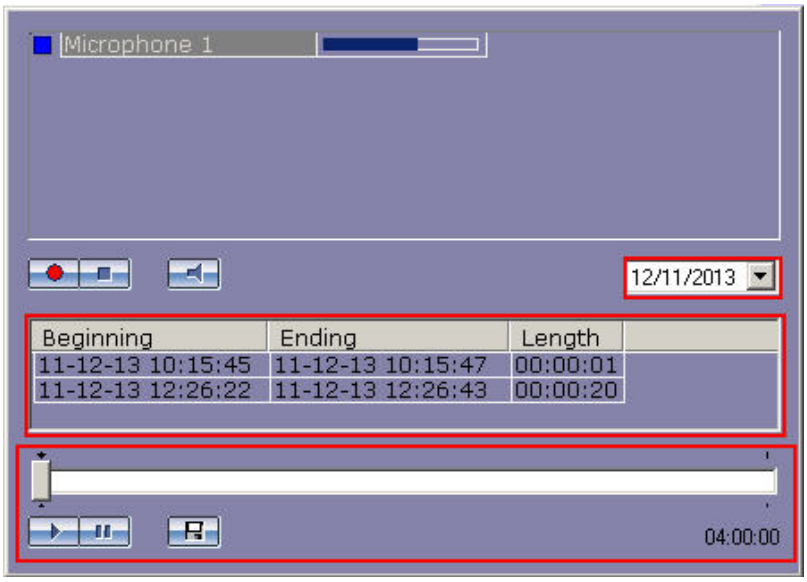
4.4.5 Operations with the audio archives

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.

4.4.5.1 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.

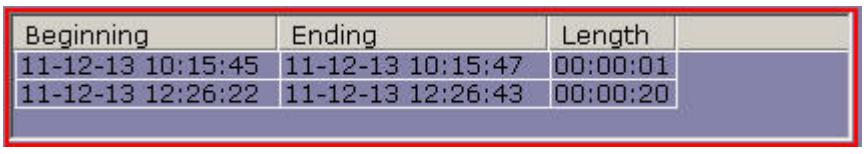


To playback a recording, follow the steps as shown below:

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

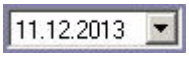
To playback a recording, select the one you need from the list, reflecting all the recordings available for the selected date (see the Search for audio recordings by date(see page 186) section).

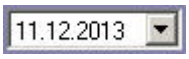


Each audio recording is described with the following attributes: beginning of recording time, end of recording time and length. To select a recording, click on the line with one of the attributes of the given recording.

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.

4.4.5.2 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(see page 138) section). On the video image from camera with assigned microphone the icon of synchronous recording is displayed in the upper right corner.

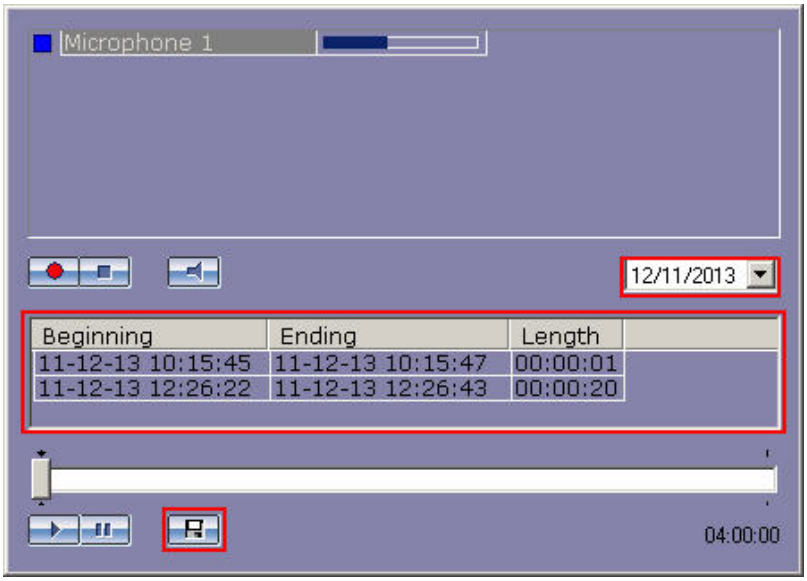


4.4.5.3 Export of audio recordings

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.

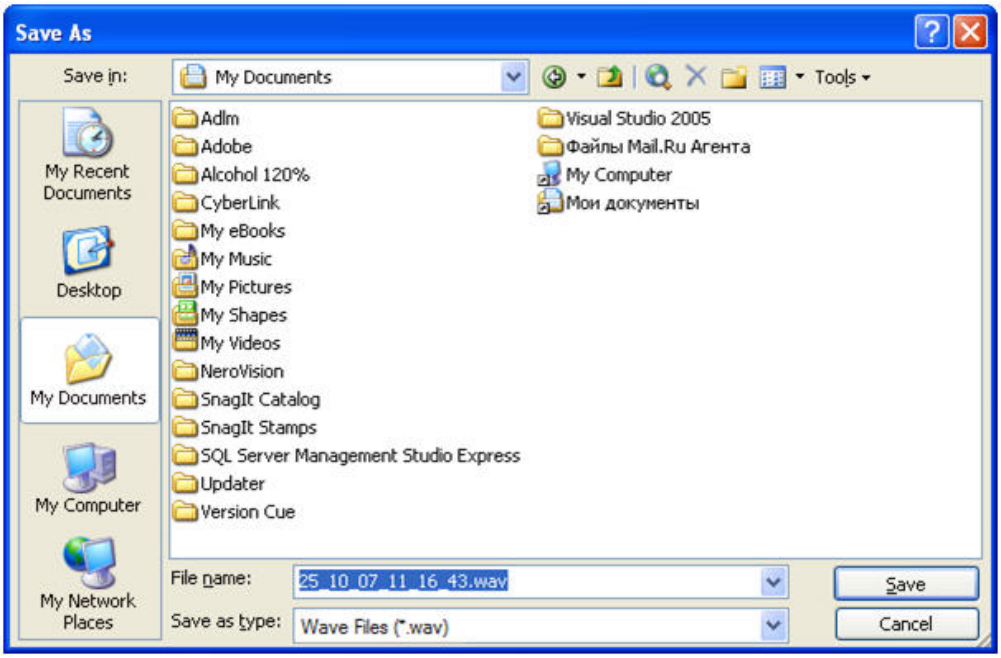
> **Important!**
>
> Audio export is possible only in the WAV format using the ADPCM codec.



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.

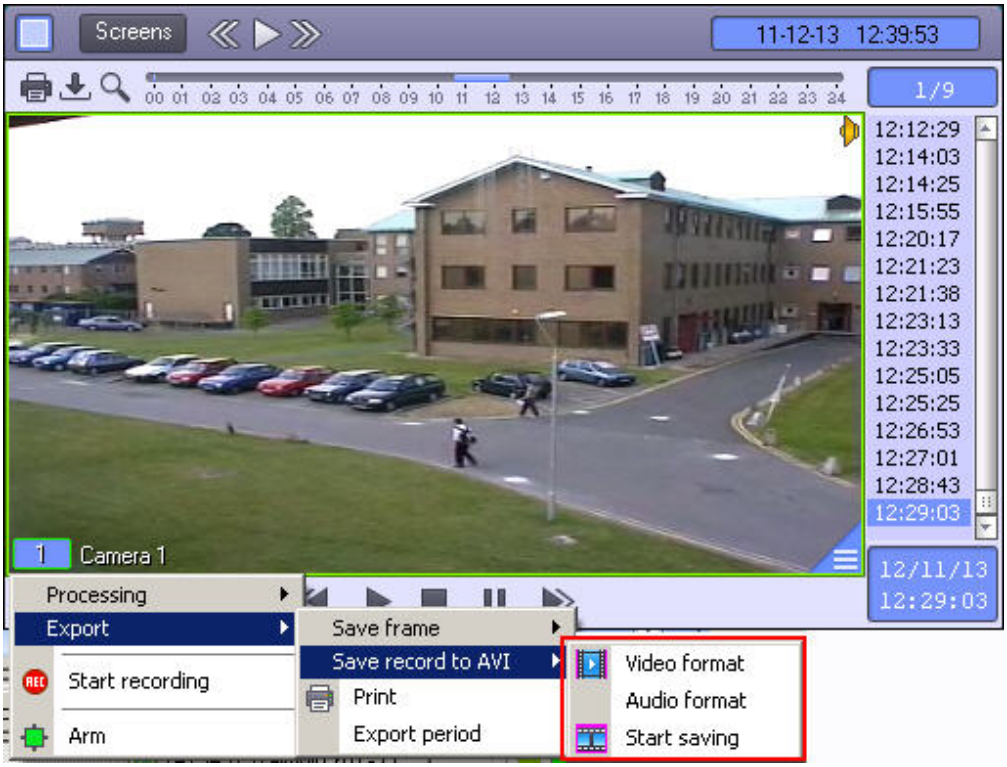


As soon as the **Save** button is pressed, the file with the given name will appear in the selected directory.

Synchro export of audio and video recordings

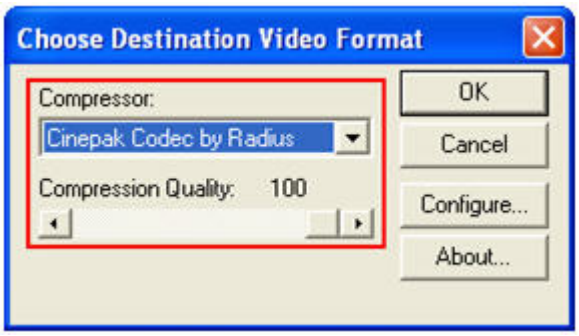
Synchro export of audio and video recordings is controlled through the playback control panel.

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

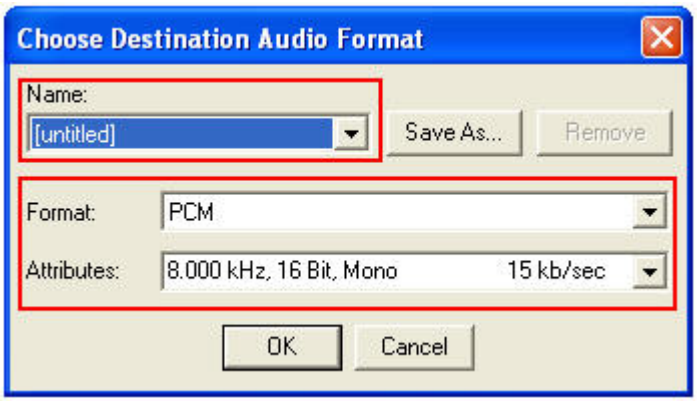


Parameters of the video and sound signals, which will be saved, may be configured in the displayed sub-menu.

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\Intellect\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[120] section in Installing and configuring security system components guide[121].

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

120 https://doc.axxonsoft.com/confluence/display/Int411en/Telemetry+control+panel+configuration
121 https://doc.axxonsoft.com/confluence/display/Int411en/Installing+and+configuring+security+system+components+guide

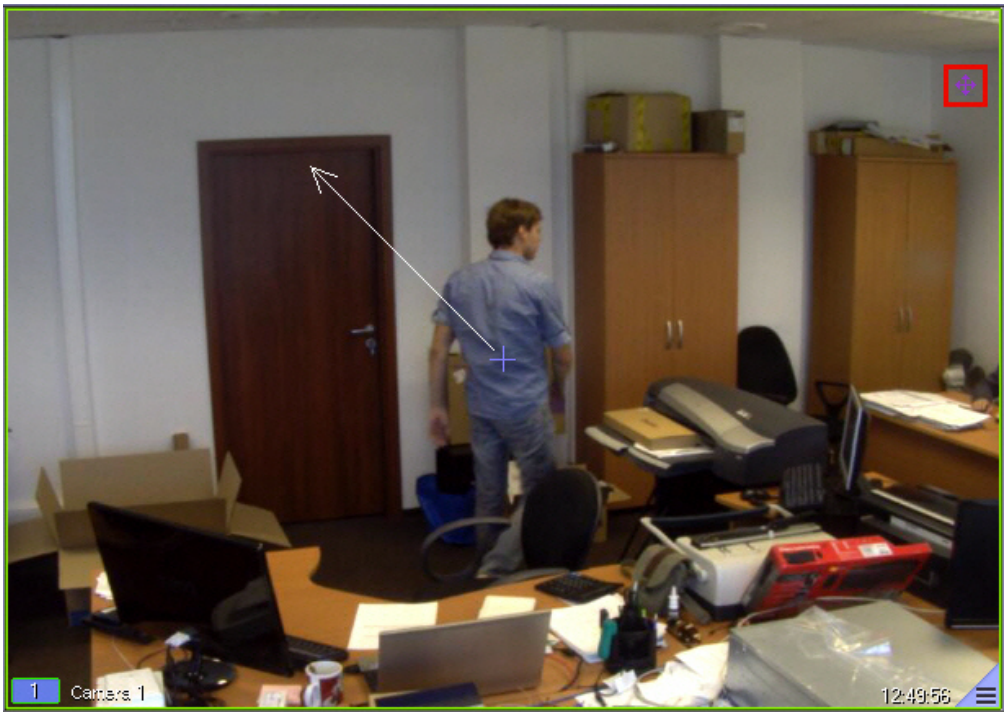
no	«**0**», «**.**»	Lens focusing
no	«*»	Autofocus
1-**9**	no	Presetting

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 Intellect 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[122].

Action	Old function	New function
Click the left mouse button	Camera's objective stop	-
Press and hold the left mouse button moving the pointer	Re-focus the camera lens to the mouse pointer direction	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 Registry keys reference guide[123]. 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. 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 Configuring PTZ devices in INTELLECT™[124] section of Installing and configuring security system components guide[125]). To find out if a video camera supports the continuous mode see DriverPack documentation (see Documentation Drivers Pack[126]).

122 https://doc.axxonsoft.com/confluence/display/Int490en/Registry+keys+reference+guide
123 https://doc.axxonsoft.com/confluence/display/Int411en/Registry+keys+reference+guide
124 https://doc.axxonsoft.com/confluence/pages/viewpage.action?pageId=136251289
125 https://doc.axxonsoft.com/confluence/display/Int411en/Installing+and+configuring+security+system+components+guide
126 https://doc.axxonsoft.com/confluence/display/DDP/Documentation+Drivers+Pack

<table>
<tr><th>Action</th><th>Old function</th><th>New function</th></tr>
<tr><td>Click the middle mouse button</td><td colspan="2" rowspan="2">Automatic re-focus of the camera objective to the area of the mouse click (Point&Click). Positioning is with the minimum rate that does not depend on the value specifiefd on the Universal PTZ control panel. This rate can be changed in tweaki.exe tool, but it can affect the functionality performance (see Intellect software package. Administrator's guide(see page 192), The settings panel of the Telemetry section).

Note.
Reorientation by middle mouse click is done using Intellect software package algorithms and operates with any PTZ devices, however, it may operate unpredictably unstable in some cases. Use camera built-in Point&Click if possible.
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 Intellect software package</td></tr>
<tr><td>Click the right mouse butto</td></tr>
<tr><td>Click and hold the right mouse button</td><td colspan="2">Point&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 Registry keys reference guide[127] section.</td></tr>
<tr><td>Left hold</td><td>Lens zooming in</td><td>-</td></tr>
<tr><td>Right hold</td><td>Lens zooming out</td><td>-</td></tr>
<tr><td>Select area by moving the pointer with holding pressed the right mouse button and Ctrl button

Note
The area is selected by frame which disappears after release the mouse button.</td><td colspan="2">Increasing and centering image in selected area (AreaZoom).

Note. The action will be performed only if the AreaZoom functional is supported by camera driver and integrated to the Intellect software.</td></tr>
<tr><td>Left click combined with Shift</td><td colspan="2">Focus In</td></tr>
</table>

127 https://doc.axxonsoft.com/confluence/display/Int411en/Registry+keys+reference+guide

Action	Old function	New function
Right click combined with **Shift**	Focus Out	
Scrolling up	Digital zooming in	Lens zooming in
Scrolling down	Digital zooming out	Lens zooming out
Scrolling up + **Ctrl**	-	Digital zooming in
Scrolling up while PTZ control is disabled (the icon looks like this )		
Scrolling down + **Ctrl**	-	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.

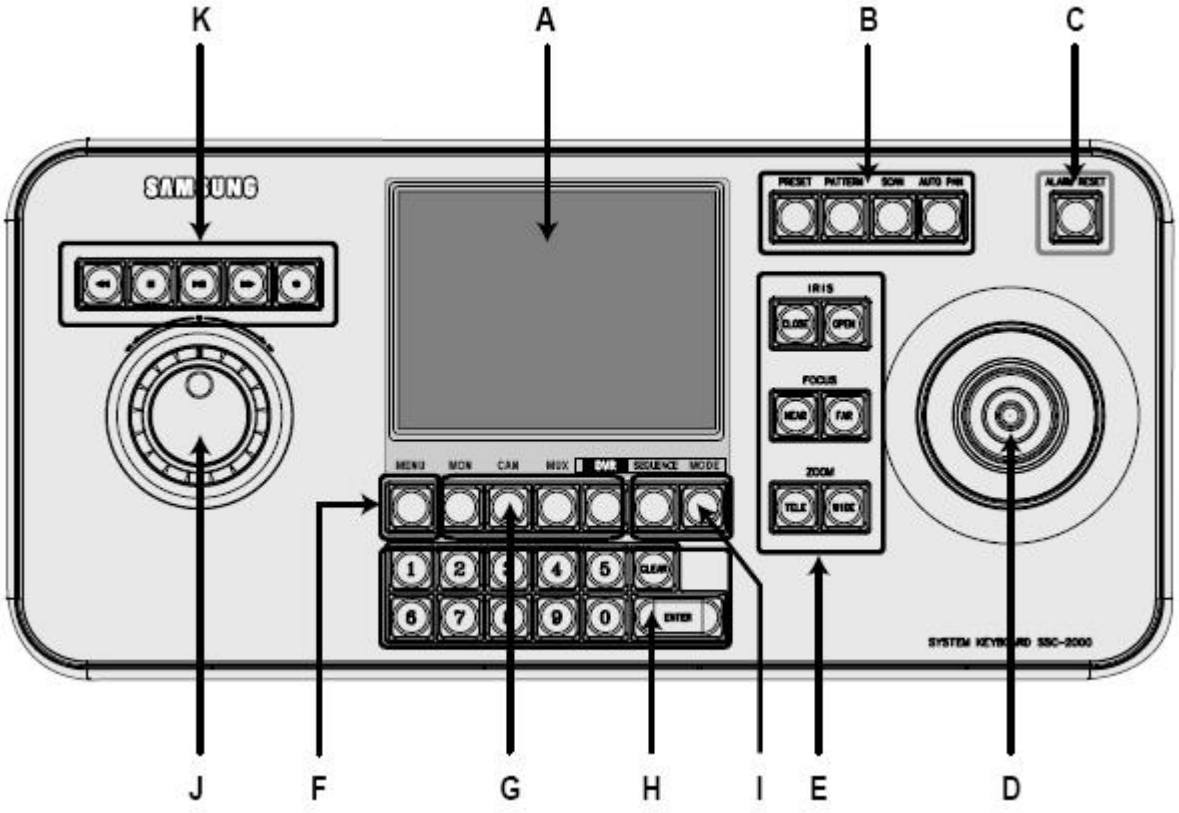
The above mouse functions are not supported in the Camera windows, corresponding to the surveillance cameras without PTZ.

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
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.

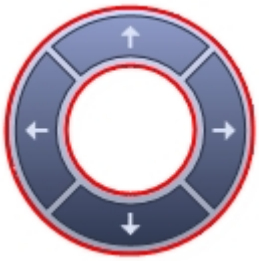
To access PTZ controls, select 

in 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:



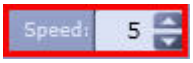
Move camera lens across and diagonally:



Camera lens stops moving while changing the orientation:



Set conditional speed of the camera lens movement while changing the focus:



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  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.



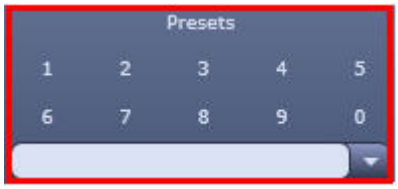
Zoom-in and zoom-out is set with the  and  buttons.

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 present 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>**.

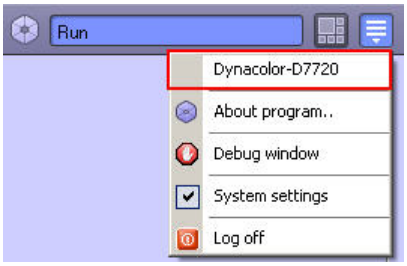
To change the size of the PTZ control window, move the mouse pointer holding the left mouse button pressed in the lower right corner of the window.

4.5.7 PTZ control using the Operator's search box

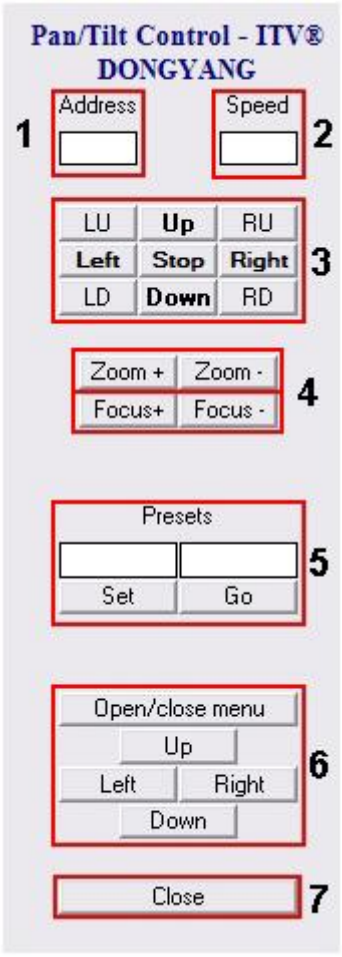
The Operator's search box can be used to control specific types of PTZ.

Below we give an example of how to control *Dynacolor-D7720* PTZ.

To call up the Operator's search box, select *Dynacolor-D7720* in the **Run** menu of the main control panel of *Intellect*.



The appearing window will allow controlling *Dynacolor-D7720*, which is connected to the system.



The table gives a brief description of the control panel interface for operating *Dynacolor-D7720*.

Element number	**Function**
1	PTZ unit address
2	Conventional PTZ unit speed with the change of direction
3	PTZ direction controls
4	Setting the lens zoom (zoom-in)
5	Setting of the camera lens focus
6	Selection and setting of PTZ user settings

7	Path to and control of the in-built OSD menu of the Dynacolor-D7720 camera
8	Dynacolor-D7720 hidden panels

Note.

Certain types of system units are operated with a separate control panel (Operator's search box), which has an appropriate interface and functionalities. In addition, the box for calling up the control panel (Operator's search box) in the **Run** menu is configured with the program settings and may differ from the PTZ type corresponding 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(see page 204) 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.

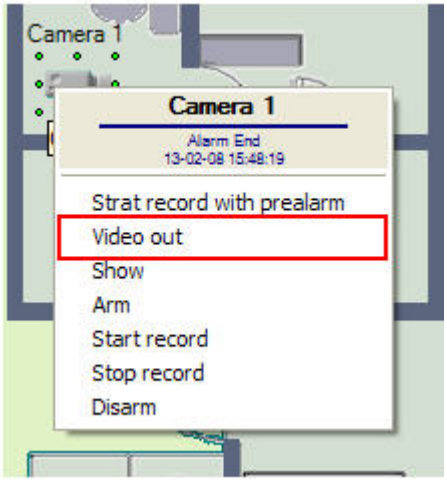
To operate the relay, the Operator uses the map (see the Operations with the relay(see page 204) section) or pre-defined macro commands (**Run** menu in the main control panel).

4.8 Video surveillance using an analog monitor

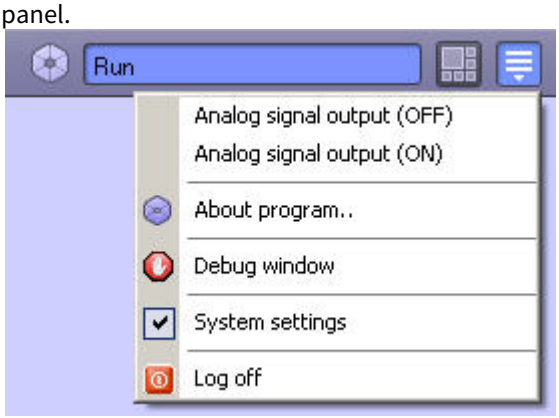
Where the program is configured in a certain way, an analog video image can be output to the external devices connected to the system (for instance, to the analog monitor).

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.

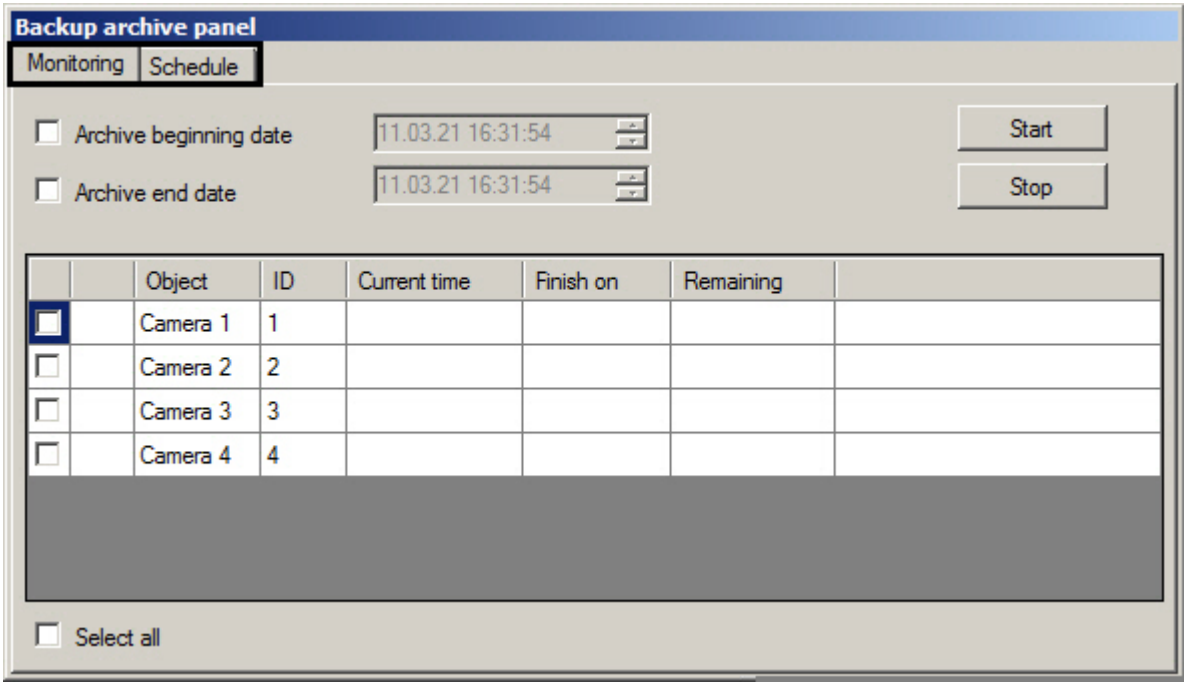
The availability and names of the macro commands in the **Run** menu used to switch on and off the analog signal output to the external devices, depends on the program configuration.

