Operator's Guide

Last update 04/02/2019

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1 List of terms used

In the *Intellect* Operator's Manual 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:

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 in Intellect software functionality and Intellect software package restrictions 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.

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

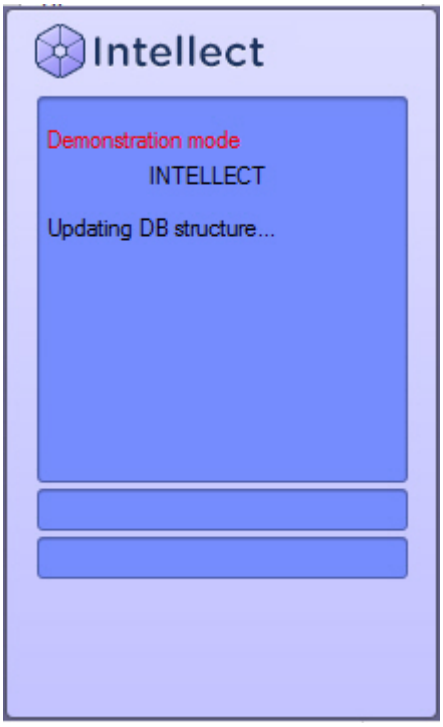
On the page:

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.



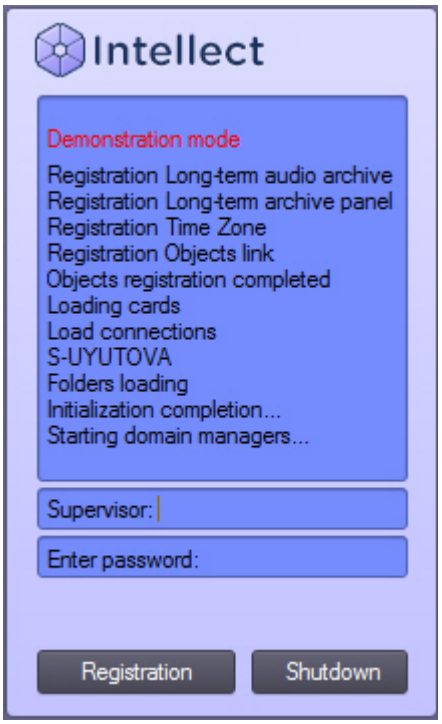
Note.
If there is no license key and *Intellect* is started in the demo mode, then there is the “Demo mode” message in the startup dialog box.

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 30 seconds.
The number of attempts to enter the password and the timeout for the next attempt can be changed using the URAttempts and URDelay registry keys - see Registry keys reference guide.

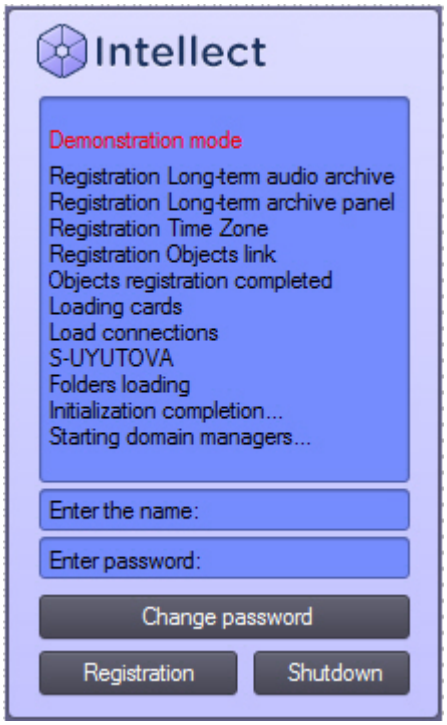
Login and password are not required when Windows account information is in use. To start *Intellect*, click the **Registration** button. The **Login** and **Password** fields are to be empty.

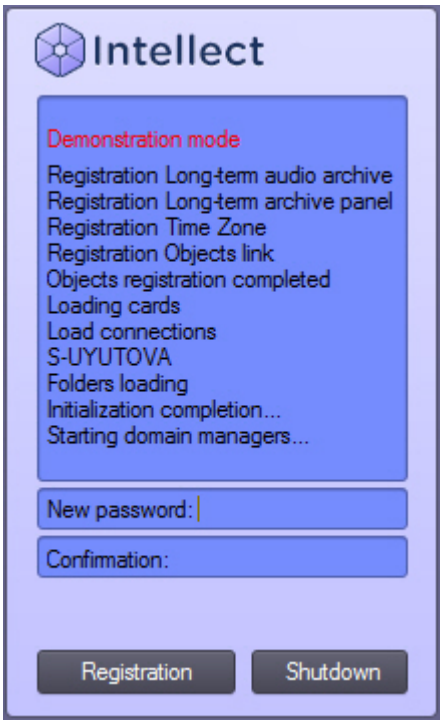
Confirmation by supervisor is required while the user log-in to the system if the authorization by four-eyes rule is configured in the system. After clicking the **Registration** button it will be proposed to enter the supervisor login and password. After entering the supervisor password click the **Registration**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



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.

4.1.2 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** option in the menu.

> **Note.**
>
> The **Log off** item is also available from the menu which is opened by clicking the left mouse button on the  symbol in the Windows system tray.

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 program shutdown (logging off) may be forbidden. Then no **Log Off** option will be displayed in the menu.

4.2 Intellect software user interface

4.2.1 Main control panel

On page:

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 of 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 window. 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.
2.  Screens button. Chooses and displays screens and some other windows on the desktop. The **Close all** command hides all visible program windows.
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

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

Note.
These hot keys can be disabled using the RegisterF10andF11 registry key - see the Registry keys reference guide.

Key	Description
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:

4.2.2.1 Function

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

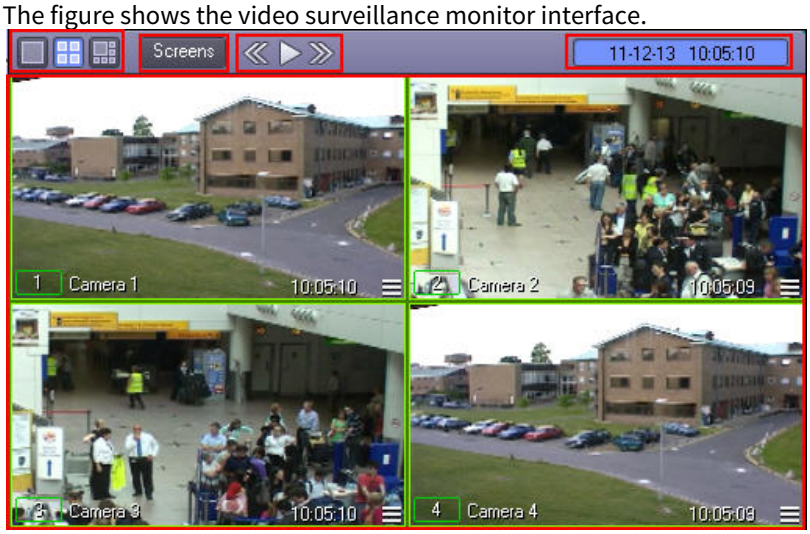
4.2.2.2 Functions

The video monitor is used:

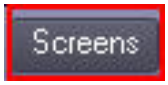
1. to display images from video surveillance cameras;
2. to control surveillance modes;
3. to graphically process images from video surveillance cameras;
4. to control recording of video sequences from surveillance cameras;
5. to work with video archives;
6. to display video camera status data.

4.2.2.3 Interface description

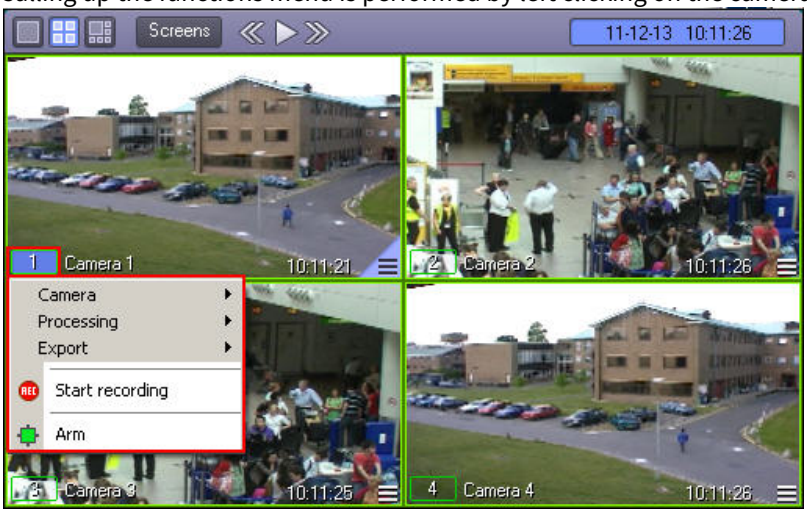
The figure shows the video surveillance monitor interface.



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.



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

Hotkeys	Action	Comments
0 .. 9 Num (numeric keypad)	Active window selecting	The sequence number of the selected window corresponds to the button number. To choose a 2-digit number window, quickly enter two digits without delay.
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 section in Administrator's Guide).*
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).
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 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 EnterEdgeStorageDirect key (see Registry keys reference guide).

Hotkeys	Action	Comments
Ctrl + "/" (numeric keypad) **Ctrl + Spacebar** **Ctrl + *** (numeric keypad) **Ctrl + Left/Right**	Archive playback control (playback control panel).	**Ctrl + "/"** – playback **Ctrl + Spacebar** – stop **Ctrl + *** – 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 video detection tools section.
Ctrl+L	Enable/disable PTZ control using the mouse	See Mouse PTZ control.

4.2.3 Audio player

On page:

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

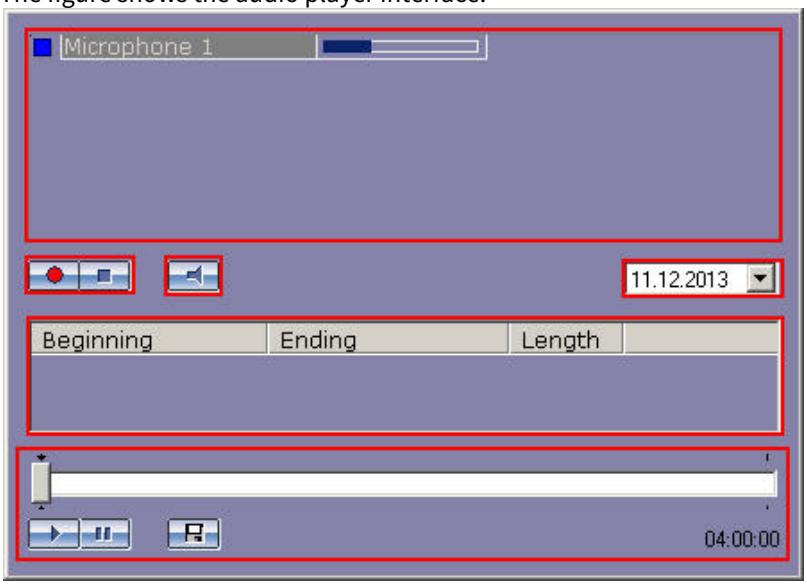
Audio player provides:

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.

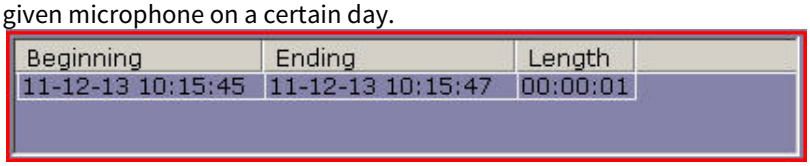
4.2.3.3 Interface description

The figure shows the audio player interface.

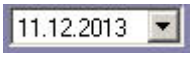


The upper part of the audio player window displays the list of attached microphones. Each microphone has a status indicator (to the left) and microphone signal level dynamic scale (to the right) (see also Microphone status indication).

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:

4.2.4.1 Function

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

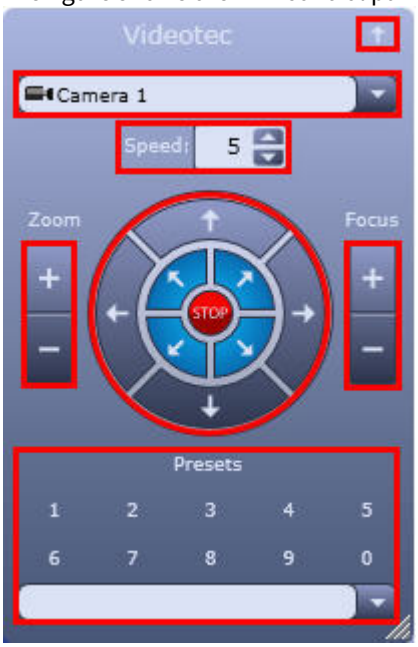
4.2.4.2 Functions

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. 

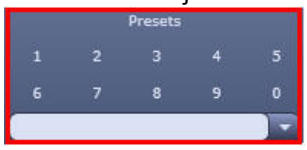
Choosing the camera number, whose PTZ unit is to be controlled.
3. 

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 Focus
7. 

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

4.2.5 User's dialog box window

On page:

4.2.5.1 Function

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

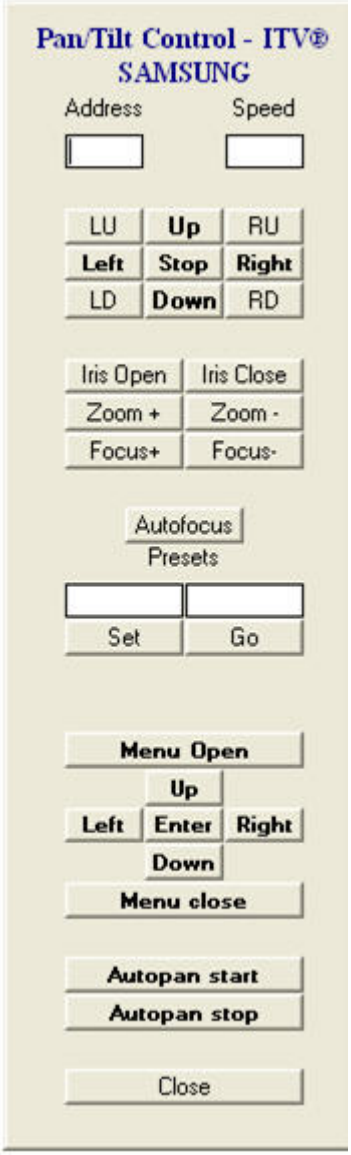
4.2.5.2 Functions

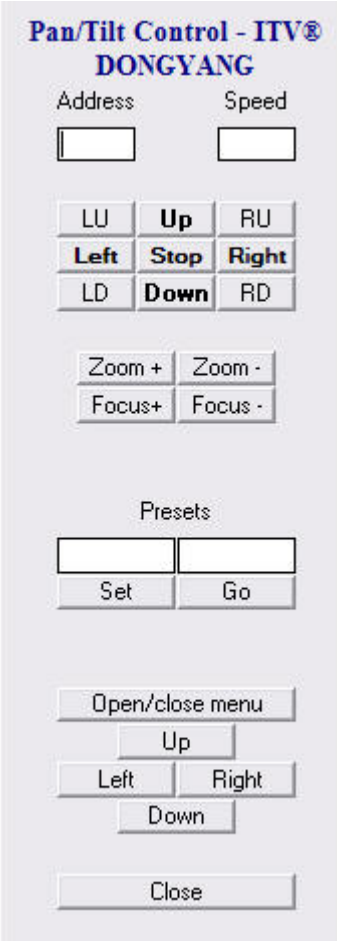
The user dialog box window provides:

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:

4.2.6.1 Function

The Backup archive panel is used to control Backup archiving.

4.2.6.2 Functions

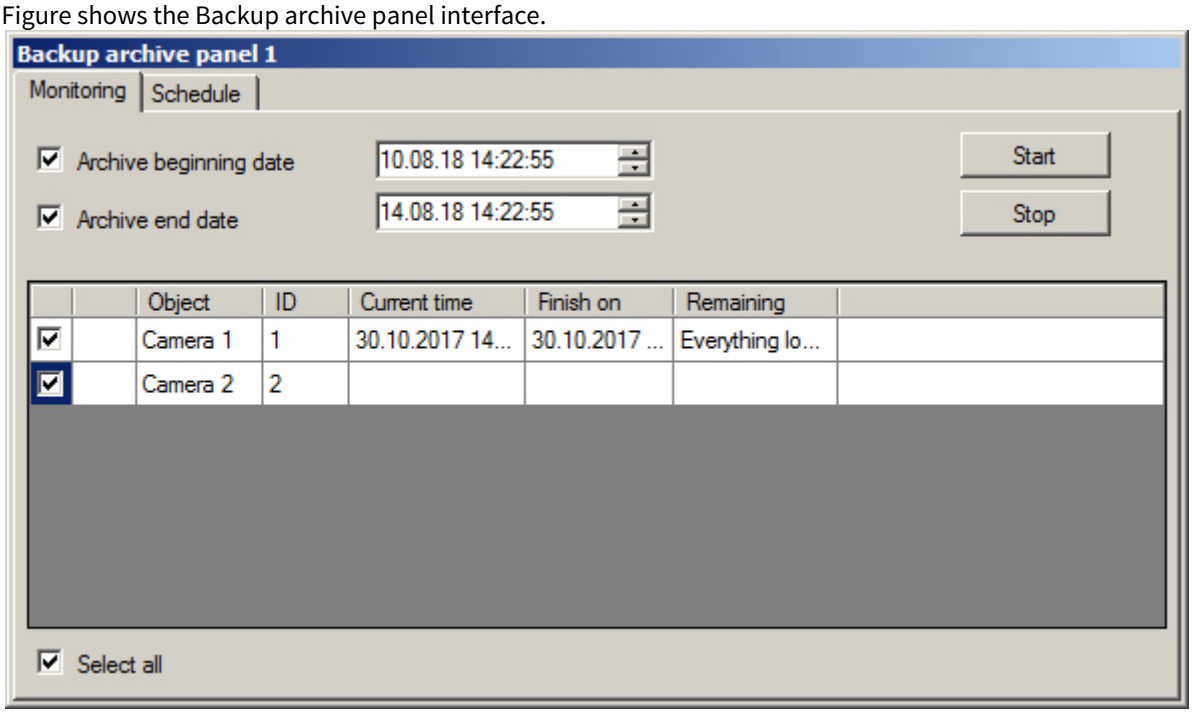
The Backup archive panel provides:

1. Backup archive monitoring;

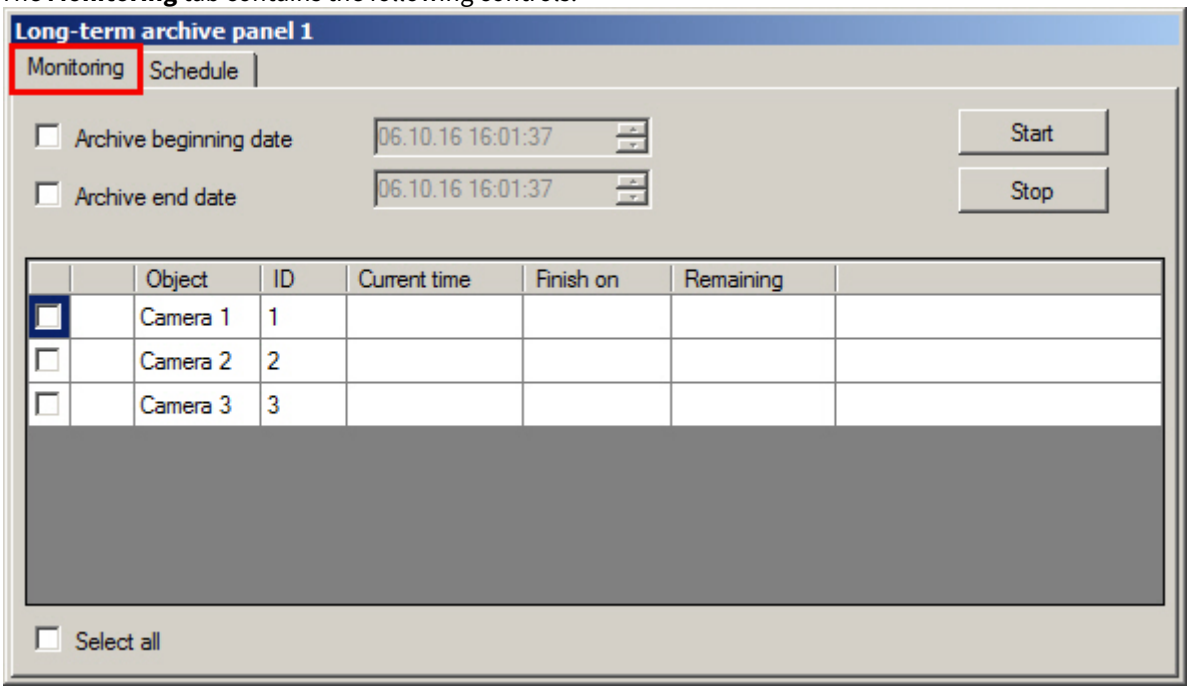
2. manual video archiving;
3. automatic video archiving;
4. choosing the surveillance camera, whose video recordings are to be archived;
5. entering date/time **from** and **to** values for video archiving (for each surveillance camera individually).

4.2.6.3 Interface description

Figure shows the Backup archive panel interface.



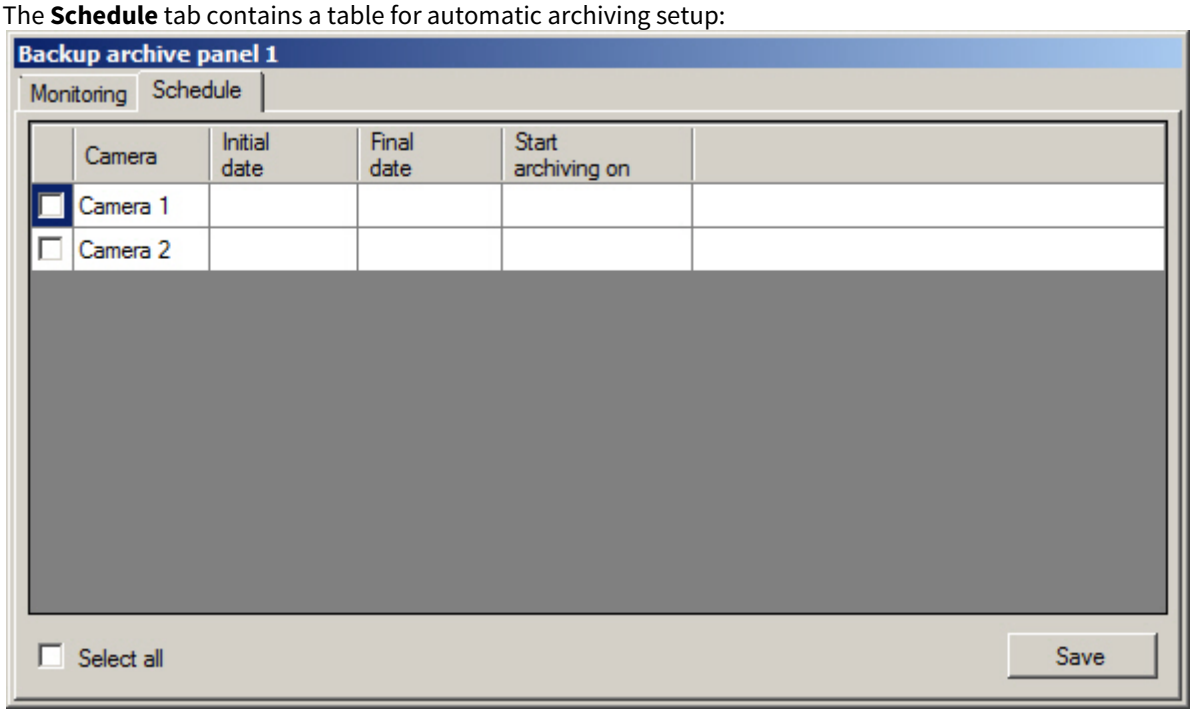
Monitoring and **Schedule** tabs are displayed at the top of the panel. The **Monitoring** tab is used to monitor and control the Backup archive, and the **Schedule** tab – to enter automatic Backup archiving parameters.
The **Monitoring** tab contains the following controls:



1. **Startup** 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 button is used to select/deselect all cameras.

The **Schedule** tab contains a table for automatic archiving setup:



The Select all button is used to select/deselect all cameras. The Save is used to save archiving schedule.

Copying video sequence to the Backup archive

4.2.7 Alarm notification window

On page:

4.2.7.1 Function

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

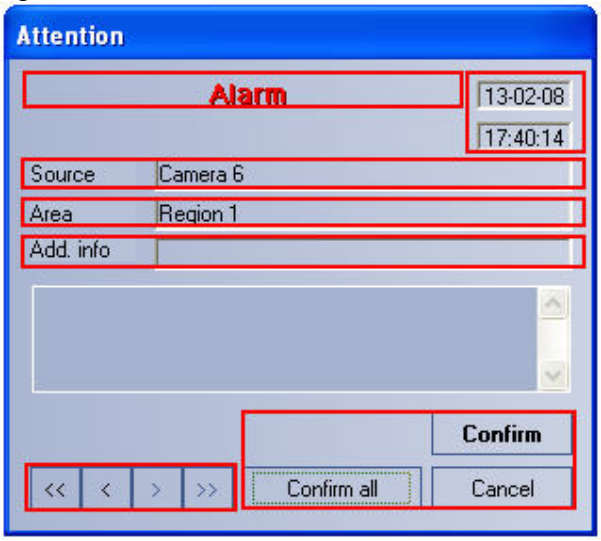
4.2.7.2 Functions

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

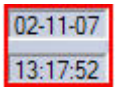
Figure shows the alarm notification window interface.



> **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



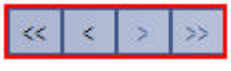
Date and time of event registration.

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:

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)

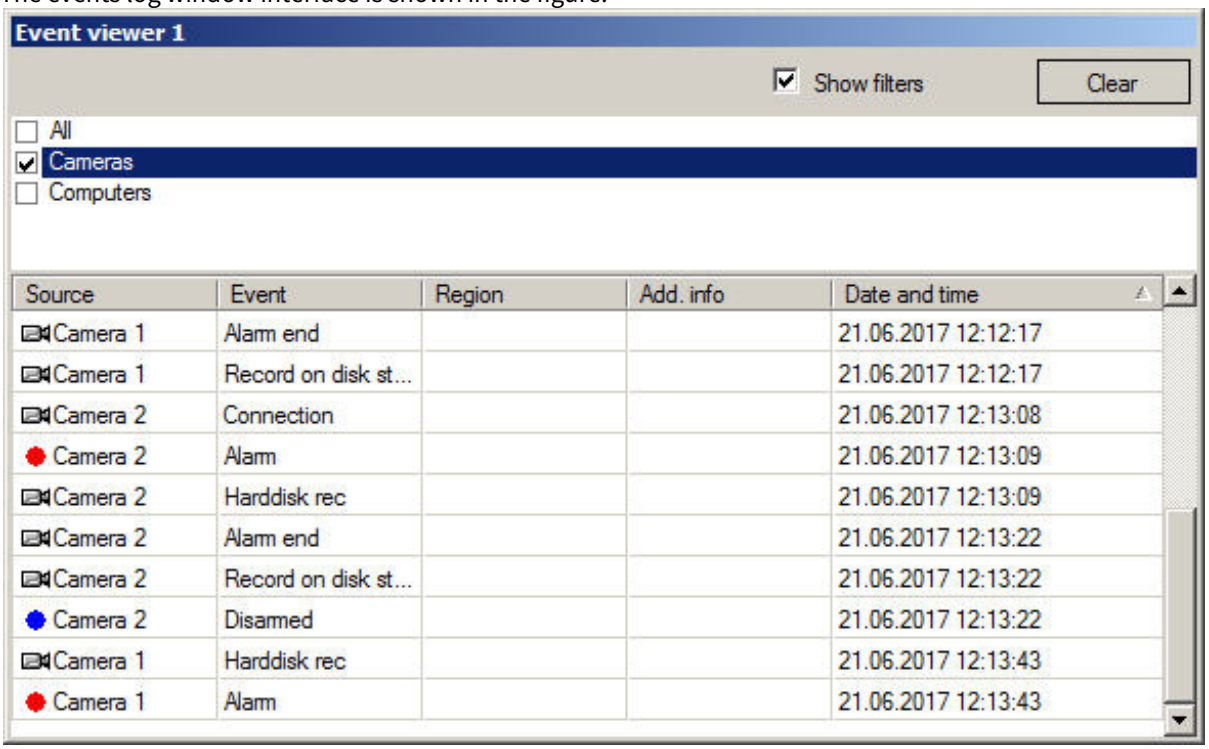
4.2.8.2 Functions

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

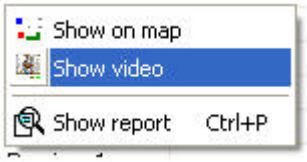
The **Display filters** checkbox shows the list of event filters created while configuring the system (see Configuring event filters for displaying in the Event viewer section in Administrator's Guide). To activate the filter set the checkbox checked next to its name. Several filters can be activated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

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

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 section in Administrator's Guide).

4.2.9 Operator protocol

On page:

4.2.9.1 Function

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

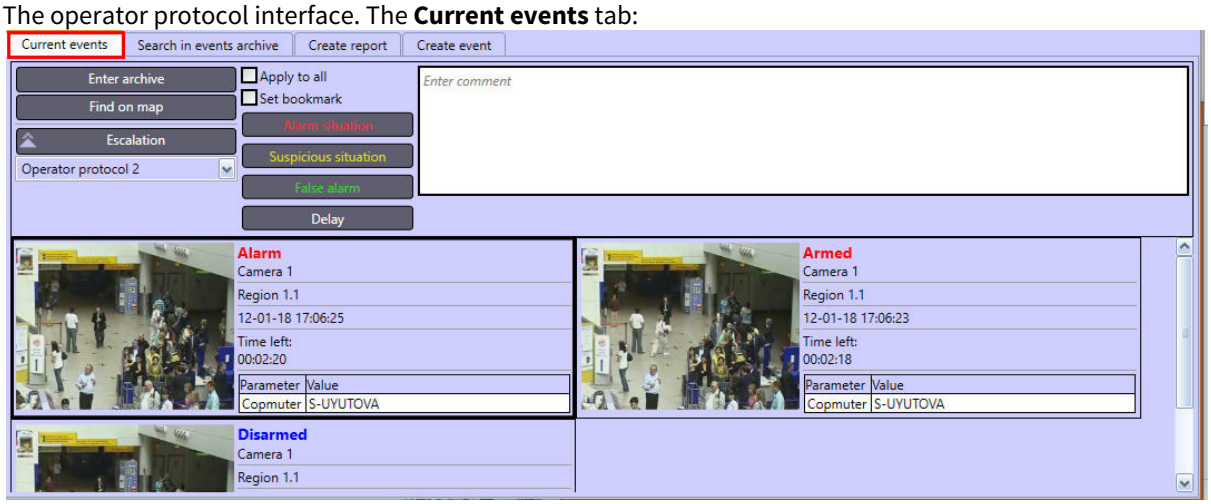
4.2.9.2 Functions

Operator protocol provides:

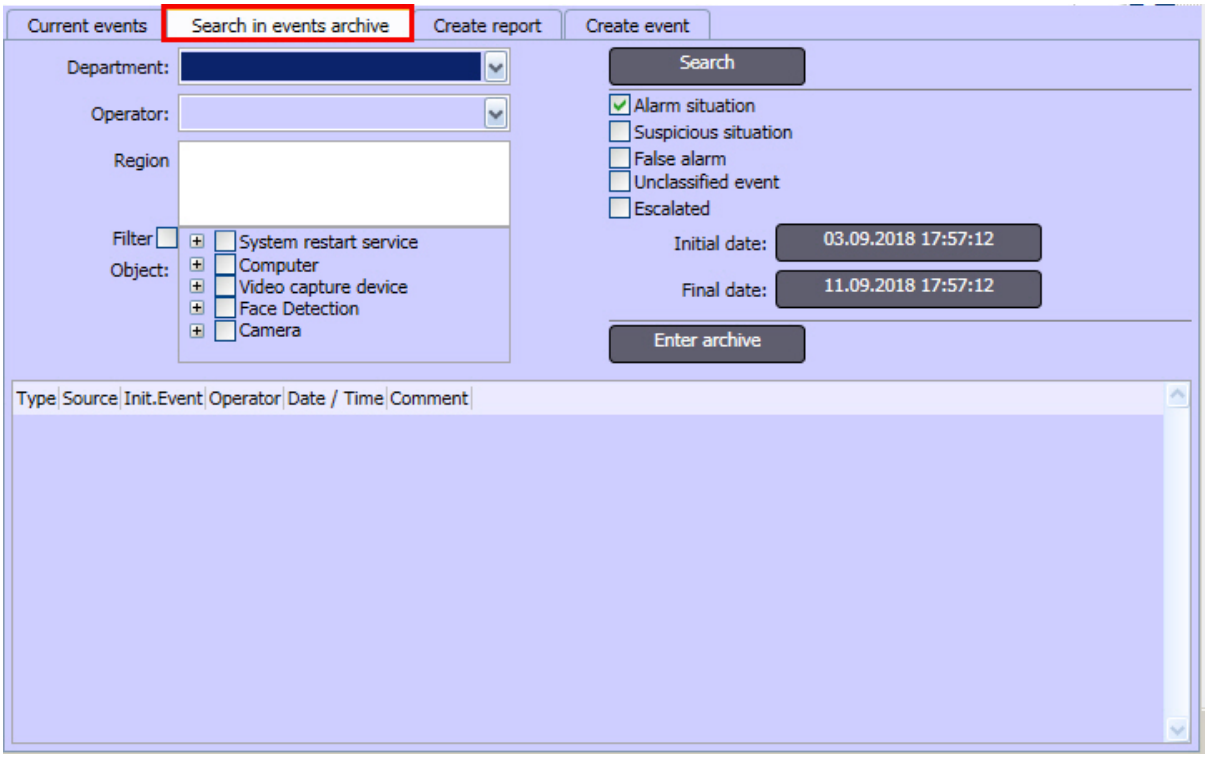
1. displaying events registered by alarm objects;
2. assigning a status (type) to the registered event;
3. adding a comment to an event;
4. event recording to the archive;
5. searching for events in the archive;
6. viewing event recording;
7. escalating non-processed events to the operator protocol of a higher level.

4.2.9.3 Interface description

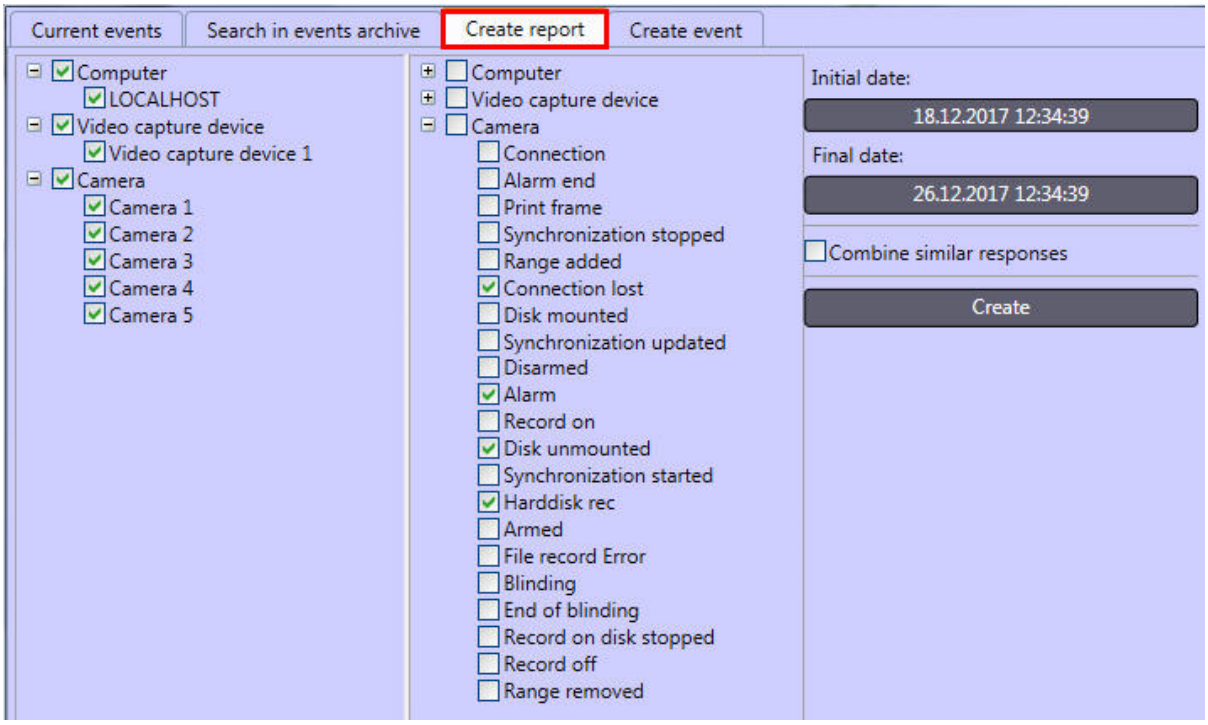
The operator protocol interface is shown in the following figures.
The operator protocol interface. The **Current events** tab:



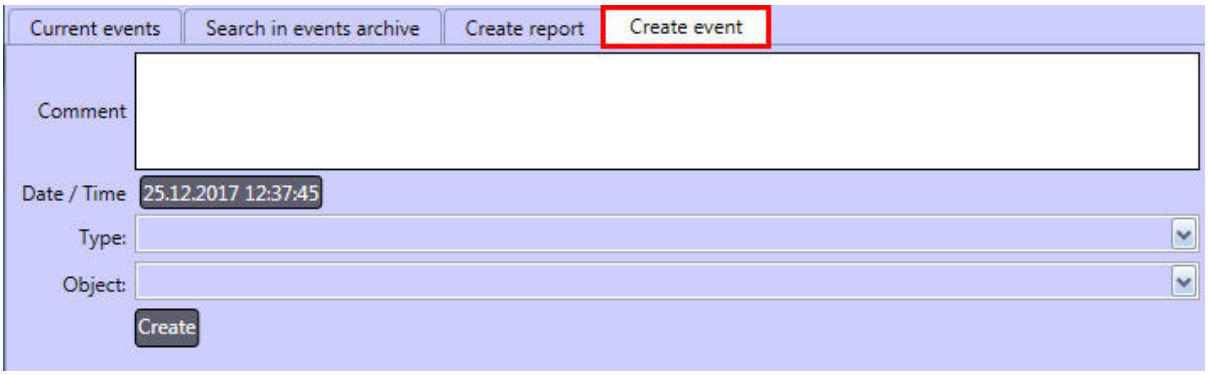
The operator protocol interface. The **Search in events archive** tab:



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.

4.2.9.3.1 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 Configuring the Operator protocol object section of Administrator's Guide.

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

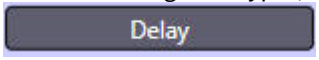
.
2. The button to switch to the map layer where there is the source of the even 

.
3. The button to escalate the event 

.

   > **Note**
   > If the event has got the **Escalated** status, then this event will be displayed in the interface of the operator protocol of the higher level. If there is no Escalation button 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. The buttons to assign the type (status) to the event 

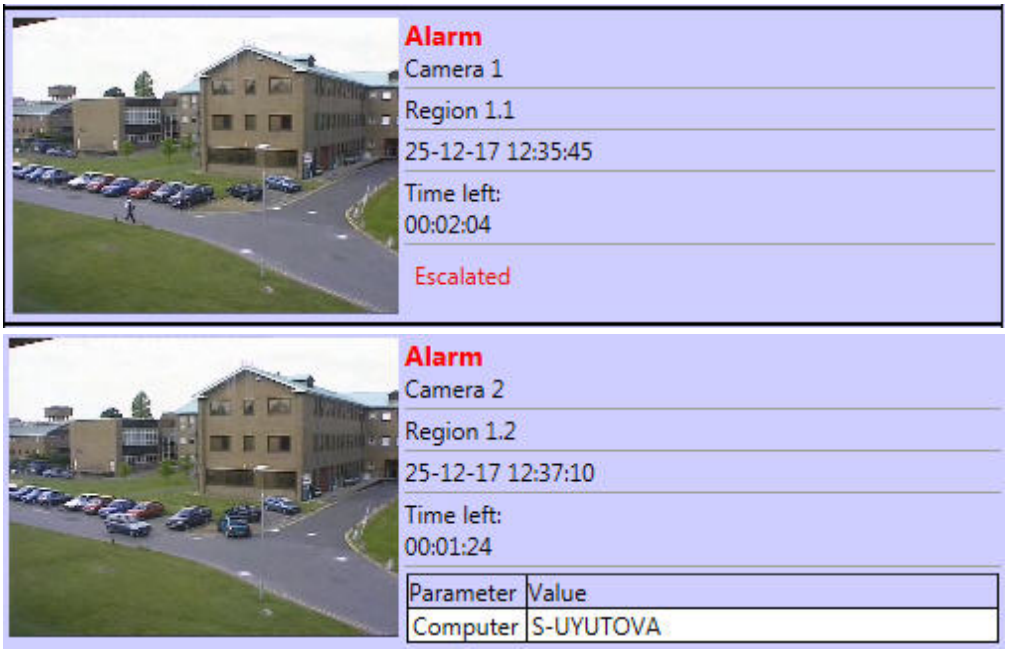
.
5. The 

button enables delaying event processing once for a time period specified when configuring the Operator protocol.
6. The field to enter a comment.

7. When enabling the Apply to all checkbox, the type assigned to the corresponding event is applied to all events in the **Current events** tab.
8. The Set bookmark checkbox is used for auto creation of the bookmark in the archive when the event is processed by the operator. The entered comment will be used as the bookmark name.

There are cells corresponding to the events at the bottom of the **Current events** tab. The number of horizontal cells is determined by the **Operator protocol** window width.The information on the event and the frame from the camera linked to the object from which the event is received are displayed in the cell (see Connection of objects with cameras in Administrator's Guide):

> **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.



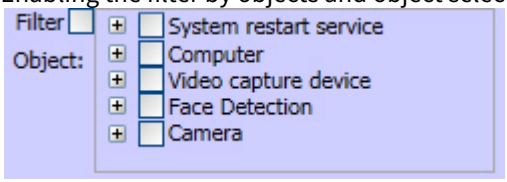
1. system name of the event;
2. object registered the event;
3. name of the **Region** object corresponding to the area where the event is registered;
4. date and time of event registration;
5. time left before the **Non-processed event** type is assigned to the event;
6. information about event escalation or optional parameters.

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

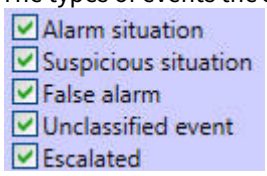
4.2.9.3.2 The **Search in events archive** tab

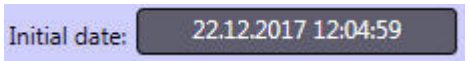
1. Department: The list to select the department which the operator belongs to. If the field is empty, than all operators are available to select.
2. Operator: The list to select the operator.
3. Select the region the object corresponds to:

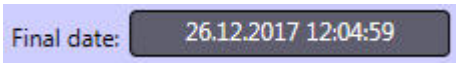
4. Enabling the filter by objects and object selection:

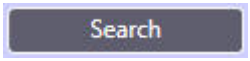


5. The types of events the search is performed by:



6. The button to set the initial date 

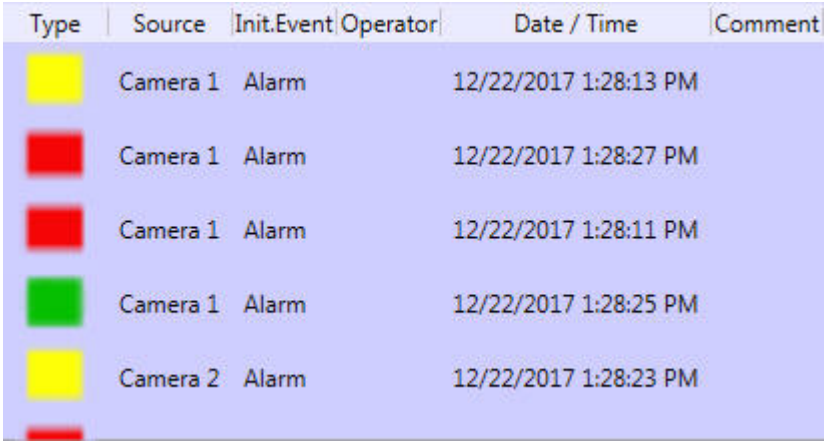
.
7. The button to set the final date 

.
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.

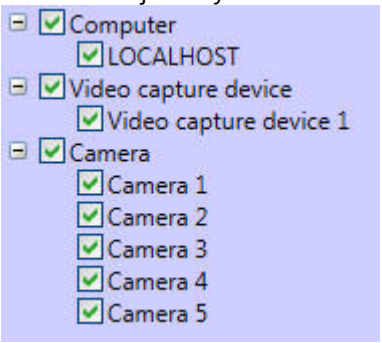


The description of the table is given below:

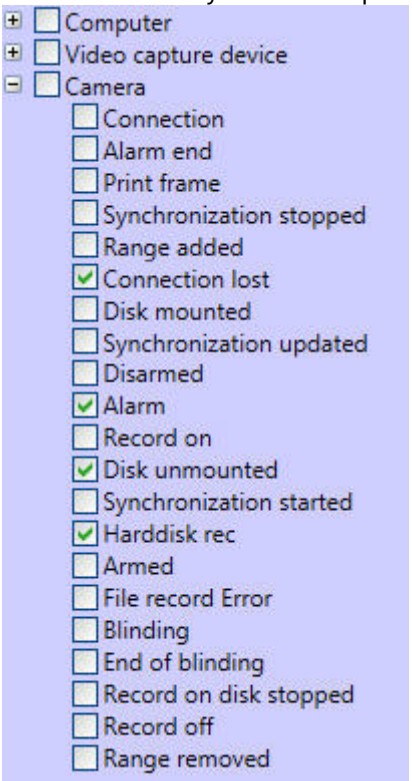
Column	Description
Type	The icon of event type
Source	Source object of the event
Init.Event	Initial event
Operator	Operator processed the event
Date/Time	Date and time when the event was registered
Comment	Operator's comment

4.2.9.3.3 The **Create report** tab

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

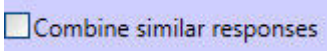


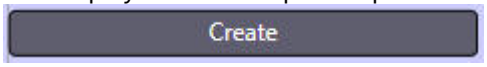
2. The list of events by which the report can be created:



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 

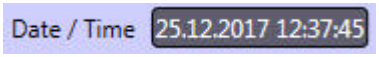
checkbox enables displaying an event in the report only once. If this checkbox is set unchecked, then one event will be displayed for each Operator protocol in the report.
6. The button to create a report 

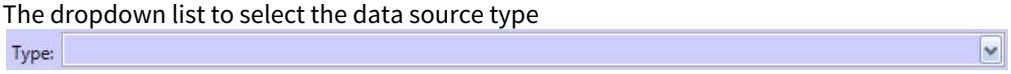
.

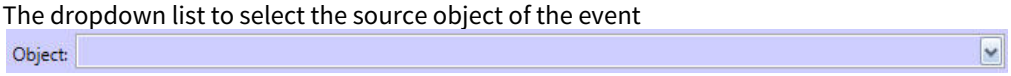
4.2.9.3.4 The **Create event** tab

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 Interactive map

On page:

4.2.10.1 Function

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

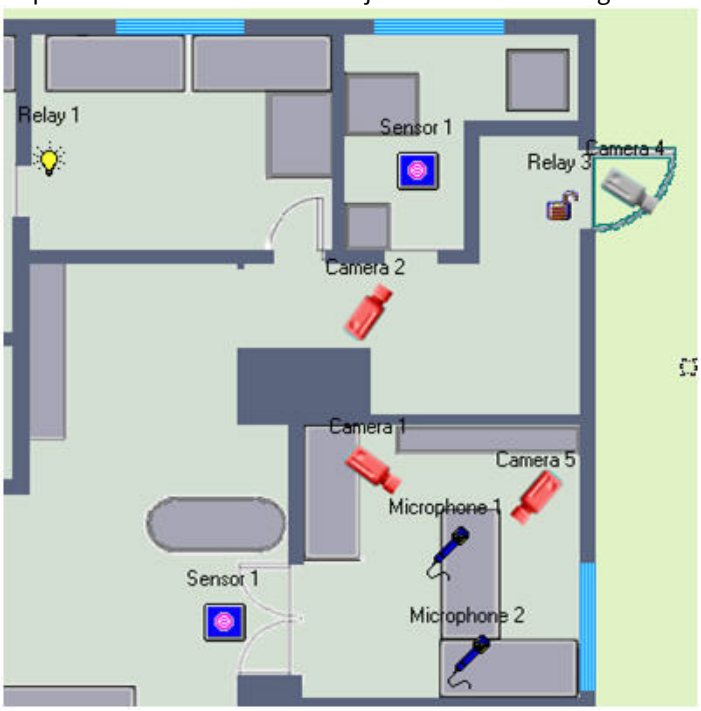
4.2.10.2 Functions

The map provides the following program functions:

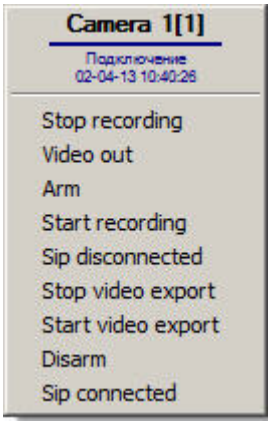
1. multilevel hierarchical object mapping (graphical chart forming) of a secured location;
2. on-line monitoring of the status of all system devices on the map;
3. virtual subdividing of secured objects;
4. possibility of automatic switching and recursive structural event analysis;
5. management of end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

4.2.10.3 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.

4.2.11 Video surveillance monitor for web browser

On page:

4.2.11.1 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).

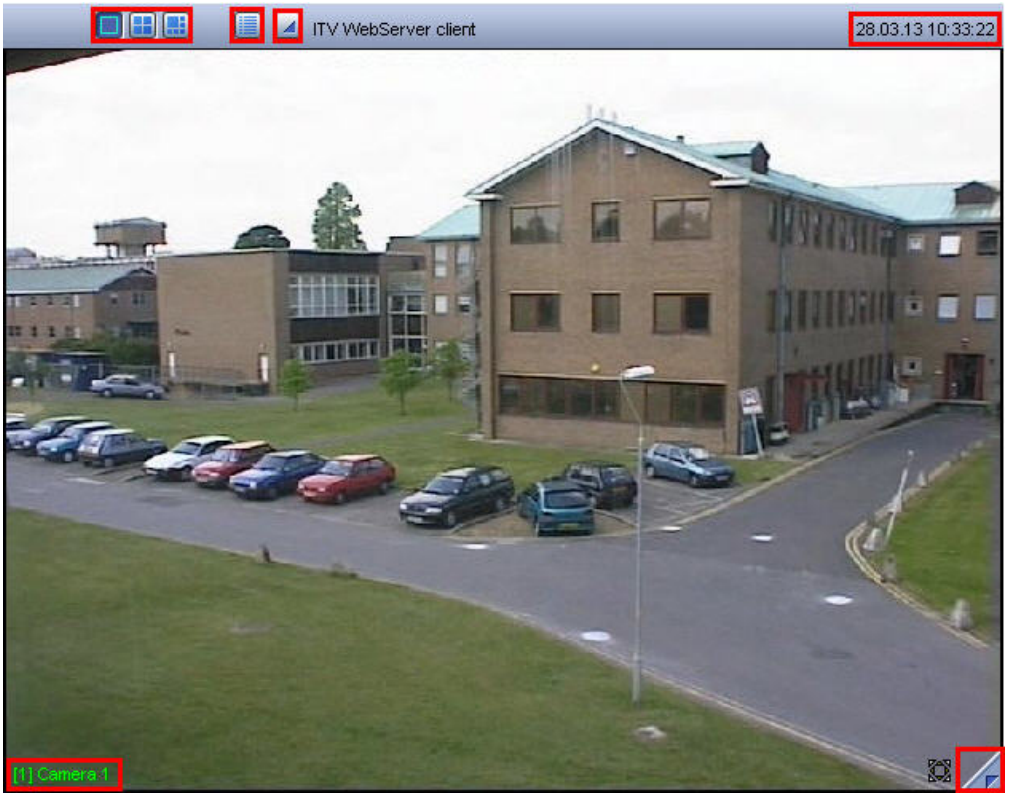
4.2.11.2 Functions

The video surveillance monitor for the web browser supports:

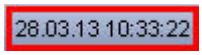
1. remote video surveillance with no *Intellect* software system setup at the Operator's workplace;
2. altering the number of surveillance windows present on the video monitor of the web browser;
3. camera arming and disarming;
4. camera detector control;
5. recording of video sequences from surveillance cameras.

4.2.11.3 Interface description

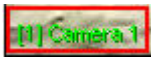
The following figure shows an interface of the video surveillance monitor for web browser.



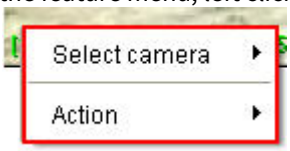
The video surveillance monitor for the web server window consists of the field for viewing tiles and the tool panel with:

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.

4.2.12 Panoramic video surveillance window

On page:

4.2.12.1 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.

4.2.12.2 Functions

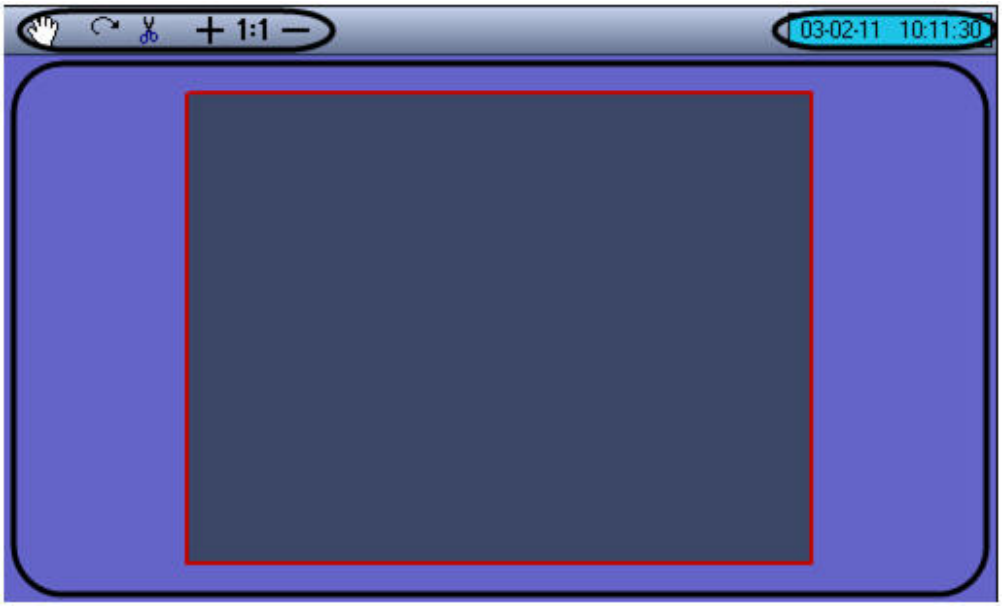
While using the panoramic video surveillance window the following modes of image processing are provided:

1. navigation;
2. perspective correction;
3. restore;
4. pan;
5. cut borders;

6. zoom in/zoom out.

4.2.12.3 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 .

4.2.13 Captions search

On page:

4.2.13.1 **Function**

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

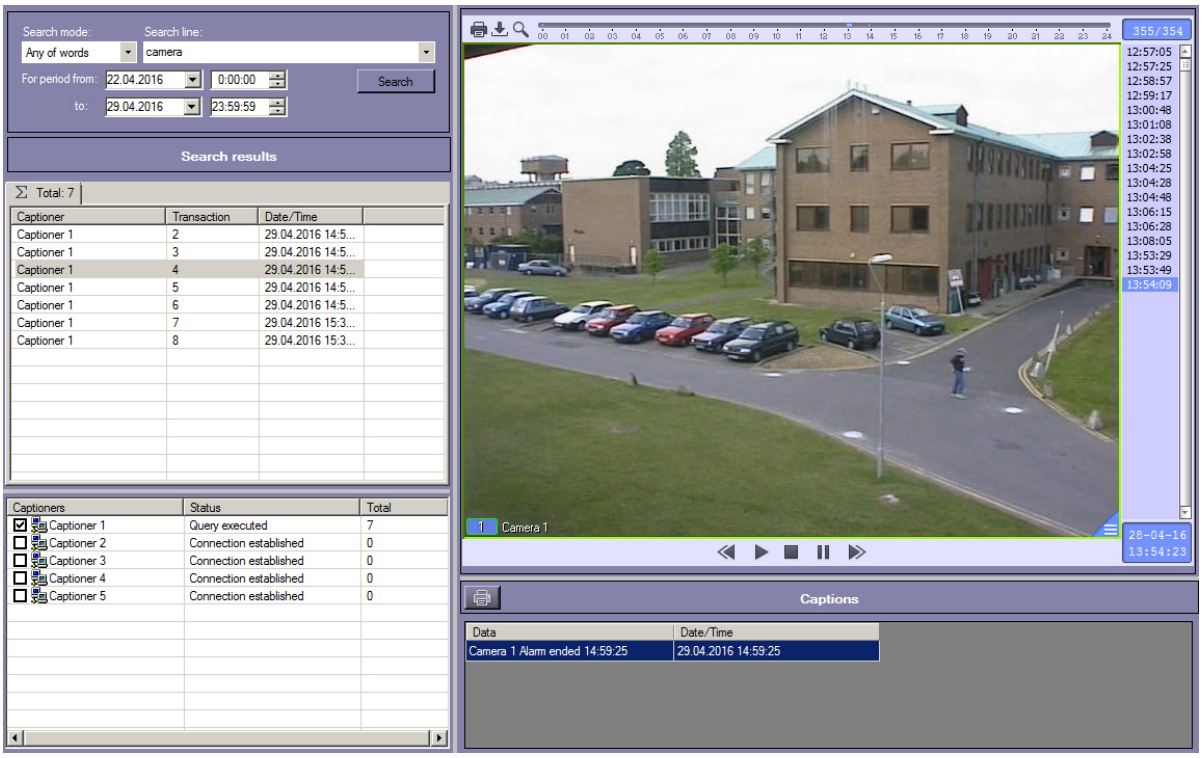
4.2.13.2 **Functions**

Search by captions allows:

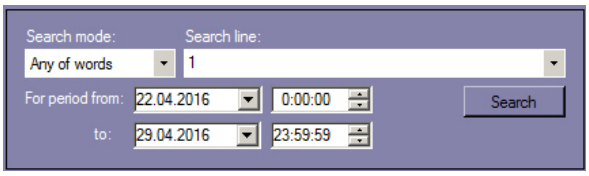
1. Searching in the captions database.
2. Viewing search results.
3. Printing the search results.

4.2.13.3 **Interface description**

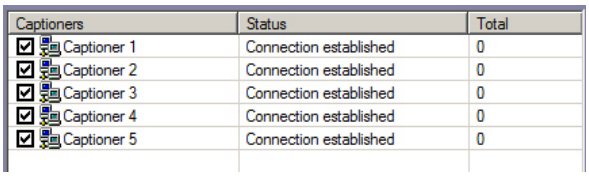
The figure shows an interface of the **Captions search** box.



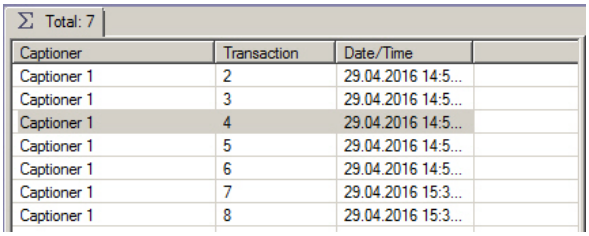
There is a search substring and time search interval in the upper left corner of the box.



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

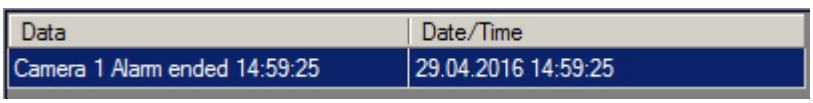


The captions databases the results by which are to be viewed are selected in the Search results area.



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.



4.2.14 HTML interface

On the page:

4.2.14.1 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

4.2.14.2 List of functions

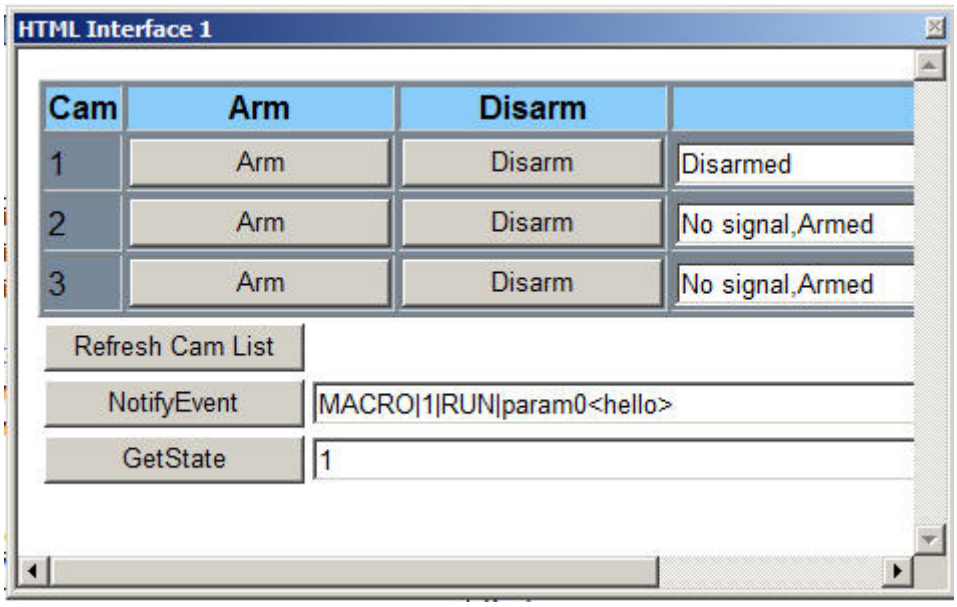
The HTML Interface window performs the following functions:

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.

4.2.14.3 Interface description

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

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



The table describes hotkey combinations available 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
Ctrl + **+** or **-**	Zoom in/out page

4.3 Video surveillance monitor operation

4.3.1 General information

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;
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 section).
2. Cross-platform solution with surveillance via a web browser (see the Video surveillance monitor for web browser section).
3. The video monitor of the iOS client.

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.

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.

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. When using the MaximizeCameraOnDblClk registry key (see Registry keys reference guide), double left clicking swithes the Surveillance window to the single layout mode from any layout, including the six layout mode.

The MaximizeCameraOnDblClk and MinimizeCameraOnDblClk key features are described in the table:

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

In addition, the number of video surveillance windows can be changed using the custom layouts - see Windows layout on the monitor. 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), 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 software allows you to develop the user's window layout.

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

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.

4.3.3.3 Slide show

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.

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).

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) is called the Active Monitor. In case both Active Monitor and GreenStream are configured (see Configuring an auto select of video stream for displaying), the video stream in this Video surveillance monitor will depend on the Active Monitor window size.

4.3.3.5 Window 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):

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

For other zooming modes see Image processing section.

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

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

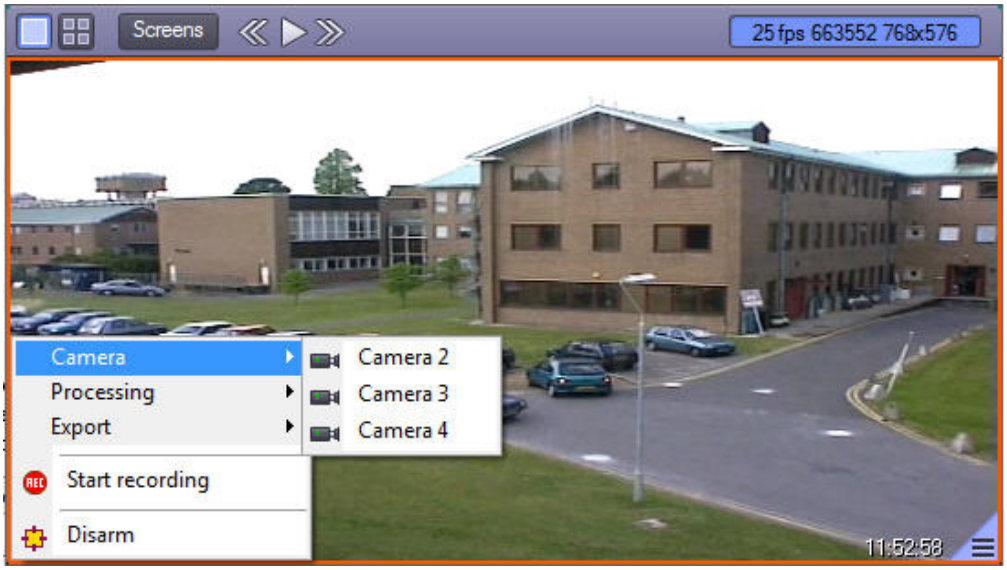
Note.
A maximum possible size image is achieved when a single surveillance window is displayed on one monitor. If multiple windows are displayed, their sizes may be automatically reduced.

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).

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 using the feature menu. To do so, go to the **Camera** submenu and select the required camera in the list.



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.

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

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

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

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

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

Colour of the video surveillance window border	Camera status
Green	Camera disarmed
Yellow	Camera armed
Red	Camera is armed, alarm event occurred on camera. OR Camera is disarmed, but one ore more auxiliary zones are configured as alarmed and alarm is detected on them – see also Indication of detection tool status.

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

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.