4.9 Copying video sequence to the Backup archive

4.9.1 General information about copying video sequence to the Backup archive

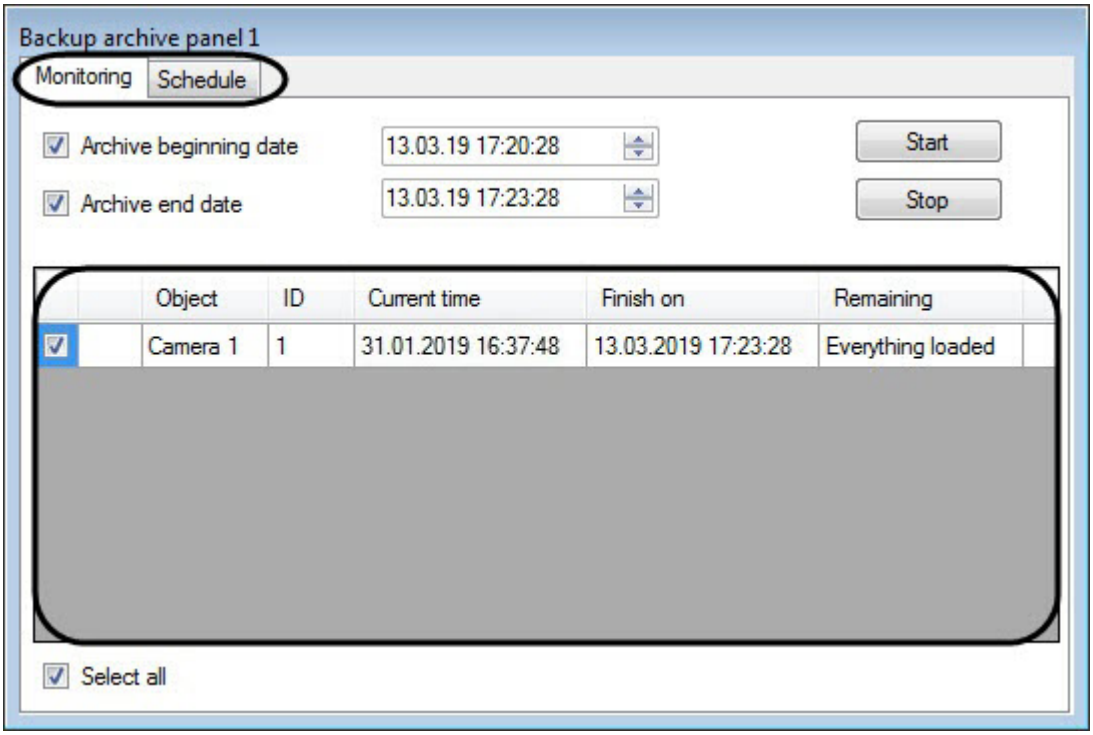
Video sequences may be copied to the Backup archive both manually and automatically using the Backup archive panel.

The **Monitoring** tab is used for manual control of the Backup archive, whereas the **Schedule** tab is used to set parameters for automated operation of the Backup archive.



4.9.2 Backup archive monitoring

Backup archive monitoring and control uses the **Monitoring** tab on the Backup archive panel.



The table shows the copying status data for all the available cameras. Information in the columns may differ depending on the copying mode, manual (see page 207)or automated(see page 208) (see the table below).

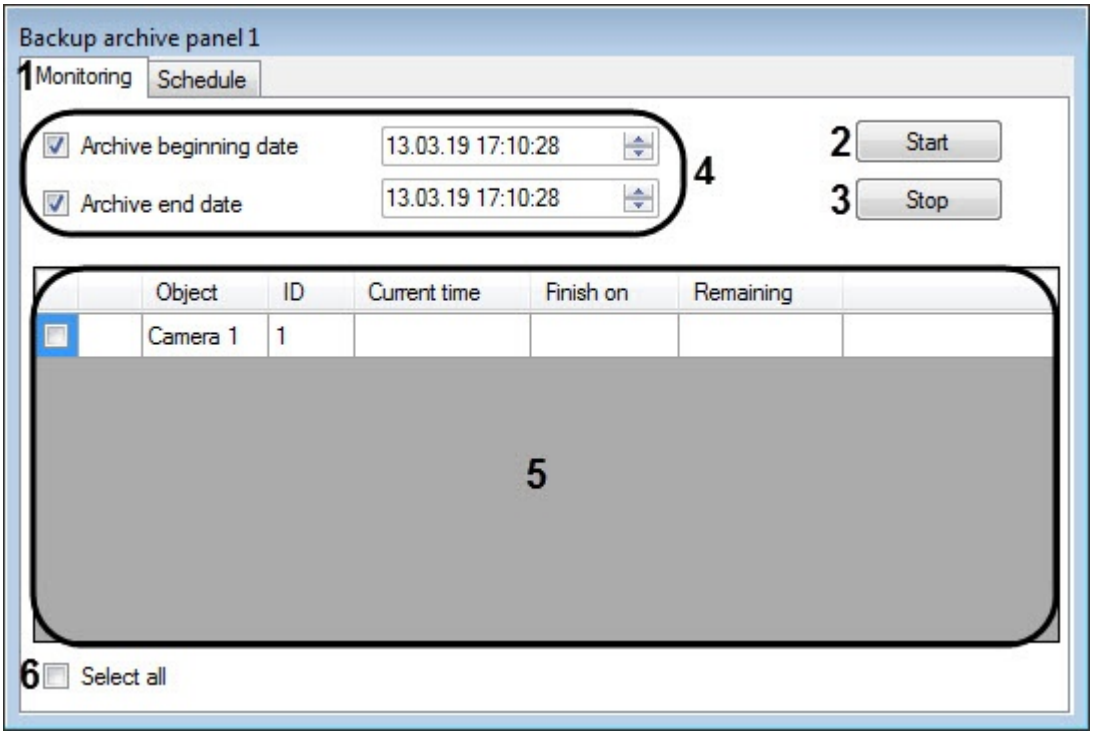
	Manual	**Automated**
Object	Camera name	
ID	Camera identification code	
Current time	Date and time of the archive frame currently under processing	
Finish on	Date and time of the last archive fragment to be transferred to the Backup archive	Date and time set in the **Archive end date** field
Remaining	Number of days left to process (end time minus current time)	

Time in **Finish on** and **Remaining** columns do not depend from status of archive copying and continue to count even after copying completion in the manual mode or after copying stop by schedule.

The  symbol near the camera shows that recordings of the given camera are currently copying.

4.9.3 Manual copying

Manual copying uses the **Monitoring** (**1**) tab.



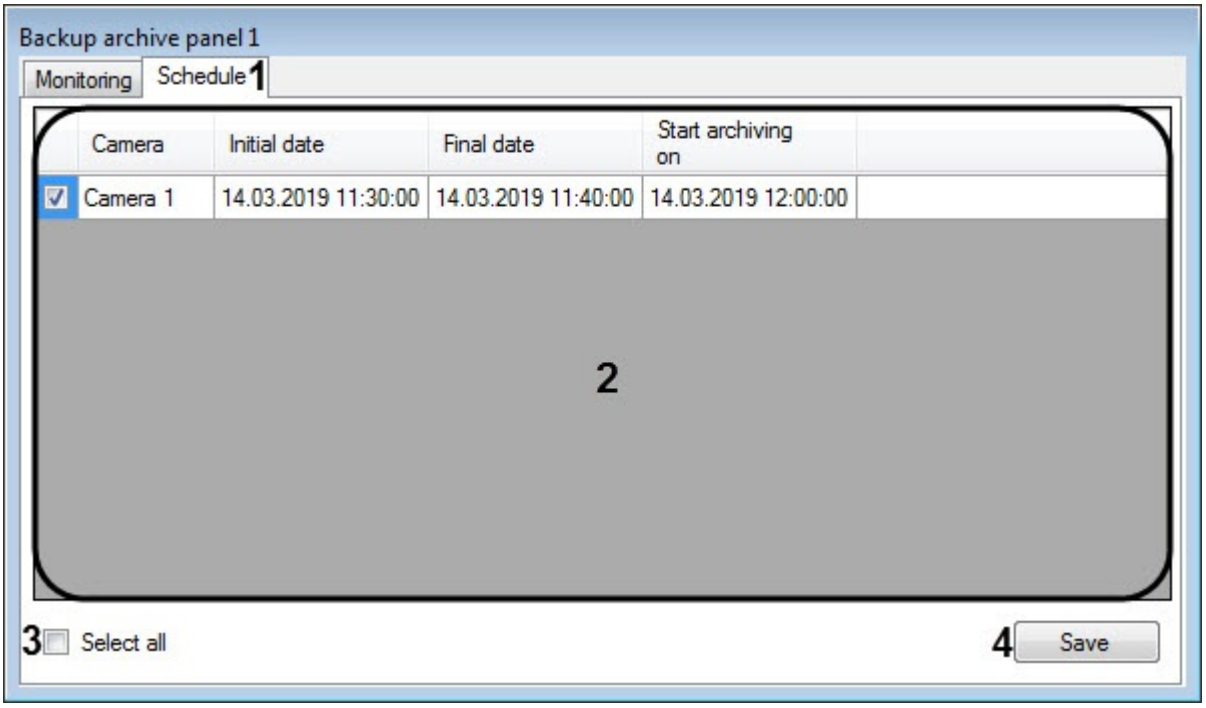
Manual copying can be started and stopped using the **Start** (**2**) and **Stop** (**3**) buttons, correspondingly. Elements for setting time intervals for copying recordings of all available cameras can be found to the left of the copying controls (**4**).
To start copying, the following steps should be performed:

1. Set date and time to start and stop copying. If the start and stop date and time for copying are not identified, all recordings from the pre-defined cameras will be copied to the Backup archive.
2. Select the cameras, whose recordings will be copied. To select cameras, check the corresponding boxes (**5**). In addition, the **Select all** (**6**) checkbox is used to select (or cancel the selection) all cameras in the table concurrently.
3. Initiate copying by clicking **Start**. After a short delay,  appears to confirm that recordings of the selected cameras are now copying.
4. To stop copying, click **Stop**.

> **Note.**
>
> Copying may be significantly delayed after **Start** has been pressed.

4.9.4 Automated copying

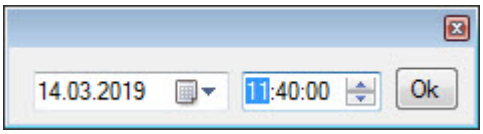
Automated copying is configured with the **Schedule** (**1**).



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

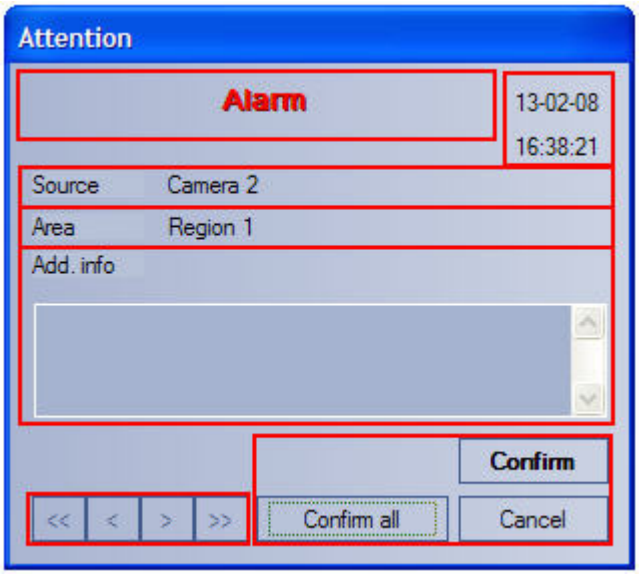
The events registered by the system can be controlled and processed by the Operator using the following:

- Alarm notification window
- Event log
- Operator protocol
- Incident manager

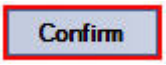
In addition, there is an option for fast creation and printout of reports from the log of events registered by the system based on pre-defined criteria.

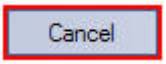
4.10.1 Events control and processing using the alarm notification window

An Operator can recieve on-line notifications whenever the system registers any alarm or information events, if the program is set appropriately. Where this function is on, an alarm notification window appears as soon as the system registers any alarm or information event.



The appearing alarm notification window shows 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 pressing the 

button or cancel it using the 

button. Accepting the event, the 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 hides. 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 event browsing controls:

1. 

Transfer to the first notification in line
2. 

Transfer to the last notification in line
3. 

Transfer to the previous notification in line
4. 

Transfer to the next notification in line

In addition, all notifications in line can be confirmed immediately by pressing 

.

4.10.2 Event control via Event Viewer

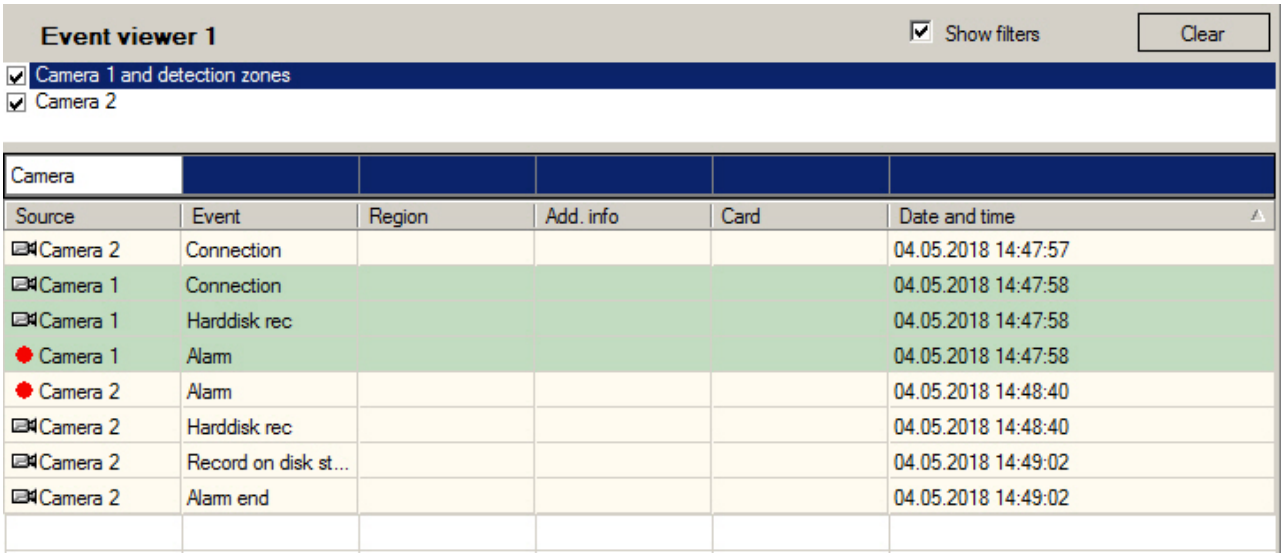
On the page:

- The filters(see page 211)
- Operations with the event list(see page 212)
- Event source objects(see page 213)

All events registered in the system or those events that match preconfigured filters are displayed in the Event viewer.

Important!

A blank filter (i.e. filter with blank columns) is to be created 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[128].



4.10.2.1 The filters

The **Show filters** checkbox opens the list of filters configured while system setup (see Administrator's Guide(see page 211), the Configuring event filters for displaying in the Event viewer[129] section). To activate the filter, set the checkbox next to it's name. Several filters can be activated simultaneously. When the filter is selected in the Event viewer, only the events that match the filter are displayed. If no filter is selected, then all events for all objects in the system are displayed.

128 https://doc.axxonsoft.com/confluence/display/Int411en/Configuring+event+filters+for+displaying+in+the+Event+viewer
129 https://doc.axxonsoft.com/confluence/display/Int411en/Configuring+event+filters+for+displaying+in+the+Event+viewer

Filter selection and filter display setting are stored at *Intellect* restart, i.e. if some filters are selected and filters list is hidden, then events according to those filters are displayed in the Event Viewer after *Intellect* restart.

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 Enter.

4.10.2.2 Operations with the event list

The event log window shows a table containing a list of events registered by the system, which are broken down according to object type. Object types, registered events for which are displayed in the event log, as well as the number of events simultaneously displayed within one event window, are specified at the system configuration stage.

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. In this case, when changing the filters, sorting is saved. 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 box and it is marked. When the event (different from the last one) is marked, 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 is marked out in the list. 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 3 minutes. This time can be changed using the UserActivityTimeout registry key - see Registry keys reference guide[130].
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

130 https://doc.axxonsoft.com/confluence/display/Int411en/Registry+keys+reference+guide

Description	Source object of the event. *Note. The information in this column is received from the objid column of the dbo.PROTOCOL table of the Intellect database.*	Event name. *Note. The information in this column is received from the action column of the dbo.PROTOCOL table of the Intellect database.*	Conventional field (region) of the event source object location. *Note. The information in this column is received from the region_id column of the dbo.PROTOCOL table of the Intellect database.*	Additional information describing the event (if any). *Note. The information in this column is received from the param0 column of the dbo.PROTOCOL table of the Intellect database.*	Card code for the access-related events (i.e. ACCESS_IN). *Note. The information in this column is received from the param3 column of the dbo.PROTOCOL table of the Intellect database.*	Date and time of the event. *Note. The information in this column is received from the date column of the dbo.PROTOCOL table of the Intellect database.*
	For details about the dbo.PROTOCOL table, see Base Intellect database tables[131].					

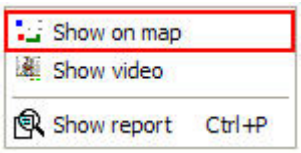
Additionally, a symbol near the source object of the event reflects the current status of the given source object.

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

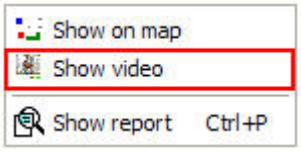
> **Note.**
>
> After the Event viewer is cleared and if hidden events are to be displayed again, then *Intellect* is to be restarted with the **Load protocol** checkbox set checked (see Event viewer parameters[132] section in Administrator's Guide(see page 211)).

4.10.2.3 Event source objects

To show the actual location of the source object of the event, use **Show on map** function in the source object menu. As soon as this function is on, the map depicting the location of the given source object is displayed (see the Working with the map(see page 237) section). The corresponding object is highlighted with green dots and marked with concentric black-and-white circles.

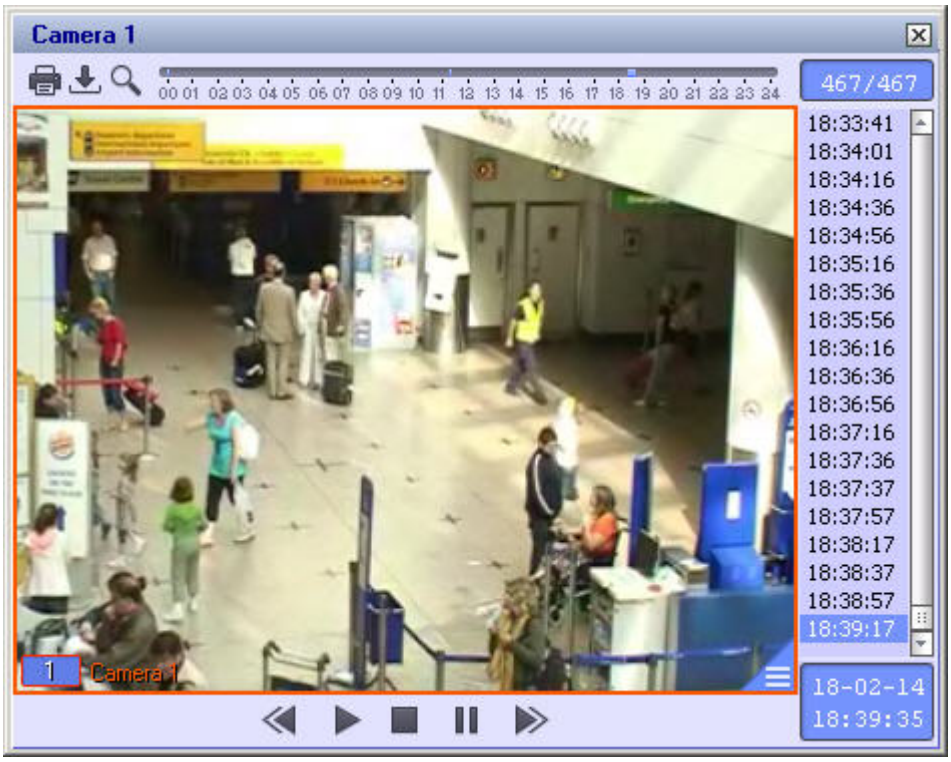


To play the video sequence of the event from the event source camera, use the **Show video** function in the source object menu.



131 https://doc.axxonsoft.com/confluence/display/Int411en/Base+Intellect+database+tables
132 https://doc.axxonsoft.com/confluence/display/Int411en/Event+viewer+parameters

The camera window pops up in the archive playback mode.

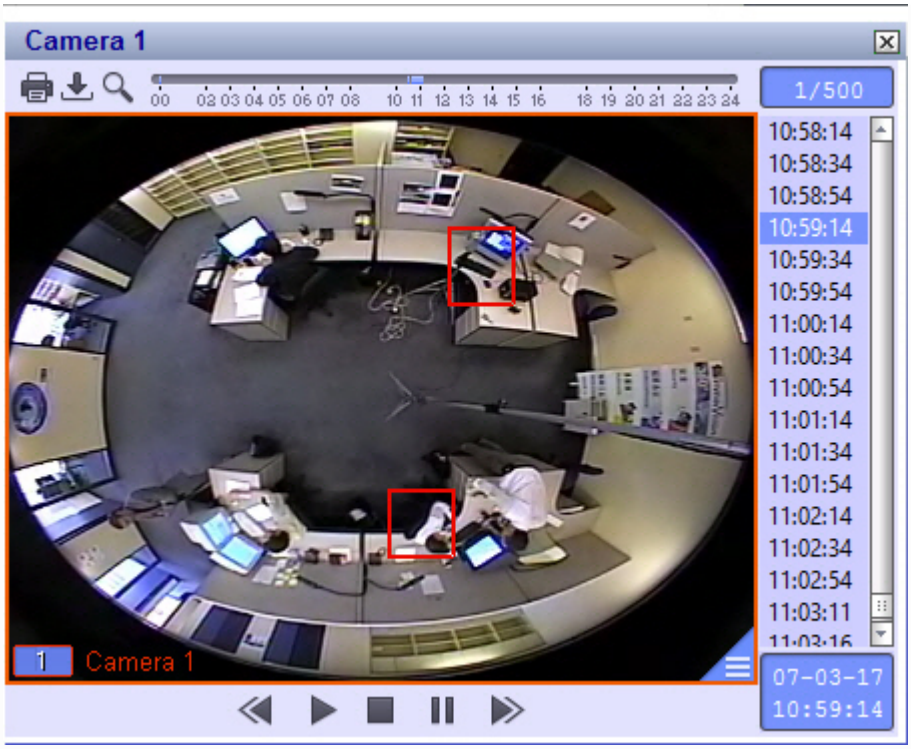


The current playback position will be set to the position corresponding to the video recording start time.

Note.

If the detection of abandoned objects is configured (see the Configuring smart video detection tools[133] section of the Administrator's Guide(see page 211)), abandoned objects are framed in the video when the playing back the video.

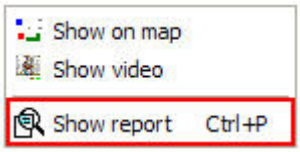
133 https://doc.axxonsoft.com/confluence/display/Int411en/Configuring+smart+video+detection+tools



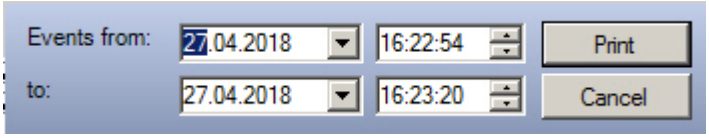
4.10.2.4 Generation, printout and export of the registered events report using Event Viewer

Event Viewer allows for the expedient generation and printout of the event list based on the specified criteria.

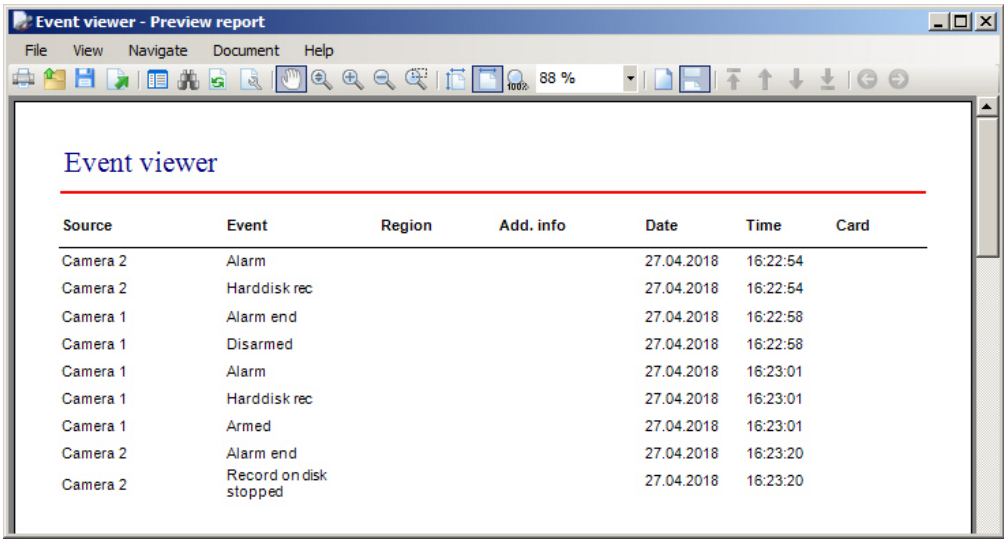
To generate and printout a report, select the **Show report** function in any source object menu in the table or press simultaneously **Ctrl + P**.



Specify the start and completion date and time of the event, which will be used in the report.



As soon as you press the **Print** button, the preview window of the generated list of events appears, 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 oldest 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, the newest displayed event.



The appearing window will show the generated report as it will be printed out.

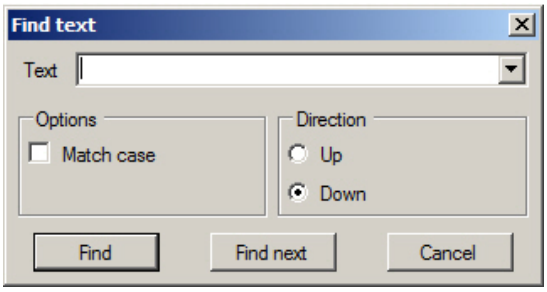
> **Note.**
>
> If the **Region** and/or **Card** columns are hidden in the **Event Viewer** window according to settings, they will be included into the report nevertheless.

The upper part of the window displays a tools panel with the report control elements:

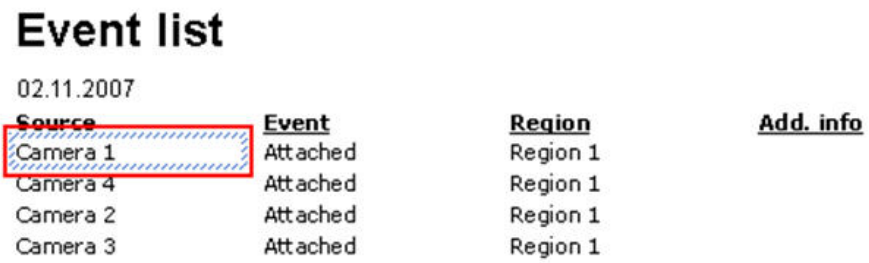
1. Page 1 of 1 Set of elements for browsing report pages
2. Report printout and print pre-setting
3. Report export
4. 239 % Report display scale
5. Search through the report text

Browsing through the report uses the following set of elements Page 1 of 1 . Report view scale is specified using 239 % .

Click to search through the report text. The Find text dialog box opens to set up the parameters: search string, case sensitivity, search direction.



Click **Find** to run the search or **Find next** to go to the next result. Found items will be highlighted in the report text.

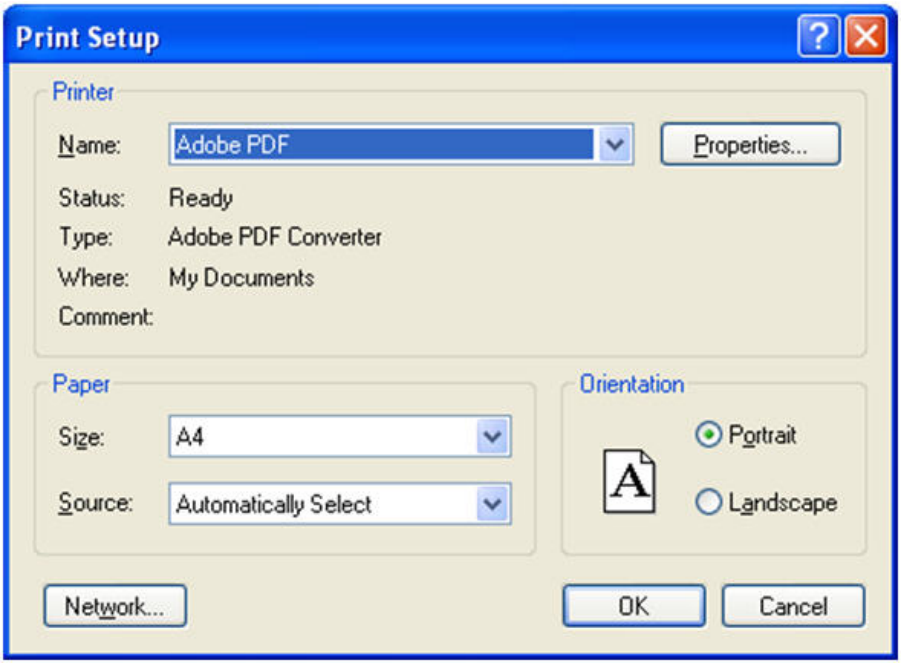


Event list

02.11.2007

Source	Event	Region	Add. info
Camera 1	Attached	Region 1	
Camera 4	Attached	Region 1	
Camera 2	Attached	Region 1	
Camera 3	Attached	Region 1	

To send the generated report for printing, press . A standard dialog box opens for print pre-setting.



Note.

Standard dialog box **Print** (OS Windows) does not refer to the *Intellect* system and is a Windows system dialog box.

Additionally, the report may be exported to a specified file format, saved to a disk, opened in an associated application or sent by e-mail. To export the report press . A standard dialog box opens to save the file. 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 controlled through the associated applications and do not depend on the *Intellect* system.

4.10.3 Event processing using the Operator protocol

On the page:

- Current events(see page 219)
- Checklist(see page 220)
- Assigning a type to the event(see page 220)
- Frames, archive and the Map(see page 221)

Events are processed in the **Current events** tab of the Operator protocol. The examples of the tab display:





4.10.3.1 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.

Depending on the Operator protocol configuration, current events can be displayed as of cells or lines (see Operator protocol(see page 37)).

The number of horizontal cells is determined by the Operator protocol window width. 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.

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.

If one or several events are selected by the Operator, then their position in the Operator protocol 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.

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[134]). 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.

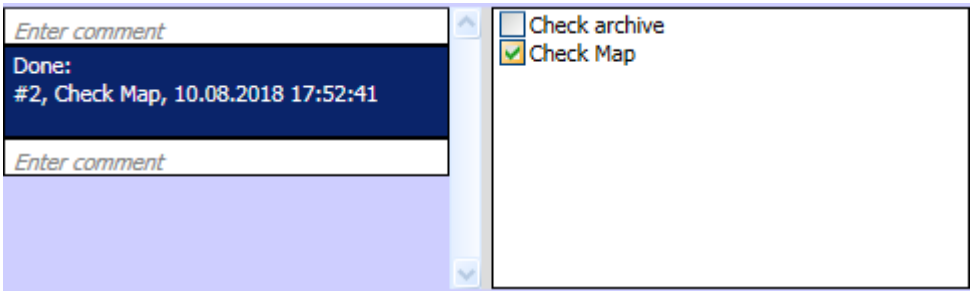
134 https://doc.axxonsoft.com/confluence/display/Int411en/Connection+of+objects+with+cameras

Note.

Temporary images (event screenshots) are stored in C:\Users\<User name>\AppData\Local\Temp\OperatorProtocol. They are automatically deleted at normal Intellect shutdown or restart.

4.10.3.2 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.



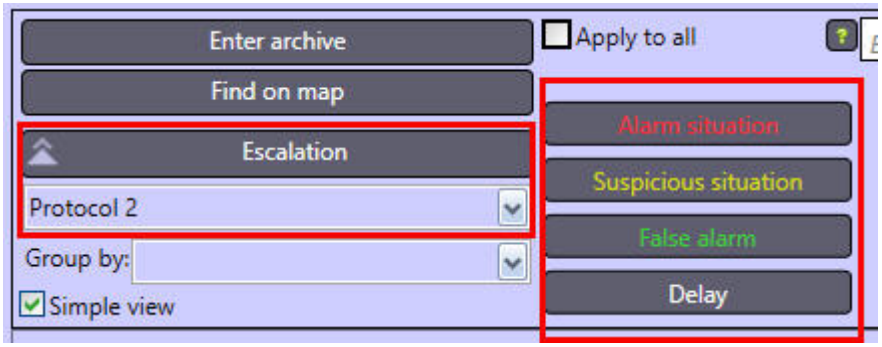
4.10.3.3 Assigning a type to the event

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 may not be available until a comment is entered if the corresponding setting is enabled. If the helping guides were added during the Operator Protocol configuration, you can click the  button and open the helping 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.

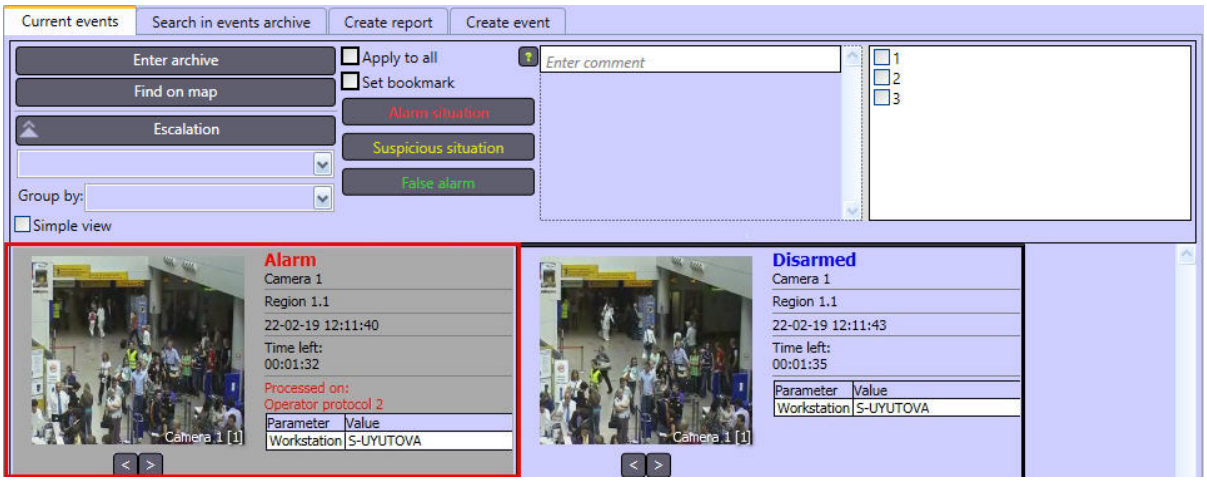
The button names can be changed during the Operator Protocol configuration.



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 for camera boxes[135]), 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 processes) is not removed from other Operator protocols when configuring the Operator protocol (see Setting the options for handling events in the Operator protocol[136]), then the processed event is marked grey in other Operator protocol windows. But other operators can process this event once again.



Note.

If all non-processed events are to 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 in other Operator protocols.

Note.

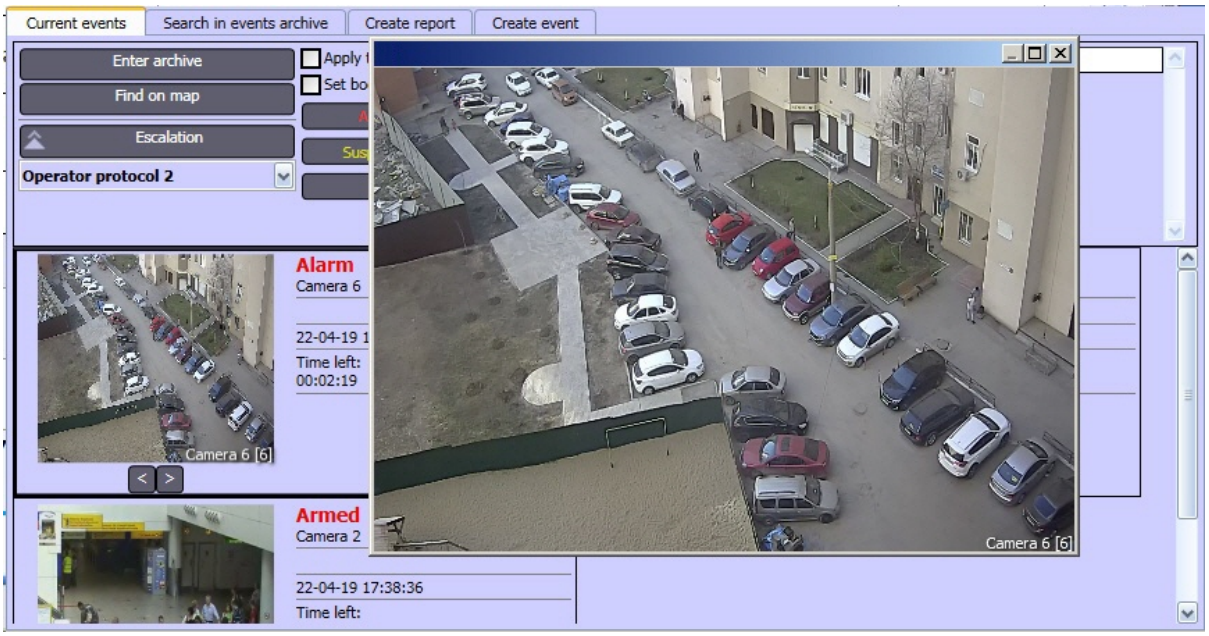
If the time of waiting the respond from operator (specified in the settings of the **Operator protocol** object) (see Administrator's Guide(see page 218)) is exceeded, then the event is escalated and if the chief interface is not assigned to the Operator protocol, then it is removed from the **Current events** tab and the **Non-processed** type is assigned. When Intellect is restarted, the non-processed events are saved.

4.10.3.4 Frames, archive and the Map

If the bookmark for the selected events is to be created in the archive, then set the **Set the bookmark** checkbox checked before processing the event. The comment will be used as the bookmark name. See List of bookmarks(see page 144).

135 https://doc.axxonsoft.com/confluence/display/Int411en/Configuring+the+display+mode+for+camera+boxes
136 https://doc.axxonsoft.com/confluence/display/Int411en/Setting+the+options+for+handling+events+in+the+Operator+protocol

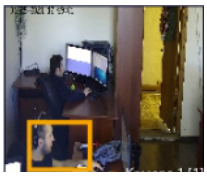
If the events are displayed as cells, then the frame of the moment of alarm (screenshot of the event) can be enlarged. To do this, double left-click on it. The window with zoom-in frame appears. This window can be moved around the screen by dragging the title bar with the left mouse button; in this case, the position of the window will be remembered 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

The window with enlarged alarm frame may not appear if the corresponding value is set for the hide_image_preview registry key (see Registry keys reference guide[137]).

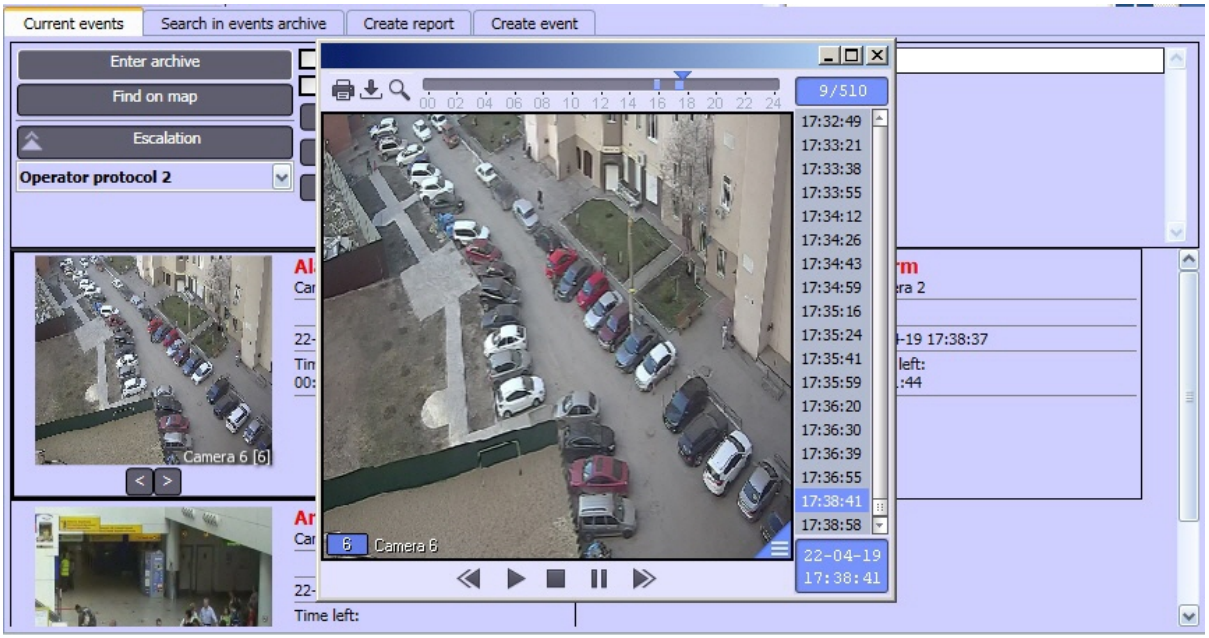
If the **Tracker** object is created and configured[138] for the camera, the objects displaying on the image is enabled and metadata source is *VideoIntellect*, the frames around detected objects may be shown on the frame. The frame color and thickness can be changed by RectColor and RectLineWidth registry keys (see Registry keys reference guide[139]).



Also, if captions are configured for the camera[140], then the event screenshot may 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[141]).

137 https://doc.axxonsoft.com/confluence/display/Int411en/Registry+keys+reference+guide
138 https://doc.axxonsoft.com/confluence/display/Int411en/Creating+and+configuring+the+Tracker+object
139 https://doc.axxonsoft.com/confluence/display/Int411en/Registry+keys+reference+guide
140 https://doc.axxonsoft.com/confluence/display/Int411en/Configuring+the+captions+showing
141 https://doc.axxonsoft.com/confluence/display/Int411en/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 remembered 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 video display method was selected, then the required camera(s) will be displayed on the selected Video Surveillance 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[142]).

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.



4.10.3.5 Creating events using the Operator protocol

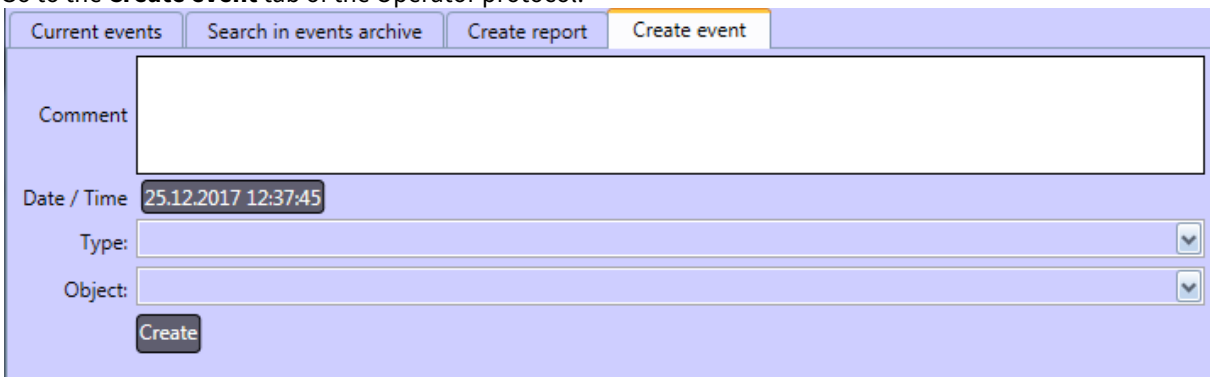
The function of creating events using the Operator protocol allows generating alarm events manually. This function is used, for example, when the event in the frame was not detected by standard means but is to be in the archive.

142 https://doc.axxonsoft.com/confluence/display/Int411en/Registry+keys+reference+guide

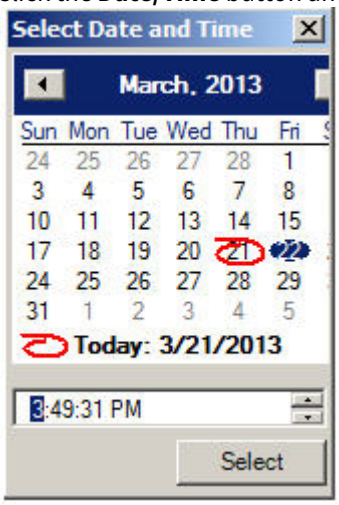
There is **Created by Operator** message in the **Initial Event** column when displaying events created this way (see Search in events archive(see page 227)).

To create an event, do the following:

1. Go to the **Create event** tab of the Operator protocol.



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.



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(see page 100) section).

The event is now created.

4.10.3.6 Creating report by events logged using the Operator protocol

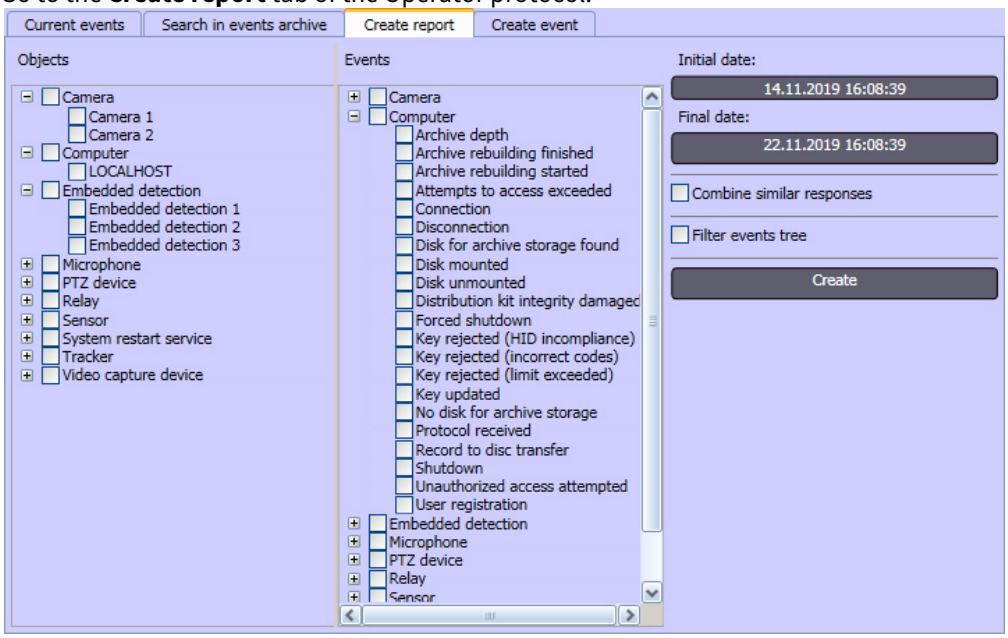
In *Intellect* software one can create reports by events logged using the Operator protocol.

Note.

A report by operator actions can also be created – see Search in events archive(see page 227).

To create a report, do the following:

1. Go to the **Create report** tab of the Operator protocol.



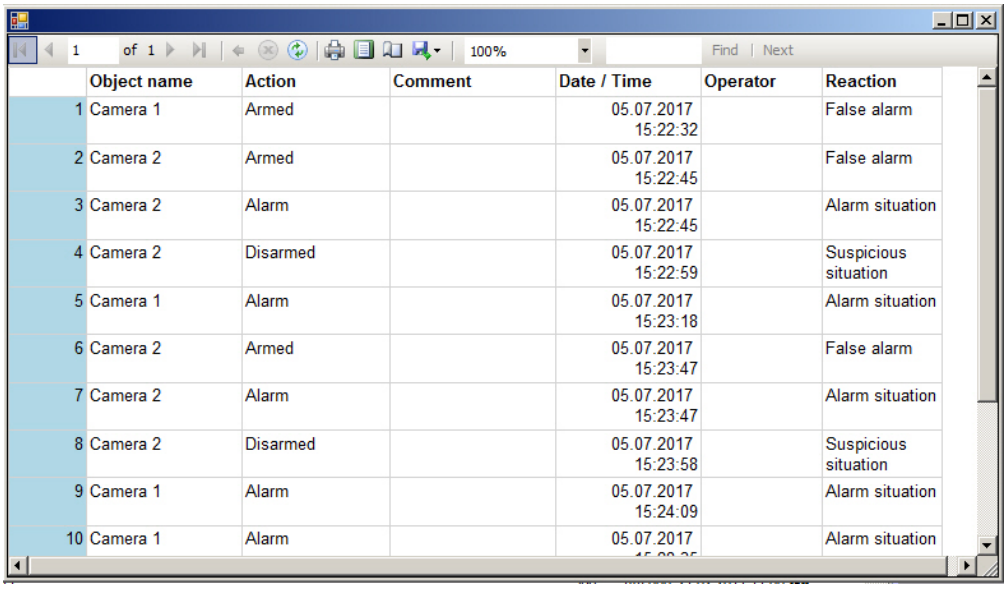
2. In the left column, set the checkboxes next to the objects the events from which are to be in the report.
3. Set the checkboxes next to the events the data on which are to be in the report.

   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 1	Armed		05.07.2017 15:22:32		False alarm
2	Camera 2	Armed		05.07.2017 15:22:45		False alarm
3	Camera 2	Alarm		05.07.2017 15:22:45		Alarm situation
4	Camera 2	Disarmed		05.07.2017 15:22:59		Suspicious situation
5	Camera 1	Alarm		05.07.2017 15:23:18		Alarm situation
6	Camera 2	Armed		05.07.2017 15:23:47		False alarm
7	Camera 2	Alarm		05.07.2017 15:23:47		Alarm situation
8	Camera 2	Disarmed		05.07.2017 15:23:58		Suspicious situation
9	Camera 1	Alarm		05.07.2017 15:24:09		Alarm situation
10	Camera 1	Alarm		05.07.2017		Alarm situation

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. 

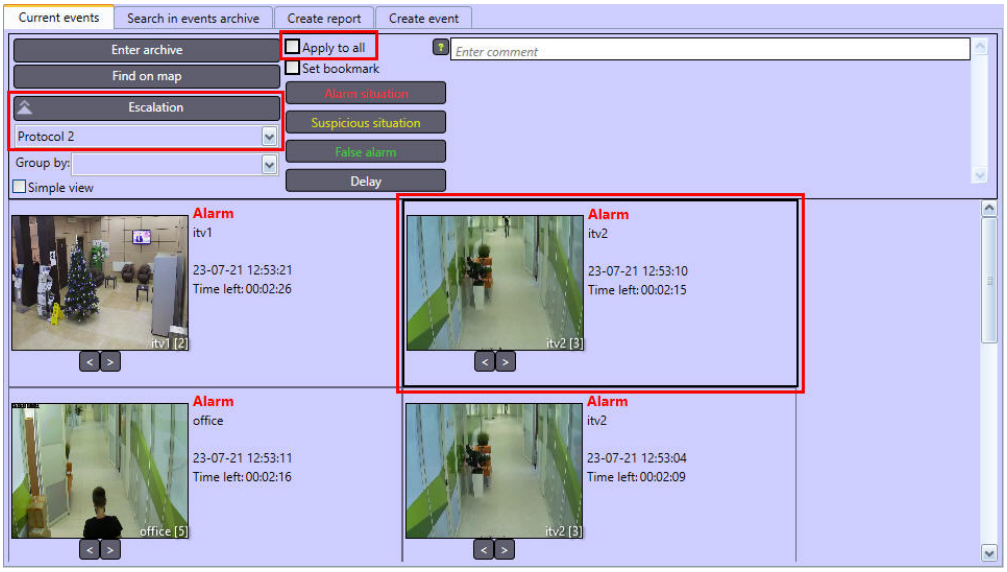
Searching over the report

4.10.3.7 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.

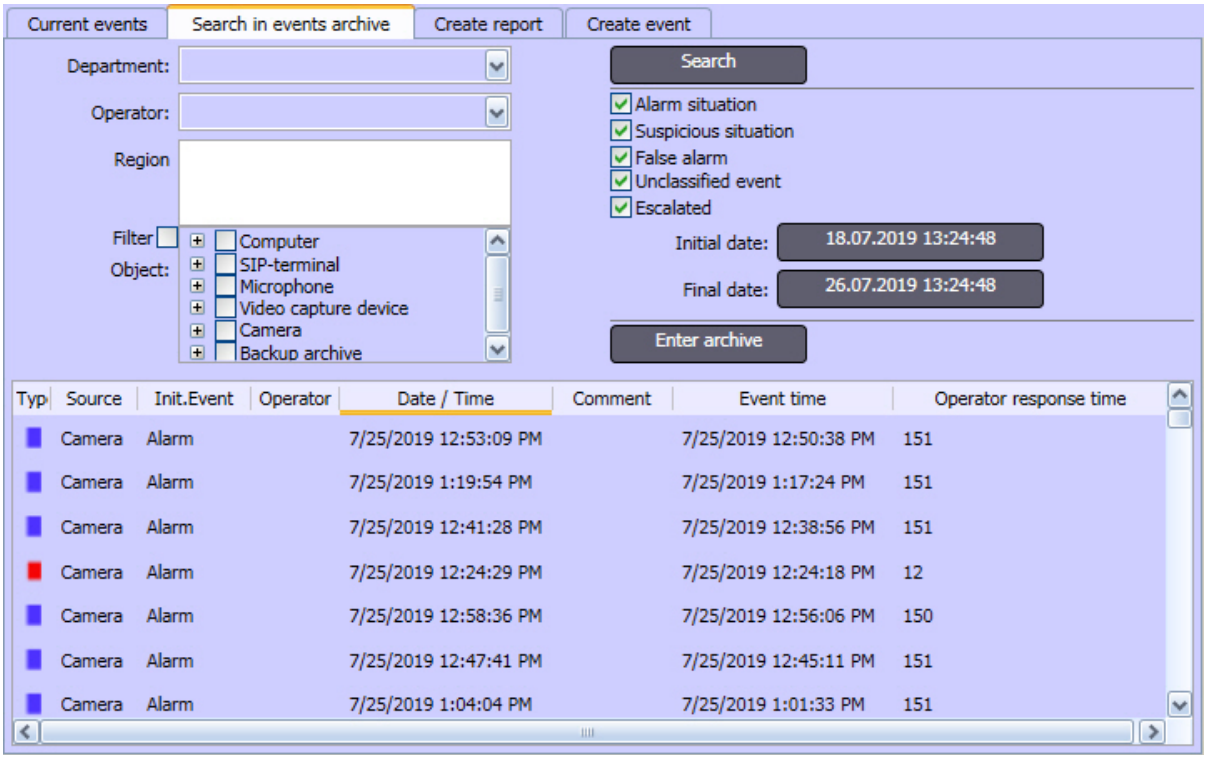
> **Note**
>
> If the events are grouped, then when you select a line with an unexpanded group, all events from this group will be selected.