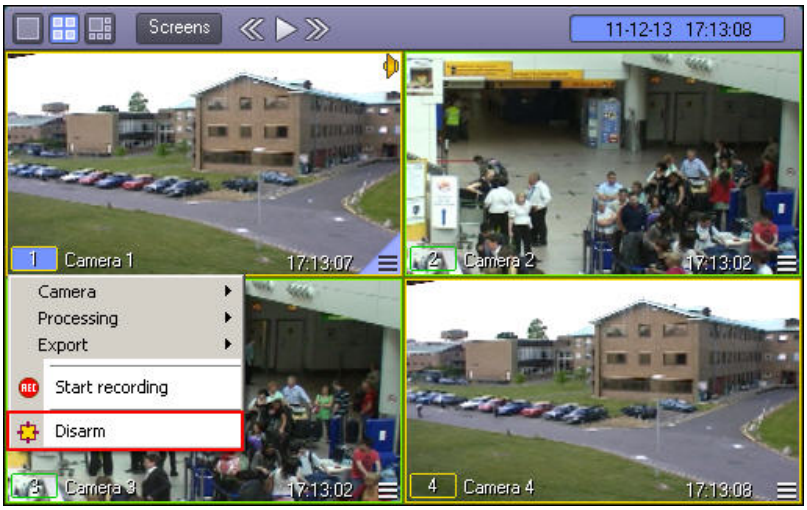
If auxiliary zones are assigned, camera arming by auxiliary zones is performed via the video surveillance window functions menu.

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.

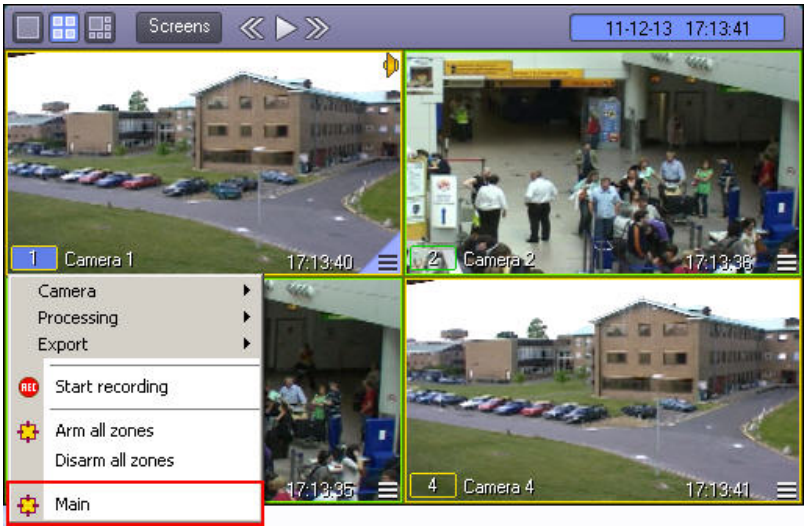
4.3.4.4 Camera disarming

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



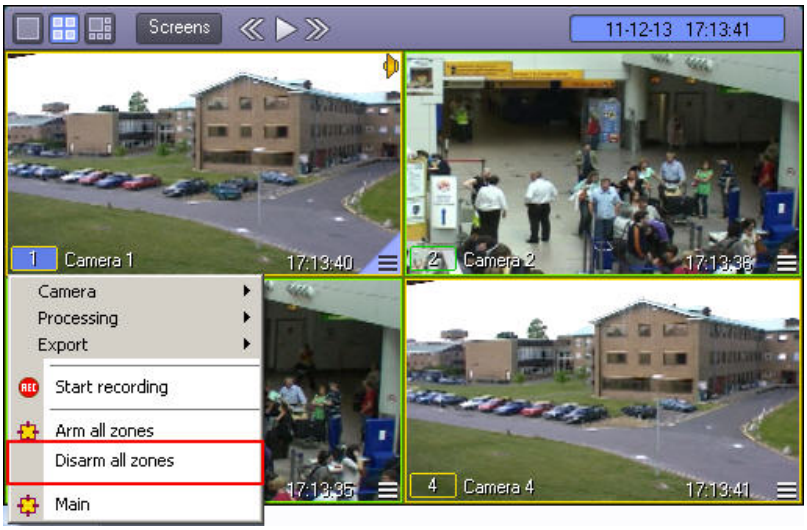
During camera disarming in the main zone, its colour indication changes: the surveillance window border becomes green, and the camera indicator in the surveillance window functions menu becomes green too.

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 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:

4.3.5.2.1 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.

4.3.5.2.2 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.

4.3.5.2.3 Face detection tool

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

4.3.5.2.4 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.

4.3.5.2.5 Focusing detection tool

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

4.3.5.2.6 Video signal stability detection tool

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

4.3.5.2.7 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.

4.3.5.2.8 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.

4.3.5.2.9 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

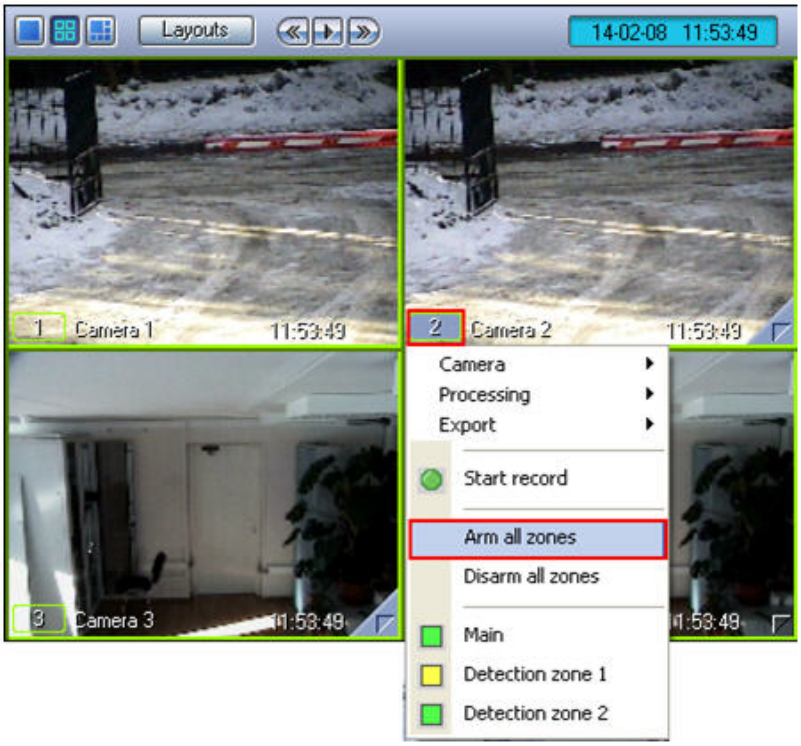
Moreover, if a Detection zone was configured alarmed, the alarm on the Detection zone initiates an alarm on camera; in such case the alarm is indicated in the same way as for the Main detection zone – see Indication of camera status

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.

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 Events recording

4.3.6.1 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.

4.3.6.2 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.

4.3.6.3 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.

4.3.6.4 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 .

4.3.6.5 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.

4.3.6.6 Stopping the recording

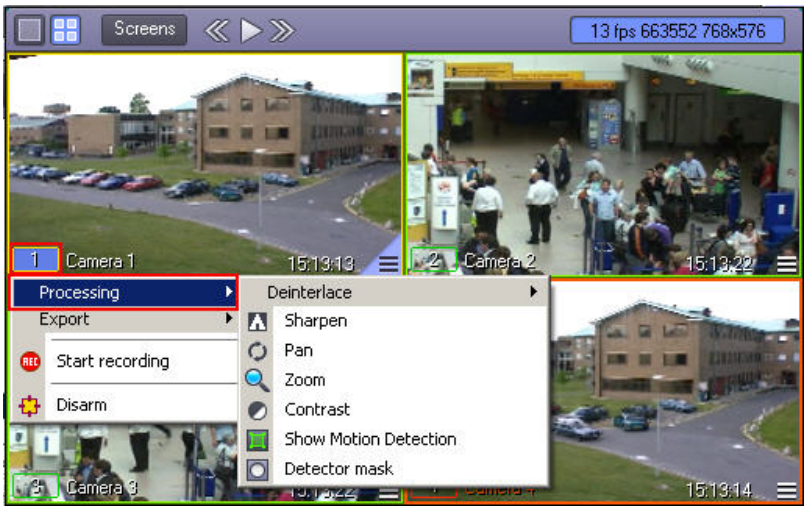
The operator can stop video recording forcibly in any mode and at any time with the **Stop recording** item from the functions menu of the video surveillance window.

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

4.3.7 Image processing

4.3.7.1 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.

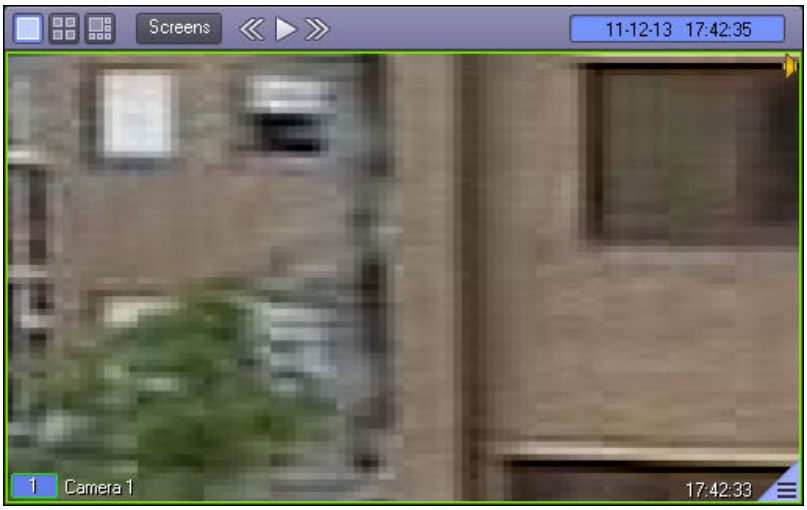
Activated options are outlined in the list of options. To switch the option on, click its name or its icon in the list of options. To switch the option off, click its name or its icon once more.

4.3.7.2 Image scaling

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

Zoom-in option (original image):

Zoom-in option (processed image):



Switching on the **Zoom-in** 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-in** iitem again or right click the image.

Mouse wheel action is also supported for zooming convenience (see the Window scaling section).

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

4.3.7.3 Maximizing the image contrast

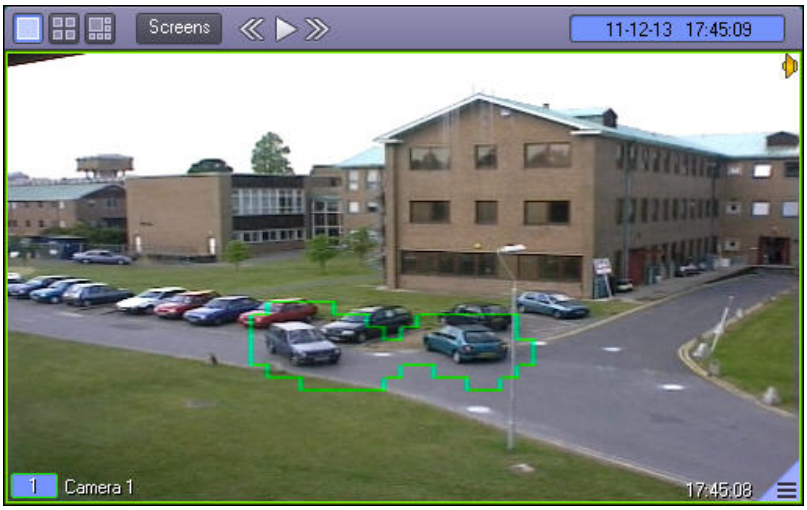
The **Contrast** option provides maximum image contrast.

Contrast option (original image).

Contrast option (processed image):

4.3.7.4 Outlining of moving objects

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



4.3.7.5 Image sharpening

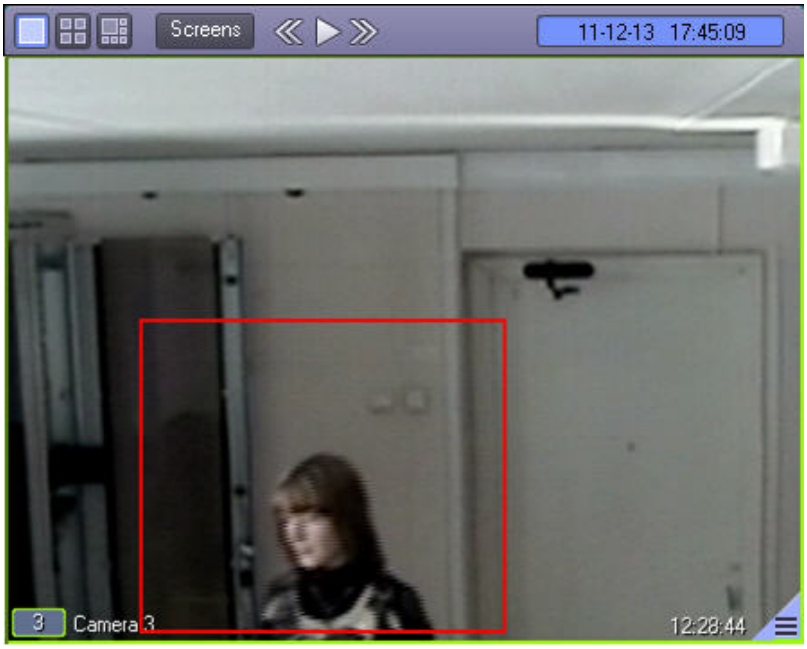
The **Sharpen** option allows sharpening the whole image.

Sharpen option (original image):

Sharpen option (processed image):

4.3.7.6 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).

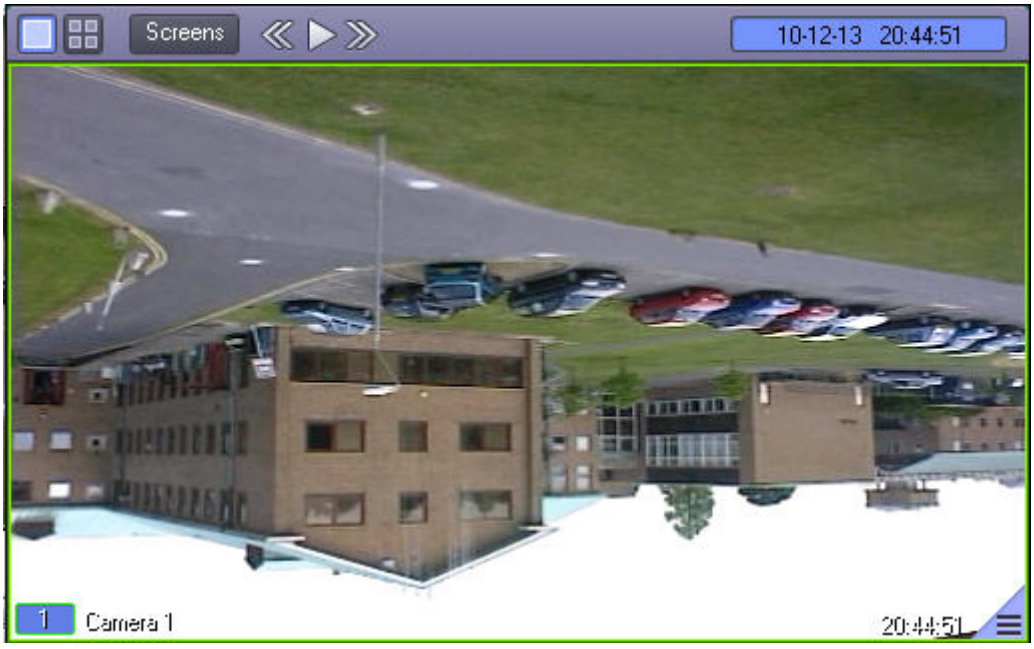
4.3.7.7 Video image rotation

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 section in the Administrator's Guide document). Counterclockwise rotation is performed.

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

Rotation function (the initial state):

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



4.3.7.8 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 section in the Administrator's Guide).

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

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

4.3.8 Working with the archives

4.3.8.1 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 section of the Administrator's Guide).	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 section of the Administrator's Guide).
Selection of cameras for recording	Not available	Available	-	Available

4.3.8.2 Operations with the archives

4.3.8.2.1 Server archive playback

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

Note.

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

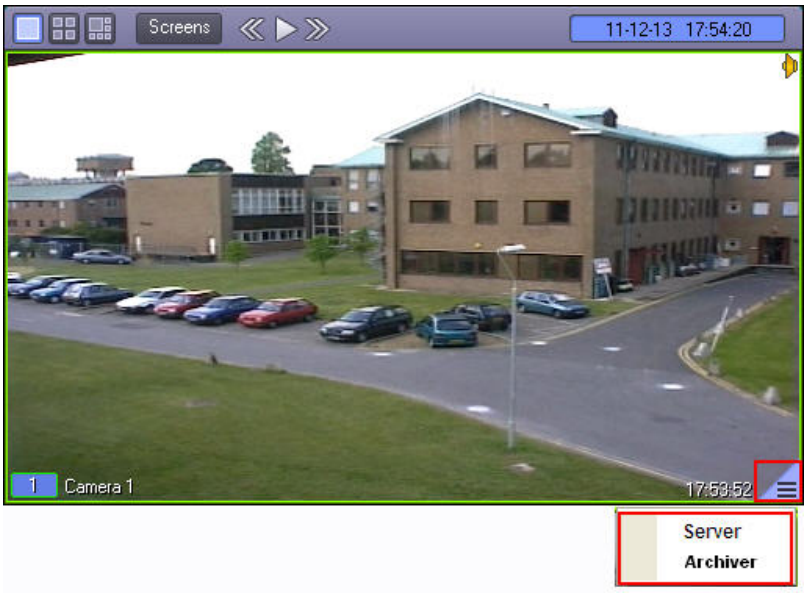
The playback control panel will be displayed, which will contain recordings of the main video server archive.

4.3.8.2.2 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.

4.3.8.2.3 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 .

4.3.8.2.4 Video gateway archive playback

The video gateway archive can be accessed via the surveillance window. To start video gateway archive playback, click  in the bottom right corner of the surveillance window.

Note.

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

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

The above operation allows accessing both the video gateway archive and the main server archive. If the camera window gateway is off, main archive recordings can be accessed. Otherwise, the above method allows accessing the camera video gateway archive, in which case 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.

4.3.8.3 Archive browsing

Note.
If the archive is created in the time zone different from time zone on which the archive is viewed, it is required to move the archive to the current time zone using the convert.exe utility before the viewing. Otherwise, some problems can occur when positioning on archive fragment. Working with this utility is described in the The Convert.exe utility for correcting modification dates of video archives section of the Administrator's Guide document.
To move archive to the required time zone, run the utility from command line with the following parameters:
convert.exe fullmode TZ +hh:mm
where +hh:mm – the time shift between the current time zone and zone in which archive is recorded.

4.3.8.3.1 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 while clicking this hour and the hour is marked with the rectangle.

Click the selected hour again to come back to displaying of records from 0 to 24 hours.

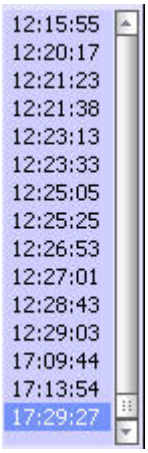
Created bookmarks are displayed on the time scale. The color the time period is marked is set when the bookmark is created. The bookmark name (comment entered when creating the bookmark) is displayed when hovering the cursor over the period added to the bookmark.

> **Note.**
> See also Create a bookmark and List of bookmarks.

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.

4.3.8.3.2 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.

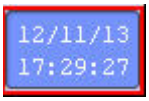
4.3.8.3.3 Fragment search by the date and time of creation

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

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

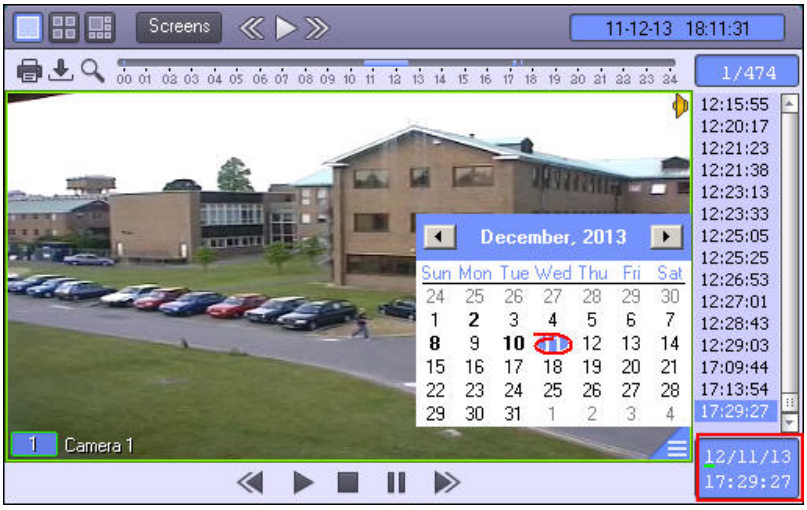
The upper part of the table shows the date, whereas the current playback position is shown in the bottom part.

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



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

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



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

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

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

> **Note.**
> In case when the access restriction to the video archive play back is set (see Access restriction to the video (and audio) archives section in the Intellect software package. Administrator guide document), the switch will be performed only among the available recordings in the displayed list of all the recordings.

4.3.8.3.4 Search by line crossing

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

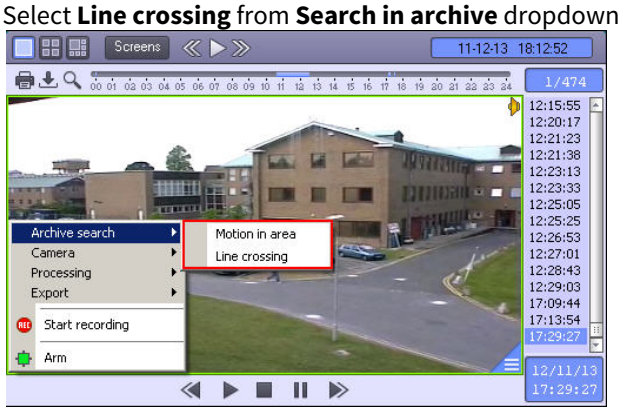
> **Note.**
> Search by line crossing is possible only when Object trajectories DB and the **Tracker** object are created on the camera that is used for searching in Intellect software package (**Detector** object, see Intellect software package: Administrator's Guide manual).

Search by line crossing runs only on a given day.

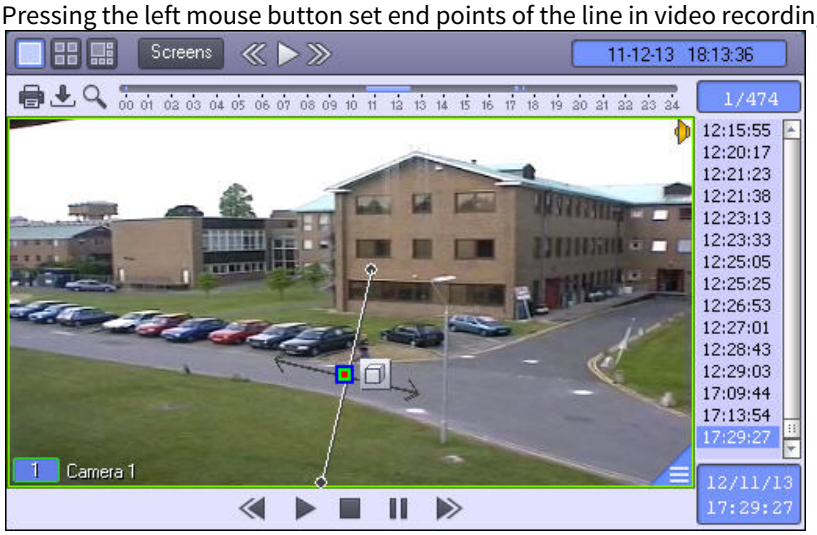
> **Note.**
> How to set a date is described in Fragment search by the date and time of creation section.

To search by line crossing do the following:

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



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

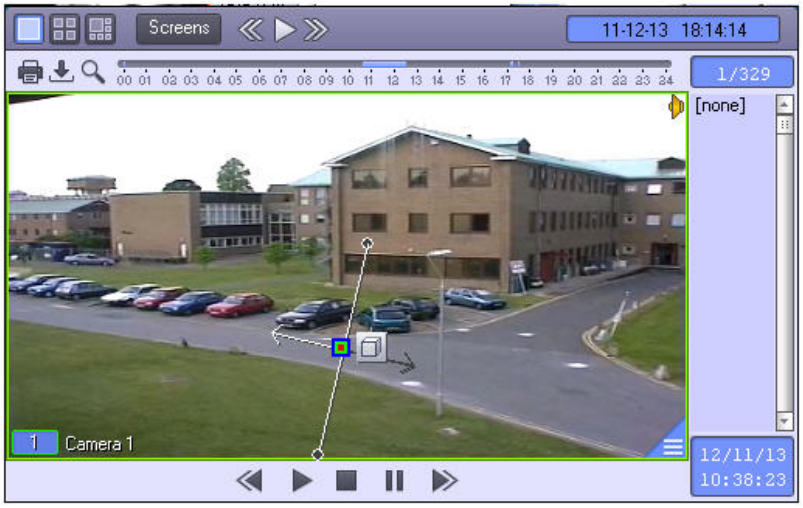


3. Do all necessary operations with the line. Operations with the line are performed in the table.

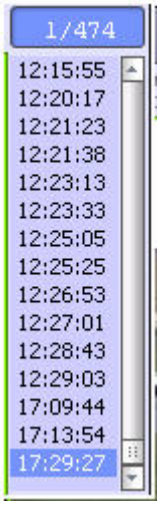
Operation	Operation result
Press the left mouse button in video surveillance window	End point of the line creating
Hover cursor over the end point and pressing the left mouse button shift the mouse	End point of the line shift
Hover cursor over the end point and click the right mouse button	Line deleting

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 a humang being
   c. Car. Search will give out the video recordings in which line is crossed by a car
5. By pressing the left mouse button to one of grey arrow's end, set the traffic direction of the object across the line. Selected arrow becomes white.
   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.



> **Note.**
> Setting the traffic direction of the object by VMDA detector depends strongly on **Tracker** object settings (see Intellect software package: Administrator's Guide 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.

4.3.8.3.5 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.

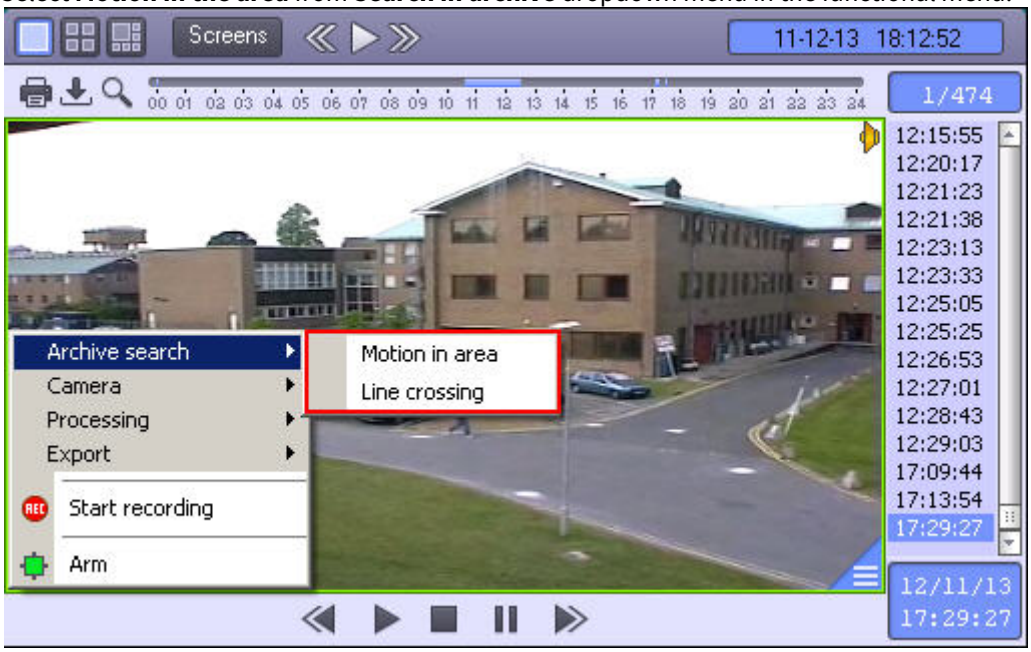
> **Note.**
> Search by motion in the area is possible only when Object trajectories DB and the **Tracker** object are created on the camera that is used for searching in Intellect software package (see Intellect software package:Administrator's Guide manual).

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 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.



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.

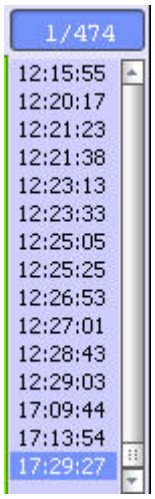
3. Do all necessary operations with the area. Operations with the area are performed in the following table.

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 a humang being moves in the area
   c. Car. Search will give out the video recordings in which a car 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 motion 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. Being in the area more than 10 sec. Video recordings of object being in the area more than 10 sec will be found
   h. Left 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.



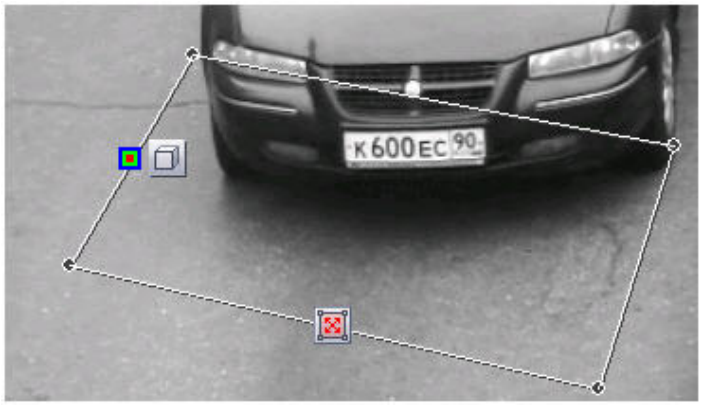
4.3.8.3.6 Search by colour

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

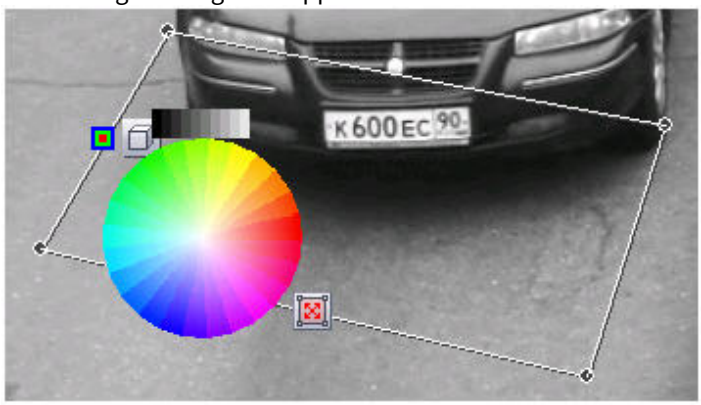
> **Note.**
> Colour range setting is a part of search by line crossing or search by motion parameters setting.

To search by colour do the following:

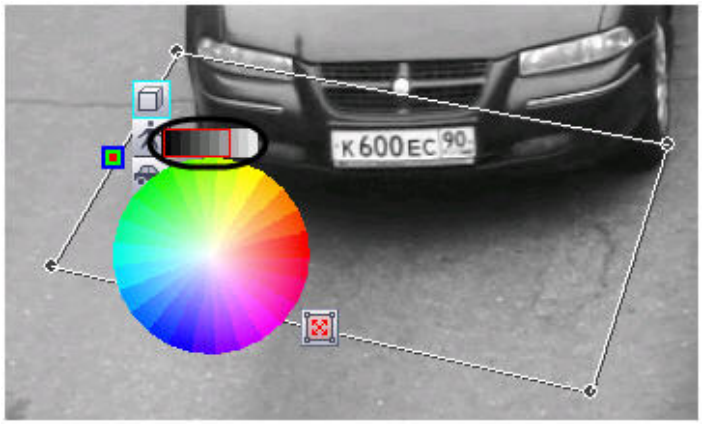
1. Select the type of search (search by line crossing or search by motion in the area).
2. Search by selected type (see Search by line crossing, Search by motion in the area parts).
3. To set colour range for which the search will be performed, click at the set line or area.



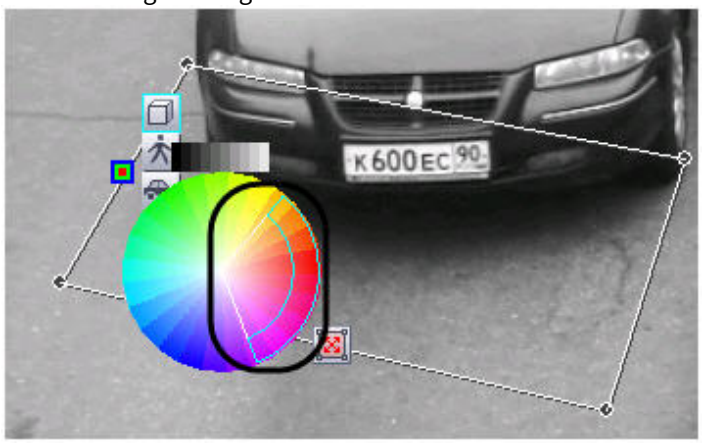
Colour range setting form appears.