4.10.3.8 Search in events archive

A report by operator actions includes info on assigning events with a type, escalation and missing events.

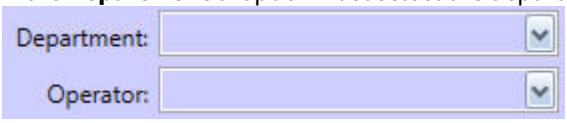
> **Note.**
>
> A report by events themselves can also be created – see Creating report by events logged using the Operator protocol(see page 224).

Creating a report by operator actions is performed in the **Search in events archive** tab of the Operator protocol.

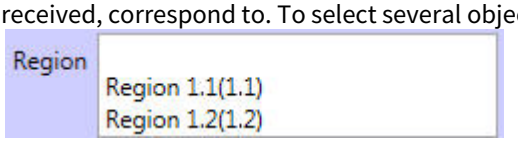


To create a report by operator actions, do the following:

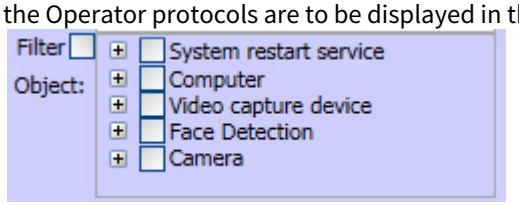
1. In the **Department** dropdown list select the department which the operator belongs to.



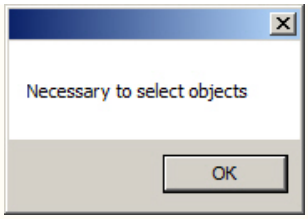
2. In the **Operator** dropdown list select the operator that processed the required events.
3. In the **Region** dropdown list select one or several Region objects the objects, from which the events are received, correspond to. To select several objects hold the Ctrl key and left click the required regions.



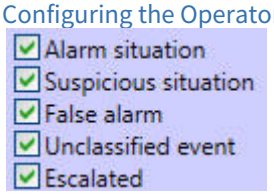
4. In the **Object** list select the object by which the search of events will be performed. If only objects added to the Operator protocols are to be displayed in the list, then set the **Filter** checkbox checked.



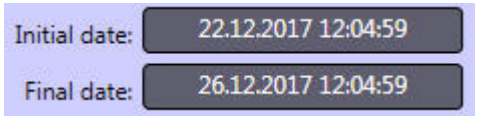
> **Important!**
>
> If none of the objects has been selected, the report cannot be created and the corresponding message is displayed:



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 Operator protocol interface[143].



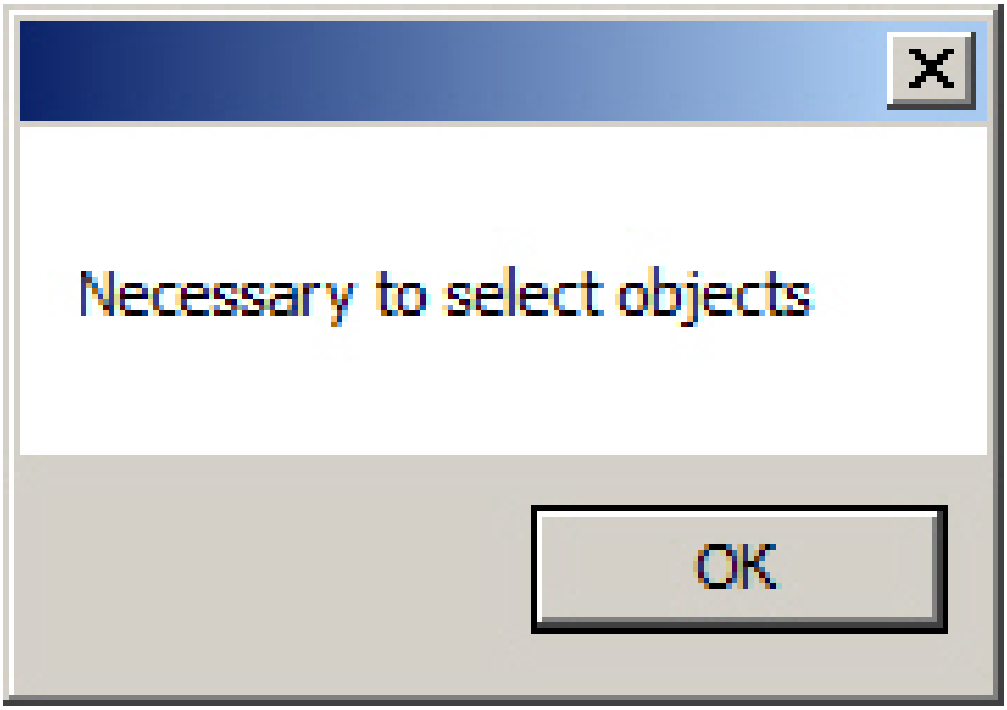
6. Set the time period of search by specifying the initial and final date using the **Initial date** and **Final date** buttons.



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.



143 https://doc.axxonsoft.com/confluence/display/Int411en/Configuring+the+Operator+protocol+interface

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.

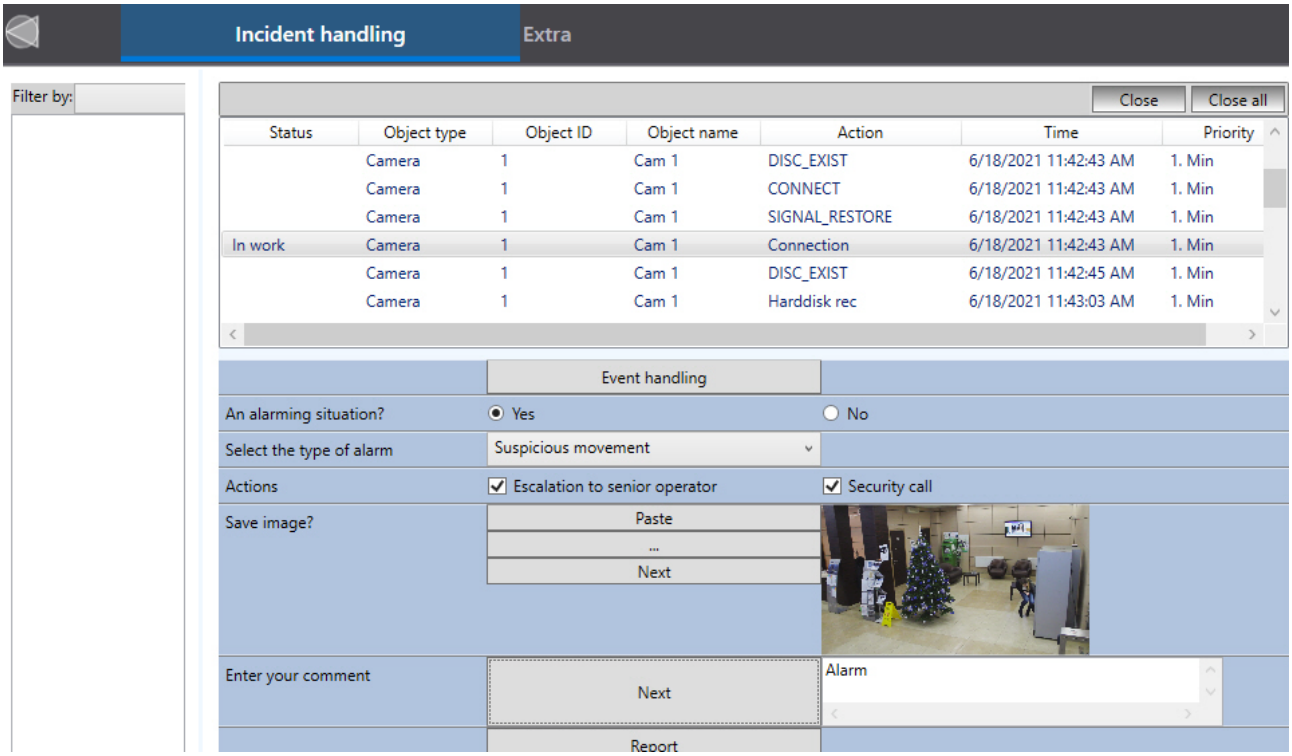
4.10.4 Events control and processing using the Incident manager

On this page:

- Viewing events(see page 231)
- Filtering events(see page 231)
- Grouping events(see page 232)
- Event statuses(see page 233)
- Processing events(see page 233)
- Escalating events(see page 235)
- Closing events without processing(see page 236)
- Displaying video and object on the map(see page 236)

The Incident manager interface consists of three parts:

1. Event grouping interface.
2. Table with a list of events.
3. Event handling interface.



4.10.4.1 Viewing events

The following information is displayed for each event:

1. Status.
2. Object type.
3. Object ID.
4. Object name.
5. Action.
6. Time — time the event occurred.
7. Priority.
8. Time (sec) — the number of seconds since the event occurred.
9. Last comment.

Events can be sorted by any column in forward and reverse order. To sort, click on the required column once or twice.

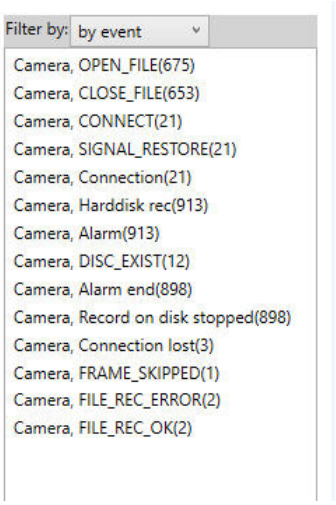
4.10.4.2 Filtering events

Filtering events sets the event filters by specified parameters in the table with the events list. Possible filtering options are set in the Configuring the events filtering and grouping in Incident manager[144]:

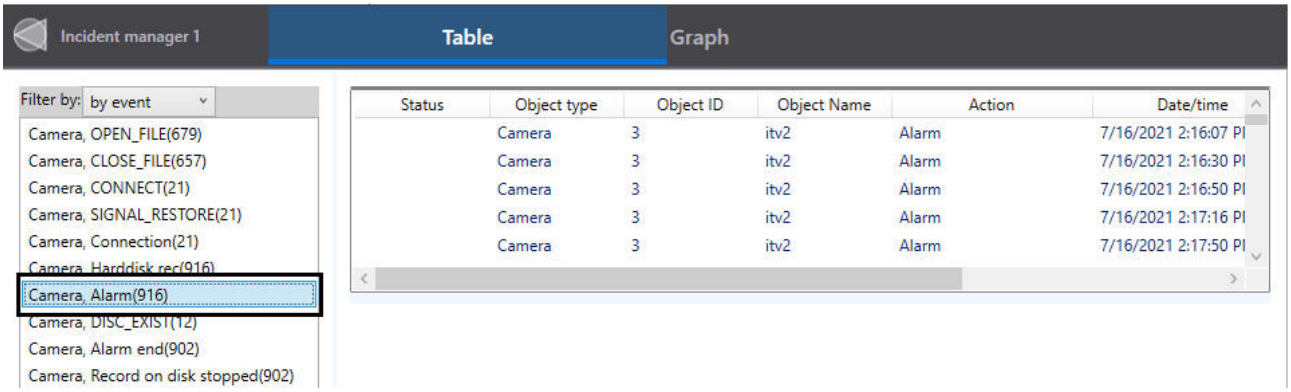
1. **null** - filtering is disabled, all events are displayed in the list.
2. **by region** - events are filtered by region.
3. **by event** - events are filtered by event type.
4. **by object** - events are filtered by object.

144 https://doc.axxonsoft.com/confluence/display/Int411en/Configuring+the+events+filtering+and+grouping+in+Incident+manager

After you apply the filter, the events grouped by the selected parameter will be displayed in the filtering interface. The filter name consists of the parameter and the number of events in the group:

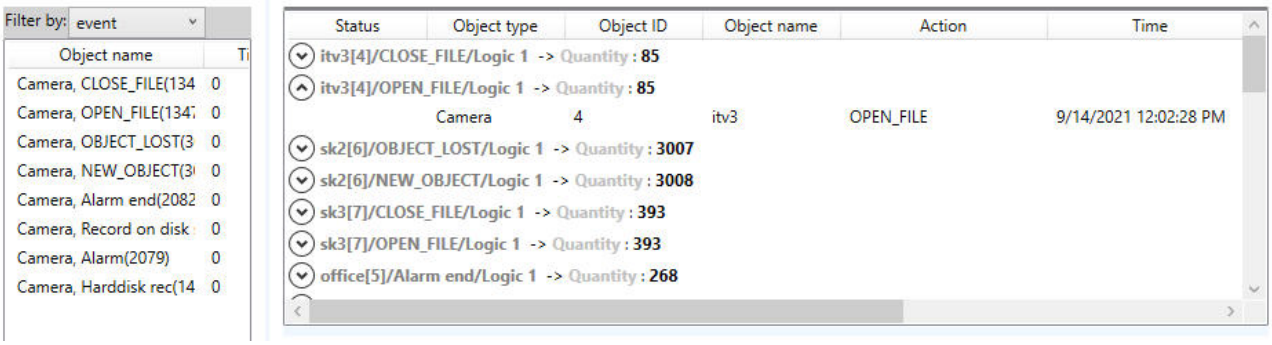


To view the events in the group, click on its name:



4.10.4.3 Grouping events

If event grouping is enabled in the settings (see Configuring the events filtering and grouping in Incident manager[145]), then the events will be grouped by object type / object ID / event type / logic ID.



145 https://doc.axxonsoft.com/confluence/display/Int411en/Configuring+the+events+filtering+and+grouping+in+Incident+manager

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 will be displayed.

4.10.4.4 Event statuses

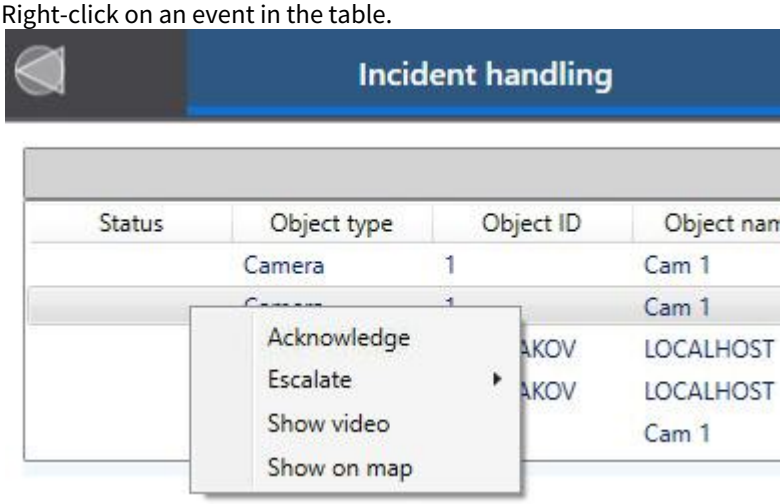
By default, an event in the Incident manager has an empty status. Eventually, an event may receive the following statuses:

1. **Acknowledged**. This status is displayed if an event is being processed.
2. **Suspended**. This status is displayed if the event processing was started but not completed.
3. **Taken by others**. 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 but not completed by another operator.
5. **Escalated**. This status is displayed if the event was escalated by another operator.

4.10.4.5 Processing events

To start processing an event, do the following:

1. Right-click on an event in the table.



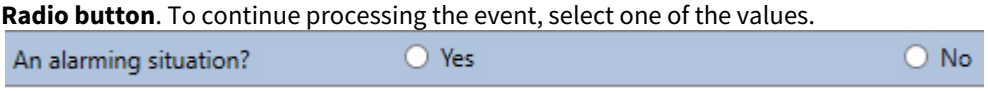
2. Select **Acknowledge**.

After that, the first element will be displayed in the event handling interface. After processing each element, the next element will be displayed. The last element will always be the button. There are 6 different types of elements available:

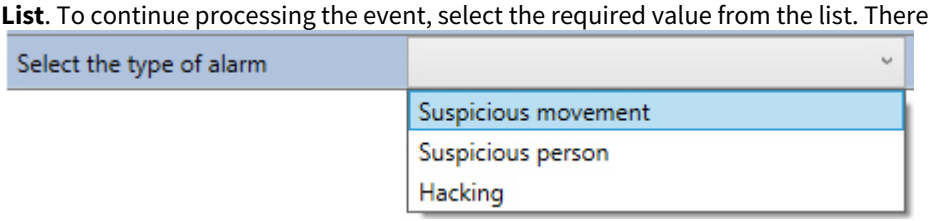
1. **Button**. To continue processing the event, click the button. If this element is the last in the logic, then after clicking the button, the event processing will be completed.



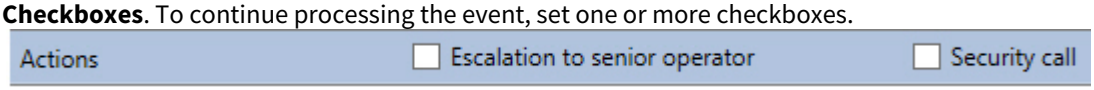
2. **Radio button**. To continue processing the event, select one of the values.



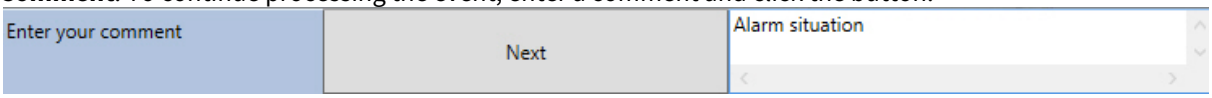
3. **List**. To continue processing the event, select the required value from the list. There can be several lists.



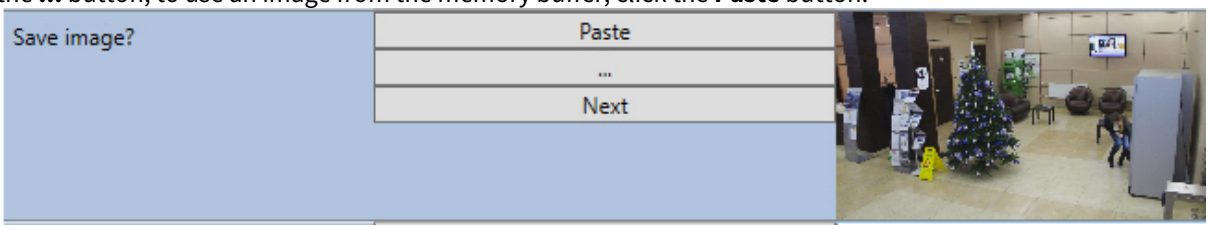
4. **Checkboxes**. To continue processing the event, set one or more checkboxes.



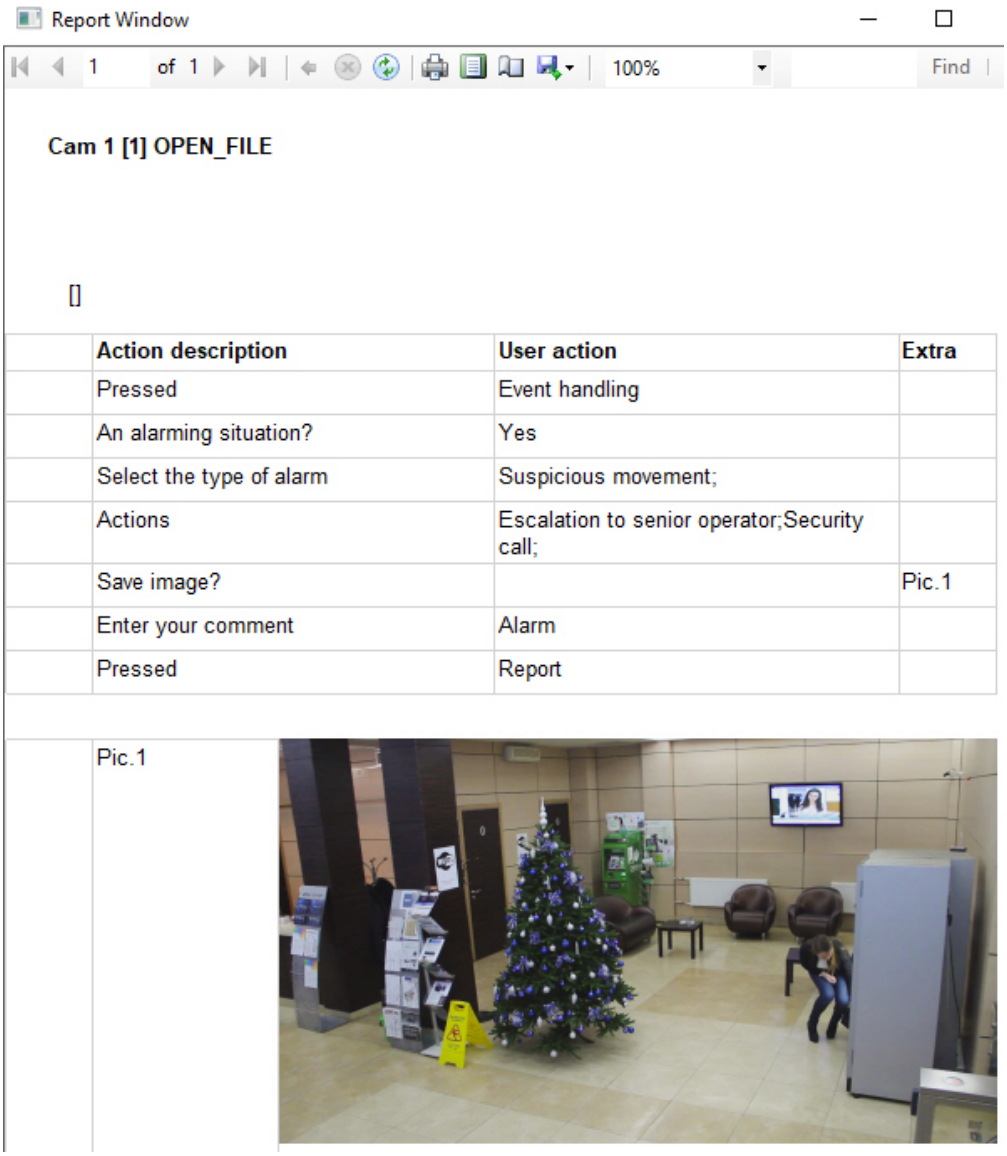
5. **Comment**. To continue processing the event, enter a comment and click the button.



6. **Image**. To continue processing the event, add images and click the bottom button (the **Next** button in the image below). By default, the image specified in the settings is displayed. To select another image, click the **...** button; to use an image from the memory buffer, click the **Paste** button.



After you complete all the stages, the event processing interface will close and, if it was specified in the logic settings, a report will be displayed. To open a report at any time while processing an event, click the **Extra** button.



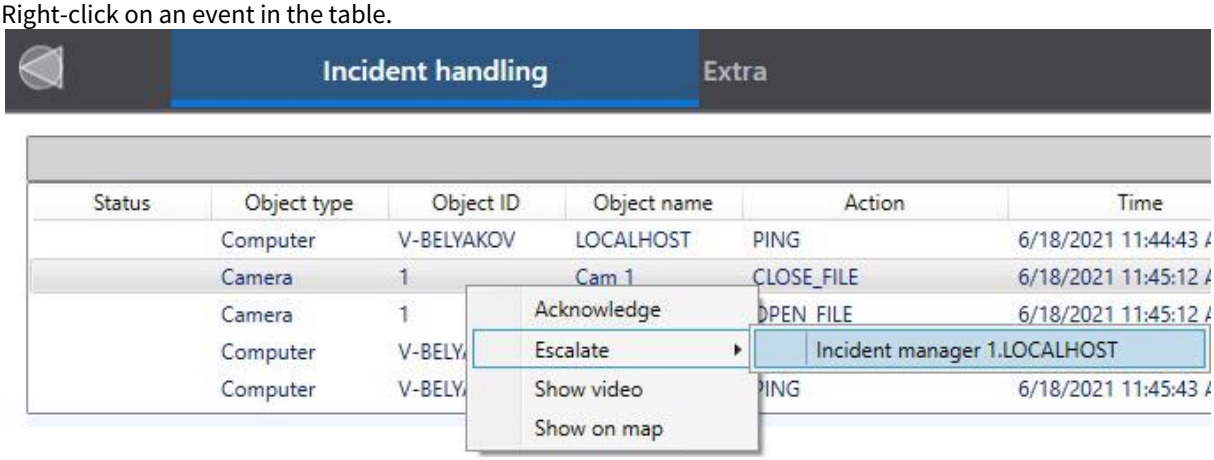
To print a report, click the button, to save a report, click and select one of the acceptable formats: XLS, PDF or DOC.

4.10.4.6 Escalating events

The ability to escalate an event for processing by another operator of the system can be enabled in the settings (see Configuring the main parameters of the Incident manager[146]). Escalate the event as follows:

146 https://doc.axxonsoft.com/confluence/display/Int411en/Configuring+the+main+parameters+of+the+Incident+manager

1. Right-click on an event in the table.



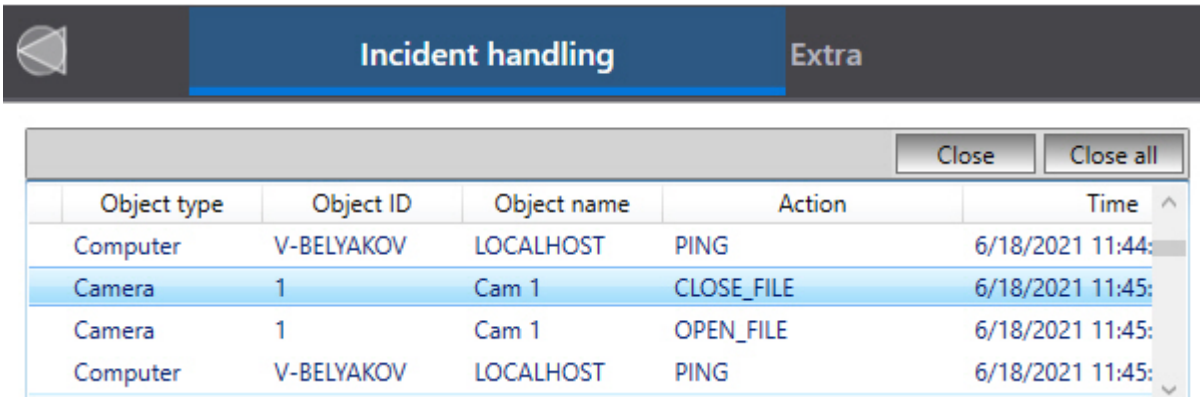
2. Select **Escalate** and then select the required Incident manager interface.