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



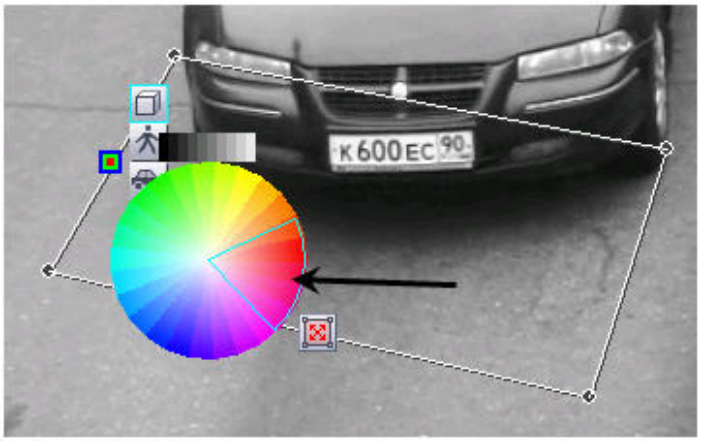
Coloured range setting:



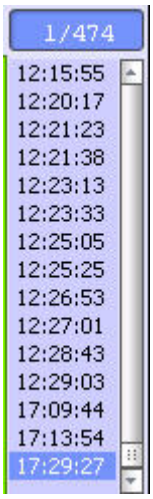
5. The Color range setting form will be automatically hidden after specifying the color range for search. To discard the specified color values open the form again (using the button) and click the right mouse button on it. The search will be performed without taking into account the color of moving object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

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.



4.3.8.4 Video playback

4.3.8.4.1 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.

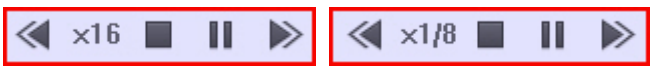
When the  button is left-clicked, the fast-forward playback is performed, when right-clicked – rewind playback.

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).

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

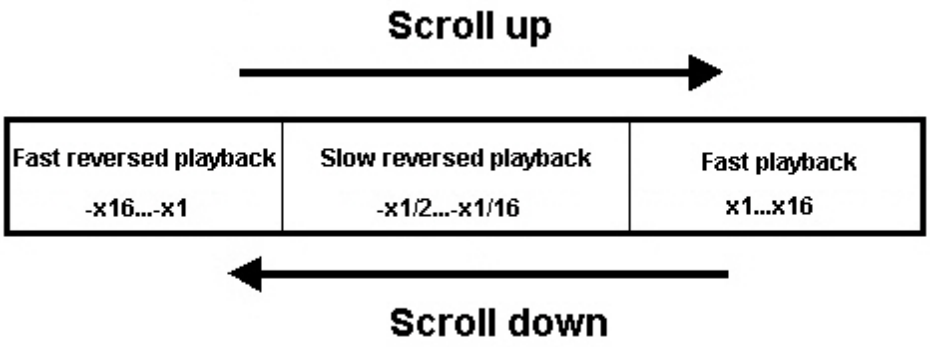
Speed-up or speed-down level is displaying in the place of the  button while fast or slow motion. Maximally allowable speed-up is not limited, maximally allowable speed-down is 8-fold.



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:



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).

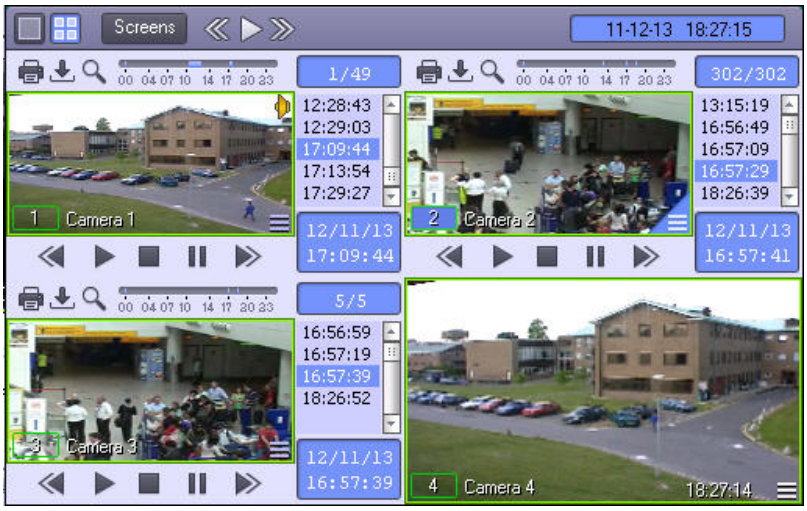
If the cursor is hovered over the video, then mouse wheel scrolling scales the video (see Window scaling). It is possible to enable playback speed control using the mouse wheel regardless of the cursor position in the Surveillance window - see the description of the MonitorPlaybackControlByMouseWheel registry key in the Registry keys reference guide. 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).

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

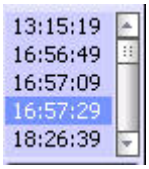
4.3.8.4.2 Synchro playback of a few video recordings

The program allows to synchronously playback a few archived video recordings on one monitor.

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



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



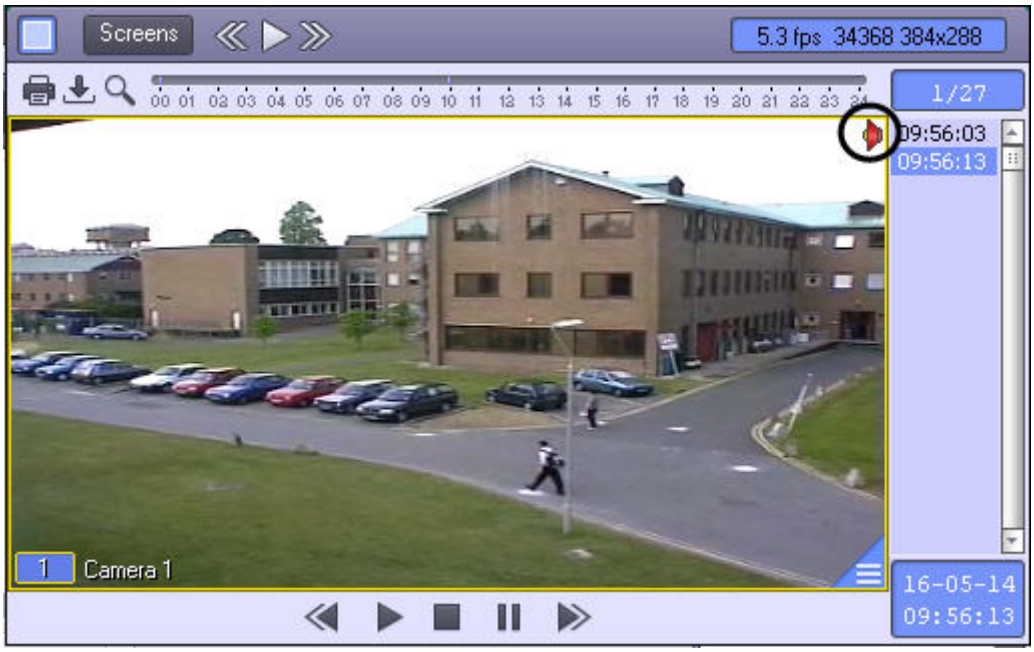
Now, controlling video playback in the active window, you will synchronously control the playback in other windows.

Synchro playback of video recordings (playback is on):

Synchro playback of video recordings (playback is paused):

4.3.8.4.3 Synchronous playback of video and audio recordings

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



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

Note.

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

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

4.3.8.4.4 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.

4.3.8.5 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:

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

The video recording is now deleted from the archive.

4.3.8.6 Rewrite protection of archive files

4.3.8.6.1 General information about rewrite protection

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

There is possibility to protect records by ones or protect records for the specified period. Protected records for the specified period are called bookmarks.

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

4.3.8.6.2 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.

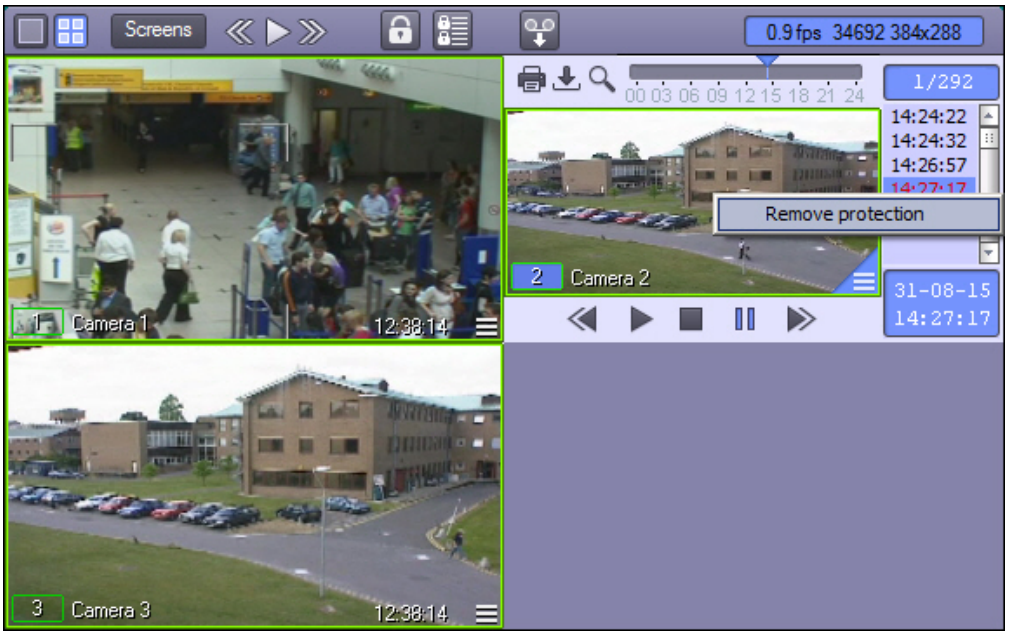
Note.
The **Protect** menu item can be missed if user have no rights for records protection.

Protected record is highlighting red and file replaces to the PROTECTED subfolder of the VIDEO folder on the disk where archive is stored.

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.

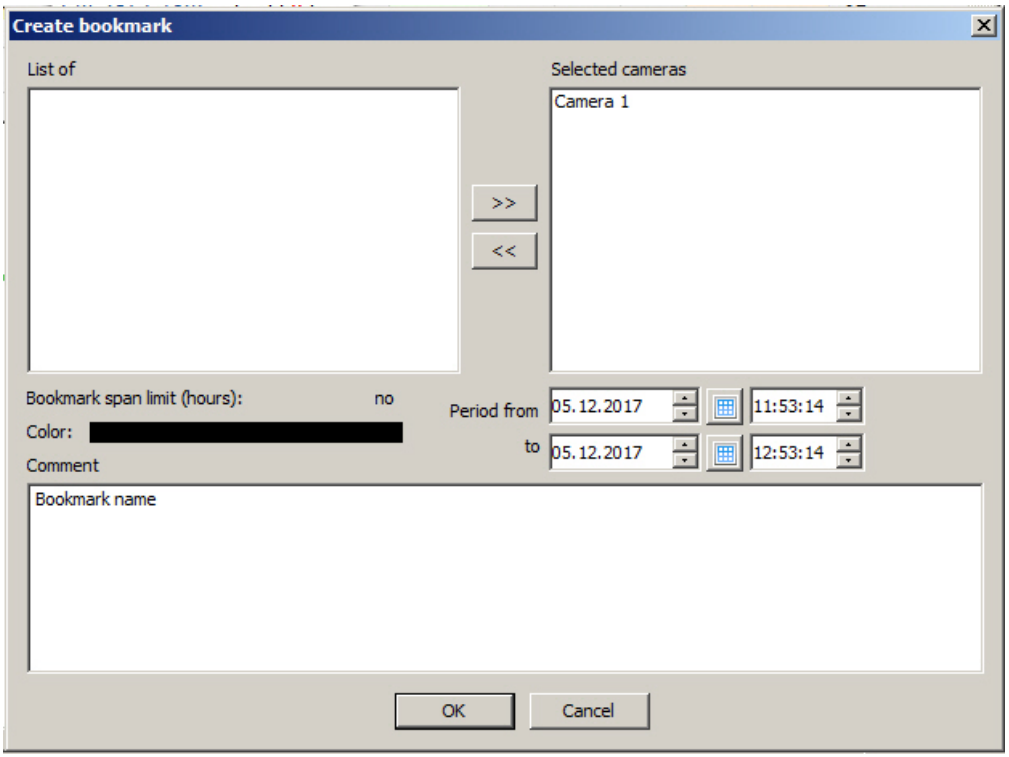
If in the disk there are records for the specified period as selected one, i.e. there is a folder in which file of protected record was initially located, then the file will be replaced to this folder, highlighting red in this list will be discharged and it will continue to display in the list. If the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



4.3.8.6.3 Create a bookmark

Bookmark is several protected video records for the specified period. To create a bookmark, i.e. protection of records 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).



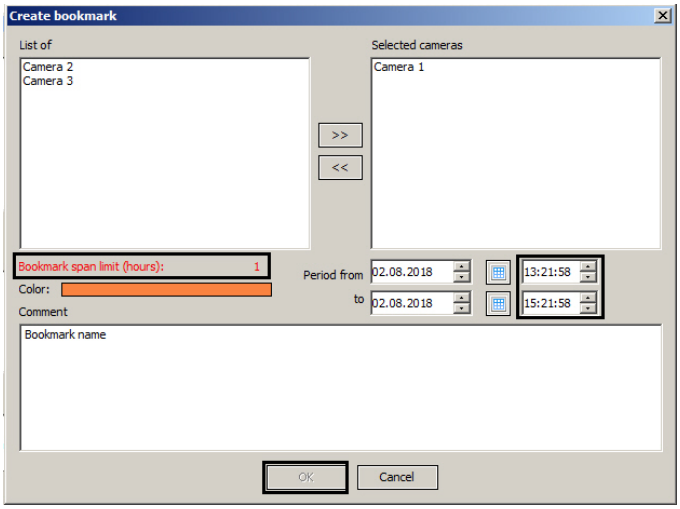
The list of cameras added to the Monitor is displayed in the left part of the window. Move cameras on which records are to be protected to the **Selected cameras** list using the **>>** button.

> **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 protected against rewriting.

> **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.

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



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

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

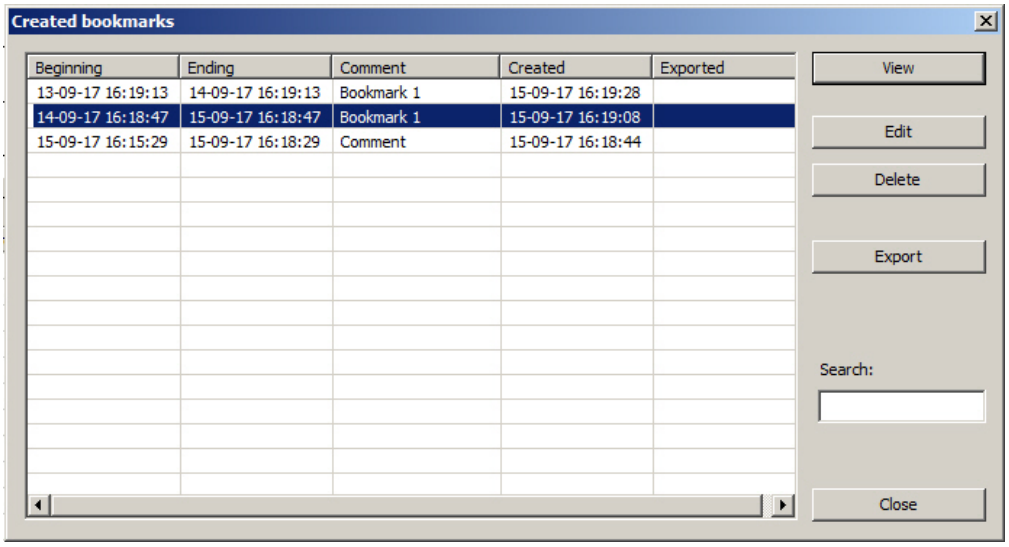
> **Important!**
> A comment is to be entered. If the comment is not entered, then the bookmark cannot be created.

When all required fields are filled enter the **OK** button to protect video records for the specified period. Protected video records will be highlighted red in the list. Files of protected video records will be moved to the PROTECTED folder in the VIDEO folder on the disk with archive.

4.3.8.6.4 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, Selecting the disks for video archive storage).



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

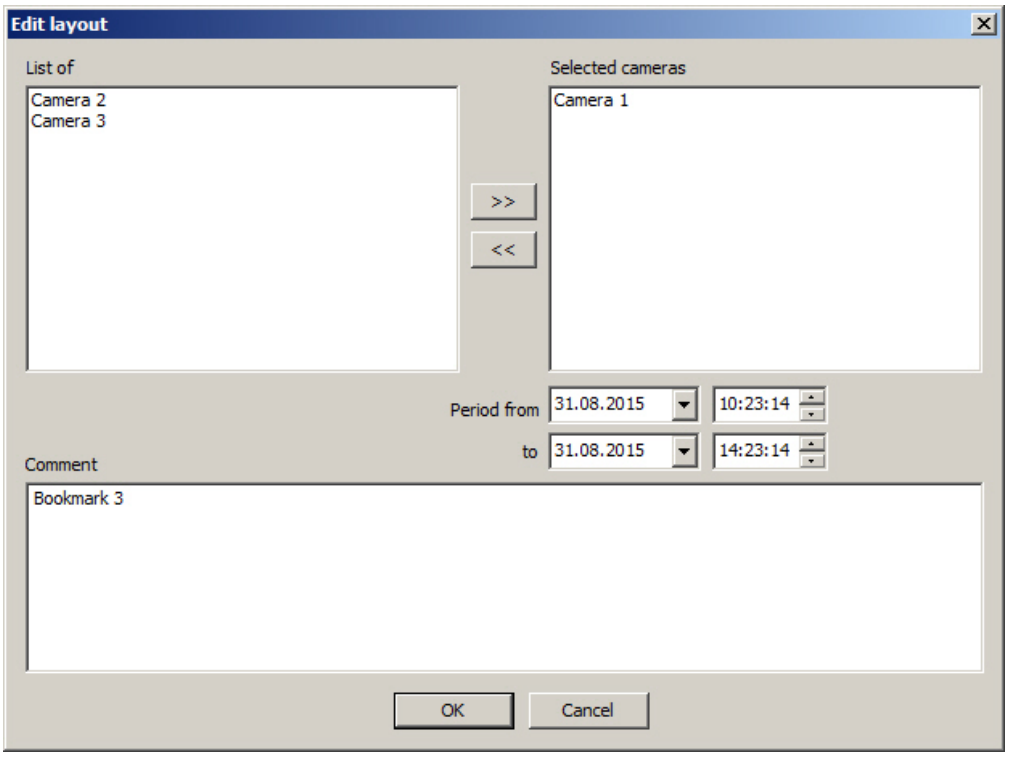
Field	Description
Beginning	Date of start period included in bookmark.
Ending	Date of end period included in bookmark.
Comment	Comment entered while bookmark creation.
Created	Date of bookmark creation.
Exported	Date of bookmark creation (see The AviExport utility).

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.

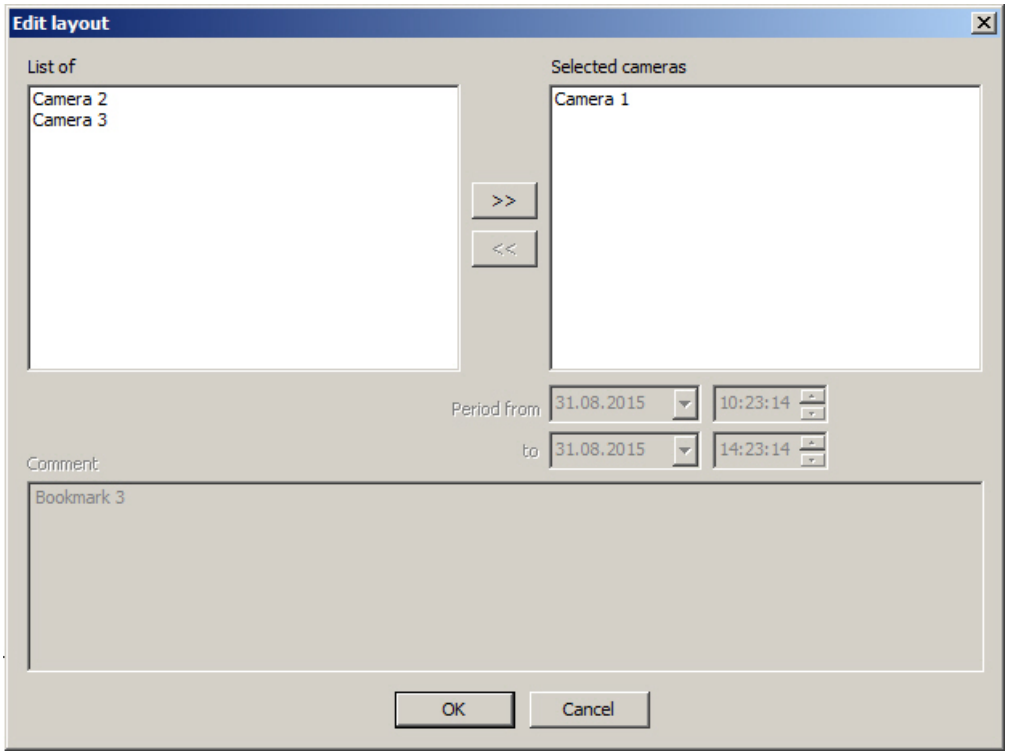
The **Show** button is designed for transition to the first of protected records for the specified period in the Video surveillance window in the archive mode. The **Created bookmarks** window is closing in this case.

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 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).

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

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

4.3.9 Export and print out

4.3.9.1 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.

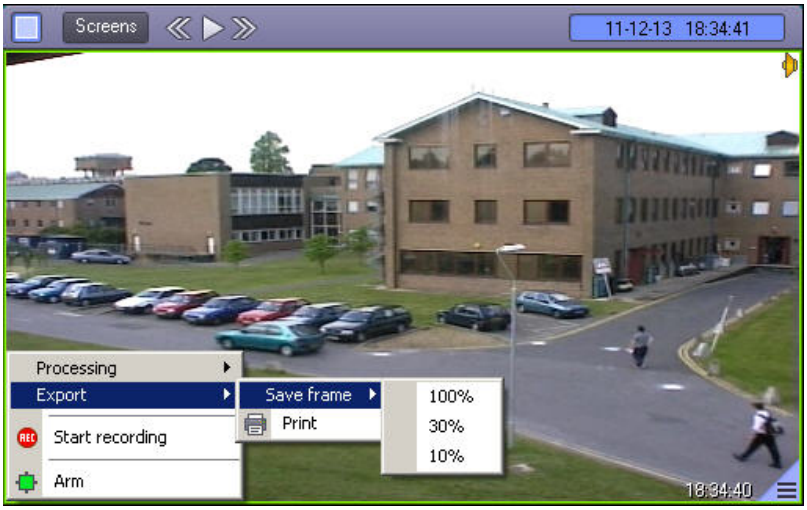
> **Note.**
> Date and time in format specified by regional system settings (transferring to the regional system settings is performed from the **Start -> Control panel -> Language and regional standards** menu) are displayed in the right bottom corner of the video image while exporting. It doesn't refer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

4.3.9.2 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.

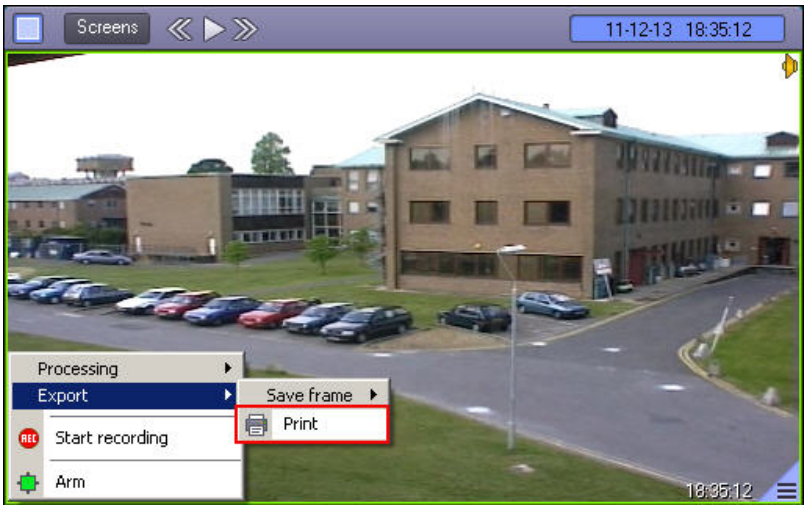


The file containing the saved frame is saved to the C:\Users\%current user name%\Documents\Intellect\export\ directory. The file name is generated as follows: *<camera number> (<date> <time>)*. For instance, *02 (03-10-07 16'28'06).jpg*.

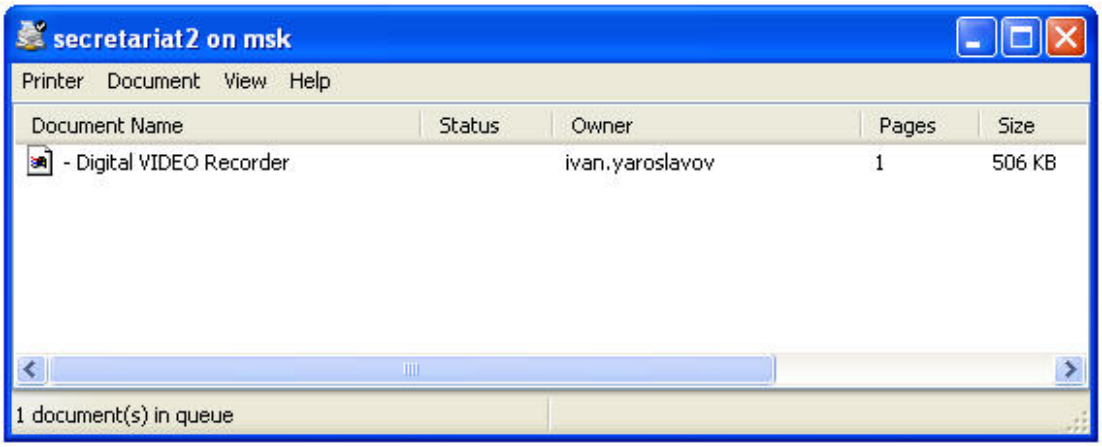
Note
If the additional information was specified while configuring the camera (see Intellect software package. Administrator guide"), then the file is named in another way: *<number of the camera> <additional information> (<date> <time>)*. For example, *02 Information (03-10-07* 16'28'06)*.jpg.*

4.3.9.3 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.

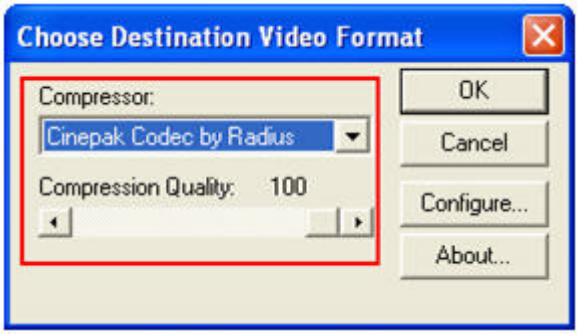
4.3.9.4 Export of silent video recordings

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 Operations with the archives.

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.

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.

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.

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

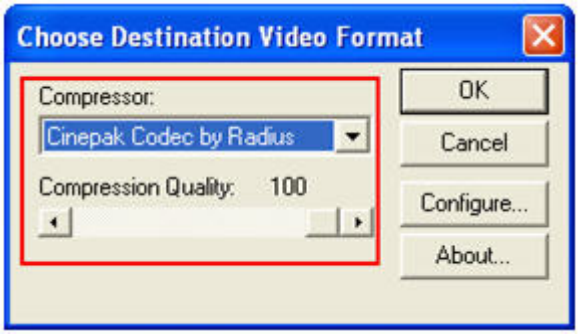
4.3.9.5 Export of video recording supported with sound

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 Operations with the archives.

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.

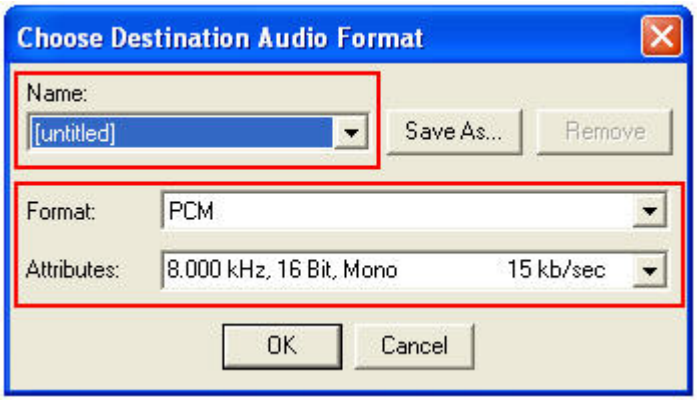
Compression quality is selected in the standard Windows dialog box.



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.

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. 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.

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

4.3.9.6 Export of the archive period

On page:

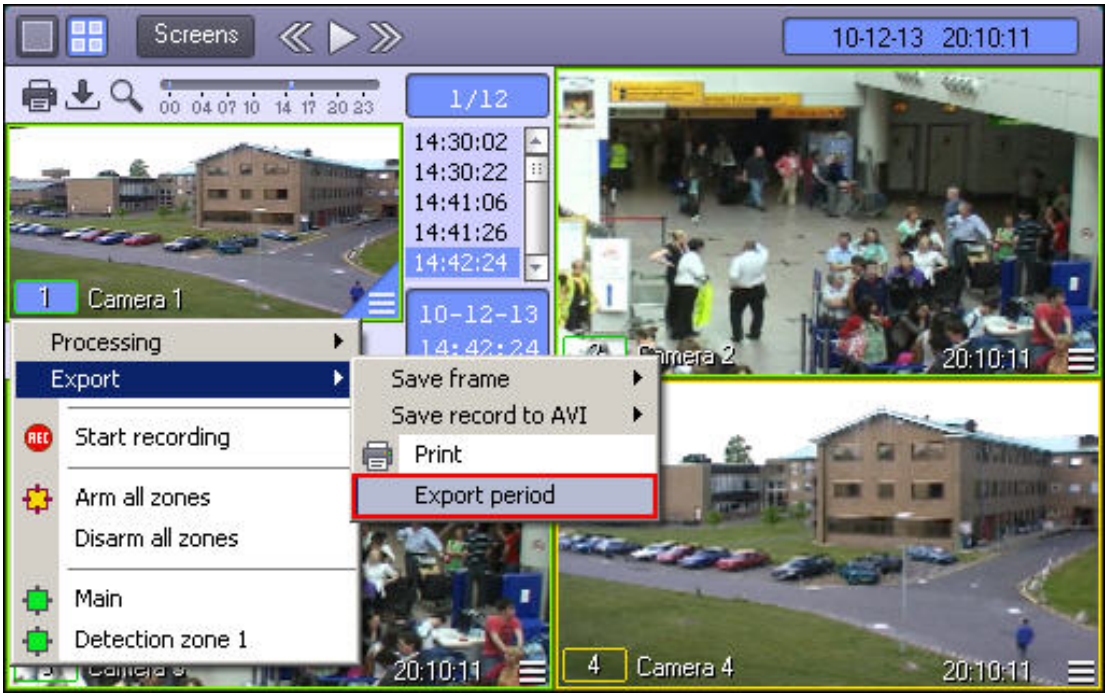
- Main archive export
- Export of a period of an archive located on edge storage

4.3.9.6.1 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.

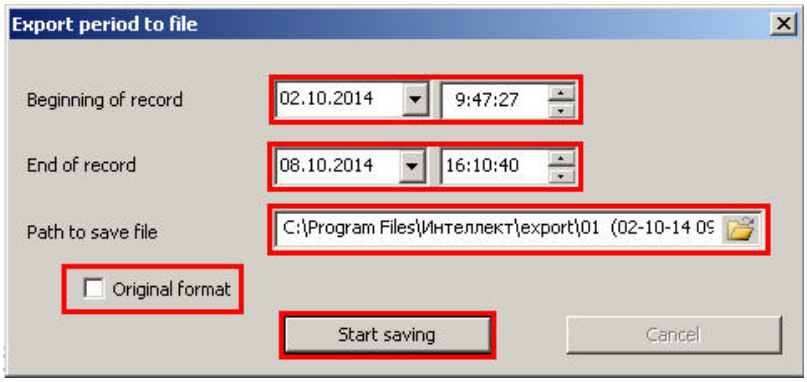
To export the archive period, select the **Export period** item in the **Export** submenu of the **Viewing tile** feature menu.



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.

> **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 and Export of silent video recordings 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.**
> The final file is not to be bigger than 2 GB.

4.3.9.6.2 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.

4.3.10 The AviExport utility

4.3.10.1 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). Also there is a possibility to specify size of exported files, i.e. size of volume.

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

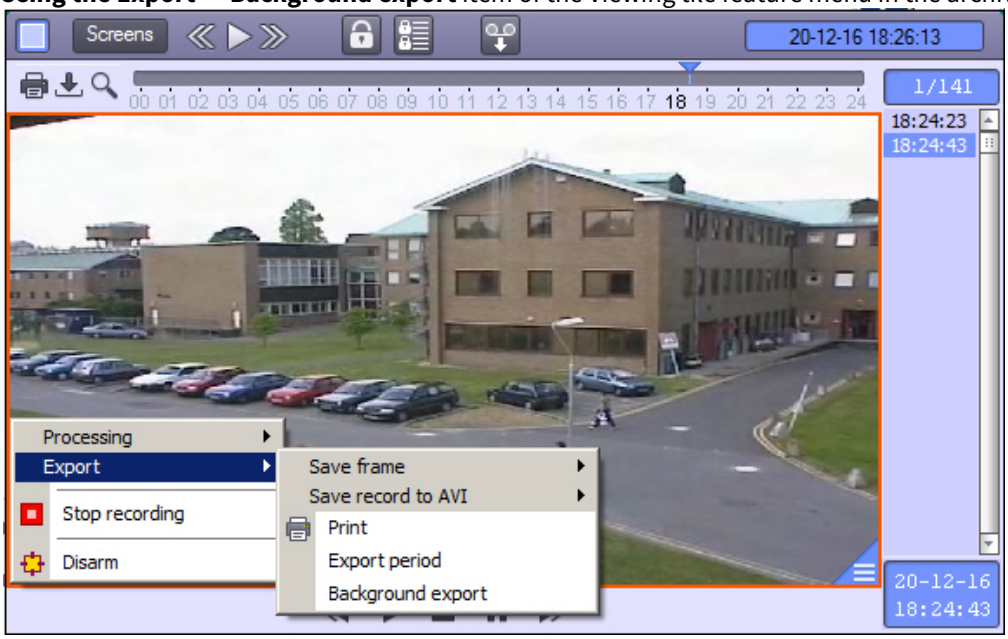
> **Note.**
> While converting video and audio records created synchronously, the output file will be with sound.

Utility allows to export by schedule and by connecting USB, CD or DVD storage media.

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

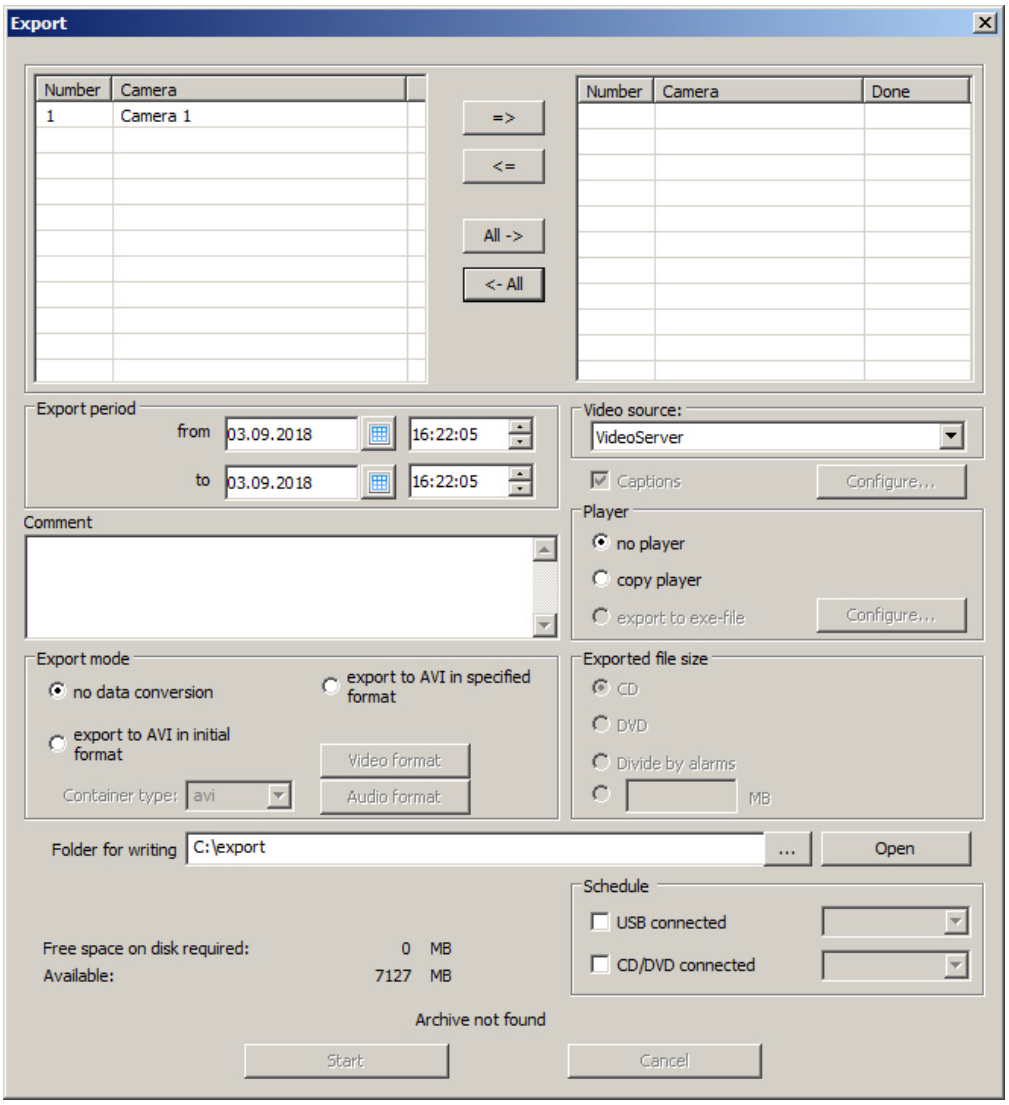
1. Clicking the  button on the control panel. The control panel is to be enabled in the Monitor – see Selecting the parameters of the Monitor interface box section of Administrator's Guide.
2. In the **Created bookmarks** window (see List of bookmarks).

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 section of Administrator's Guide). They can also be not displayed if the export is forbidden in the user rights.

Interface of the AviExport utility is presented in the figure.



Note.

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

4.3.10.2 Using the AviExport utiility

Working with the AviExport utility is performed the following way:

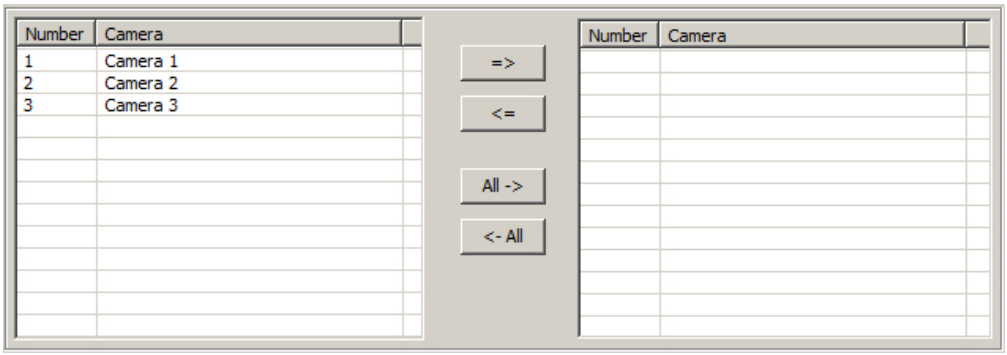
1. Select video cameras for archive export (see Select video camera).
2. Select video source – main archive, backup archive or video gate archive (see Selecting video source).
3. Specify general parameters of export (period, folder for saving files, etc.) (see General settings of export).
4. Change captions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

Note.

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 section).

4.3.10.2.1 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.

4.3.10.2.2 Selecting video source

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).

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

The following items may be available in the list:

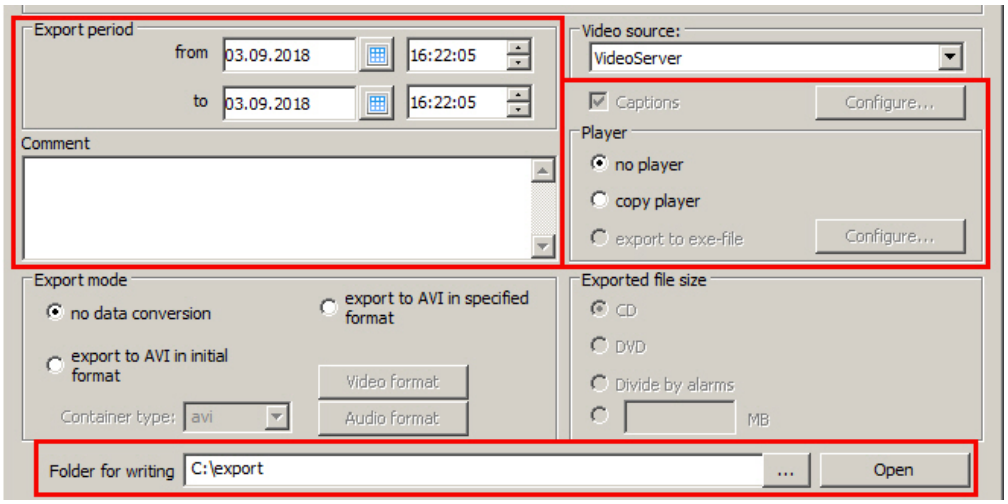
1. **VideoServer** – export main archive.
2. **Archiver** – export Backup archive.
3. **Gate** – export Video Gate archive.
4. **Edge storage** – export archive from Edge Storage.

If no **Video gate** or **Backup archive** or **Edge Storage** is selected for any of cameras added to the list for export (see Selecting and configuring video cameras) when configuring Surveillance monitor, then corresponding list items are not available to be selected. Information on how to select cameras on the video monitor is given in the Selecting and configuring video cameras section of Administrator's Guide).

If **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.

4.3.10.2.3 General settings of export

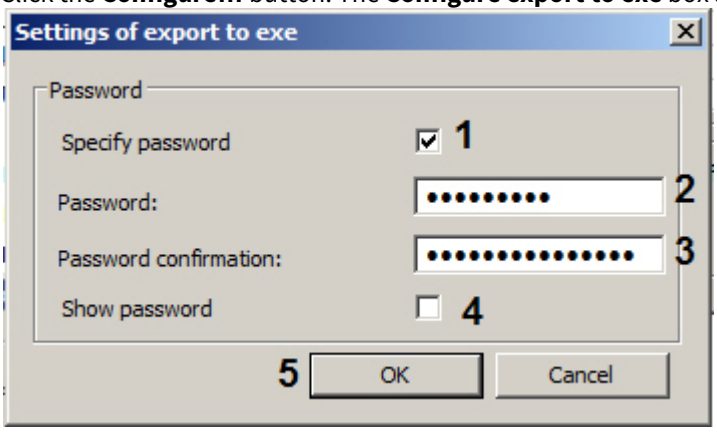
General settings of export consist of:



1. Export period. It is specified in the **Period from** and **to** fields.

   > **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:
   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.
   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.

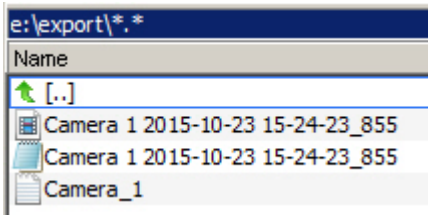
   Click the **OK** button (5).

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). The video with titles can also be played back in other players, for instance, 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).

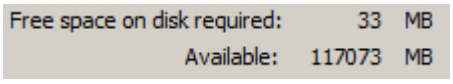
> **Note.**
> If export without data converting is selected then titles disabling is impossible - see the Select export mode section.

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.

Here is an example of the folder contents (see Start export) 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.

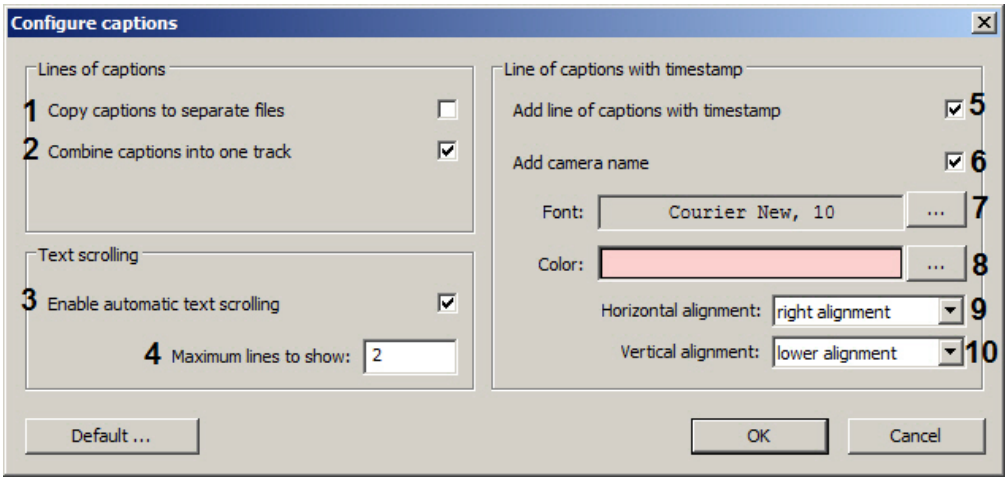


If it is not enough disk space to save exported files, the **Start** button becomes inactive and the "It is not enough free disk space" message is displaying at the bottom of the window.

4.3.10.2.4 Setting caption export parameters

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 time 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:

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.

- Time specifying parameters of caption line:

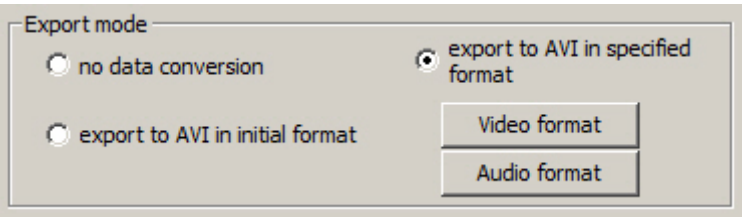
1. The **Add line of captions with timestamp** checkbox enables overlaying camera time and date on the exported video (5).
2. The **Add camera name** checkbox enables overlaying camera name captions on the exported video (6).

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

3. The **Font** button opens the standard Windows box to specify font parameters for captions (7).
4. The **Color** button opens the standard Windows box to select the color of captions (8).
5. The **Horizontal alignment** dropdown list is used to locate captions horizontally on the video (9).
6. The **Vertical alignment** dropdown list is used to locate captions vertically on the video (10).

4.3.10.2.5 Select export mode

Following export modes are available:



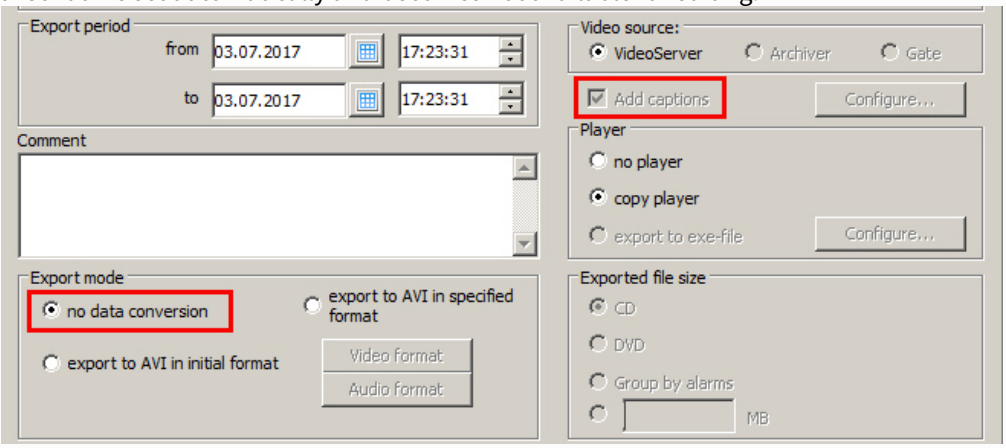
1. No data conversion. Export is performed in format of file system of the *Intellect* software package, i.e. format in which archive is stored on a disk. Export without conversion is not available for Edge Storage.
2. Export to AVI in initial format. Export is performed to AVI file(s) without change of codec.
3. Export to AVI in specified format. Export is performed to AVI file(s), video codec is specified using the **Video format** button, audio codec is specified using the **Audio format** button. If fisheye conversion, rotation or scaling is applied to the image in the Surveillance window, then when this export mode is selected, the video will be exported using this conversion (see Image processing). 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.

> **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.

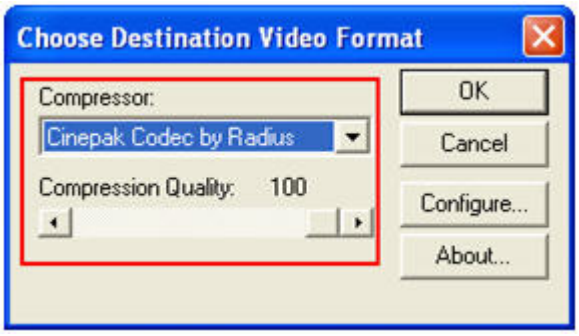
A watermark is added to the video when export to AVI format is selected in the original or set format. This watermark is overlaid on the video when archive footage is replayed in AxxonPlayer (see Watermarks).

When export without data conversion is selected watermark is not added to the video.

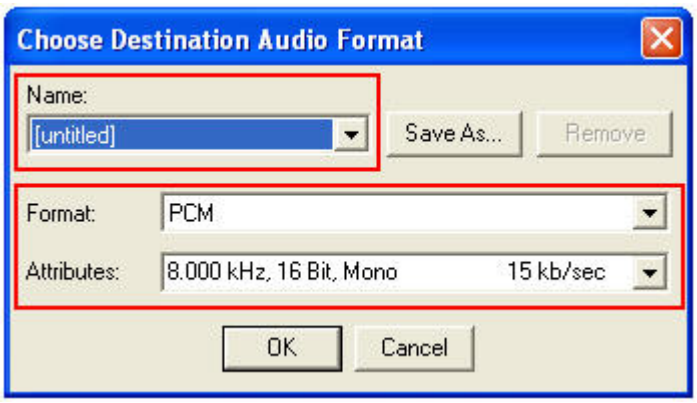
Note.
If **no data conversion** export mode is selected then captions enabling and disabling are not available while export. If archive record have captions, they will be exported. While switching on the **no data conversion** position the **Captions** checkbox is set automatically and becomes not available for editing.



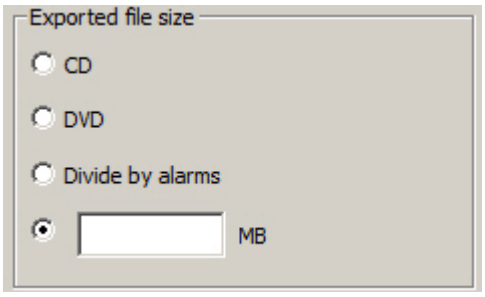
While clicking the **Video format** button the dialog window in which codec and compression ratio are to be selected will open.



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.



While exporting to AVI 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 - volums. Positions of the **Exported file size** switch correspond to following ways of defining the volume size:



1. **CD** – size of these files is sutable for record on CD-disk (670 Mb).
2. **DVD** – size of these files is sutable for record on DVD-disk (4,7 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.

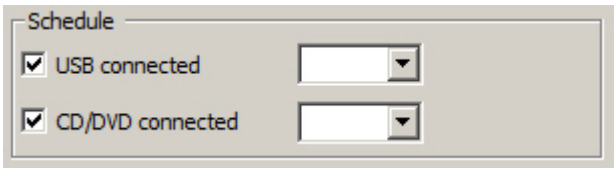
> **Note.**
> Maximum size of one exported fragment is 4096 MB.

4.3.10.2.6 Configure export by connecting removable media

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 section.

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



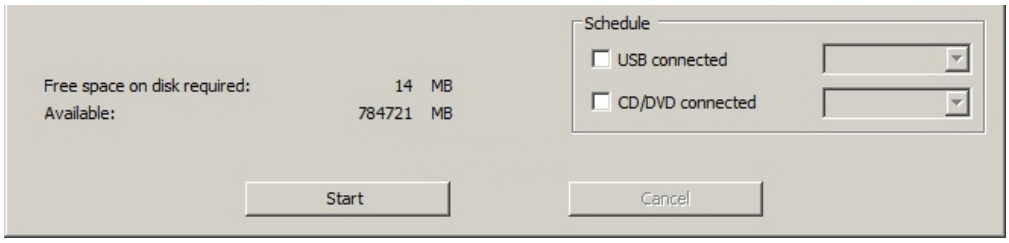
Set the **USB connected** checkbox and select the character of the USB-media if bookmarks are to be exported while USB-media connection.

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.

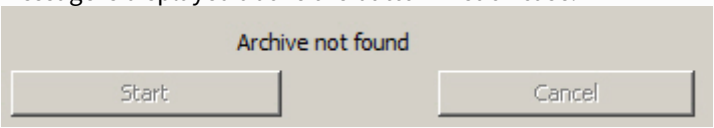
> **Note.**
> Also export by schedule can be configured. Export by schedule is performed using macros or scripts and time zones. Detailed information about their creation is presented in the Administrator's Guide and Programming Guide (JScript).

4.3.10.2.7 Start export

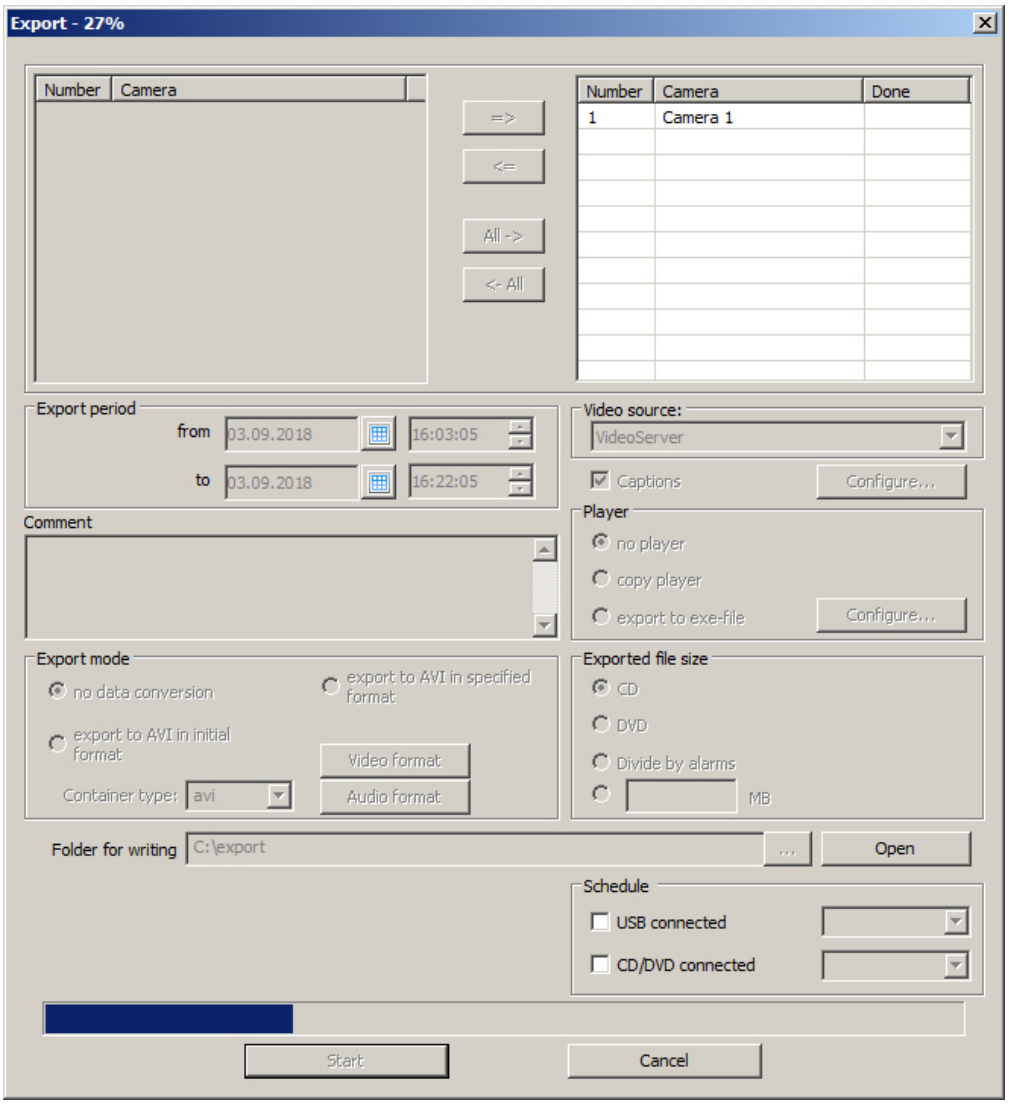
After configuring required export parameters click the **Start** button to start the process.



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.



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

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).

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 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 section in Administrator's Guide.

4.3.10.3 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
- **afs** - afs 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]
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]

4.4 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 Eavesdropping on the audio signal through microphones

4.4.2.1 Eavesdropping on audio signals through the microphones configured to the synchro recordings

Signals are eavesdropped with the microphone configured to synchro recordings through the Camera window.

To eaves drop 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 eavesdropping of the audio signal with the given microphone is currently on.

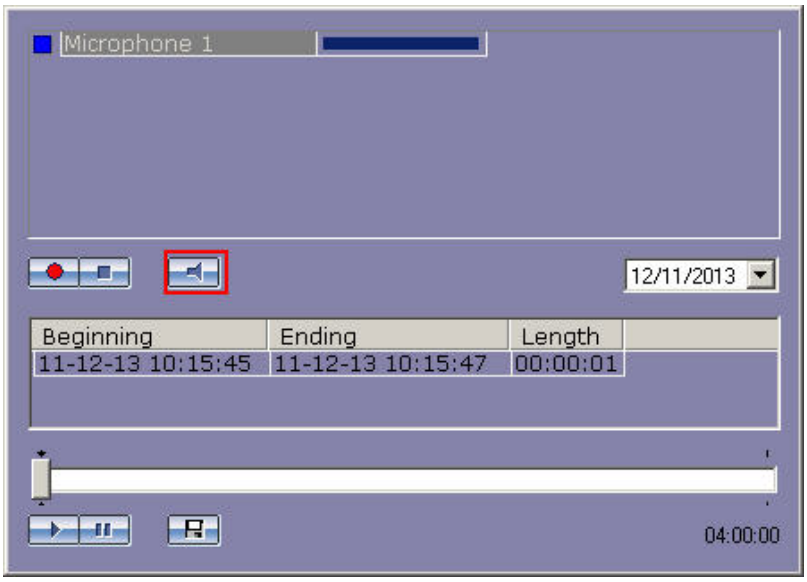
To switch eavesdropping on, click with the left mouse button, and the button will become red. To switch audio signal eavesdropping off, click again.

Note.
If the program is configured in a certain setting, eavesdropping of the audio signal from the microphone may be inaccessible. In this case the button will not be displayed.
To get information on configuring eavesdropping on audio signals through the microphones configured to the synchro recordings see the Configuring audio signals playback using the video monitor section of the Administrator's Guide.

4.4.2.2 Eavesdropping on audio signals through the microphones initiated through acoustic start and operator commands

Eavesdropping on the audio signals through the microphones initiated through acoustic start and Operator commands uses the audio player.

To switch eavesdropping on and off the button is used.



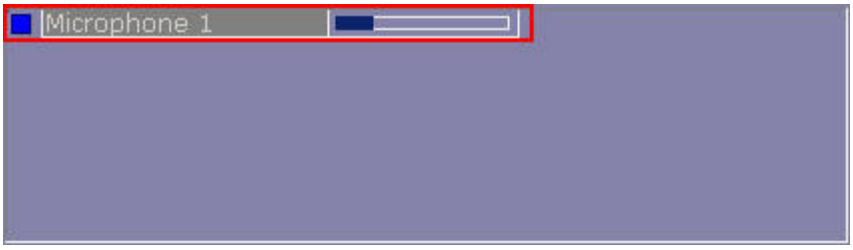
If the button is displayed like  , it means that audio signal eavesdropping through the microphone is on at the moment. If the button is displayed like  this indicates that the eavesdropping mode is off.

4.4.3 Microphone arming and disarming

Microphones are armed to use audio recording initiated by acoustic start (see the Recordings by acoustic start 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.

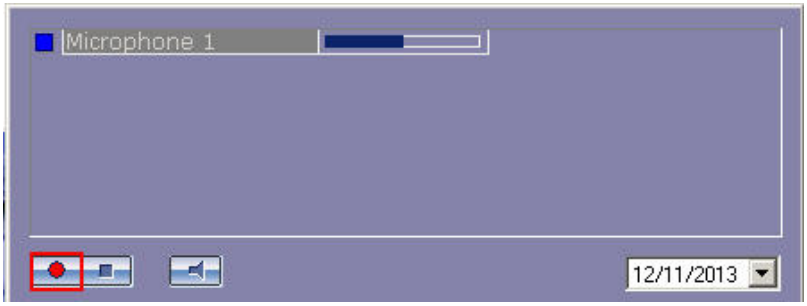


Microphone status indication is shown in the table.

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

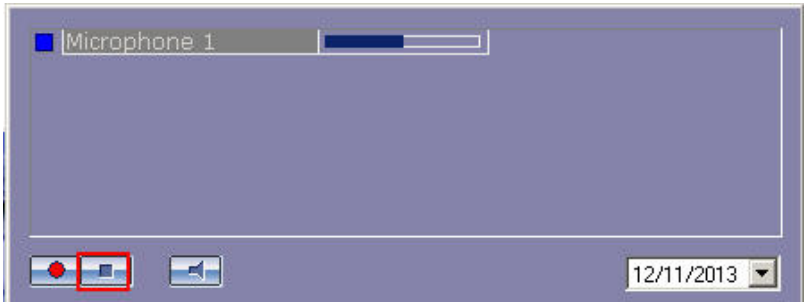
To arm a microphone, select it in the microphone list and click  .



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 section).

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 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 section). However, the Camera window, which besides the camera is connected to the microphone, will also display a synchro recording symbol.

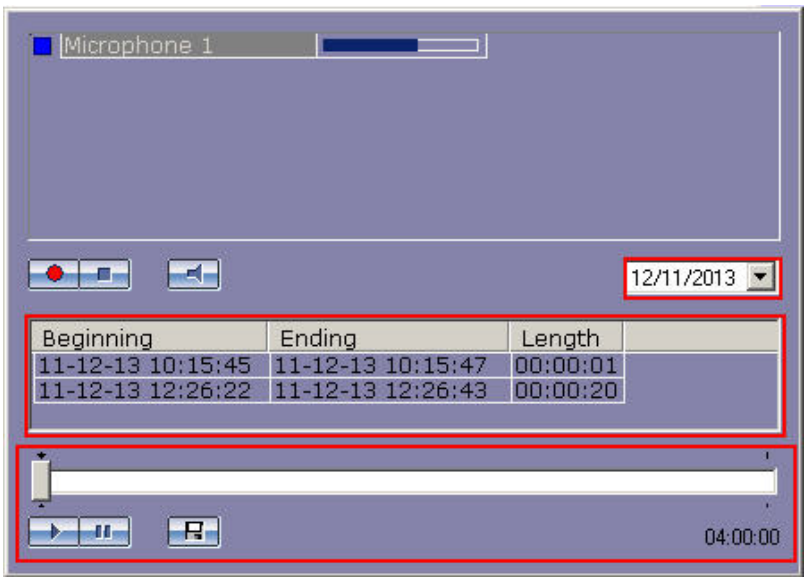
4.4.5 Operations with the audio archives

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

4.4.5.1.1 General information about audio playback

Audio recordings generated at the Operator's command or by acoustic start are played back using the Audio Player.

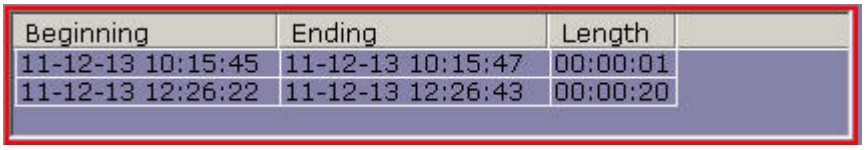


To playback a recording, follow the steps as shown below:

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.

4.4.5.1.2 Select audio recordings from the list

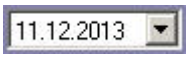
To playback a recording, select the one you need from the list, reflecting all the recordings available for the selected date (see the Search for audio recordings by date section).

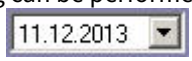


Each audio recording is described with the following attributes: beginning of recording time, end of recording time and length. To select a recording, click on the line with one of the attributes of the given recording.

4.4.5.1.3 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.