> **Attention!**
>
> The selected Incident manager should be open on the screen, otherwise the event will not be escalated.

After escalation, the event will disappear from the list and will be displayed for another operator with the **Escalated** status.

4.10.4.7 Closing events without processing

If the ability to close events without processing them is enabled in the settings (see Configuring the main parameters of the Incident manager[147]), then 2 buttons are displayed in the upper right corner of the events table:



1. **Close**. It is used to close one event; select the required evet in the table and click this button.
2. **Close all**. It is used to close all events.

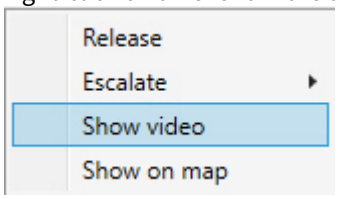
4.10.4.8 Displaying video and object on the map

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:

147 https://doc.axxonsoft.com/confluence/display/Int411en/Configuring+the+main+parameters+of+the+Incident+manager

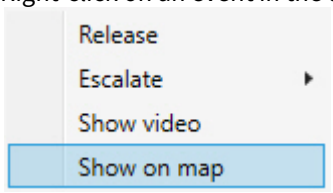
1. Right-click on an event in the table.



2. Select **Show video**.

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[148]).

As a result, the object will be briefly highlighted on the map.



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 designed to monitor and control external system devices (cameras, microphones, sensors, relays).

Security devices are displayed on the map as symbols: each device is described by its status; access to the device functions is provided via the functional menu, which is called up by a right mouse click on the required device image on the Map. Macro commands are also displayed in the Map as symbols, which are started from the functional menu of the given macro command symbol.

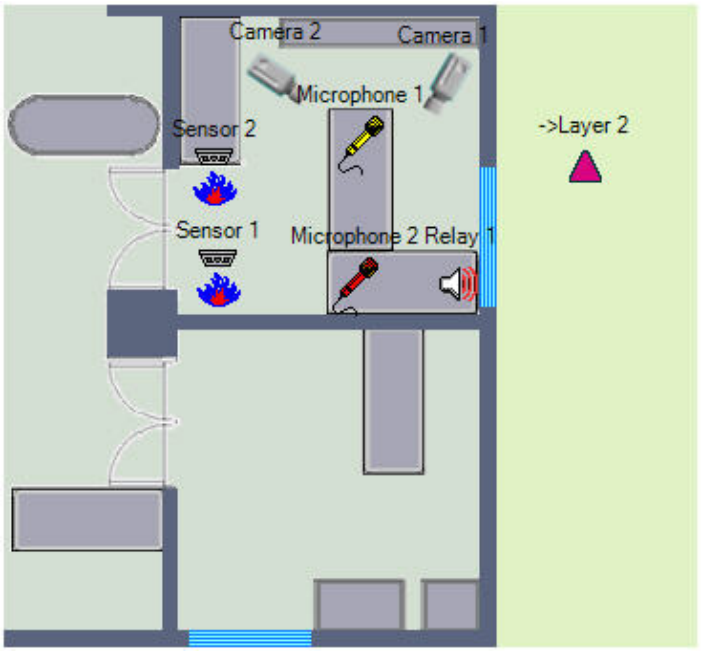
148 https://doc.axxonsoft.com/confluence/display/Int411en/Configuring+the+main+parameters+of+the+Incident+manager

If the distributed system diagram has only one level (for instance, one guarded floor of a building), the Map will consist of one level depicting the system diagram (single level map). If the guarded territory has a few levels (for instance, a multi-floor guarded 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, the level switch-over function shall be provided. To enable this, special links between the Map levels are established at the program configuration stage. To switch between the Map levels use the interlayer link button. Additionally, the interlayer link button shows the device status on the corresponding Map level. In addition, automated switch-over between the Map levels 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 reflected on the Map as symbols (conventional characters, see figure).



The graphic symbol of the device in the Map shows the current status of the given device.

Graphic symbol 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 symbol 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 diminished icons.



Note.

The display of the thumbnails can be disabled at the stage of the system configuration – see Operations with objects in the Map editor utility[149] section in Administrator's Guide(see page 238).

The selected object is framed. If required, the frame can be not shown – set 1 as the AlternativeSelect parameter value – see Registry keys reference guide[150].

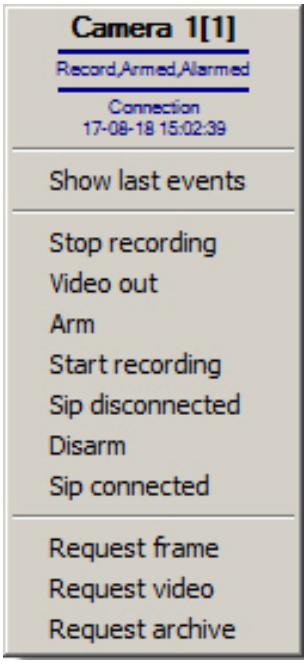
Interlayer links integrated in the given level reflect the status of devices on other Map levels.



Whenever any security device registers an alarm event on any of the existing levels, the interlayer link symbol starts blinking. The interlayer link symbol continues blinking as long as the current registered alarm event is occurring, whereas no other alarm events arise within the given level.

Device functions can be accessed via a functional menu called up by a right mouse click on the symbol of the device shown on the Map. Some functional menu commands are common to objects of different types - see Common commands in the functional menu(see page 240). The example of the functional menu of the **Camera** object is shown in the figure.

149 https://doc.axxonsoft.com/confluence/display/Int411en/Operations+with+objects+in+the+Map+editor+utility
150 https://doc.axxonsoft.com/confluence/display/Int411en/Registry+keys+reference+guide



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 on one of the selected icons.
3. Select an action.

If TouchScreen=1 registry key is set, you can also double left click on an object icon to call the functional menu (see Registry keys reference guide[151] for more details on the key).

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[152]). The tooltip size does not depend on the map scale.



4.11.3 Common commands in the functional menu

Most of the commands available in the object's functional menu on the Map differ depending on the object type. The commands that are common for all or most of the objects are described in the subsections.

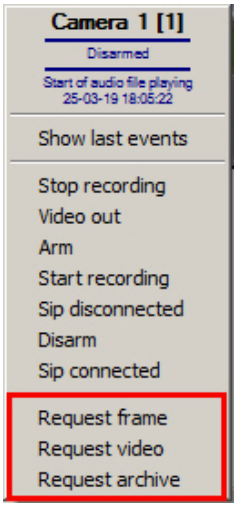
4.11.3.1 Requesting frames or video from the Map

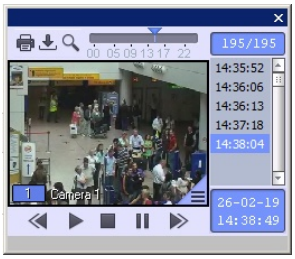
The ability to request frame or live/archive video is disabled by default. It can be enabled while configuring the system – see Enabling the frame or video request function[153].

151 https://doc.axxonsoft.com/confluence/display/Int411en/Registry+keys+reference+guide
152 https://doc.axxonsoft.com/confluence/display/Int411en/Configuring+the+event+tooltips
153 https://doc.axxonsoft.com/confluence/display/Int411en/Enabling+the+frame+or+video+request+function

The frame, live video and archive video can be requested for **Camera** objects as well as for objects linked with cameras (see Connection of objects with cameras[154]).

To request frames and videos, use the following function menu commands:



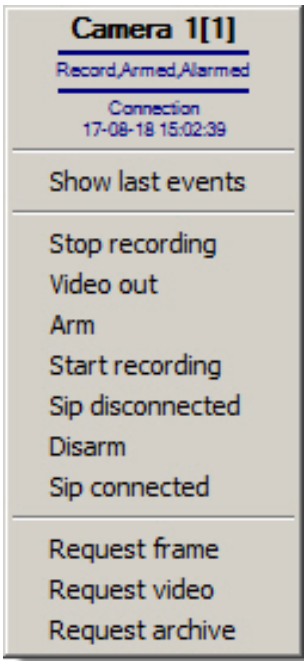
Command	Result of execution	Illustration
Request frame	The last frame received from the camera is displayed in the Map window behind the object.	
Request video	Live video from the camera is displayed in a separate window. The controls in this window are similar to the standard Video Surveillance Monitor.	
Request archive	A separate window similar to the Video Surveillance Monitor in archive playback mode opens. The archive is positioned on the last entry.	

154 https://doc.axxonsoft.com/confluence/display/Int411en/Connection+of+objects+with+cameras

4.11.3.2 Viewing recent object events on the map

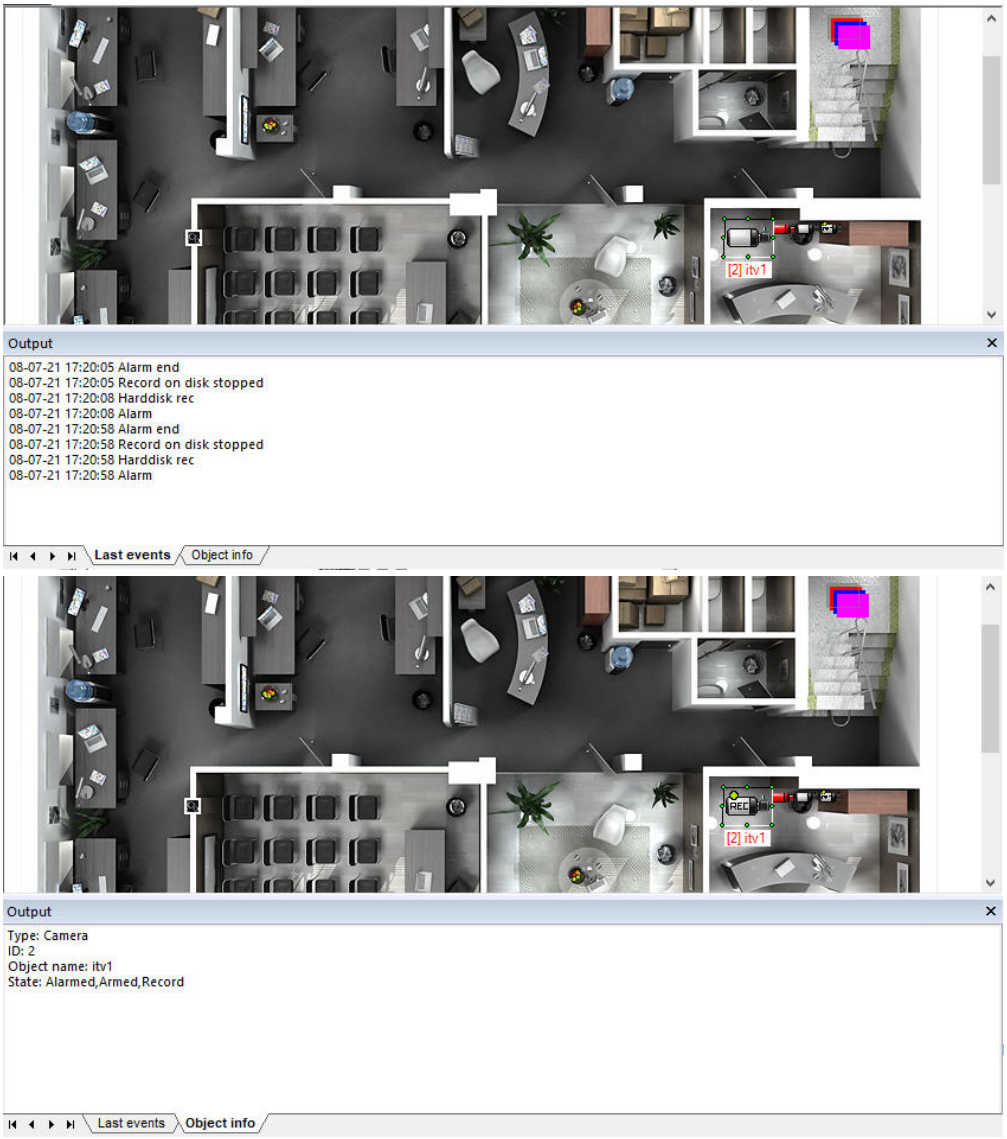
By default 10 most recent object events can be displayed in the Map window. You can change this number when you configure the corresponding Map object (see Configuring the number of events displayed in the Map window[155]).

To display the most recent object events in the Map window, select the **Show last events** item in the object functional menu.



The **Output** panel is displayed at the bottom of the Map window. The most recent events of selected object are displayed in the **Last events** tab. The events registered before the *Intellect* start may not be displayed depending on the settings. The general information about the object (type, ID, object name and state) is displayed in the **Object info** tab.

155 https://doc.axxonsoft.com/confluence/display/Int411en/Configuring+the+number+of+events+displayed+in+the+Map+window



You can change the size of this panel by moving its upper border with the left mouse button. Click the ✕ button in the upper right corner in order to close this panel.

4.11.4 Switch-over between Map layers

On the page:

- Switch over the Map layers using the links(see page 244)
- Switch over the Map layers using the feature menu(see page 244)

If the Map is multilayered, the layer switch-over will be required. Switching over the map layers is performed in one of the following ways:

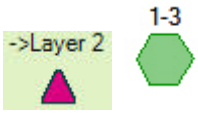
1. Using the links between layers.
2. Using the Map feature menu.

Auto switch-over between Map layers is also supported. If auto switch-over 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 is displaying **A** layer and at this point of time an alarm is registered on **B** layer, the program will automatically switch-over to **B** layer and show it in the window. In this case a window displaying the Map may be shown over all other windows. Auto switch-over between Map layers is configured and enabled during the Program configuration.

4.11.4.1 Switch over the Map layers using the links

To switch over 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 accommodate an indefinite number of interlayer link icons referring to any layer existing on the Map. The icon of link 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 3 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 initiated during the Program configuration.

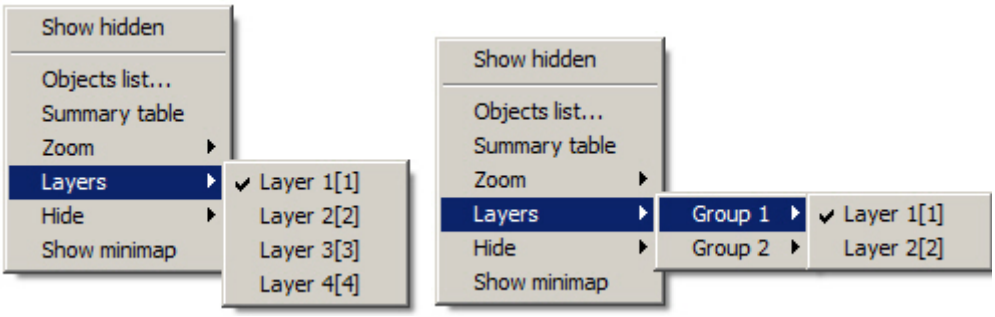
> **Note**
>
> If additional alarm indication on the layer is configured using the special alarm icon, then the icon will be changed to the icon specified in the settings and it will blink while detecting an alarm (see Linking the layers of the interactive map[156]).

4.11.4.2 Switch over the Map layers using the feature menu

To switch over the map layers using the feature menu right-click on the map area free from the object icons.

In the opened feature menu select the **Layers** item and specify the layer to switch to. If Map layers were grouped into folders in the object tree at the system configuration stage, then at first select the corresponding folder and then the required layer.

156 https://doc.axxonsoft.com/confluence/display/Int410en/Linking+the+layers+of+the+interactive+map



This way of switching over the map layers does not require the previous settings and allows switching over the current layer to any other layer permitted to the user by rights.

4.11.5 Operations with the cameras

On page:

- Camera status indication(see page 245)
- Camera operations(see page 246)
- Displaying camera on Video surveillance monitor when selected on Map(see page 248)

4.11.5.1 Camera status indication

The camera symbol as shown on the Map is given in the figure.



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

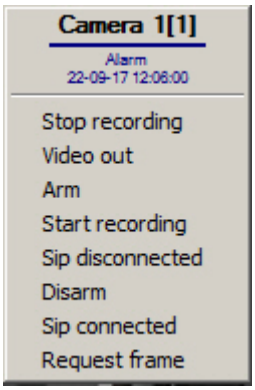
Note.

If camera performs recording, then the camera icon is marked with REC:  or  .

4.11.5.2 Camera operations

The camera is operated via the feature menu of the given camera symbol shown on the Map.

The feature menu of the camera is called up by a right mouse click on the corresponding camera symbol.



The feature menu of the camera provides access to various operating functions of the camera.

Feature menu item	Function	Comments
Camera No./Connection	Displays the selected camera identifier, as well as the date and time of the first connection of the camera	

Feature menu item	Function	Comments
Stop recording	Stops recording	See section: Stopping the recording(see page 102)
Video out	Outputs the camera image to the analogue monitor connected to the system	See section: Video surveillance using an analog monitor[157]
Arm	Arms the camera in the main detector zone	See section: Camera arming and disarming(see page 84)
Start recording	Starts recording at the Operator's command	See section: Recording by Operator command[158]
Sip disconnected	Disconnection of a Sip device	See Intercom Subsystem Reference and Information Guide[159]
Disarm	Disarms the camera in the main detector zone	See section: Camera arming and disarming(see page 84)
Sip connected	Connection of a Sip device	See Intercom Subsystem Reference and Information Guide[160]
Request frame	Sends the GET_FRAME reaction to the system without the path<> parameter. As a result, the FRAME_SENT event is generated with the data<> parameter. Please see the details on how to process this event in The SaveToFile method[161] section of the Programming Guide (JScript)[162]. *Note. This function will not work for a virtual camera playing video in avi format.*	

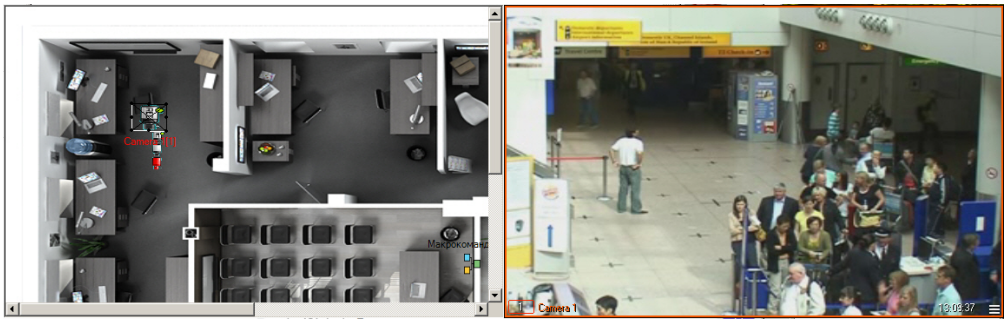
Note

The **Start video export** and **Stop videp 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(see page 245)).

157 https://internal.itv.ru/confluence/display/Int490en/Video+surveillance+using+an+analog+monitor
158 https://internal.itv.ru/confluence/display/Int490en/Recording+by+Operator+command
159 https://doc.axxonsoft.com/confluence/display/Int411en/Intercom+Subsystem+Reference+and+Information+Guide
160 https://doc.axxonsoft.com/confluence/display/Int411en/Intercom+Subsystem+Reference+and+Information+Guide
161 https://doc.axxonsoft.com/confluence/display/Int411en/The+SaveToFile+method
162 https://doc.axxonsoft.com/confluence/pages/viewpage.action?pageId=136250338

4.11.5.3 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 for camera boxes[163] section of the Administrator's Guide(see page 245)), then video from a camera is displayed on such Video surveillance monitor when the camera icon is clicked on Map.



4.11.6 Operating the microphones

On page:

- Microphone status indication(see page 248)
- Microphone operations(see page 249)

4.11.6.1 Microphone status indication

The microphone symbol as shown in the Map is displayed in the figure.



The microphone status is indicated by the colour of the symbol used to show the microphone on the Map.

1. Blue  Microphone is ready for recording, but is not armed
2. Red  Microphone is recording, an alarm event has been registered
3. Green  Microphone is ready for recording, but is not armed
4. Yellow  Microphone is ready for recording, but is not armed

163 https://doc.axxonsoft.com/confluence/display/Int411en/Configuring+the+display+mode+for+camera+boxes

4.11.6.2 Microphone operations

The microphone is operated via the functional menu of the given microphone symbol shown on the Map.

The functional menu of the microphone is called up by a right mouse click on the corresponding microphone symbol.



The functional menu of the microphone provides access to various operating functions of the microphone.

Functional menu item	Function	Comments
Microphone No./Recording date and time	Reflects 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 the Microphone arming and disarming(see page 180) section
Stop recording	Disarms the microphone, stops recording	

4.11.7 Operations with sensors

On page:

- Sensor status indication(see page 249)
- Operations with sensor(see page 254)

4.11.7.1 Sensor status indication

Identification of the sensor symbol 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 2 states simultaneously, therefore its icon on the map blinks and changes once in a certain period. 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	Symbol on the Map
Armed	ARMED	

State	dbo.state	Symbol 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	Symbol on the Map
Armed	ARMED	
Disarmed	DISARMED	
Alarm	ALARMED	 *
Alarm confirmed	CONFIRMED	
Connection lost	DETACHED_DISARM	 *
Normal (off)	OFF	

State	dbo.state	Symbol on the Map
Active (on)	ON	

Ceiling sensor:

State	dbo.state	Symbol 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	Symbol on the Map
Armed	ARMED	
Disarmed	DISARMED	
Alarm	ALARMED	 *

State	dbo.state	Symbol on the Map
Alarm confirmed	CONFIRMED	
Connection lost	DETACHED_DISARM	 *
Normal (off)	OFF	
Active (on)	ON	

Infrared sensor:

State	dbo.state	Symbol 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	Symbol 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	Symbol on the Map
Armed	ARMED	
Disarmed	DISARMED	
Alarm	ALARMED	 *
Alarm confirmed	CONFIRMED	
Connection lost	DETACHED_DISARM	 *
Normal (off)	OFF	

State	dbo.state	Symbol on the Map
Active (on)	ON	

Note

Reference «*» means that the image of the given symbol 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[164]). If the Sensor is disarmed, then the "Closed"/"Opened" events are generated correspondingly. If the connection between the *Intellect* and the sensor is lost, the "Connection lost" event will be generated.

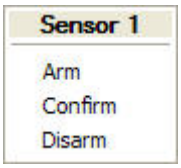
Note.

When an alarm is registered by any sensor, connected through IP-device Samsung SNC-M300P, Sensor symbol with 1channel number is activated (the given IP device supports two connection channels of sensors).

4.11.7.2 Operations with sensor

The sensor is operated via the feature menu of the given sensor symbol shown on the Map.

The feature menu of the sensor is called up by a right mouse click on the corresponding sensor symbol.



The feature menu of the sensor provides access to various operating functions of the sensor.

Feature 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 the Using sensors(see page 204) section
Arm	Arms the sensor	

164 https://doc.axxonsoft.com/confluence/display/Int411en/Creating+and+configuring+the+Sensor+system+object

Feature menu item	Function	Comments
Confirm	Confirms alarm event registration by the sensor	
Disarm	Disarms the sensor	

4.11.8 Operations with the relay

On page:

- Relay state indication(see page 255)
- Operations with relay(see page 256)

4.11.8.1 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.

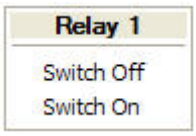
Reference «*» means that the image of the given symbol is blinking.

If the connection between the *Intellect* and the relay is lost, the "Connection lost" event will be generated.

4.11.8.2 Operations with relay

The relay is operated via the functional menu of the given relay symbol shown on the Map.

The functional menu of the relay is called up by a right mouse click on the corresponding relay symbol.



The functional menu of the relay provides access to various operating functions of the relay.

Functional 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 the Operations with relay(see page 204) section
Switch-off	Switches the relay off	
Switch-on	Switches the relay on	

4.11.9 Region operation

To delimit secured territory in Intellect software package the “Region” object is in use. Secured territory delimiting helps to monitor and control objects of 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 notification window(see page 33) section) and "Events log" (see Events log(see page 35) section).

The Map is used for Region operation in Intellect software package. Markings of the “Region” object on the Map are given below.

1. Security mode is deactivated in the region



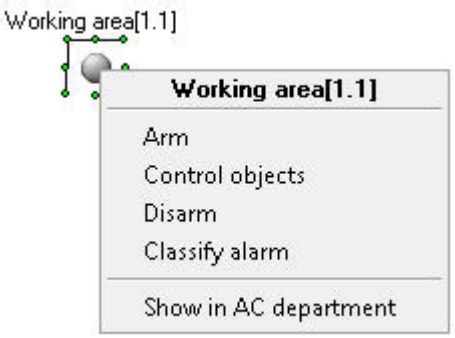
2. Security mode is activated in the region



3. Alarm in the region. Alarming event from one or several objects that belong to this region is detected



You can set any state to Region by right-clicking at the “Region” symbol and select command in the feature menu.



There is general information at the top of the feature menu: Region name, name and time of the latest completed action. After general information the list of possible commands goes.

Commands of the feature menu of the “Region” object are described in the table.

Command	Description
Control objects	Sets states to the objects of Region. **Note 1** *To start the “Control objects” command in the feature menu of the “Region” object, add a plug-in.* **Note 2** *This command is available in Macros (see Intellect™ Software Package.Administrator's Guide).*
Arm	Starts monitoring objects states of the Region. Region becomes alarmed when it gets corresponding events from objects.
Accept alarm	Accepts Region alarm.
Disarm	Stops monitoring objects states of the Region.
Show in Access Manager	The command can be used if *ACFA-Intellect* software is installed and the **Access Manager** window is displayed on the same display as the Map. The command displays the region and the users in it on

Command	Description
	the **Regions and areas** tab of the Access Manager. See also Access Manager Module Settings and Operation Guide[165].

4.11.10 Macro commands operation

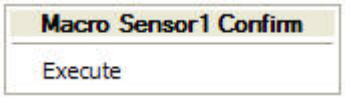
The macro command determines how this or that object would react to events, that have happened in the system. The macro command symbol as shown on the Map is given in the figure.



With the help of macro commands one can work with area objects (section). 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 have happened with them. The following events can be received from the area:

1. Safety locking;
2. Safety locking is;
3. Fire unlocking;
4. Fire unlocking is disarmed;
5. Arm;
6. Disarm;
7. Armed locking;
8. Armed locking is disarmed.

Each macro command integrates a functional menu providing access to the execution of the given macro command and output of the data about the macro command.



The name of the macro command, the date and time of the latest macro command execution are entered into the functional menu, where the Execute command to start the macro command is initiated.

To execute the macro command, right click the mouse on the corresponding macro command and select **Execute**.

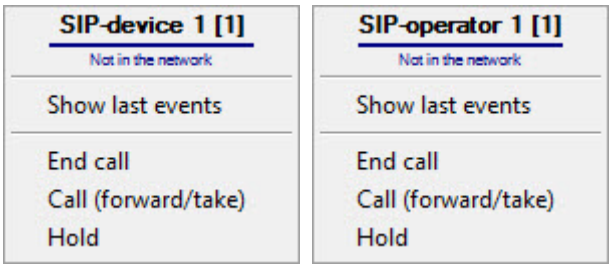
4.11.11 Working with SIP-devices and SIP-operators from the map

The icons of **SIP-device** and **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[166]).