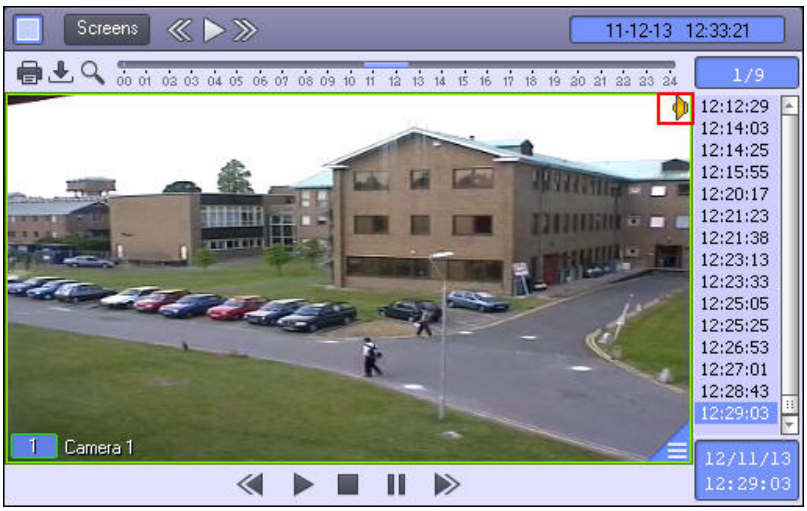
4.4.5.1.4 Audio playback control panel

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

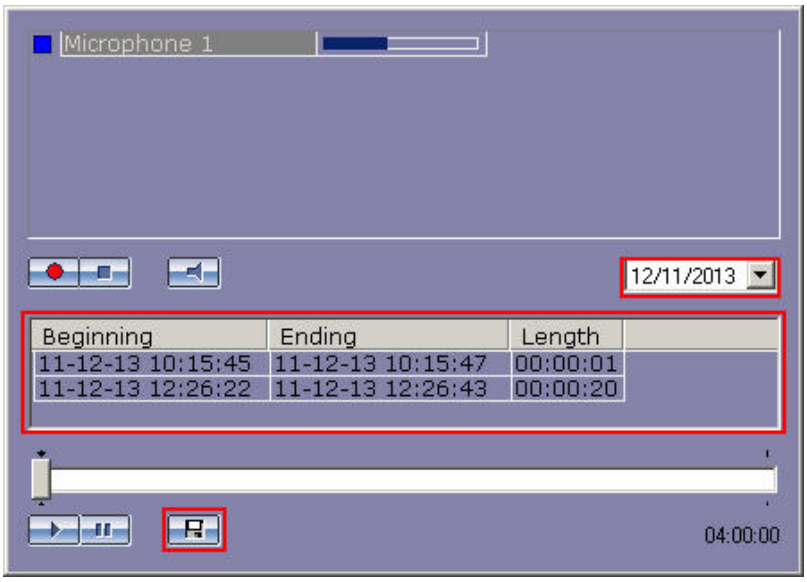


4.4.5.3 Export of audio recordings

4.4.5.3.1 Export of audio recordings created by acoustic start and Operator command

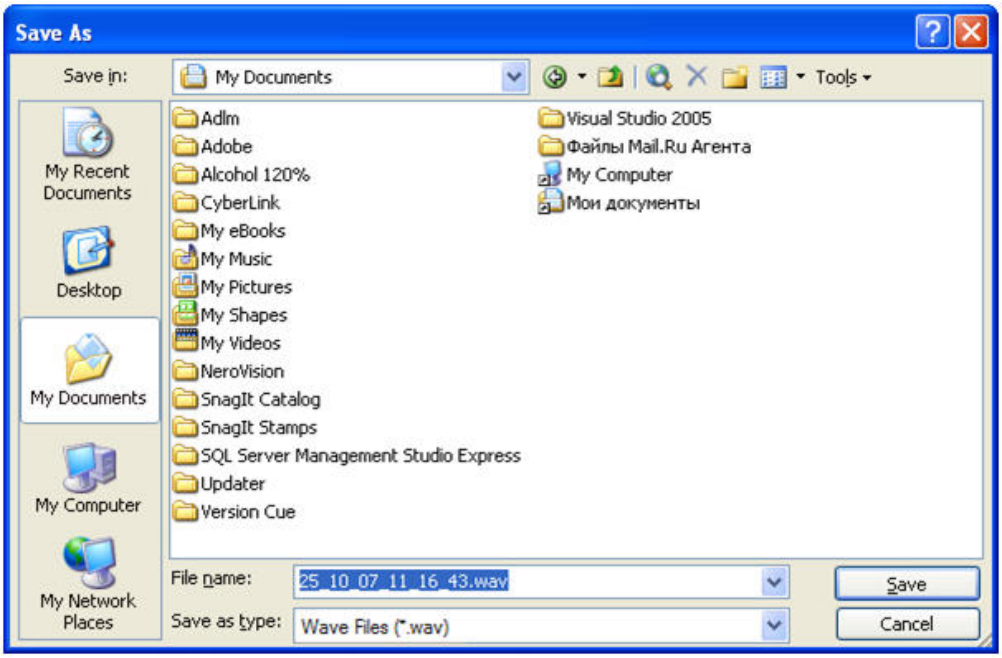
File export of the audio recordings created by acoustic start or Operator command uses the Audio Player.

> **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.

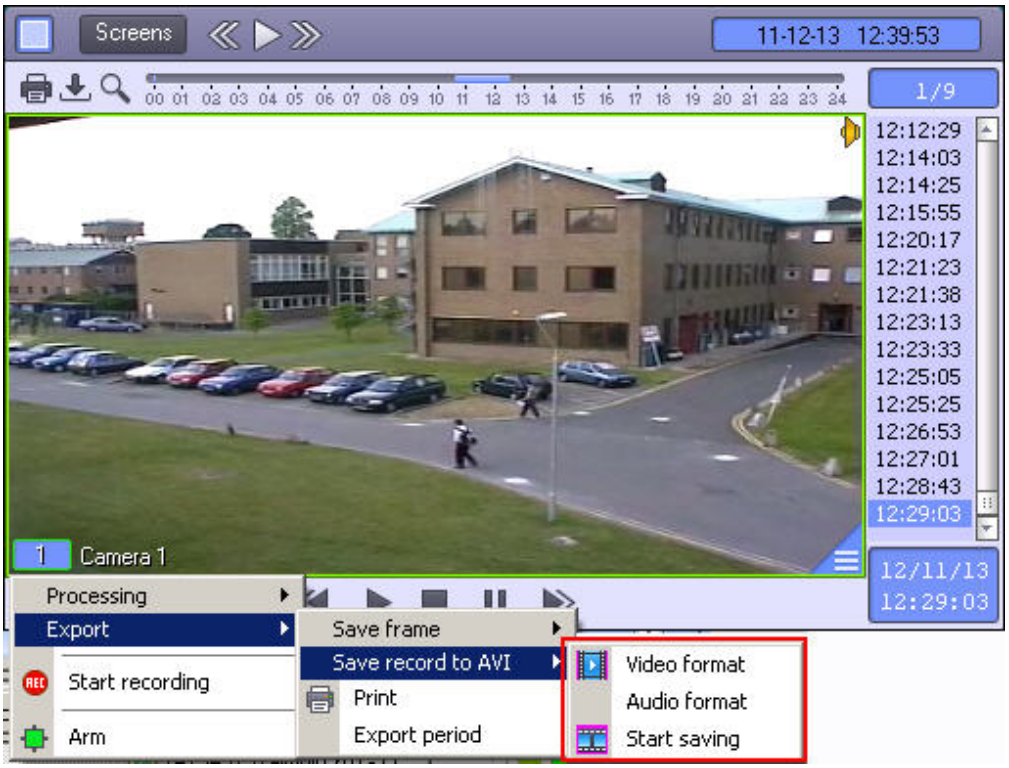


As soon as the **Save** button is pressed, the file with the given name will appear in the selected directory.

4.4.5.3.2 Synchro export of audio and video recordings

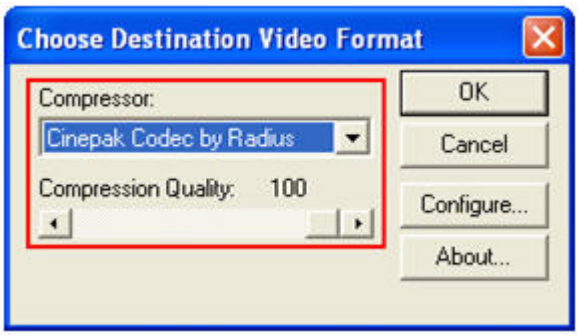
Synchro export of audio and video recordings is controlled through the playback control panel.

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

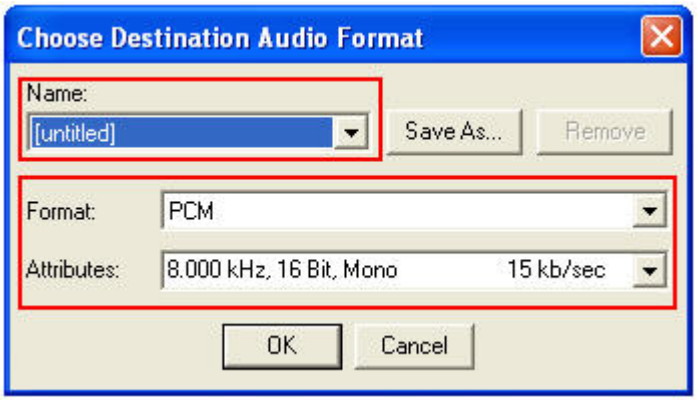


Parameters of the video and sound signals, which will be saved, may be configured in the displayed sub-menu.

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.

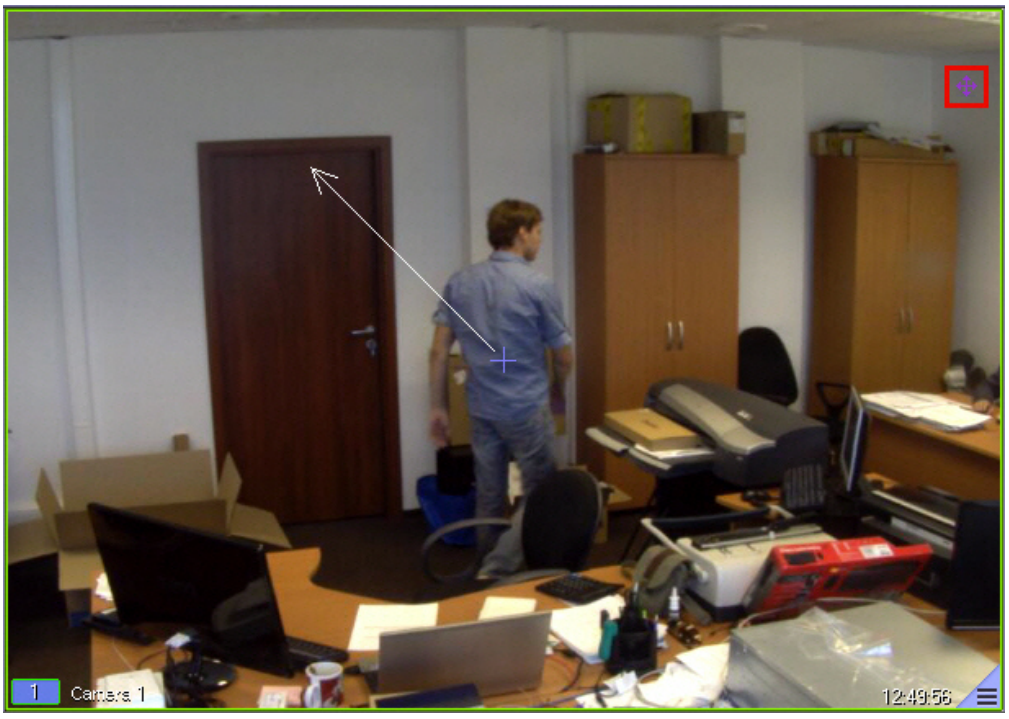
Note
To control PTZ device using the keyboard, enable the PTZ control panel. To enable the PTZ control panel, left-click on it.
The use of hotkeys is to be enabled while configuring the PTZ control panel – see Telemetry control panel configuration section in Installing and configuring security system components guide.

Keys		Description
Main keyboard	**Numeric (Num) keyboard**	
«↑», «↓», «→», «←»	8, 2, 6, 4	Changing video lens orientation
PgUp, PgDown, Home, End	9, 3, 7, 1	Changing video lens orientation in diagonal directions
«**<**», «**>**»	no	Speed up/down video camera rotation
«**+**», «**–**»	«**+**», «**–**»	Video camera zoom in/out
no	«**0**», «**.**»	Lens focusing
no	«*»	Autofocus
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.

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. 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™ section of Installing and configuring security system components guide). To find out if a video camera supports the continuous mode see DriverPack documentation (see Documentation Drivers Pack).
Click the middle mouse button	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 specifiфed 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, 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. 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	
Click the right mouse butto		
Click and hold the right mouse button	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 section.	
Left hold	Lens zooming in	-
Right hold	Lens zooming out	-

Action	Old function	New function
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.	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.*	
Left click combined with **Shift**	Focus In	
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 down + **Ctrl**	-	Digital zooming out

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

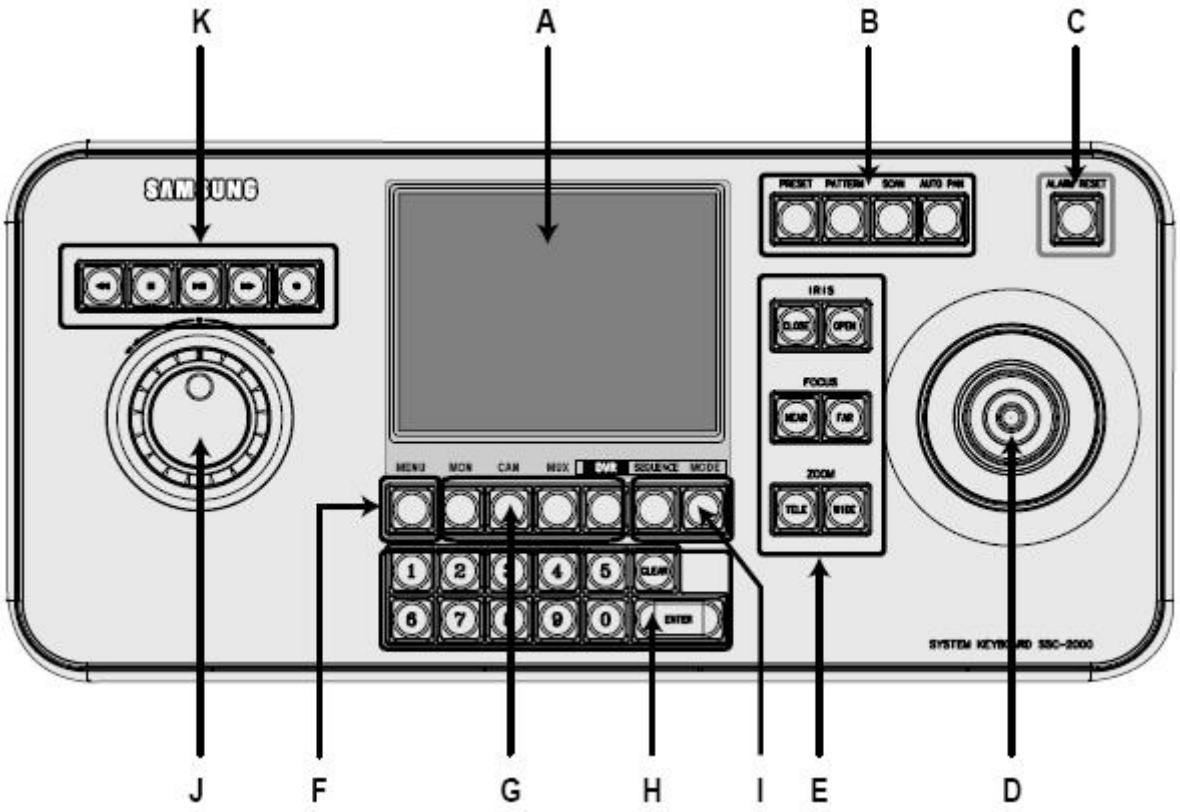
Note.
The above mouse functions are not supported in the Camera windows, corresponding to the surveillance cameras without PTZ.

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

Control Element	Element	Function
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

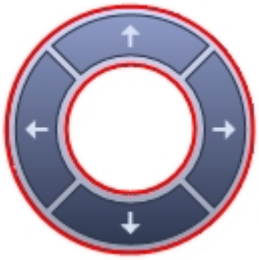
PTZ control panel allows controlling all types of PTZ devices connected to the system.

To access PTZ controls, select 

fin the list corresponding to the given PTZ device.

The elements of the PTZ control panel are described below.

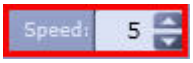
Move camera lens up-down and left-right:



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.

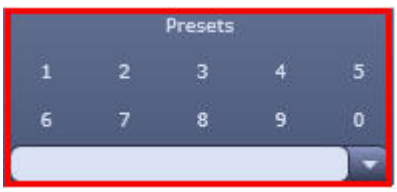
Zoom lens (zoom-in) is set with the following control elements.

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>**.

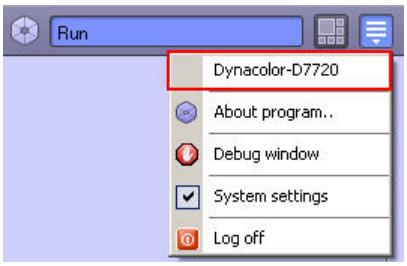
To change the size of the PTZ control window, move the mouse pointer holding the left mouse button pressed in the lower right corner of the window.

4.5.7 PTZ control using the Operator's search box

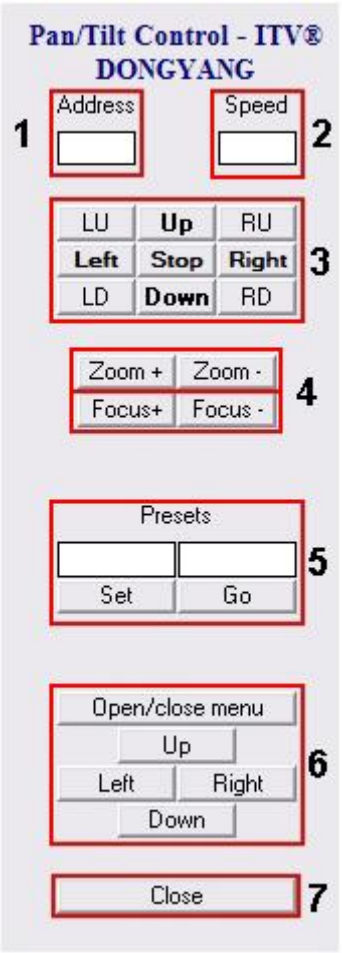
The Operator's search box can be used to control specific types of PTZ.

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 section) or pre-defined macro commands (**Run** menu in the main control panel).

4.7 Operations with relay

Relay is an external security device connected to the system.

The relay can be setup in one of the following statuses:

1. On;
2. Off.

Each executive object like relay is furnished with an executive device, which is a physical device, switched on and off with the relay. The map displays symbols of the following types of executive devices:

1. Light;
2. Acoustic alarm;
3. Lock;
4. No specified type.

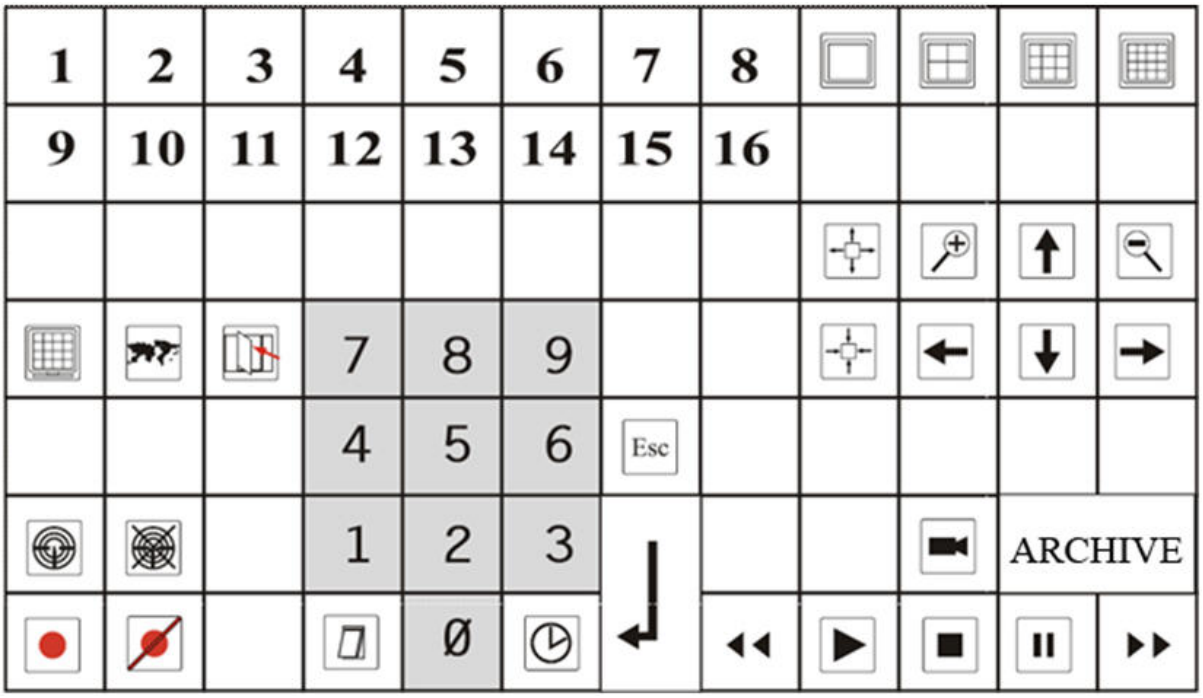
To operate the relay, the Operator uses the map (see the Operations with the relay section) or pre-defined macro commands (**Run** menu in the main control panel).

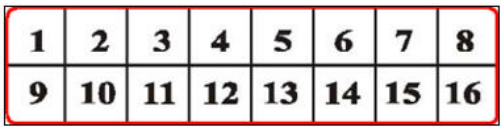
4.8 Use of the specialized keyboard

The specialized keyboard is a keyboard designed to operate *Intellect* software.

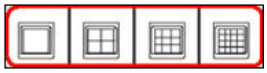
Using the specialized keyboard, both certain system units and the entire system can be operated. The keys of the keyboard may be configured at random at the program configuration stage.

An example of using a specialized *GIGATEK KB950A* keyboard to operate the program monitor is shown in the figure.

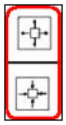




A number of keys, enabling cameras from 1 to 16 dependent on the key number.

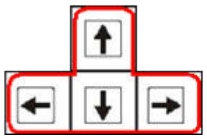


A number of keys changing the number of video surveillance windows on the monitor (1, 4, 9 or 16 correspondingly).



A number of keys rolling up and down the video surveillance window.

A number of keys responding for video scaling (zooming in and out).



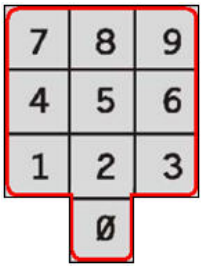
A number of keys (up arrow, down arrow, right arrow, left arrow) to list video surveillance windows.

A number of keys responding for blocking and unblocking

Video archive navigation key.

A number of keys responding for changing the date and time of video recordings in the archive:

- accept changes;
- escape;
- delete.



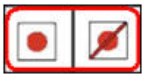
A number of keys – digits from 0 to 9.

Key«ESCAPE».

Key «ENTER»

Key responsible for getting to video archive mode.

A number of keys responding for arming and disarming the camera.



A number of keys responding for video recording by the command (start /stop).

Key to go to video surveillance mode.

Time markers column navigation key.

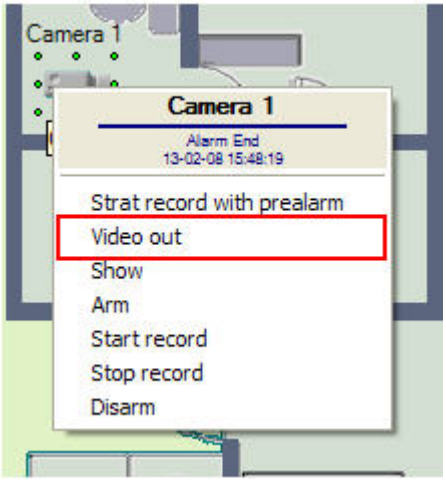
A number of keys responding for viewing the video recordings (roll back/forward, playback, stop, pause).

4.9 Video surveillance using an analog monitor

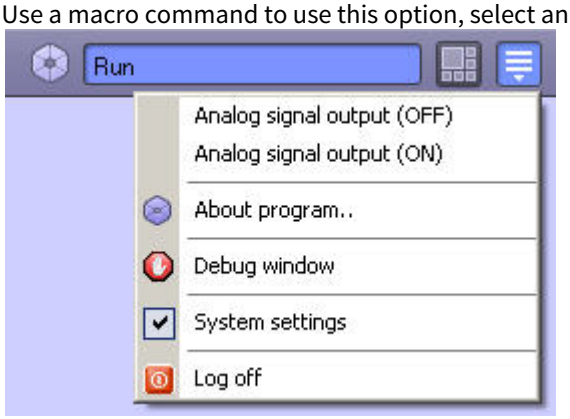
Where the program is configured in a certain way, an analog video image can be output to the external devices connected to the system (for instance, to the analog monitor).

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.

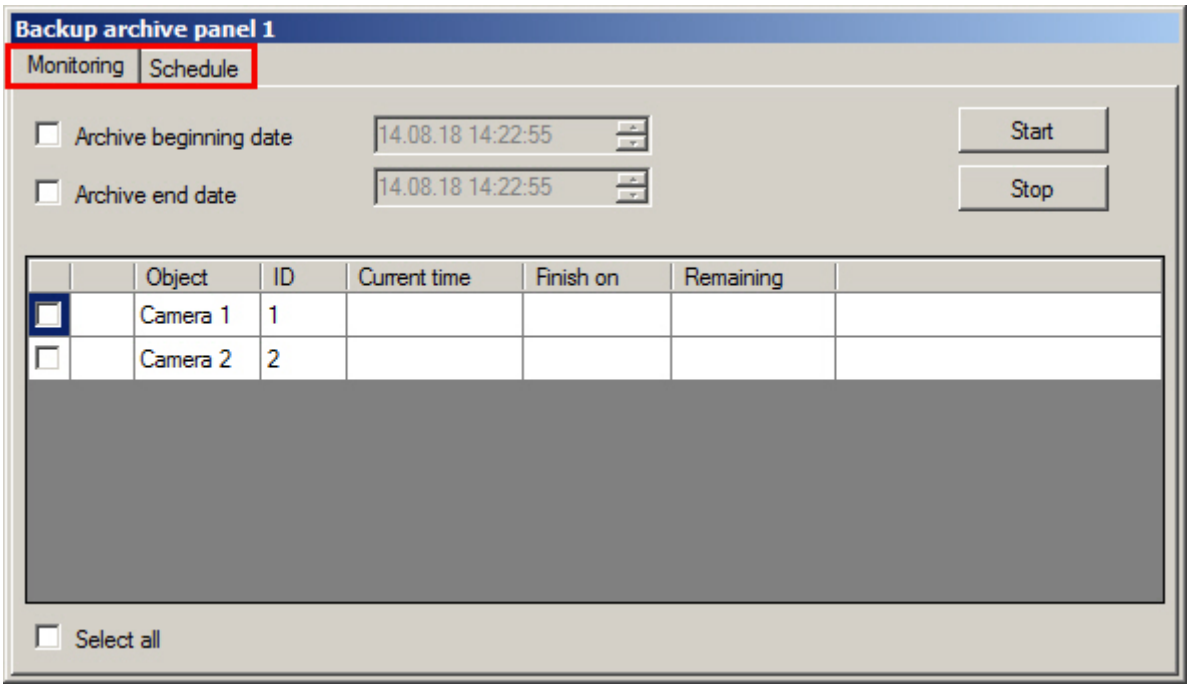


Note.
The availability and names of the macro commands in the **Run** menu used to switch on and off the analog signal output to the external devices, depends on the program configuration.

4.10 Copying video sequence to the Backup archive

4.10.1 General information about copying video sequence to the Backup archive

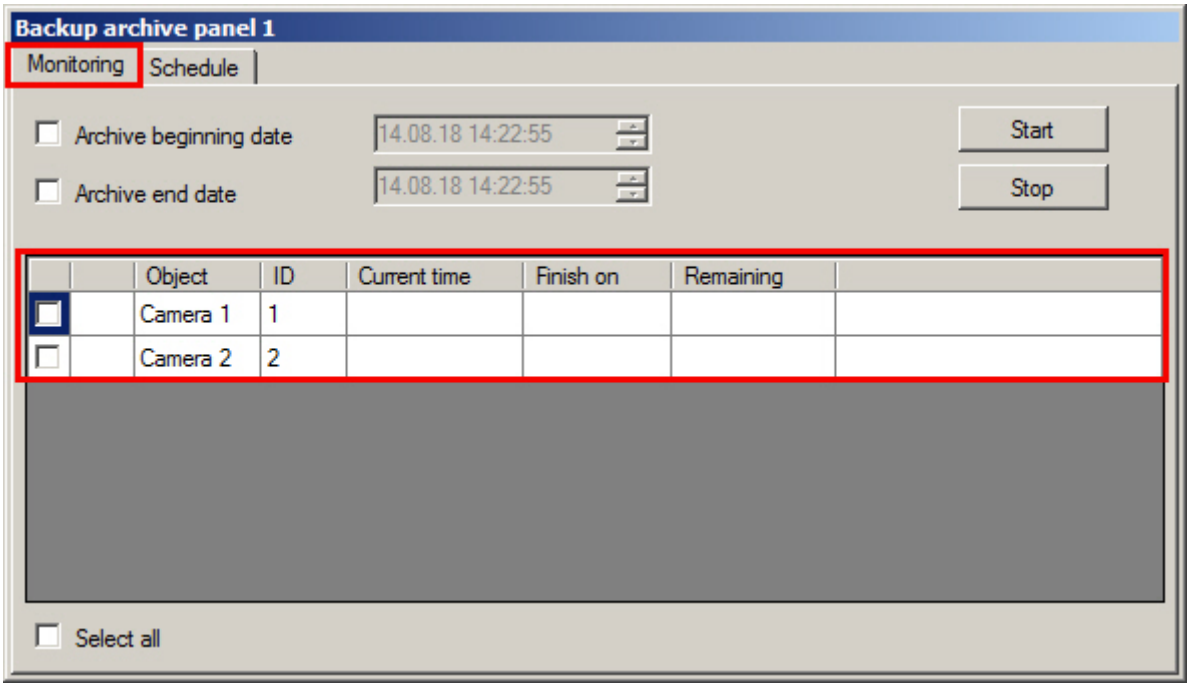
Video sequences may be copied to the Backup archive both manually and automatically using the Backup archive panel.



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.

4.10.2 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 or automated (see the table below).

	Manual	Automated
Camera	Camera name	
ID	Camera identification code	

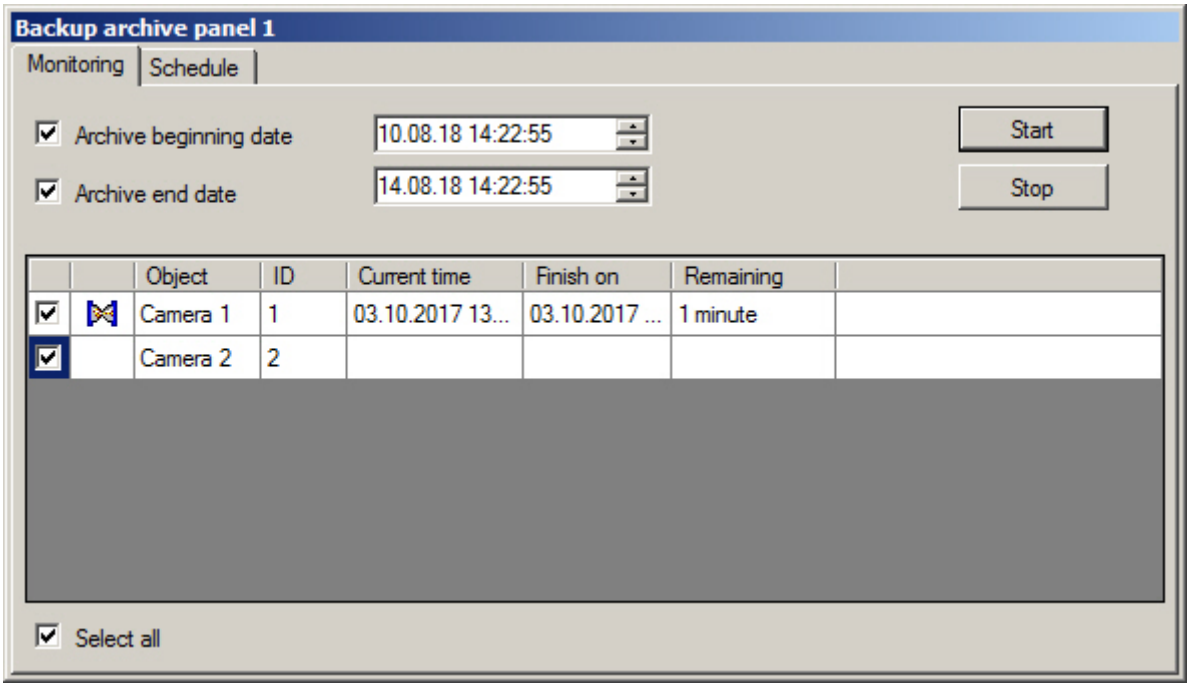
	Manual	Automated
Current time	Date and time of the archive frame currently under processing	
Finish on	Date and time of the last archive fragment to be transferred to the Backup archive	Date and time set in the **Archive end date** field
Remaining	Number of days left to process (end time minus current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

4.10.3 Manual copying

Manual copying uses the **Monitoring** tab.



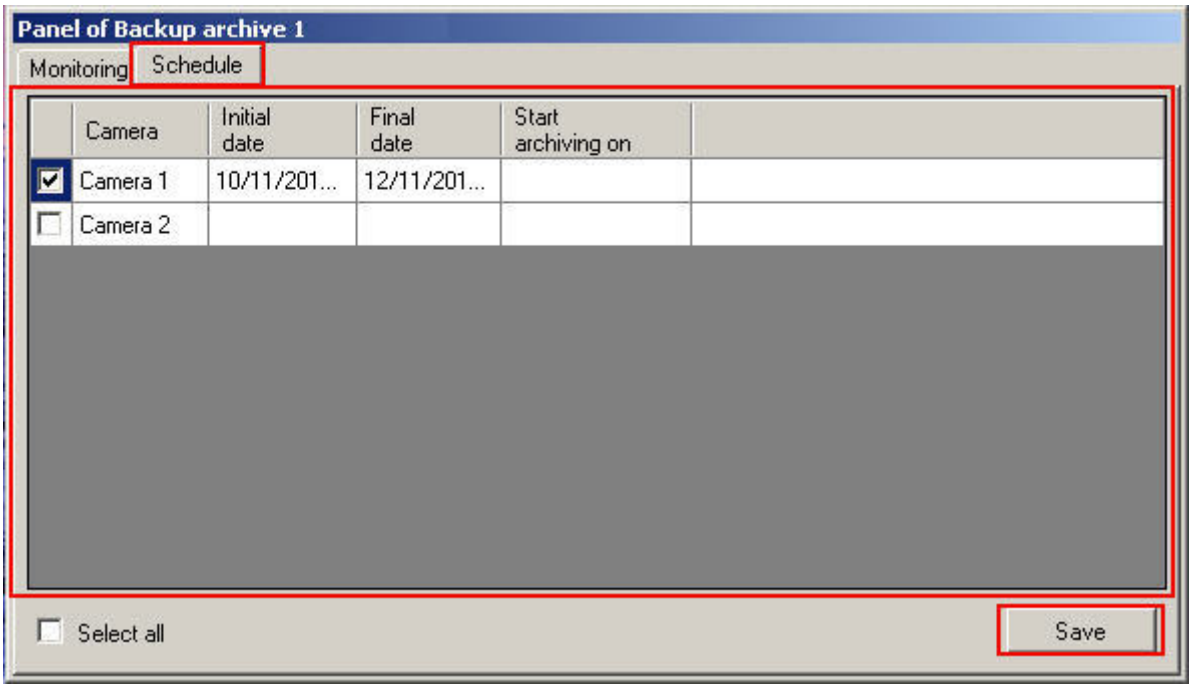
Manual copying can be started and stopped using the **Start** and **Stop** buttons, correspondingly. Elements for setting time intervals for copying recordings of all available cameras can be found to the left of the copying controls.
To start copying, the following steps should be performed:

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. In addition, the **Select all** 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.

4.10.4 Automated copying

Automated copying is configured with the **Schedule**.



The table 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.

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.**

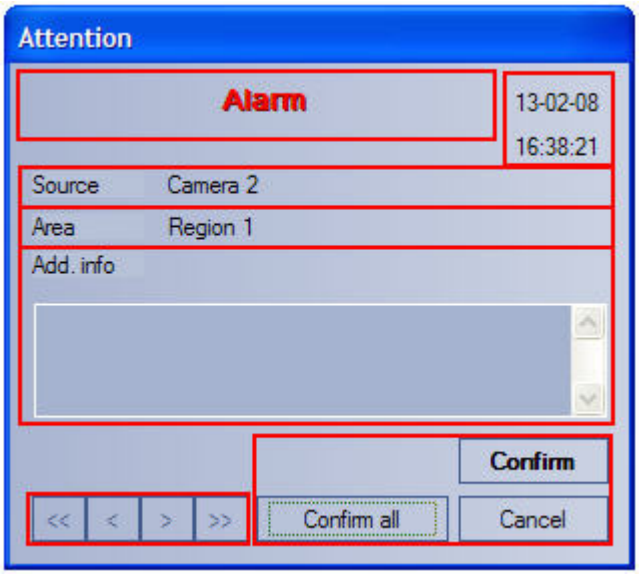
> **Note.**
> To perform scheduled automated copying, the program should always be running, even if the Panel of Backup archive is not on.

4.11 Events control and processing

Events registered by the system can be controlled and processed by the Operator using the Alarm notification window, Event log and Operator protocol. 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.

4.11.1 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 Confirm button or cancel it using the Cancel 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

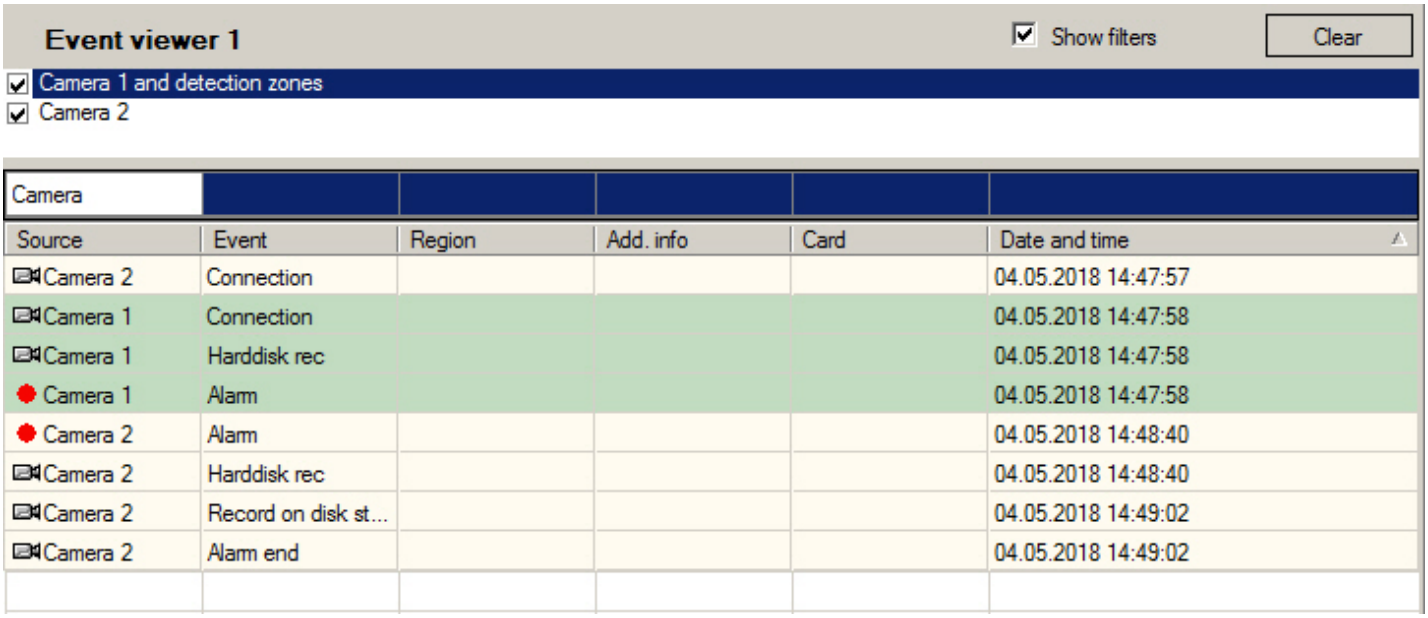
In addition, all notifications in line can be confirmed immediately by pressing Confirm all.

4.11.2 Event control via event log

On the page:

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.



Source	Event	Region	Add. info	Card	Date and time
Camera 2	Connection				04.05.2018 14:47:57
Camera 1	Connection				04.05.2018 14:47:58
Camera 1	Harddisk rec				04.05.2018 14:47:58
Camera 1	Alarm				04.05.2018 14:47:58
Camera 2	Alarm				04.05.2018 14:48:40
Camera 2	Harddisk rec				04.05.2018 14:48:40
Camera 2	Record on disk st...				04.05.2018 14:49:02
Camera 2	Alarm end				04.05.2018 14:49:02

4.11.2.1 The filters

The **Show filters** checkbox opens the list of filters configured while system setup (see Administrator's Guide, the Configuring event filters for displaying in the Event viewer 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.

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.

4.11.2.2 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 and there is positioning to the latest event in the list.

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.
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
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.					

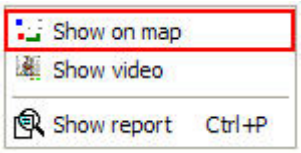
Additionally, a symbol near the source object of the event reflects the current status of the given source object.

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

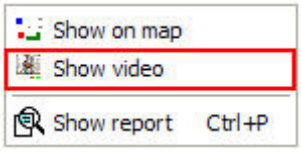
> **Note.**
> After the Event viewer is cleared and if hidden events are to be displayed again, then *Intellect* is to be restarted with the **Load protocol** checkbox set checked (see Event viewer parameters section in Administrator's Guide).

4.11.2.3 Event source objects

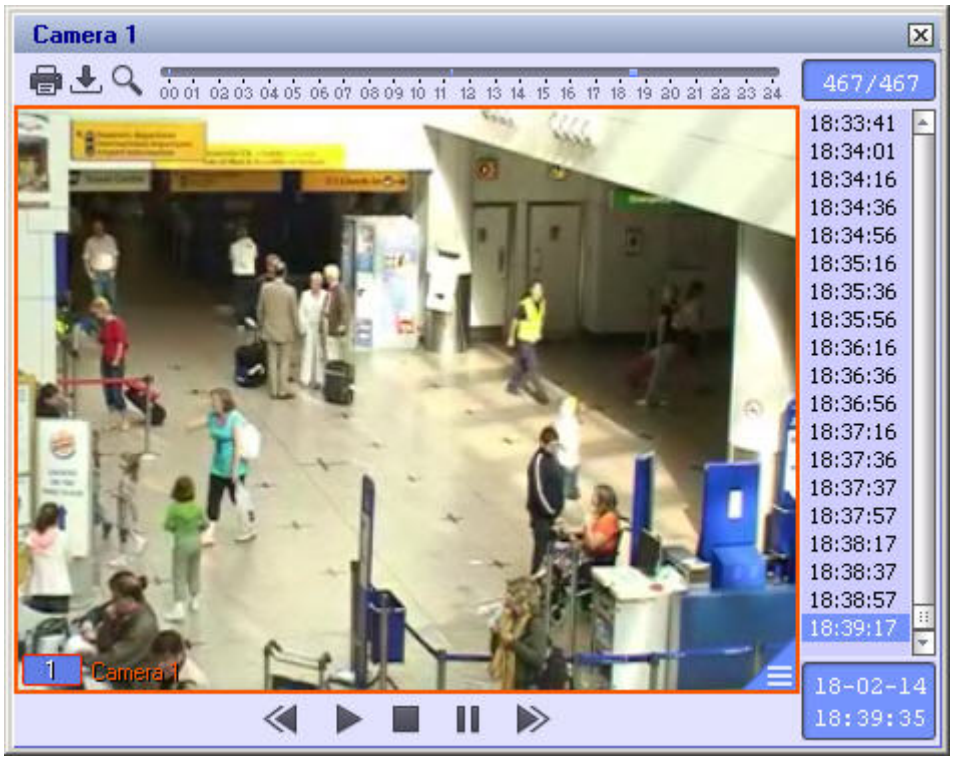
To show the actual location of the source object of the event, use **Show on map** function in the source object menu. As soon as this function is on, the map depicting the location of the given source object is displayed (see the Working with the map section).



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

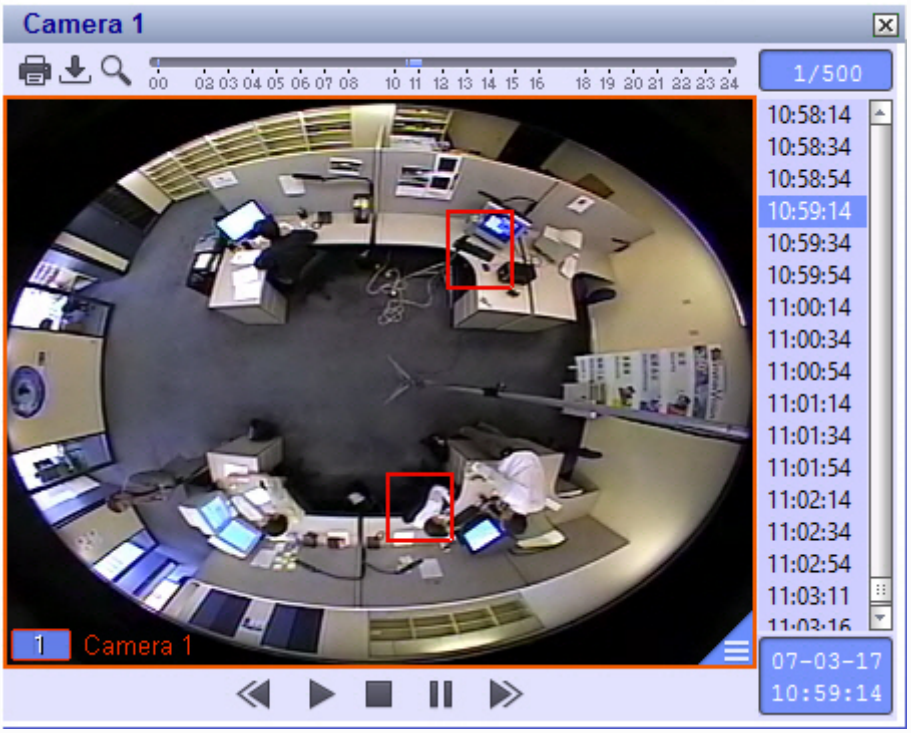


The camera window pops up in the archive playback mode.



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

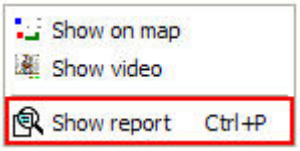
Note.
If the detection of abandoned objects is configured (see the Configuring smart video detection tools section of the Administrator's Guide), abandoned objects are framed in the video when the playing back the video.



4.11.2.4 Generation, printout and export of the registered events report using Event Log

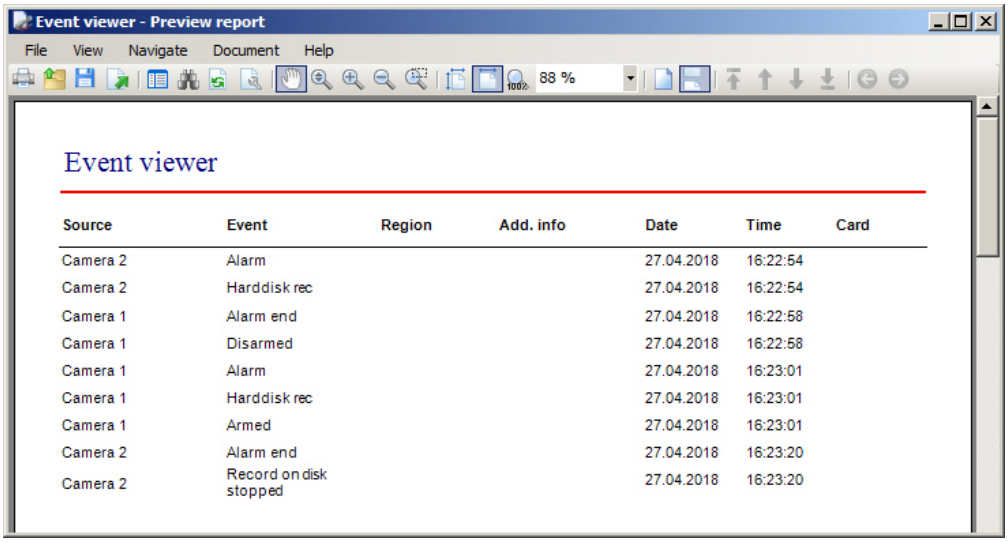
Event log allows for the expedient generation and printout of the event list based on the specified criteria.

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 log 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.

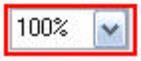


The appearing window will show the generated report as it will be printed out.

> **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. 

Set of elements for browsing report pages
2.  Report printout and print pre-setting control elements
3.  Report export control elements
4. 

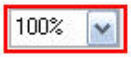
Report display scale
5.  Search function through the report text
6. 

Number of event recordings contained in the given report

7. 

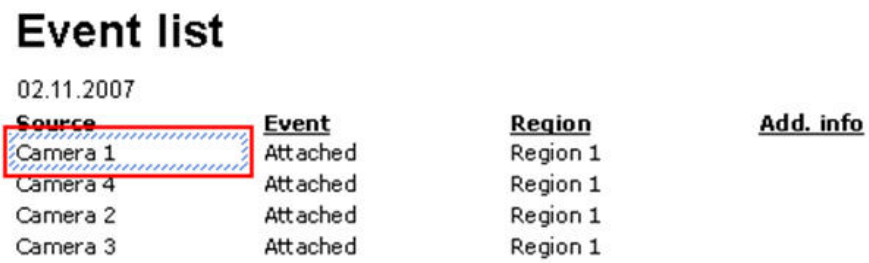
Report generation indicator (percentage of the events downloaded up to a certain point in time into the preview window).

Browsing through the report uses the following set of elements 

. Report view scale is specified using 

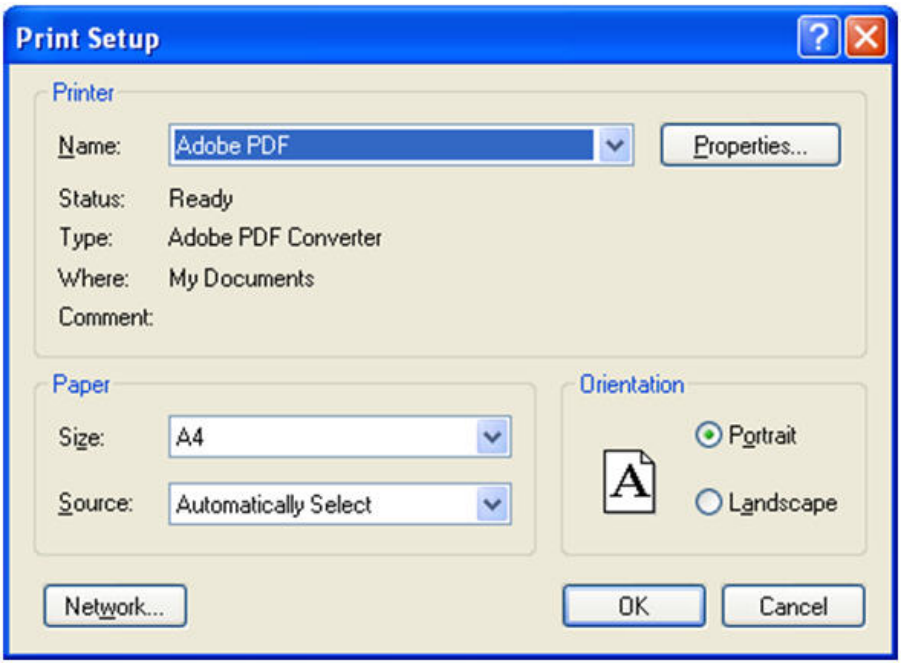
.

Search through the report text uses 
. To search through the report text, enter the item you are looking for into the field and click 
. Found items will be highlighted in the report text.



To find the next required item press 
once more.

To send the generated report for printing, press 
. Specify printer parameters using 
.



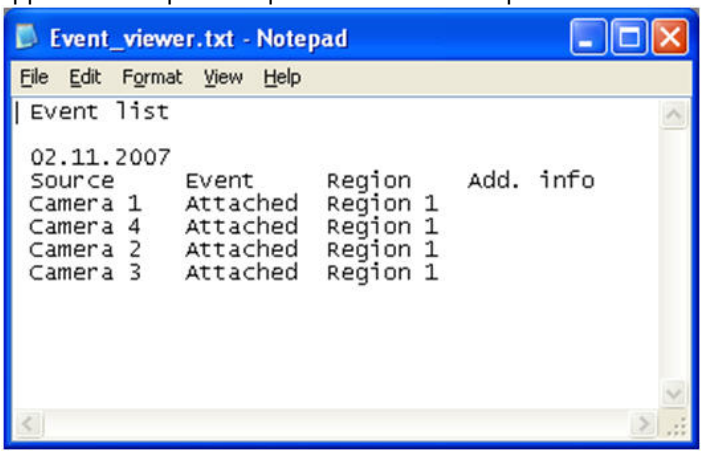
> **Note.**
> Standard dialog box **Print** (OS Windows) does not refer to the *Intellect* system and is a Windows system dialog box.

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 
.

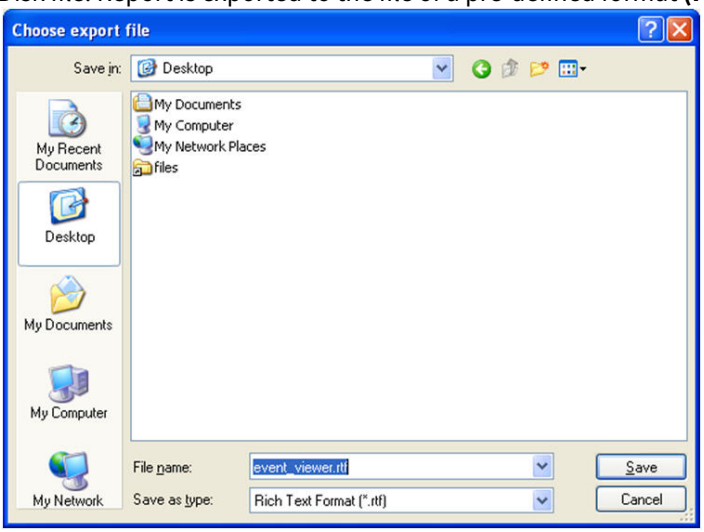
In the appearing box select the required file format to export the report (Format field) and further operations with the file **(Destination** field). Operation options with the report file are given below.

Destination field meaning:

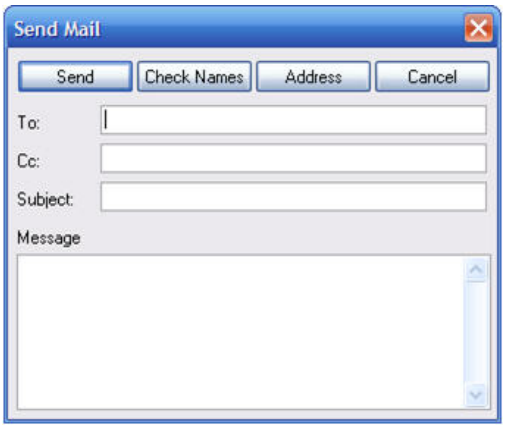
1. Application. Report is exported to the file of a pre-defined format **(Format** field) and opens in the associated application.



2. Disk file. Report is exported to the file of a pre-defined format **(Format** field) and is saved in the specified file.



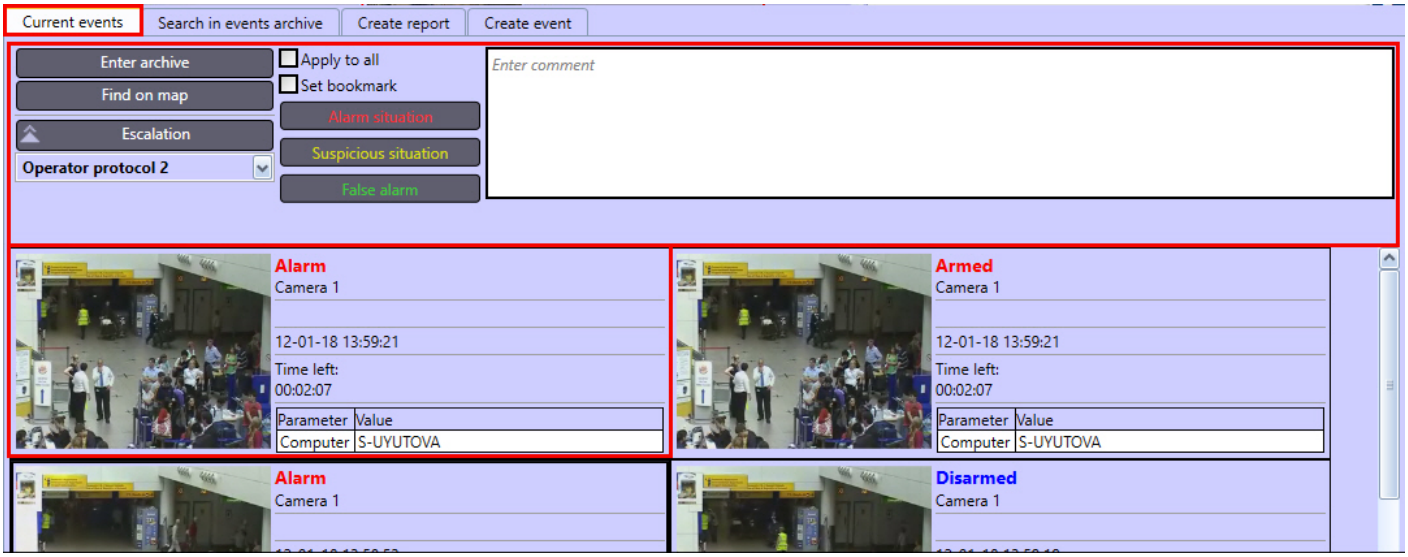
3. Exchange Folder / Lotus Domino / Microsoft Mail (MAPI). Report is exported to the pre-defined file format **(Format** field) and attached to the new message in the **Destination** field of the mail program.



Note.
In certain cases additional report export parameters may be requested (for instance, the number of exported report pages).
All further operations with the exported report file are controlled through the associated applications and do not depend on the *Intellect* system.

4.11.3 Event processing using the Operator protocol

Events are processed in the **Current events** tab of the Operator protocol.

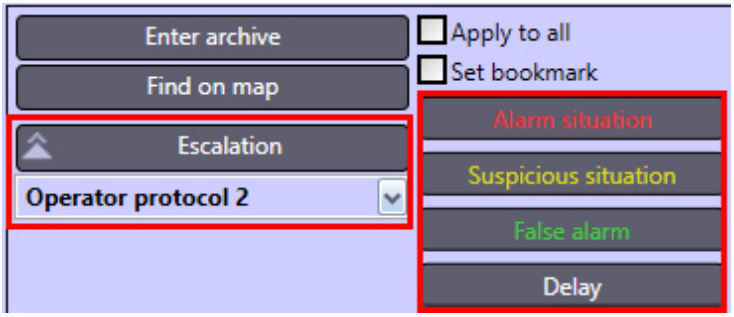


Events registered by alarm objects with no type assigned and events escalated from a lower level are displayed in the **Current events** tab. The event control panel is at the top of the tab, cells with information on events are at the bottom of the tab.The number of horizontal cells is determined by the **Operator protocol** window width. Depending on the Operator protocol configuration events are displayed in the order they are received or by the priority, ascending or descending. When there is ascending sorting - the newest (of higher priority) event is in the upper left corner, when there is descending sorting - it is in the bottom right corner.

If one or several event cells 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.

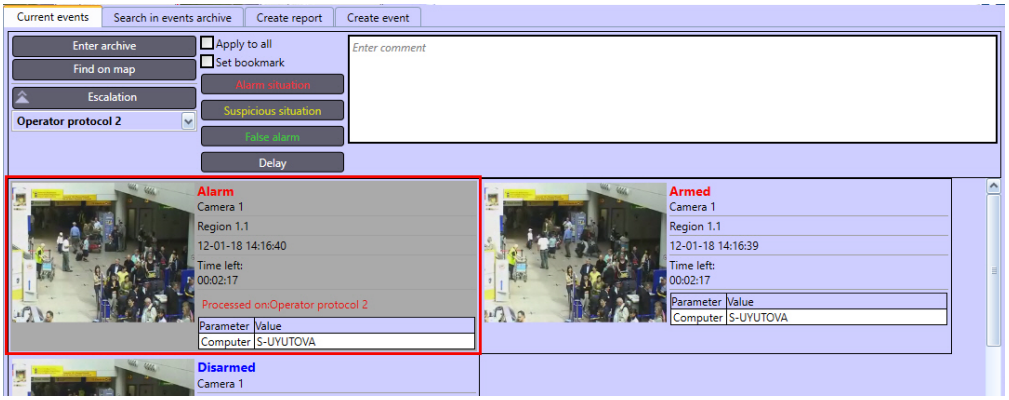
The screenshot of the event is displayed in the cells of the events of the **Camera** objects as well as events of objects linked to cameras (see Connection of objects with cameras section in Administrator's Guide).

To assign a type to the event, select one or several cells of the event using the left mouse button (hold down the Ctrl key to select several cells) and then click one of the buttons on the event control panel.



Note.
When selecting the event cell 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 section in Administrator's Guide), 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 Configuring the Operator protocol object section in Administrator's Guide), then the processed event is marked grey in other Operator protocol windows. But other operators can process this event once again.



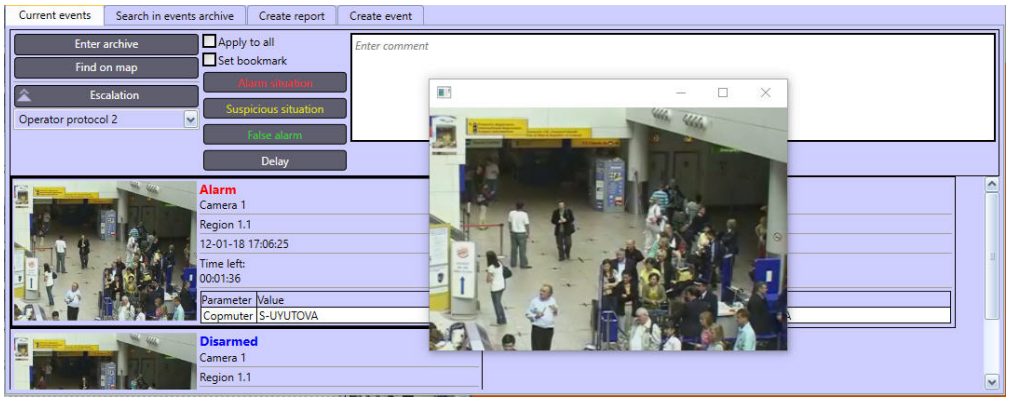
In order to delay the event processing once for the time period specified when configuring the Operator protocol, click the **Delay** button. The event will not be removed from the Operator protocol windows and it will not be marked grey in in other Operator protocols.

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

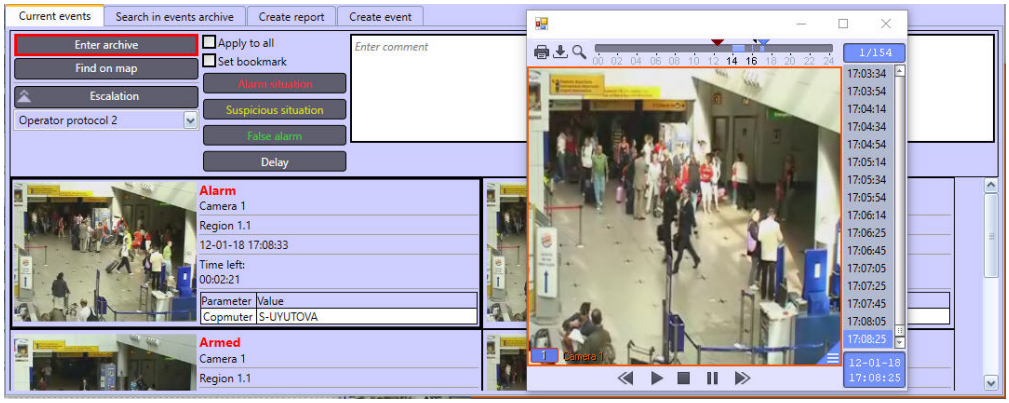
Note.
If all non-processed events are to be assigned with the type of the selected event, then set the **Apply to all** checkbox checked.

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.

To zoom in the alarm frame, double left click it. The window with zoom-in frame appears. To close this window click the **X** button in the upper right corner.

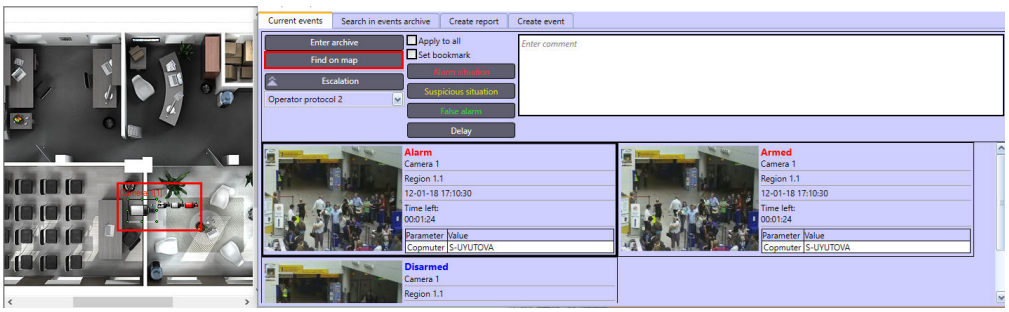


To view or export the video of the event, select the event in the list and click the **Enter archive** button on the control panel. The enter the archive feature is available for events from **Camera** objects and objects linked to them (see Connection of objects with cameras section in Administrator's Guide).