In this case, the SIP-panel is not displayed if there are no incoming calls, and you can initiate a call using a macro command (see Macros for working with SIP-terminal[167]) or using the **Call (forward/take)** command in the function

165 https://doc.axxonsoft.com/confluence/display/acfaen/Access+Manager+Module+Settings+and+Operation+Guide
166 https://doc.axxonsoft.com/confluence/display/Int411en/Advanced+settings+of+the+SIP-panel+interface+object
167 https://doc.axxonsoft.com/confluence/display/Int411en/Macros+for+working+with+SIP-terminal

menu of the **SIP-device** and/or **SIP-operator**. As a result, the SIP-panel window will be displayed. You can also put the current call on hold or resume the call from the map using the appropriate commands.



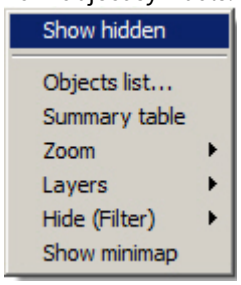
Note.

If there is no call, the icon of the camera assigned with 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(see page 238) .

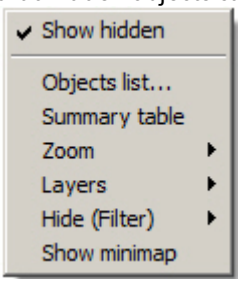
4.11.12 Hide or display graphic objects on the Map

The object symbol on the Map may 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 reflected on the Map, whereas hidden objects are reflected only in "view hidden objects" mode. To switch-on "view hidden objects", use the **Show hidden** command of the Map functional menu called with a right mouse click on any place on the Map, which is free from object symbols.



The status of the mode is indicated by a checkmark near the **Show hidden** objects button, which indicates that hidden objects can be viewed.

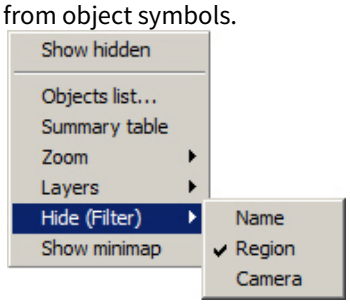


Note.

Hidden objects view and hide function applies across all Map levels.

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 functional menu called with a right mouse click on any place on the Map, which is free

from object symbols.



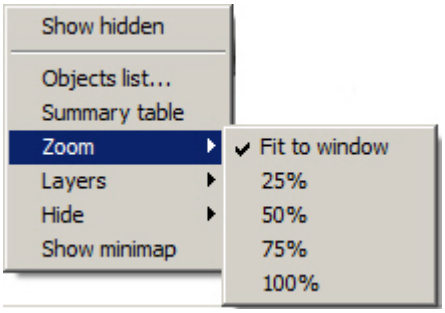
Hidden objects are checked with tick mark. The hiding on the system configuration stage takes precedence over the hiding on the map layer, i.e. an object hidden on the configuration step is not displayed, even if the **Hide (Filter)** tick mark is unchecked.
The **Name** menu item is intended to hide the names of all objects on the current map layer. If an object is hidden by any of the above methods, then its name is not displayed, even if the **Name** tick mark is unchecked. If the **Name** tick mark is checked, then only graphic symbols (icons, lines, etc.) without captions are displayed on the layer.

4.11.13 Map scaling

Map scaling allows enlarging and reducing the size of the image shown in the Map window.

4.11.13.1 Scaling a map with an image or color background

The scale is selected via the functions menu of the Map, which is called up by a right mouse click on any place on the Map, which contains no object symbols.

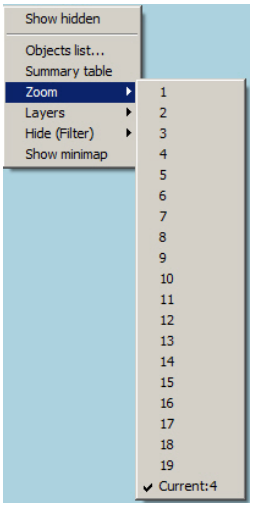


To set the scale, select the required scale value in the **Scale** sub-menu or click the **Fit to window** point, which is designed to set the scale allowing the full Map image to fit into the Map window. The selected scale is restored after *Intellect* software restart.

4.11.13.2 Scaling an external map

If an external map is selected the layer background (see Configuring the external map server[168]), then the map scale is also selected using the **Zoom** item in the functional menu, however, the scale is set as a number from 1 to 19 (4 by default). The current value is displayed on the bottom line of the **Zoom** submenu.

168 https://doc.axxonsoft.com/confluence/display/Int411en/Configuring+the+external+map+server

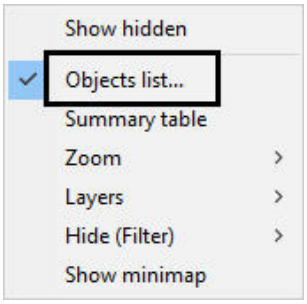


You can also scale the external map using the mouse wheel while holding down the Ctrl key on the keyboard.

4.11.14 Object status monitoring with the objects list

The object status can be monitored not only by object symbols depicted on the Map, but also by using the Object list.

The Object list can be accessed via the **Object list** functions menu of the Map, which is called up by a right mouse click on any place on the Map, free from object symbols.



The interface of the **Object list** window is shown in the figure.



When an object is selected in the list, it is also selected on Map while Map is centered by the object. The object is selected in list when selected on Map.

The middle part of the **Object list** window displays a table describing object statuses on all levels of the Map: each object is described by the name and current status. The table shows both visible and hidden objects, regardless of the display mode selected to show hidden objects on the Map. Each object of the **Object list** has a functions menu (which is called up by a right mouse click on the line displaying the object name), which is completely identical to the functional menu of the object on the Map (see the General information about working with the map(see page 237) section).

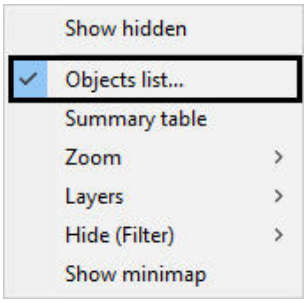
The upper part of the **Object list** window contains the fields for filtering the object in the status table:

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. Type-based object filtering is only possible, if the type of object in the **Type** field is selected. If the **Disabled** state is selected, the object of the specified type that were disabled while configuring the system are shown (i.e. objects wit the **Disable** checkbox checked).
3. The **Layer** drop-down list allows selection of a layer to which the searched object is attached; the layer is not necessary to be displayed in the Map window.
4. The **Name** field is intended for dynamic search for an object by its name taking into account the other filters. Search by name is launched automatically after typing into the field.

The lower part of the Object list window contains the **Latest event** and **Additional information** fields, which is designed to display the information about the object selected within the table (to select the object, click the left mouse button on the line containing the object in the table). The **Latest event** field reflects the data about the

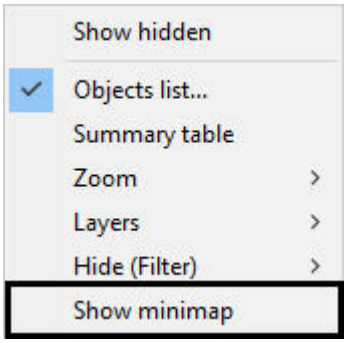
latest event registered for the selected object: name, and date and time of the event. The **Additional information** field is designed to display additional information about the event (if any).

To open the **Object list** window, click ✕ in the upper right corner of the window or select **Object list** in the functional menu of the Map again.



4.11.15 Minimap

To show the minimap, right click in the map area spare from object icons and select the **Show minimap** in the menu.



Note.

Intellect can be configured so that the minimap appears when pointing the cursor to the top left corner of the map. This is set by the ShowOnMouseMove key (see Registry keys reference guide[169]).

169 https://doc.axxonsoft.com/confluence/display/Int411en/Registry+keys+reference+guide



Minimized object icons are shown on the minimap. Blue rectangle indicates the part of the layer currently displayed in the map box. The map box is centered when left-clicking the minimap.

The minimap box can be dragged by its header when holding left-click. The minimap size can be changed – make it bigger or smaller.

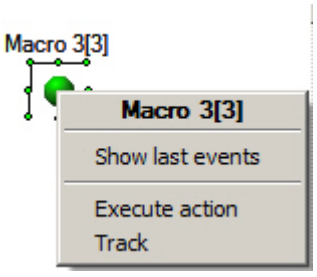
Map scale control panel is in the upper right of the minimap box:

- The and buttons are for upscale and downscale Map by 10%
- The button corresponds to **Fit to window** function.
- The ×1 ×2 buttons set scale of 100% and 200% correspondingly.

To shutdown the minimap box click the button in the upper right corner.

4.11.16 Enabling object tracking on interactive map

It is possible to use PTZ cameras that support positioning by absolute coordinates to track objects on the map in *Intellect*. Information about this feature is given in Using absolute telemetry[170] section of Installing and configuring security system components guide[171].
To start tracking select the **Track** menu item in the feature menu of the object on the map.



The **Track** item appears in the object menu on the Map only if the following conditions are met:

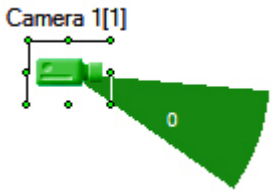
- Object tracking monitor on the Map is selected.
- Geo tagging is added.

170 https://doc.axxonsoft.com/confluence/display/Int411en/Using+absolute+telemetry
171 https://doc.axxonsoft.com/confluence/display/Int411en/Installing+and+configuring+security+system+components+guide

- Object is added to the map as an Image.

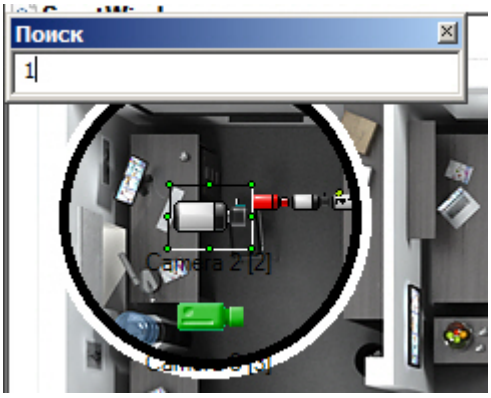
If the **Track** menu item is selected, then if coordinates of the tracked object are changed, the camera, in the FoV of which it appeared, rotates to the point where it appeared, and the video from this camera is displayed on the object tracking monitor. When all the objects leave the PTZ camera FoV, it stops being displayed on the object tracking monitor.

If the camera viewing angle display on the Map is pre-configured[172], 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 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 Map search box is displayed in the upper-left corner of the Map window.



Specify the name or ID of the object and press Enter. If an object ID is specified 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, i.e. 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 flashes for a few seconds.
If the object is not on the displayed layer, then there is a switch to the required layer.

4.12 Operations using the Client

On page:

172 https://doc.axxonsoft.com/confluence/display/Int411en/Configuring+the+camera+viewing+angle+display+on+the+Map

- General information(see page 266)
- Starting the Client(see page 266)
- Connecting to the Server(see page 266)

4.12.1 General information

Client is a PC,where *Intellect* system with the **Remote Monitoring Work Station** configuration is installed.

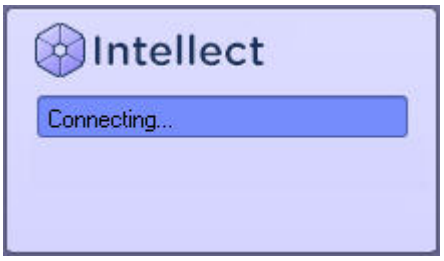
4.12.2 Starting the Client

The Clent can be started in one of the following ways:

1. Automatically: the program is started automatically as soon as the operating system is downloaded.
2. Manually: to start the program manually, select **Client workstation** in Start menu of Windows (Start/All Programs/Intellect/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 latest 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 PC, where the server program is operated, or quit the program.



To complete the operations, press the **Exit** button. To start a search using another IP-address or DNS-name, type in the required address or name in the **IP-address** field and click the **Register** button. As soon as the **Register** button is clicked, the system will start searching for the active program kernel at the specified address.

If the active program kernel is found at the given IP-address or DNS-name, the system will automatically connect to the established program kernel. If required, an access password to the server program will be requested.



Having entered the password, click the **Register** button. If connection is established successfully, the user interface of the Client will start downloading. Otherwise, the system will request the password 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 designed for remote video surveillance over the guarded objects using the Web browser and TCP/IP communication environment. However remote video surveillance through the Web browser does not require *Intellect* software be installed.

Important!

The browser you are using should support Java. This is why video surveillance using Firefox 52 and later is not supported.



The colour 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 window border	Color of the camera number border	Camera Status
Yellow	Yellow	The camera is armed, no video recording is in process
Red	Red	An alarm event has been registered with the camera, alarm response recording starts and recording initiated at the Operator's command before the alarm, continues
Green	Red	Camera is disarmed, recording initiated by the Operator's command or alarm response recording is underway
Yellow	Red	Camera is armed, recording initiated by the Operator's command or alarm response recording is underway
Green	Green	Camera is disarmed, no recording in process

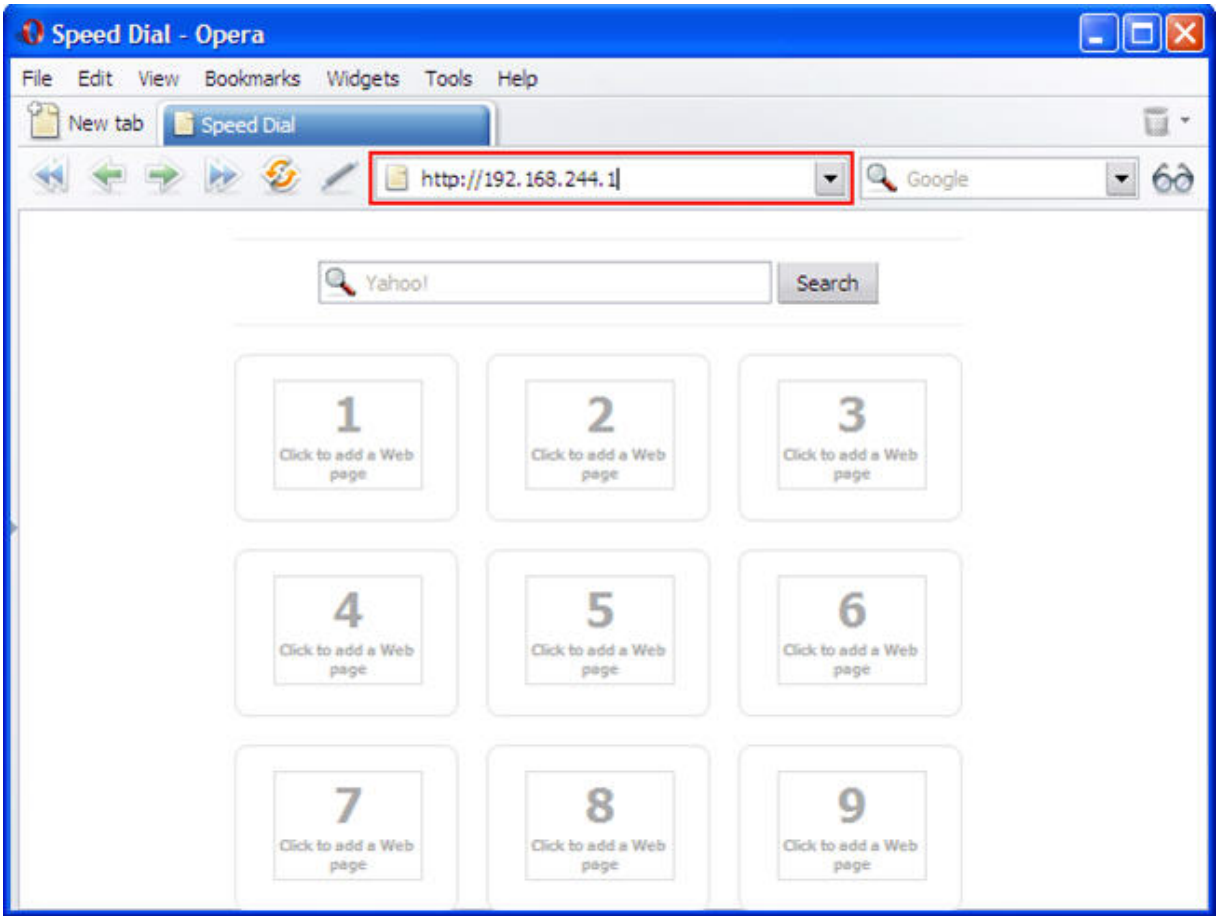
Color of the window border	Color of the camera number border	Camera Status
Red	Yellow	An alarm event has been registered with the camera, however no alarm response recording starts

Note.

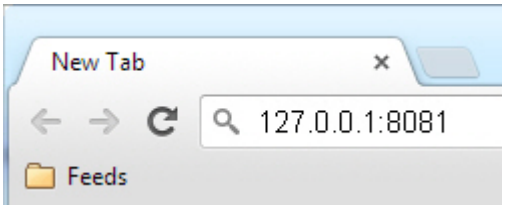
All indication diagrams as presented correspond only to the basic detector zones, without auxiliary zones. Whenever a camera is armed or disarmed within auxiliary detector zone, the colour of the video surveillance window border remains unchanged, however in case of an alarm event in the auxiliary zone, the window border becomes red. That is why camera arming and disarming within an auxiliary zone is not indicated.

4.13.2 Connection to the Server

To launch the Web server surveillance monitor, enter the IP-address of the corresponding video server in the browser address line and press **Enter**.



If default value of the HTTP-server port was changed while the **Web-server** object configuring, it's required to set IP-address and the specified port number to connect to the Web-server. See also Administrator's Guide[173] , the Setting the parameters of connecting Clients to the Web-server[174] section.



Interface of the 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 *Intellect*, the login/password can as follows:

1. The login and password assigned to the user during the user permissions adding.
2. The login and password of the Windows user outside the domain. In this case, the user name 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 user name is entered in the \\DOMAIN-NAME\user_name format - for example, \\DOMAIN\user.name

173 https://doc.axxonsoft.com/confluence/pages/viewpage.action?pageId=124980307
174 https://doc.axxonsoft.com/confluence/display/Int411en/Setting+the+parameters+of+connecting+Clients+to+the+Web-server

4.13.3 Changing the number of windows

The number of surveillance windows within one Web browser monitor is changed using the set of buttons  in the video monitor tools panel of the Web browser.



The button  opens only one window, all the others are used when a few windows are required to be displayed simultaneously (4, 6 or 9) in the Web server surveillance monitor.

4.13.4 Camera arming and disarming in Web server video surveillance window

Cameras are armed and disarmed via the feature menu of the Web server video surveillance window.

To arm the camera, select **Arm** in the feature menu.



To disarm the camera, select **Disarm.**



Camera arming and disarming is supported with the appropriate indication (see the General information about video surveillance using the Web browser(see page 267) section).

4.13.5 Switching video motion detectors on and off

Camera detectors are switched on and off via the feature menu of the Web server surveillance window.



To switch a detector on or off, click its name in the detector list in the **Action** sub-menu of the feature menu of the video surveillance window.

To switch on (off) all detectors of the camera simultaneously, select **Arm all zones** (**Disarm all zones**).

Switching detectors on and off is indicated appropriately (see the General information about video surveillance using the Web browser(see page 267) section).

4.13.6 Video recording

Video recording on the camera is controlled via the feature menu of the Web server video surveillance window.

To start video recording on the camera, select **Start recording** in the feature menu of the video surveillance window, which corresponds to the given camera.



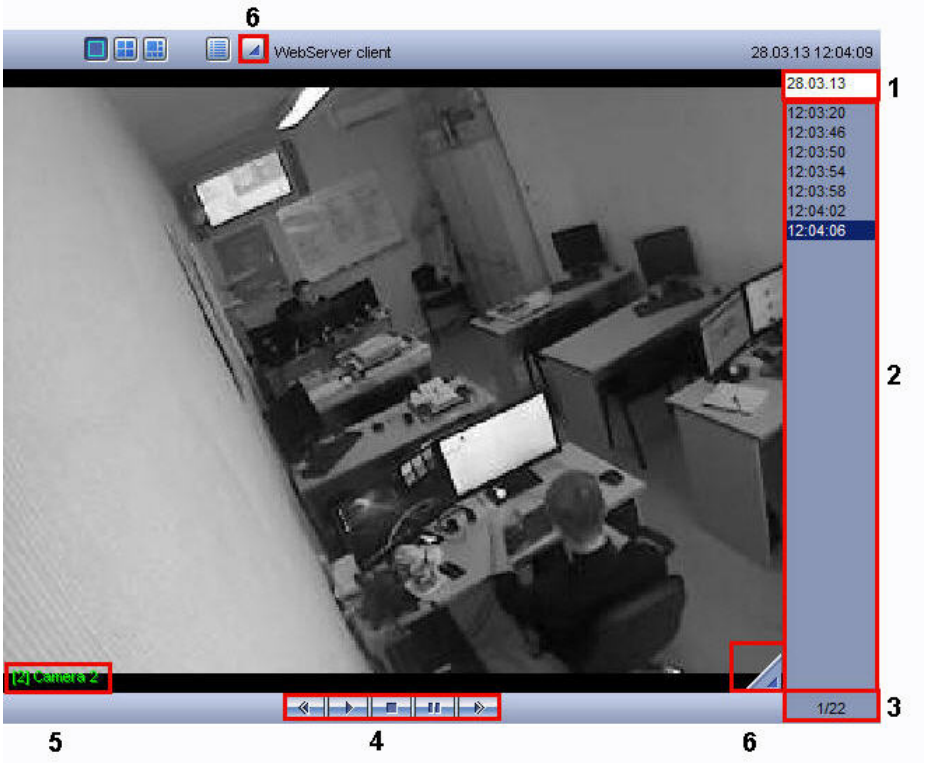
To stop recording, select **Stop recording** in the feature menu of the video surveillance window.



The current status of recording is indicated by the colour of the camera number border in the surveillance window (see the General information about video surveillance using the Web browser(see page 267) section).

4.13.7 Working with the archive

To access the archive playback mode, click the  icon in the bottom right corner of the Web server viewing tile or the  icon on the Web Server client toolbar. The archive playback control panel will be displayed.

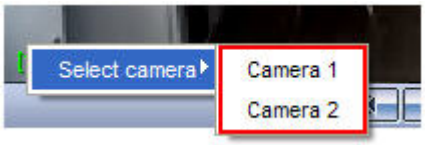


Elements of the playback control panel are described in the table.

Element Image	Description	Comments
1	Recording date filter	Editable field used to filter displayable 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	CC Shows the current playback position in the frame against the selected recording segment
4	Playback control panel	Controls video playback
5	Camera indicator	Indicates the camera status and calls up the feature menu of the video surveillance window
6	Quit archive playback mode	Quits archive playback mode and returns to video surveillance

An algorithm for browsing through the archive may be as follows:

1. Select, appropriately, the camera, the archive of which will be accessed, using the feature menu of the video 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 sequence segment based on the time tag out of the list of recording segments.
4. Playback the selected segment, using the control panel.

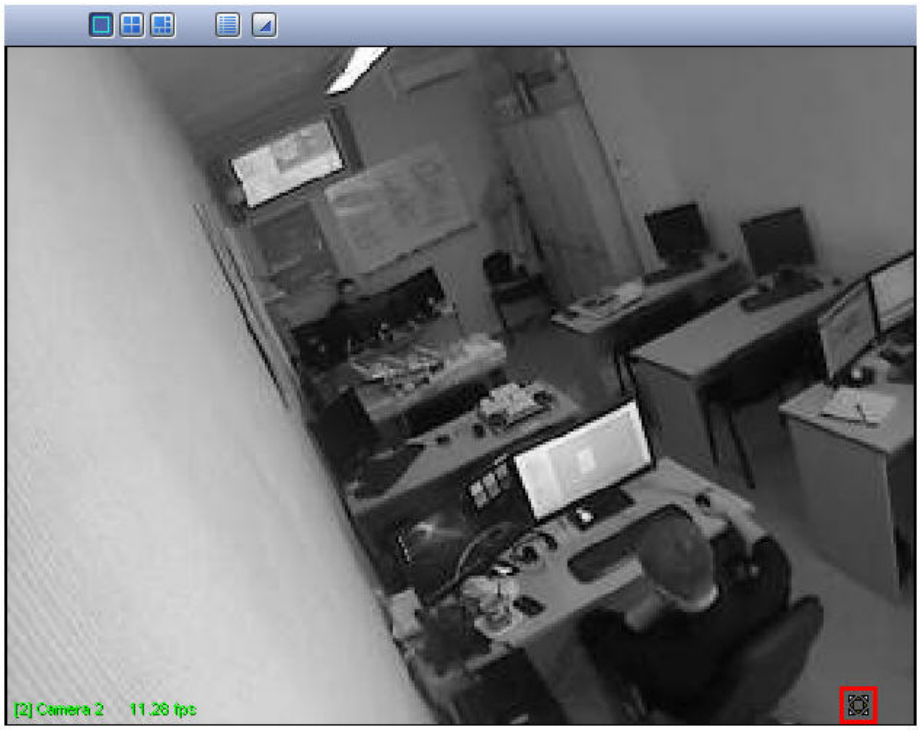


The  button starts playing back the selected recording segment, the  button stops playback.

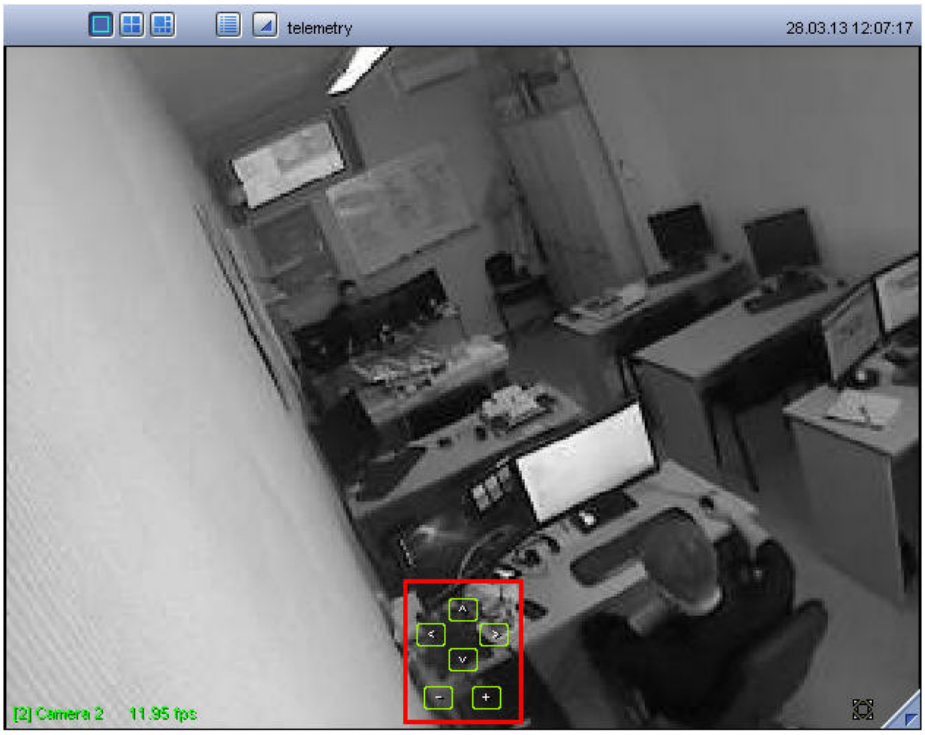
The  and  buttons are used to rewind and fast forward the recording segments in the playback mode, as well as to list the frames in the pause mode. If the recording playback is stopped using the  button, then the  button is for going to the beginning of the recording and the  button is for going to the end of the recording. To shift to the pause mode, press the  button, to restore playback – press the  button.

4.13.8 Control of PTZ units through the Web server surveillance monitor

The window of the Web server surveillance monitor allows controlling PTZ units if the PTZ unit control function is enabled, the surveillance window of the camera will display  .



To access PTZ unit controls, click  with any mouse button. You will get an image of the PTZ unit control panel.



Elements of the PTZ unit control panel interface are described below.

1. Control unit 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 unit for zoom adjustment of the camera lens



   a.  - reduce image scale (zoom out)
   b.  - enlarge image scale (zoom in)

> **Note.**
>
> To perform action click the left mouse button on the control elements. Long-time holding of the left-mouse button doesn't lead to repeated performing of the specified actions.

3. PTZ control panel element



   a. Hide/display the PTZ control panel

To hide PTZ unit controls, click  with any mouse button again.

4.14 Video surveillance using the mobile clients

The remote connection of the *Intellect* Server can be performed using devices based on iOS and Android operating systems.

Please refer to the AxxonSoft mobile Clients. Documentation[175] for detailed information about mobile clients capabilities, configuration and operation.

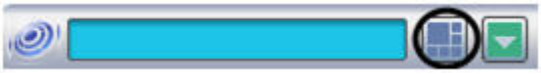
4.15 Working with panoramic video surveilance window

The Panoramic video surveillance window is designed for creating and using the panoramic image.

4.15.1 Starting the panoramic video surveillance

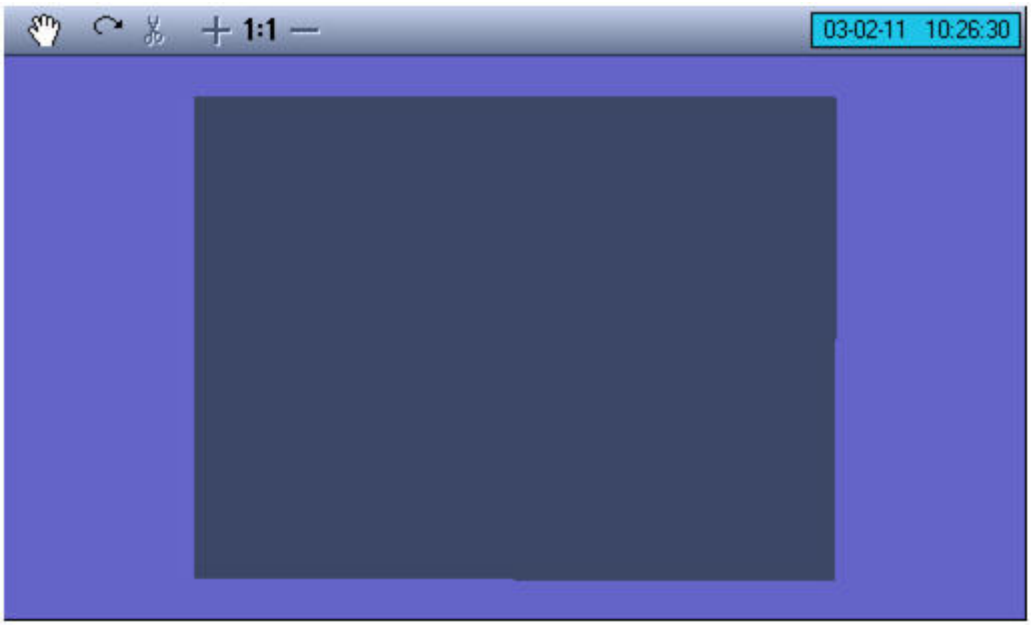
Starting the Panoramic video surveillance window is done in the following way:

1. Display the Main control panel (see Main control panel(see page 20) section).
2. Select **Interface** button on the control panel.



3. Control menu of the Intellect software user interface will be displayed in result
4. Select the **Screen** point.
5. The Panoramic video surveillance window will be displayed in result.

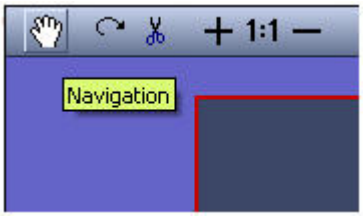
175 https://doc.axxonsoft.com/confluence/display/ASmc/AxxonSoft+mobile+Clients.+Documentation



4.15.2 Navigation mode

Navigation mode is used for monitoring the scene. To enable this mode click **Navigation** button. With this mode doesn't let enabling the other modes of image processing (inactive buttons).

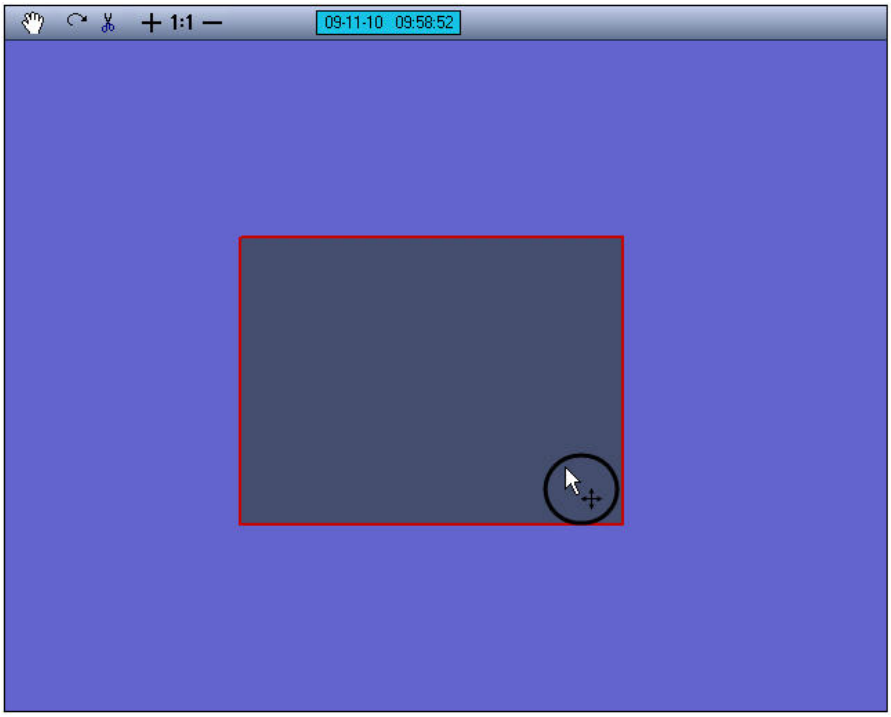
By default this navigation mode is disabled.



4.15.3 Image arrow mode

Image arrow mode is designed for comfortable placing the images within the video displaying window. Moving the images is performed by means of the mouse.

Enabling the Arrow mode is performed by clicking upon the displayed video that has to be moved. The moving indicator is the evidence of Arrow mode activation.



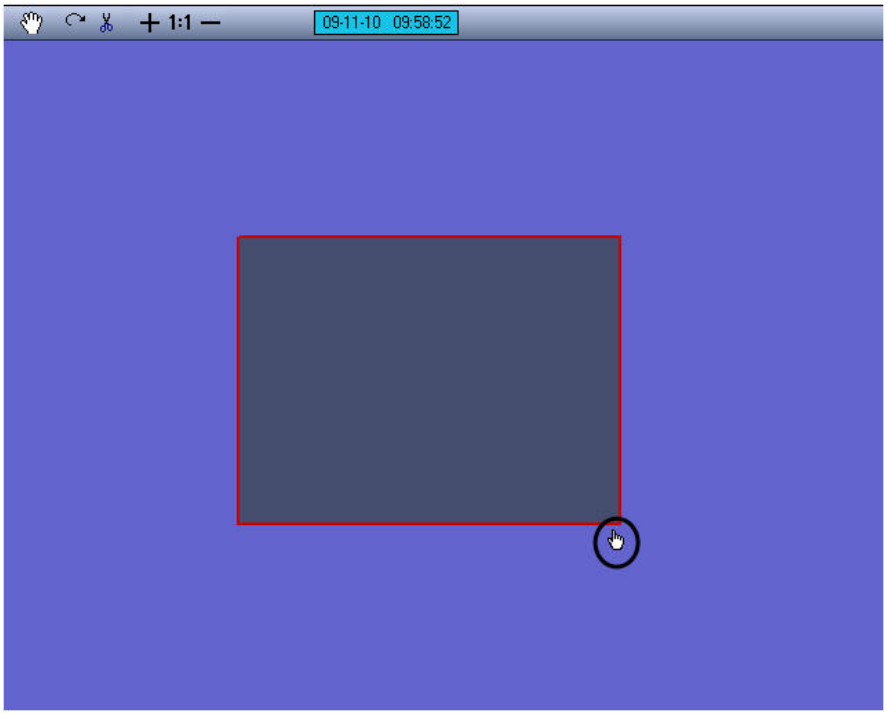
To move images do the following:

1. Activate the Arrow mode.
2. Navigate the mouse cursor to the object that has to be moved.
3. Press left mouse button and holding it move the cursor to a required area of video displaying window.
4. Release left mouse button.

4.15.4 Perspective correction mode

Perspective correction mode is designed for changing the shape of video Image by user-defined manner.

Perspective correction mode activation is performed by mouse click upon the image. The perspective indicator near the framed video image is the evidence of Perspective correction mode activation.



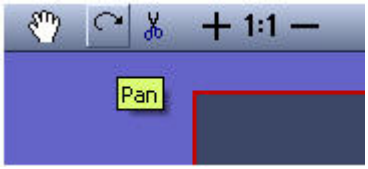
To correct the video image perspectives do the following:

1. Enable the Perspective correction mode.
2. Navigate the mouse cursor to one of the corners of active image. The cursor will be in the form of a hand with forefinger up.
3. Click left mouse button and holding it move the image corner to a required video displaying window.
4. Release left mouse button.

4.15.5 Video panning mode

Video panning mode is designed for panning the video about video image perpendicular plane and running through its centre. The video can be panned about this axis to any desirable angle.

Video panning mode activation is performed by clicking the **Pan** button on the control panel.



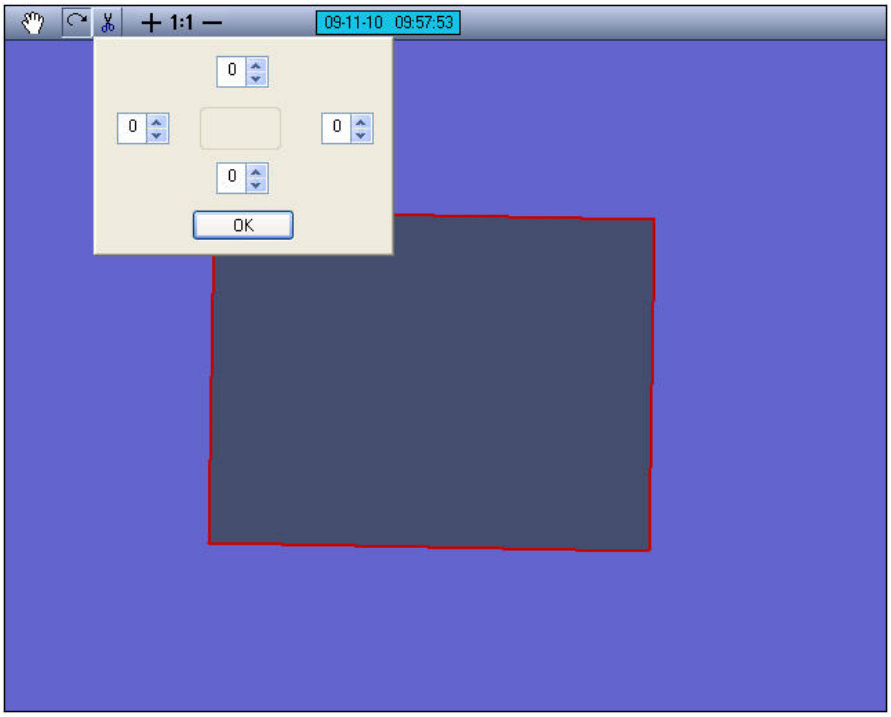
To pan the video image do the following:

1. Activate the Video panning mode.
2. Navigate the mouse cursor to video image that has to be panned.
3. Click left mouse button and holding it move the cursor to a required area of video displaying window.
4. Release left mouse button.

4.15.6 Cut borders mode

Cut borders mode is designed for more detailed video images adjustment. Cutting the borders is performed by the set number of pixels, calculated from the image borders. The area, left after cutting the borders, will be increased up to initial image sizes.

Select the video image that has to be cut and click **Cut borders** button on the control panel to activate the Cut borders mode.



The panel of setting the sizes of image area that has to be cut will be displayed. In the fields of this panel there is set the width of image area that has to be cut in pixels. Every field corresponds to one of the image borders: upper field –upper border, right field – right border e.t.c.

Click **OK** button in the bottom part of the panel after setting the width of image area that has to be cut.

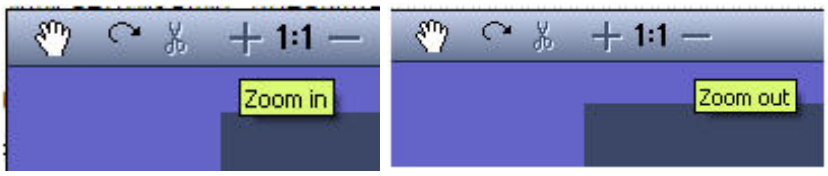
> **Note.**
>
> If **Accept** button has been pressed after setting the width of image area that has to be cut one can return to initial image sizes only by zeroizing the set cut borders and clicking **OK** button.

> **Note.**
>
> The maximum cut of each border of the selected video image is equal to 15 pixels.

4.15.7 Zooming in and out

Modes of scaling in and out the image are available in any mode of video processing.

For zooming in select the image that has to be processed and hold zoom in button indicated by **+** sign until the image gets required size.



Zooming the image in until the sizes (horizontally and/or vertically), exceeding the size of **Scene** object window are attended by appearance of scroll bar in the bottom and/or right part of **Scene** object window. Transfer to a hidden part of an image that has been zoomed in is performed by moving the square scroll box to a required position.

To zoom out the video image it is necessary to select an image that has to be processed and keep clicking zoom out button presented by **–** sign until image gets required size.

> **Note.**
>
> Restrictions for minimum size of the image are not posed while working with **Scene** interface object. Pay attention that the image may get out of sight while repeated zooming out.

4.15.8 Image restore

Image restore mode is designed for image restoring (to restore the sizes, shape and location parameters, used by default).

The video image may be restored in ratio 1:1. Ratio 1:1 corresponds to video image displaying in accordance with its real resolution. For example of the video signal frame has resolution 352x288 pixels (standard),in ration 1:1 its sizes on the screen will be 352 pixels horizontally and 288 pixels vertically.

Image restore mode is available in any mode of video processing.

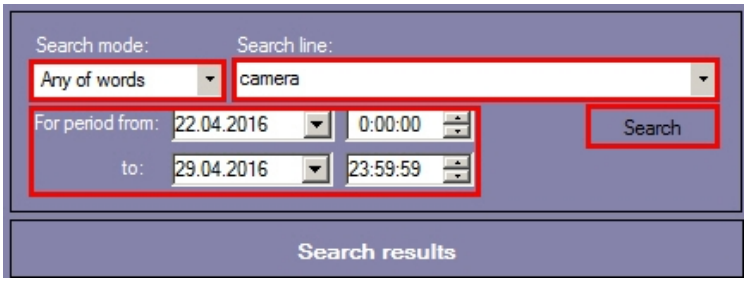
To restore the image in ration «1:1» select the image (it will be framed in red in result) and click **Restore** button presented by **1:1** sign.



4.16 Working with Captions search interface object

4.16.1 Search in the captions database

Before start searching a query is to be created.



When making a key phrase for combining several elements (words and/or word phrases) select one of the following search modes in the **Search mode** dropdown list:

1. **All words** – to search captions containing all elements of a key phrase (a space is a separating symbol).
2. **Any word** – to search captions containing at least one element of a key phrase (a space is a separating symbol).
3. **Substring** – to search captions containing all the key phrase elements in the specified order (the number of spaces is ignored).

* symbol can be used when making a key phrase – it means any number of any symbols in a word.

Time interval for data search is set in the **Period from** and **to** fields.

Before searching you are to select captions databases by setting the checkboxes next to required captions databases in the captions database state table.

Captioners	Status	Total
Captioner 1	Query executed	7
Captioner 2	Connection established	0
Captioner 3	Connection established	0
Captioner 4	Connection established	0
Captioner 5	Connection established	0

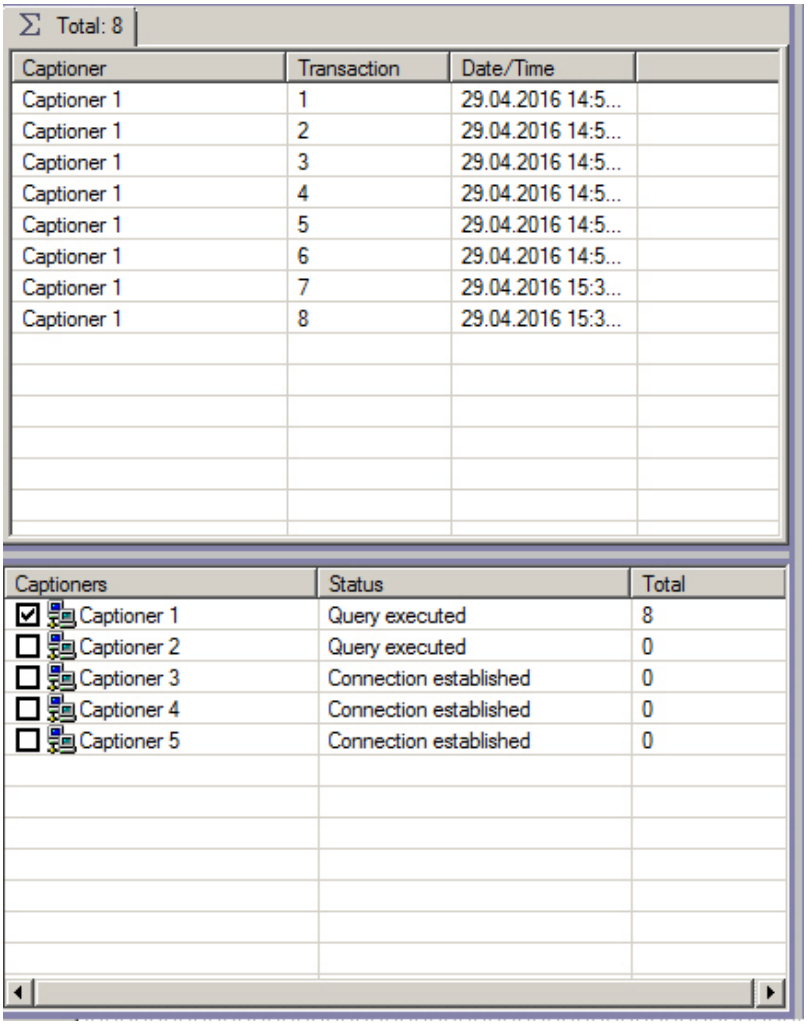
To start searching, click the **Find** button.

When the search is performed, the query status is displayed in the table of captions databases states (Query executing state for all selected captions databases).

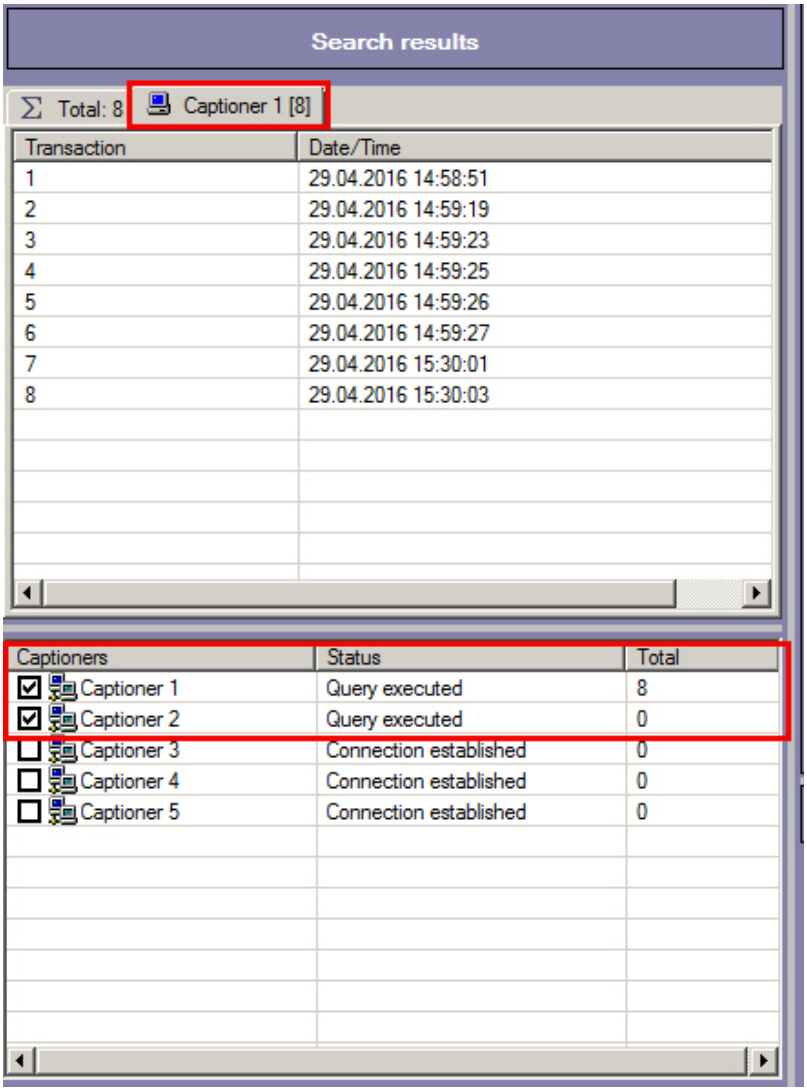
Captioners	Status	Total
Captioner 1	Executing query ...	8
Captioner 2	Query executed	0
Captioner 3	Connection established	0
Captioner 4	Connection established	0
Captioner 5	Connection established	0

Yo can cancel search by clicking the **Cancel** button.

When the search is complete, all transactions found in the selected captions databases are displayed in the search results table.

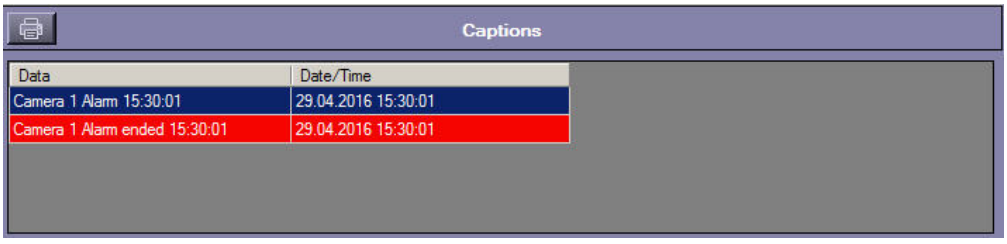


By default search results by all captioners are displayed in the **Total tab**. Double clicking the captioner name the tab containing the search results for the selected captioner appears.



To view the search results, select the tab with the required captions database and then select the required transaction in the search results table.

The corresponding captions are displayed as the text in the search results field.



Note.

If in the search results there are no captions that were recorded before *Intellect* reinstallation, then indexing of the captions archive is to be performed. For this select **Tools – Reindex** menu item in the Captioner debug window that is called by double left-clicking the icon in the taskbar.

The video corresponding to the selected transaction is displayed in the search results field.



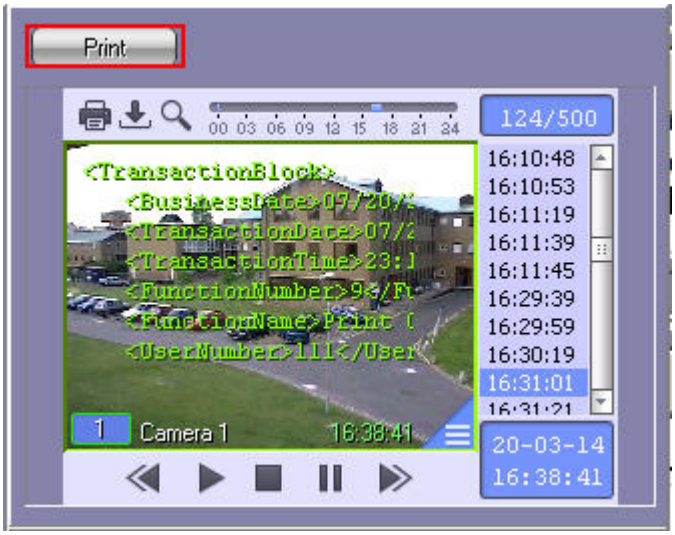
Export and processing functions similar to those of Video surveillance monitor are available in this window, including video clips export with subtitles. For more details on using Video surveillance monitor functions, see Operator's Guide(see page 284).

While 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

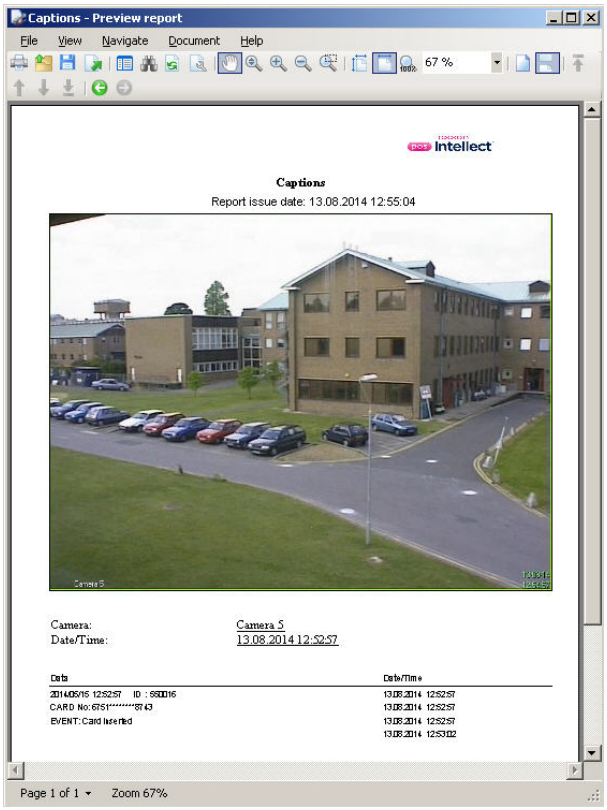
The search results including video snapshot can be printed as well as exported to different formats.

Use the **Print** button to print the search results.



The availability of this feature depends on system settings - there can be no **Print** button.

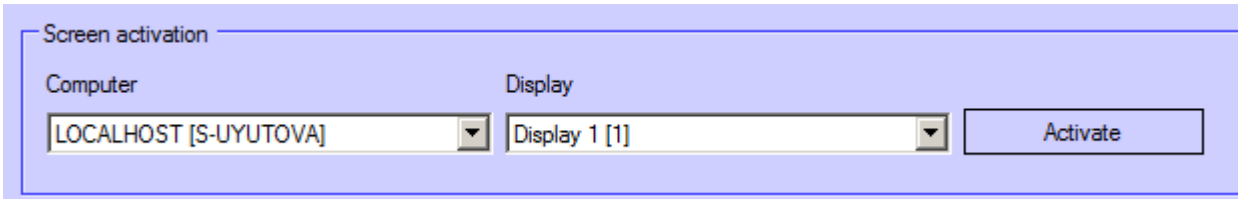
The search results report is automatically created and displayed in a new window.



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[176]). 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

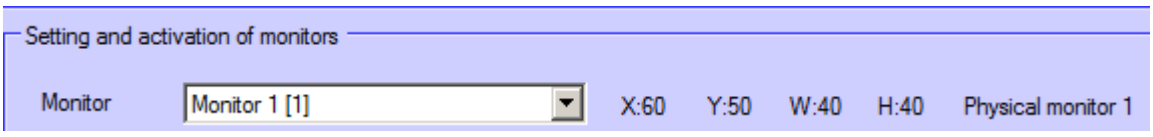
4.17.2.1 The procedure of configuring and activating the layouts

The layout are configured and activated in the following order:

1. Selecting the Video surveillance monitor(see page 290).
2. Selecting or creating a layout(see page 290).
3. Configuring the cells and adding the Surveillance windows to the layout(see page 292).

4.17.2.2 Selecting the Video surveillance monitor

The Video surveillance monitor is selected using the **Monitor** drop-down list:



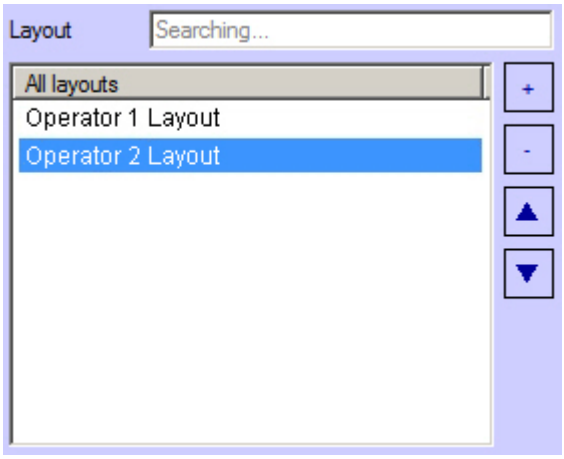
After the Video surveillance monitor is selected, its coordinates and dimensions are displayed on the right, as well as the number of the physical monitor on which it is displayed.

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(see page 290)).

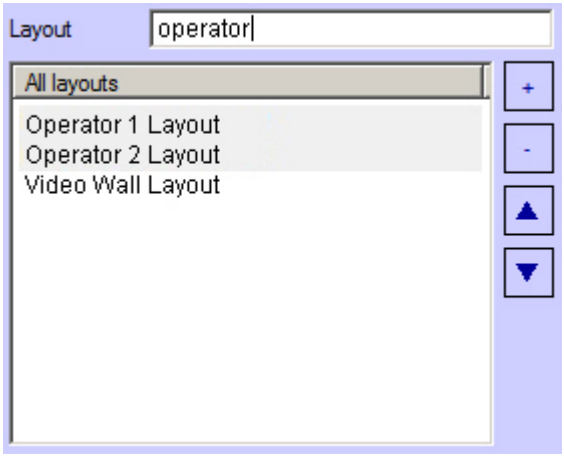
4.17.2.3 Selecting or creating a layout

To select, create, delete, rename, sort and search layouts, the following settings group is used:

176 https://doc.axxonsoft.com/confluence/display/Int411en/Assigning+the+screens+to+the+operator+workstations

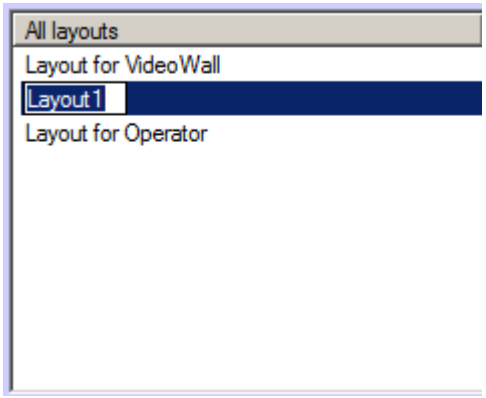


To search for the required layout, start typing the layout name in the **Layout** field. The found items will be highlighted in gray.



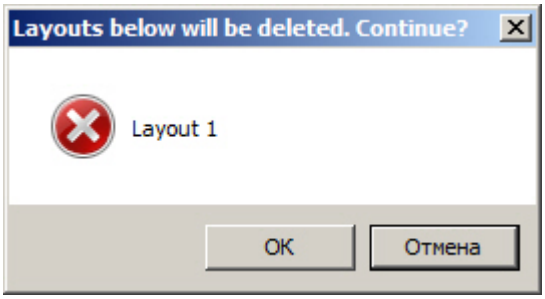
To select a layout to be displayed on the layout creation panel, left-click its name in the list.

To create a layout, click the + button. The layout will be 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.

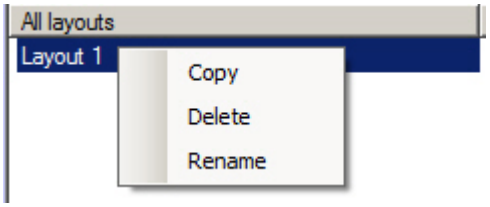


To delete a layout, select it and click the - button. Several layours can be selected with Ctrl key pressed on the keyboard.

The confirmation dialog box with the list of layouts to be deleted opens on clicking the - button. Click **OK** to delete the layouts of **Cancel** to abort the operation.



To move the layout up or down in the list, use the ▲ and ▼ buttons respectively.
A layout can also be deleted or renamed using the corresponding commands in the menu opened by right click on the layout name:

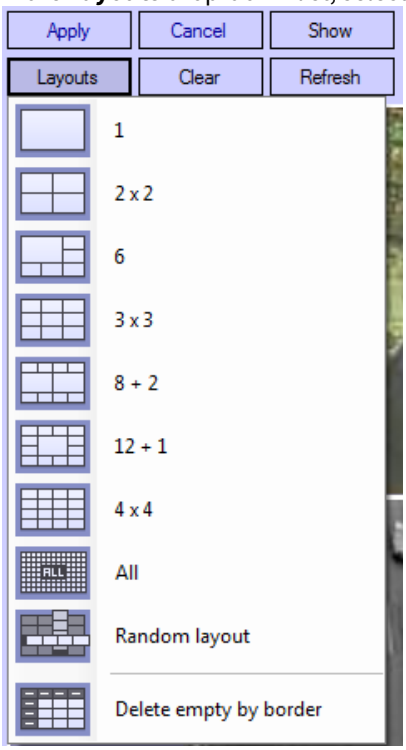


4.17.2.4 Configuring the cells and adding the Surveillance windows to the layout

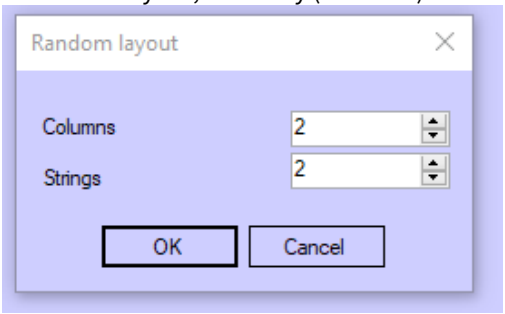
After selecting or creating a layout(see page 290), it is necessary to adjust the location and size of the layout cells and add the Surveillance windows to them.

The cells number and layout shape is selected in one of the following ways, or both at the same time:

1. In the **Layouts** drop-down list, select the required layout shape.



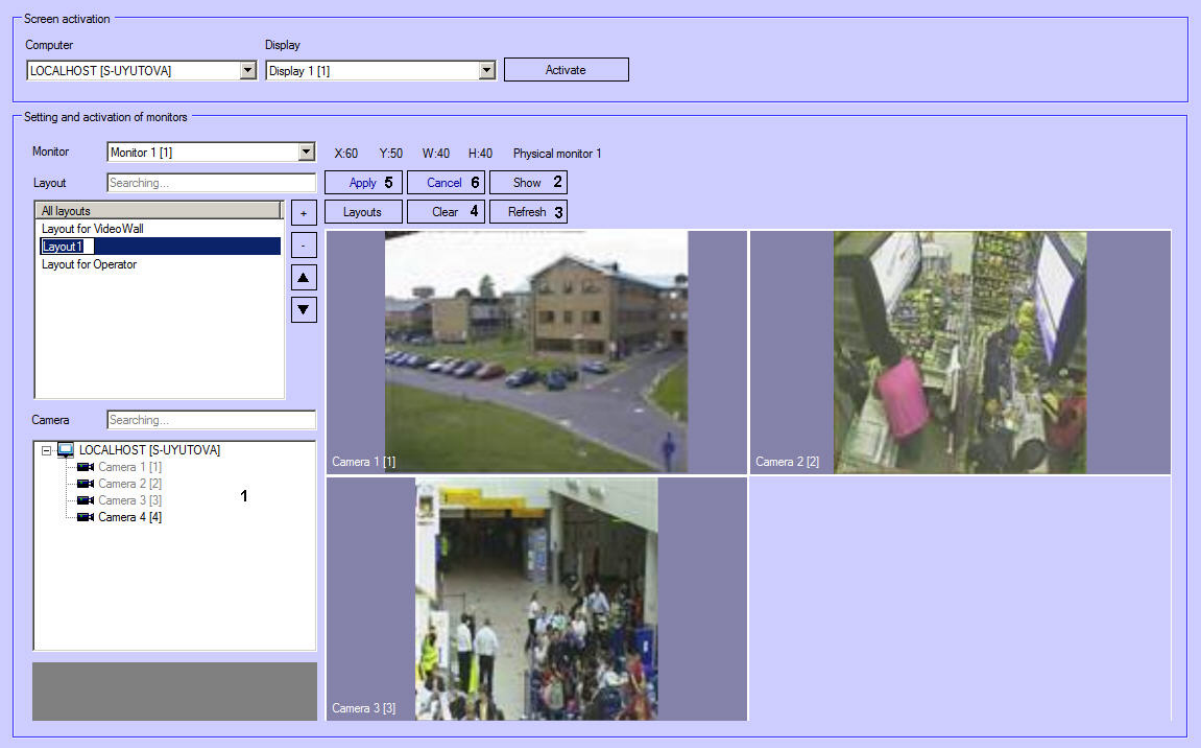
If you select the **Random layout** item, the window will open, where it is necessary to specify the number of cells in the layout, vertically (columns) and horizontally (strings).



2. You can adjust the layout shape manually using the **<**, **>**, ∨, ∧ buttons. Each click of these buttons expands the cell by 1 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.**
>
> The space or delimiters between camera Surveillance windows inside a layout are 2 pixels width.

After the required layout shape and cells number are configured, it is necessary to add the Surveillance window to the layout. To do this, drag the cameras from the list (**1**) to the layout cell using the left mouse button. The Surveillance window of a single camera can be added to the layout only once. The cameras which are already added to the layout are highlighted in gray in the list.



The (1) list displays cameras added to the **Monitor**(s) (see Selecting and configuring video cameras[177]) created under the selected **Display** object (see Selecting and activating the display(see page 290)).

To search for a camera, start typing the camera name or ID in the **Camera** field. The first found camera will be highlighted in the list. To move to the next search result, press Enter on the keyboard.

> **Note**
>
> If no layout is selected, or if no matches are found when searching for a layout, no cameras are displayed in the list.

To display the configured layout on the Video surveillance monitor without saving it, click the **Show** button (**2**).

If the layout was created using the Display manager, then the frames displayed in 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 (**3**).

To delete all cells from the layout, click the **Clear** button (**4**).

To save the layout, click the **Apply** button (**5**).

To undo the changes and return to the last saved layout, click the **Cancel** button (**6**).

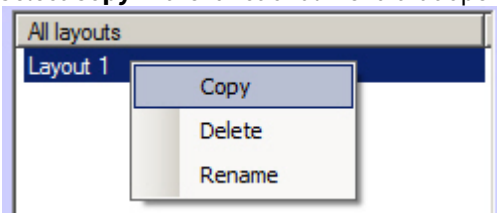
> **Attention!**
>
> If after changing the layout, you select another layout, another **Monitor** or another **Display**, the changes are automatically saved and cannot be undone.

177 https://doc.axxonsoft.com/confluence/display/Int411en/Selecting+and+configuring+video+cameras

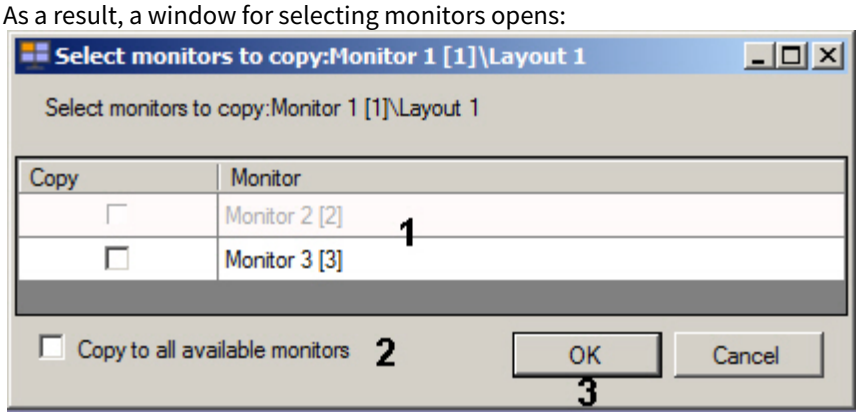
4.17.2.5 Copying a layout

After the layout is set up (see Selecting or creating a layout(see page 290) and Configuring the cells and adding the Surveillance windows to the layout(see page 292)), it can be distributed it to other monitors. To do this, follow these steps:

1. Select **Copy** in the functional menu that opens by right-clicking on the layout name.



2. As a result, a window for selecting monitors opens:



3. Set the checkboxes next to the monitors to which the layout should be copied (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** check box (2).
5. Click **OK** (3).

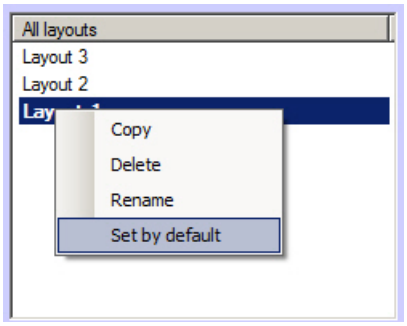
As a result, the layout will be available in all selected monitors.

4.17.2.6 Selecting the default layout

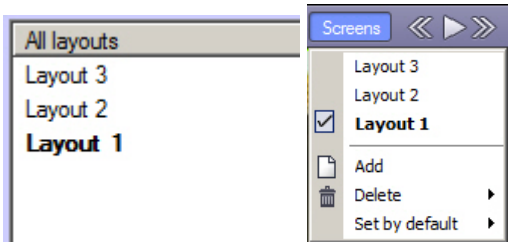
Any of the created layouts can be set as default. The default layout will be displayed when *Intellect* is launched. Use the UseDefaultLayoutOnlyAtStartup registry key to display the default layout each time the corresponding screen with the Video surveillance monitor is displayed (see Registry Keys Reference Guide[178]).

To select the default layout, right-click the desired layout in the list and select **Set by default** in the opened functional menu.

178 https://doc.axxonsoft.com/confluence/display/Int411en/Registry+keys+reference+guide



The default layout is highlighted in the lists in the Display Manager and in the Video Surveillance Monitor(see page 76) in bold:



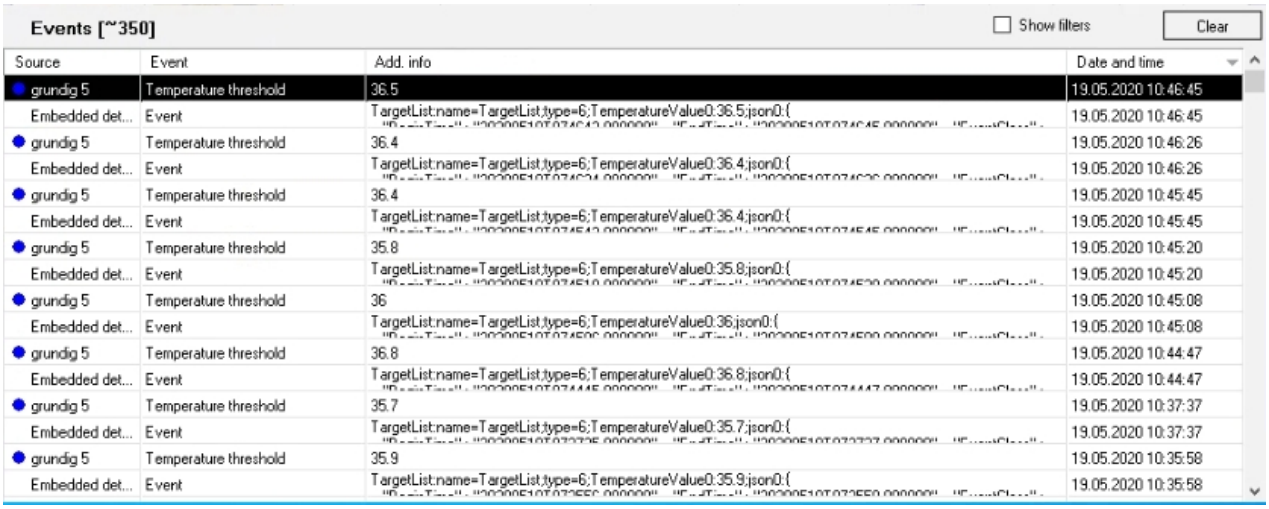
4.18 Thermal camera operation

Intellect software supports working with thermal cameras. In addition to the conventional infrared detection tool[179], it is also possible to receive data from the embedded detectors[180] of the thermal imager, provided that this function is integrated into the Drivers Pack[181]. Any additional settings other than setting the embedded detector are not required.

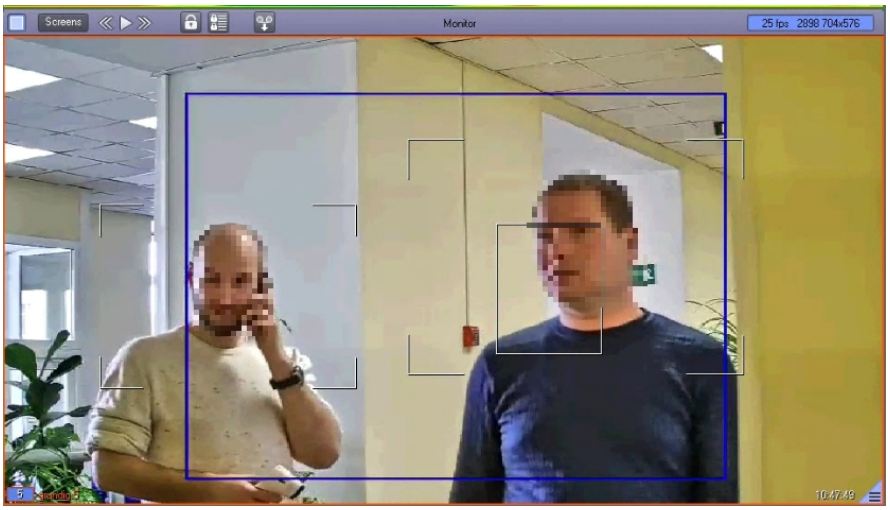
The temperature data received from the built-in detectors are displayed in the Event Viewer:

- The **Event** event from the **Embedded detector** object contains metadata in a string format. Further processing of these data is carried out using scripts.
- The **Temperature threshold** event from the **Camera** object shows the temperature value. The temperature threshold is set in the thermal camera web interface.

179 https://doc.axxonsoft.com/confluence/display/Int411en/Configuring+Infrared+detection+tool
180 https://doc.axxonsoft.com/confluence/display/Int411en/Configuring+embedded+detectors
181 https://doc.axxonsoft.com/confluence/display/DDP/Documentation+Drivers+Pack



The face to which the temperature refers is shown in the Video surveillance monitor with a frame:



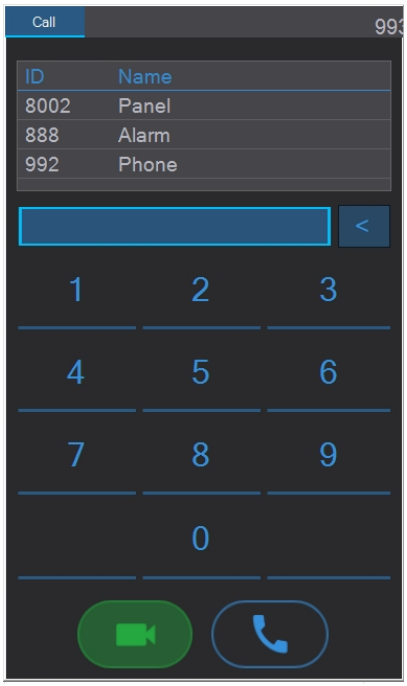
Furthermore, the processing of obtained body temperature data is also implemented in *Face-Intellect* software (see the *Face-Intellect Administrator Guide* in AxxonSoft documentation repository[182] for more details about this function).

4.19 Working with SIP Panel

4.19.1 Making calls using SIP Panel

The calls are made on the **Call** tab of the SIP Panel(see page 67).

182 https://doc.axxonsoft.com/confluence/display/ASdoc/AxxonSoft+documentation+repository



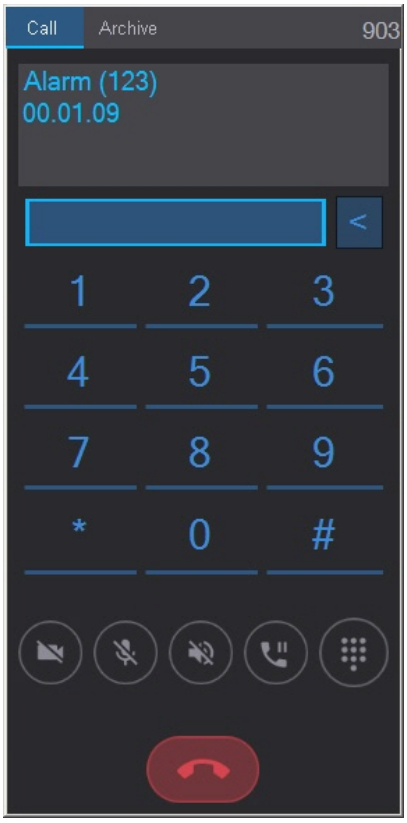
To make a call from the panel, select a number in the address book or dial the number manually, and then click one of the following buttons:

-  — to start a call with video and audio. If the operator's camera, microphone and speaker were selected at the stage of system configuration, and the SIP-device supports the corresponding function, then video and audio from the camera, as well as audio from the operator's microphone, will be transmitted to the device.
-  — to start only an audio call.

In both cases, both video and audio are transmitted from the SIP-device, but in the second case, the video stream from the operator’s camera is not transmitted to the device.

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.

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.

The buttons at the bottom of the panel provide the call control:

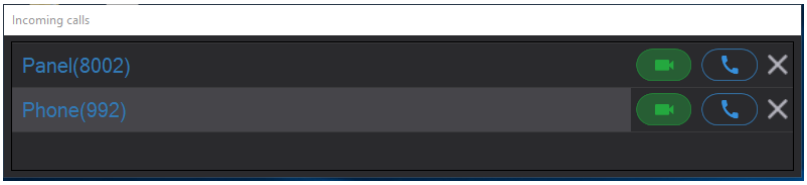
 — Enable/disable the operator's camera.

 — Enable/disable the operator's microphone.

 — Enable/disable the operator's speaker.

 — Hold the call. A window 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):

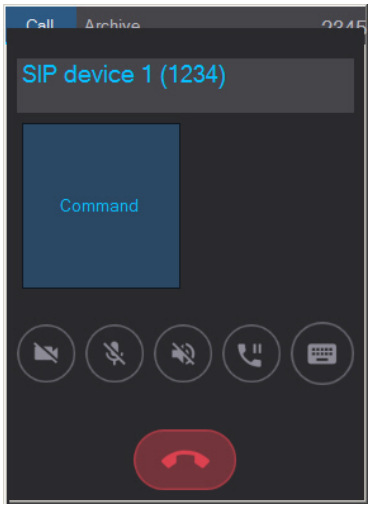
> **Note**
>
> The video and audio from the SIP-device continue to be received in *Intellect* in the Hold mode while the video and audio from the SIP-operator's camera and microphone are not transmitted to the SIP-device.



Calls in the list are sorted by the SIP-operator and SIP-device priority specified during the system setup. If several operators and devices have the same priority, the calls from them are sorted by the call receiving time. By default, new calls are added to the top of the list, however, the sorting order can be changed during the system setup so that new calls are added to the end (see Advanced settings of the SIP-panel interface object[183]).

A call list window is displayed on top of all windows when making a call and holding a call.

 — Display/hide the tone dialing panel. This panel allows the use of commands added while configuring the SIP-device (see Configuring SIP-devices of the Intellect's SIP server[184]).



 — End the call.

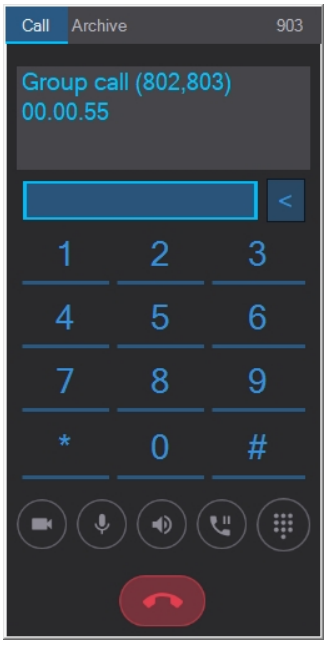
> **Note**
>
> By default, clicking the buttons on the SIP panel, a command execution and calls are accompanied by sound signals. The sound of clicking the buttons can be turned off at the stage of configuring the SIP panel interface object.
> If there is no answer, the call automatically ends in 30 seconds (this timeout is configurable by the CallTimeout registry key, see Registry keys reference guide[185]).

4.19.2 Making group calls using SIP Panel

A group call is made as a regular call(see page 297) from a SIP Panel to a number with configured forwarding to several numbers (see Configuring numbers of SIP-terminal[186]).

During the group call, the SIP Panel window will be displayed on top of all windows and will look like this:

183 https://doc.axxonsoft.com/confluence/display/Int411en/Advanced+settings+of+the+SIP-panel+interface+object
184 https://doc.axxonsoft.com/confluence/display/Int411en/Configuring+SIP-devices+of+the+Intellect%27s+SIP+server
185 https://doc.axxonsoft.com/confluence/display/Int411en/Registry+keys+reference+guide
186 https://doc.axxonsoft.com/confluence/display/Int411en/Configuring+numbers+of+SIP-terminal



The information field at the top of the window displays the numbers to which the forwarding was made and the duration of the call. Group call controls are similar to regular call controls.

5 Postscript

More detailed information on the Intellect software package is presented in the documents titled:

1. Installing and configuring security system components guide[187];
2. Programming Guide (JScript)[188].
3. Administrator's Guide[189];

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 occurr 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.

Please forward your suggestions to the following e-mail addresses: documentation@axxonsoft.com[190]

187 https://doc.axxonsoft.com/confluence/display/Int411en/Installing+and+configuring+security+system+components+guide
188 https://doc.axxonsoft.com/confluence/pages/viewpage.action?pageId=136250338
189 https://doc.axxonsoft.com/confluence/display/Int411en/Administrator%27s+Guide
190 mailto:documentation@axxonsoft.com