The viewing and export window is displayed and the current position of playback will be set at the position corresponding to the beginning of video recording. The interface of this window is the same as the one of the Video surveillance monitor.

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.



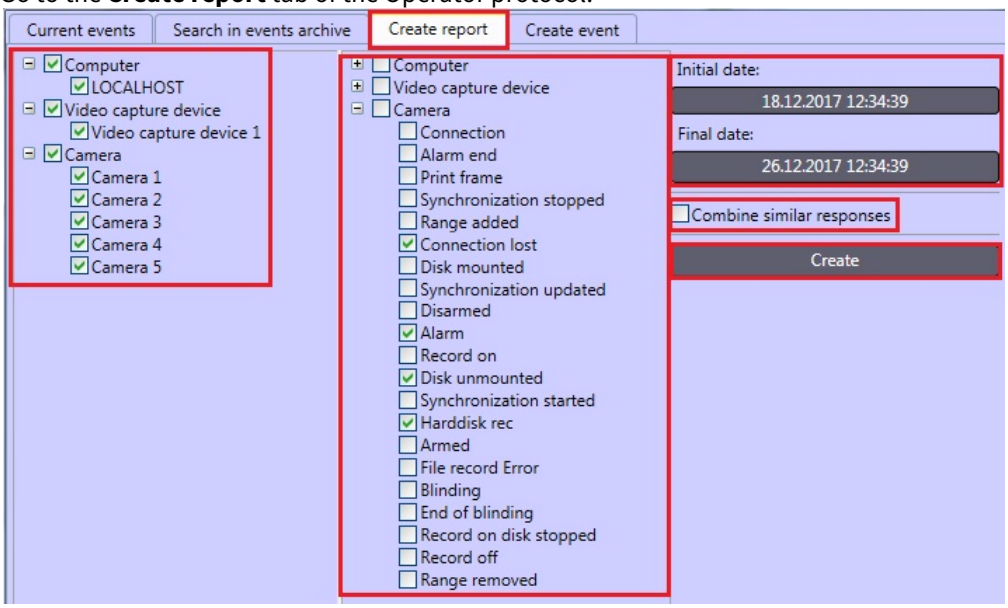
4.11.3.1 Creating a report by events logged using the Operator protocol

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 Creating a report by operator actions.

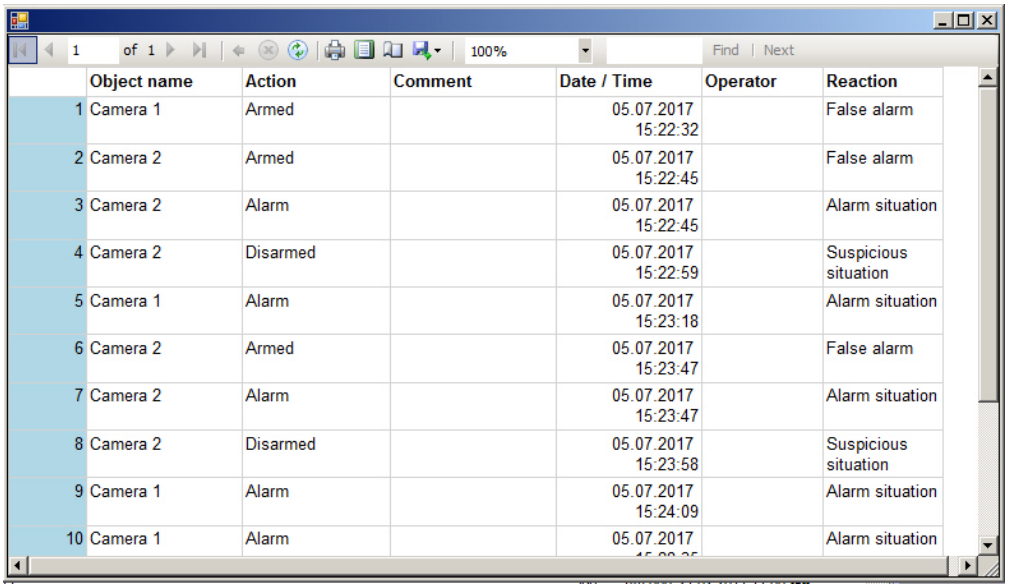
To create a report, do the following:

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.
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 unchecke, 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

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

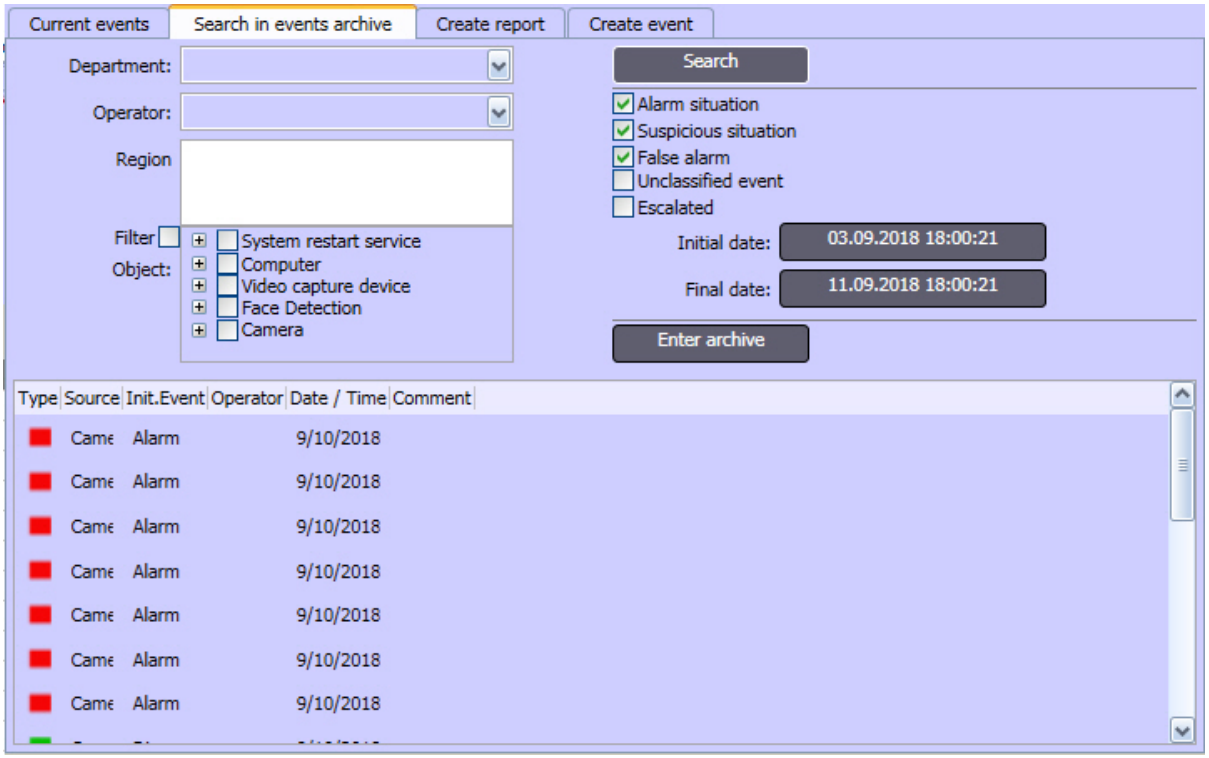
6. Exporting the report to xls, pdf or doc format
7. 100% Selecting the report's scale
8. Find | Next Searching over the report

4.11.3.2 Creating a report by operator actions

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

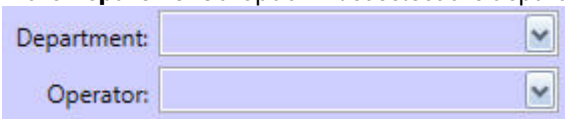
> **Note.**
> A report by events themselves can also be created – see Creating a report by events logged using the Operator protocol.

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



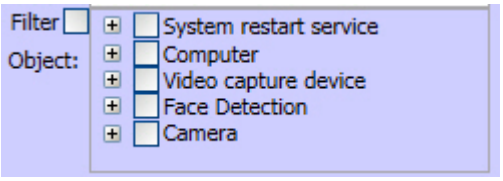
To create a report by operator actions, do the following:

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

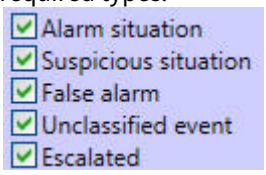


2. In the **Operator** dropdown list select the operator that processed the required events.
3. In the **Region** dropdown list select one or several Region objects the objects, from which the events are received, correspond to. To select several objects hold the Ctrl key and left click the required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

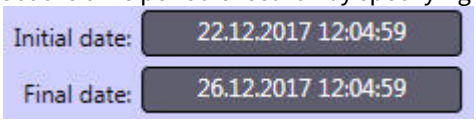
4. If the events are to be filtered by objects they are received from, then in the **Object** list select the object by which the search of events will be performed. If the ***(*)** value is selected in the list, then the search will be performed by all objects. If only objects added to the Operator protocols are to be displayed in the list, then set the **Filter** checkbox checked.



5. Select the types of events to search for by setting the checkboxes checked next to the names corresponding to the required types.



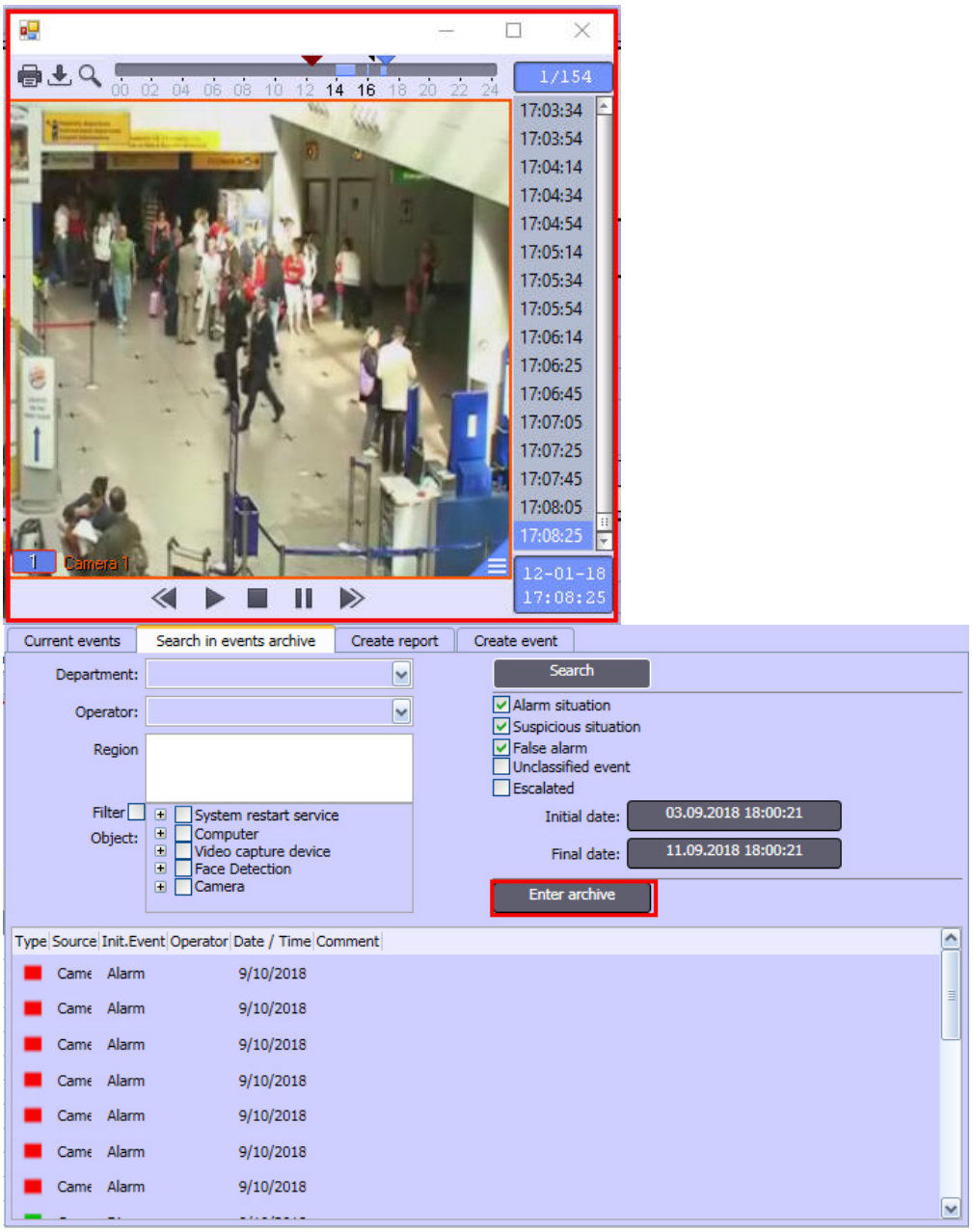
6. Set the time period of search by specifying the initial and final date using the **Initial date** and **Final date** buttons.



7. To start the search click the **Search** button.

The operator actions corresponding to the search requirements will be displayed in the protocol table.

In order to view or export the video recording of the event, in the protocol table go to the event the video of which is to be viewed and click the **Enter archive** button.



The archive of video recordings opens in a separate dialog box and the current position of playback is set at the position corresponding to the beginning of video recording. The interface of the dialog box is similar to the Video surveillance monitor.

> **Note.**
> The archive can be opened in the Video surveillance monitor instead of the separate dialog box depending on the **Operator Protocol** object settings.

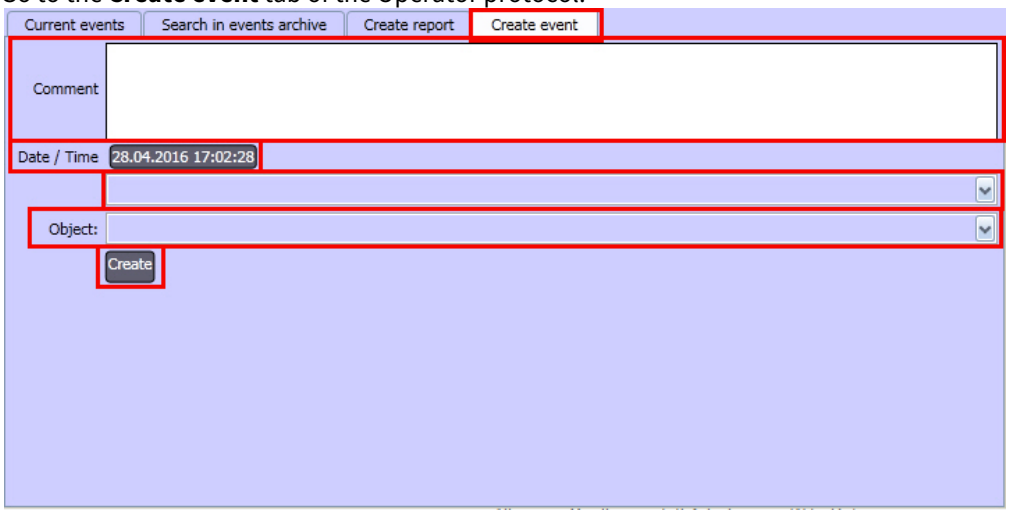
4.11.3.3 Creating events using the Operator protocol

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

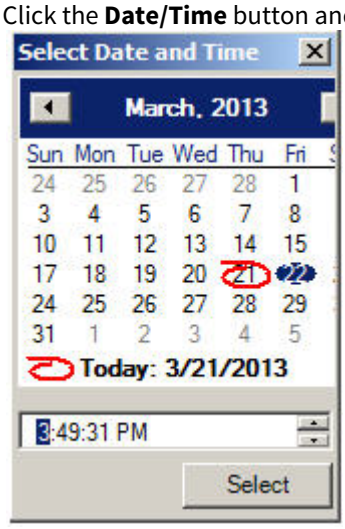
There is **Created by Operator** message in the **Initial Event** column when displaying events created this way (see Creating a report by operator actions).

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 dropdown list.
5. In the **Object** drop-down list, select the object which registered the event.
6. Click the **Create** button.

The event of the **Alarm situation** type will be added to the archive.

> **Note.**
> In order to view the video recording on the event created by the Operator,
> one is to start recording on the required camera manually (see Recording by Operator command section).

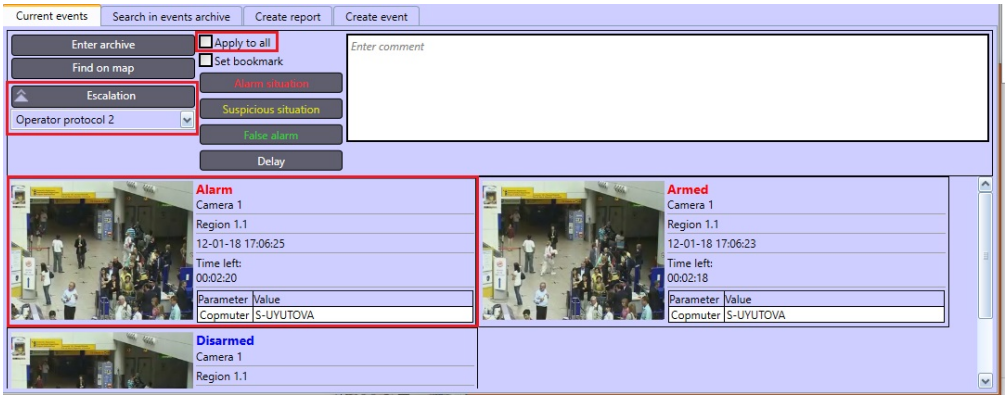
The event is now created.

4.11.3.4 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.

4.12 Working with the map

4.12.1 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).

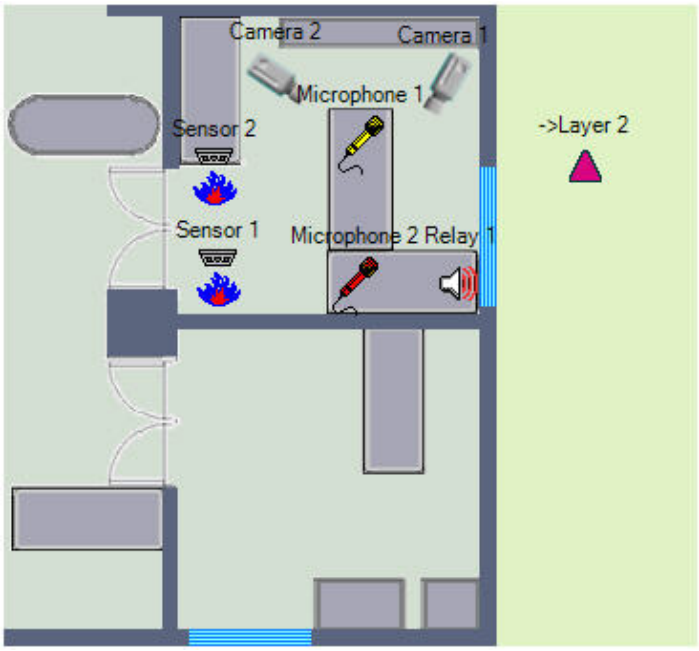
Security devices are displayed on the map as symbols: each device is described by its status; access to the device functions is provided via the functional menu, which is called up by a right mouse click on the required device image on the Map. Macro commands are also displayed in the Map as symbols,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

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.

4.12.2 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.

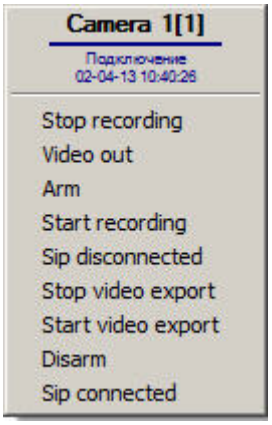
Note.
The display of the thumbnails can be disabled at the stage of the system configuration – see Operations with objects in the Map editor utility section in Administrator's Guide.

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.

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. For instance, the functional menu of the Camera object is shown in the figure.



Actions on several devices of the same type can be performed at once. To do this:

1. Select several object icons, for example, several cameras, by left-clicking and holding the Ctrl key on the keyboard.
2. Right-click 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 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). The tooltip size does not depend on the map scale.

4.12.3 Switch-over between Map layers

On the page:

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:

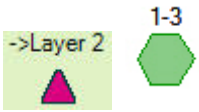
1. Using the links between layers.
2. Using the Map feature menu.

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.

4.12.3.1 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.

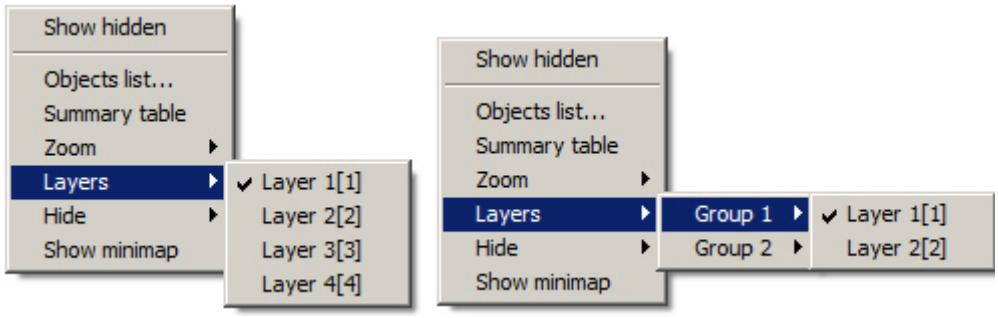
Moreover, the recursive search for alarm links on the Map is also supported. If this feature is enabled, devices which have registered an alarm, are searched for automatically across all Map layers. For instance, there are 3 layers, where layer 1 is linked to layer 2, and layer 2 is linked to layer 3. 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).

4.12.3.2 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.



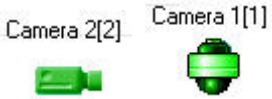
This way of switching over the map layers does not require the previous settings and allows switching over the current layer to any other layer permitted to the user by rights.

4.12.4 Operations with the cameras

On page:

4.12.4.1 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

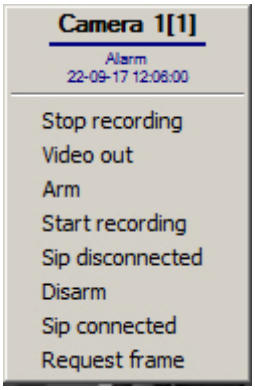
Note.

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

4.12.4.2 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.

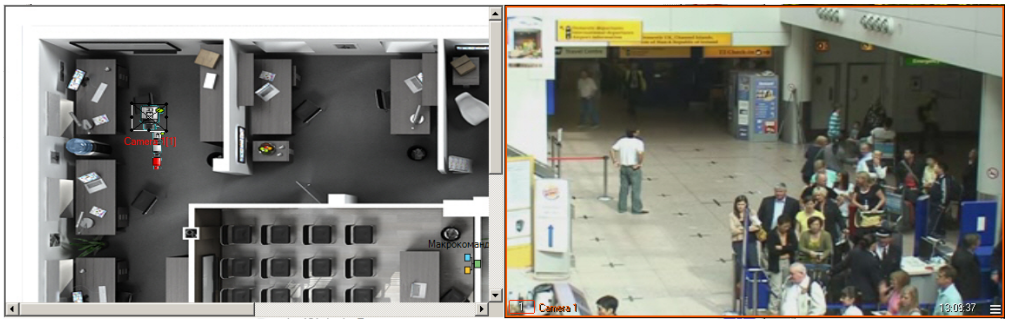
Feature menu item	Function	Comments
Camera No./Connection	Displays the selected camera identifier, as well as the date and time of the first connection of the camera	

Feature menu item	Function	Comments
Stop recording	Stops recording	See section: Stopping the recording
Video out	Outputs the camera image to the analogue monitor connected to the system	See section: Video surveillance using an analog monitor
Arm	Arms the camera in the main detector zone	See section: Camera arming and disarming
Start recording	Starts recording at the Operator's command	See section: Recording by Operator command
Sip disconnected	Disconnection of a Sip device	See Intercom Subsystem Reference and Information Guide
Disarm	Disarms the camera in the main detector zone	See section: Camera arming and disarming
Sip connected	Connection of a Sip device	See Intercom Subsystem Reference and Information Guide
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 section of the Programming Guide (JScript). *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).

4.12.4.3 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 section of the Administrator's Guide), then video from a camera is displayed on such Video surveillance monitor when the camera icon is clicked on Map.



4.12.5 Operating the microphones

On page:

4.12.5.1 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

4.12.5.2 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 section
Stop recording	Disarms the microphone, stops recording	

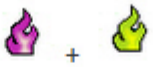
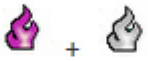
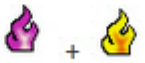
4.12.6 Operations with sensors

On page:

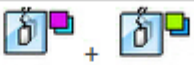
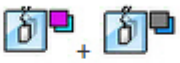
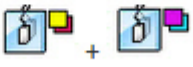
4.12.6.1 Sensor status indication

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 annunciator types are shown below. In the **dbo.state** column, the state written to the dbo.STATES database is given.

Heat sensor:

State	dbo.state	Sequential icon changihg
Armed	ARMED|OFF	
Disarmed	DISARMED|OFF	
Alarm generated	ON|ALARMED	
Alarm event ended (alarm not confirmed)	OFF|ALARMED	
Alarm confirmed	OFF|CONFIRMED	

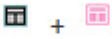
Glass sensor:

State	dbo.state	Sequential icon changihg
Armed	ARMED|OFF	
Disarmed	DISARMED|OFF	
Alarm generated	ON|ALARMED	
Alarm event ended (alarm not confirmed)	OFF|ALARMED	
Alarm confirmed	OFF|CONFIRMED	

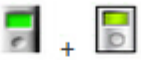
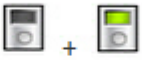
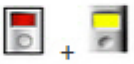
Ceiling sensor:

State	dbo.state	Sequential icon changihg
Armed	ARMED|OFF	
Disarmed	DISARMED|OFF	
Alarm generated	ON|ALARMED	
Alarm event ended (alarm not confirmed)	OFF|ALARMED	
Alarm confirmed	OFF|CONFIRMED	

Window sensor:

State	dbo.state	Sequential icon changihg
Armed	ARMED|OFF	
Disarmed	DISARMED|OFF	
Alarm generated	ON|ALARMED	
Alarm event ended (alarm not confirmed)	OFF|ALARMED	
Alarm confirmed	OFF|CONFIRMED	

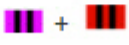
Infrared sensor:

State	dbo.state	Sequential icon changihg
Armed	ARMED|OFF	
Disarmed	DISARMED|OFF	
Alarm generated	ON|ALARMED	
Alarm event ended (alarm not confirmed)	OFF|ALARMED	
Alarm confirmed	OFF|CONFIRMED	

Smoke sensor:

State	dbo.state	Sequential icon changihg
Armed	ARMED|OFF	
Disarmed	DISARMED|OFF	
Alarm generated	ON|ALARMED	
Alarm event ended (alarm not confirmed)	OFF|ALARMED	
Alarm confirmed	OFF|CONFIRMED	

Hermetic contact:

State	dbo.state	Sequential icon changihg
Armed	ARMED|OFF	
Disarmed	DISARMED|OFF	
Alarm generated	ON|ALARMED	
Alarm event ended (alarm not confirmed)	OFF|ALARMED	
Alarm confirmed	OFF|CONFIRMED	

Sensor type security devices operated on the basis of circuit closure, interpret any sensor closure as an alarm event, whereas devices operated on the basis of circuit interruption, identify any sensor interruption as an alarm event.

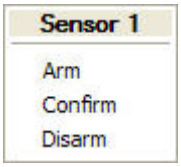
If the Sensor is armed, then at the Sensor switching on/off the "Alarm" event appears depending on the alarm mode setting (see the Creating and configuring the Sensor system object section of the Installing and configuring security system components guide). If the Sensor is disarmed, the "Closed" / "Opened" events appear correspondingly.

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 IPdevice supports two connection channels of sensors).

4.12.6.2 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 section

Feature menu item	Function	Comments
Arm	Arms the sensor	
Confirm	Confirms alarm event registration by the sensor	
Disarm	Disarms the sensor	

4.12.7 Operations with the relay

On page:

4.12.7.1 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				

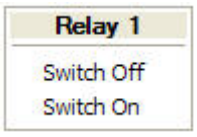
Note.
Reference «*» means that the image of the given symbol is blinking.

If the connection between the *Intellect* and the relay is lost, the "Connection lost" event will be generated.

4.12.7.2 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 section
Switch-off	Switches the relay off	
Switch-on	Switches the relay on	

4.12.8 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 section) and "Events log" (see Events log section).

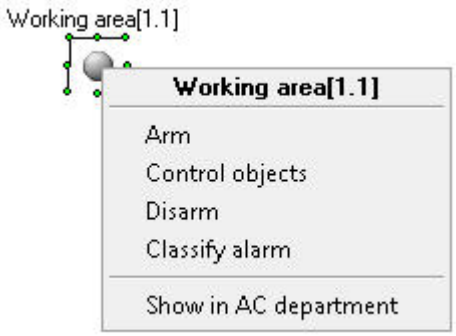
The Map is used for Region operation in Intellect software package. Markings of the “Region” object on the Map are given below.

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 the **Regions and areas** tab of the Access Manager. See also Access Manager Module Settings and Operation Guide.

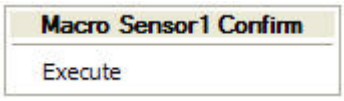
4.12.9 Macros commands operation

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.



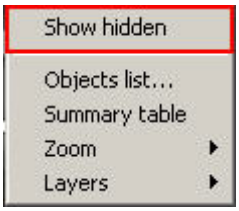
The name of the macro command, the date and time of the latest macro command execution are entered into the functional menu, where the Execute command to start the macro command is initiated.

To execute the macro command, right click the mouse on the corresponding macro command and select **Execute**.

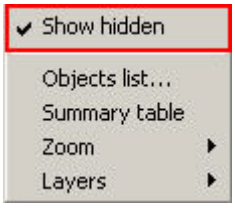
4.12.10 Hide or display graphic objects on the Map

The object symbol on the Map may be visible or hidden (which is configured at the program configuration stage). Visible objects are always reflected on the Map, whereas hidden objects are reflected only in "view hidden objects" mode.

To switch-off **view hidden objects**, use the functional menu of the Map, calling it up with a right mouse click on any place on the Map, which is free from object symbols.



Hidden objects are viewed and hidden through the **Show hidden** objects function. The status of the mode is indicated by a checkmark near the **Show hidden** objects button, which indicates that hidden objects can be viewed.

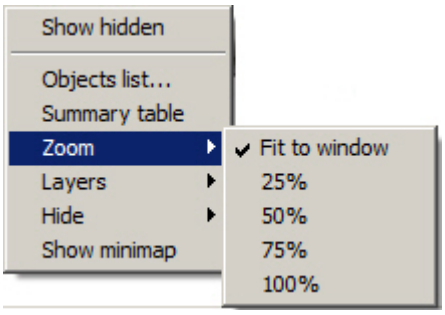


> **Note.**
> Hidden objects view and hide function applies across all Map levels.

4.12.11 Map scaling

Map scaling allows enlarging and reducing the size of the image shown in the Map window.

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.

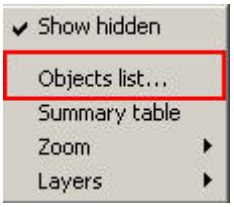


To set the scale, select the required scale value in the **Scale** sub-menu or click the **Fit to window** point, which is designed to set the scale allowing the full Map image to fit into the Map window. The selected scale is restored after *Intellect* software restart.

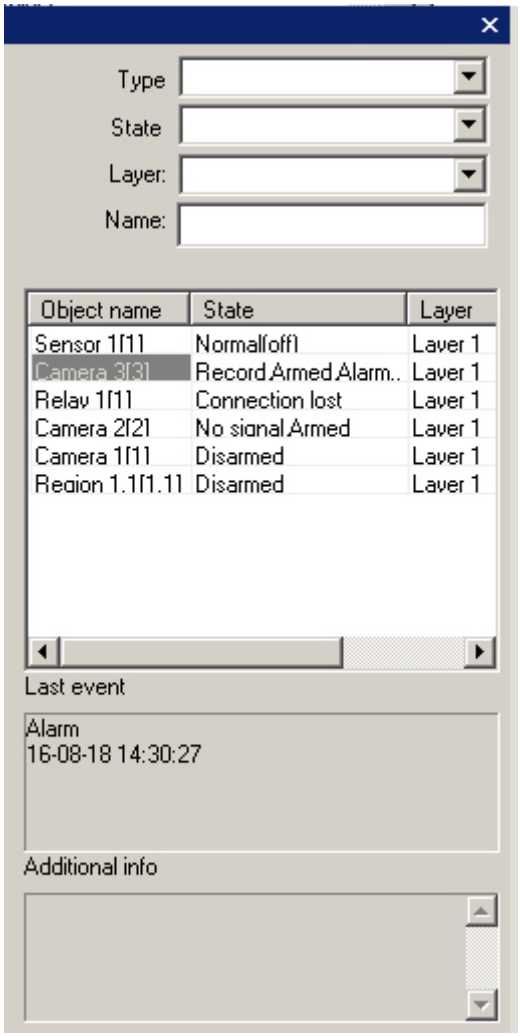
4.12.12 Object status monitoring with the objects list

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.

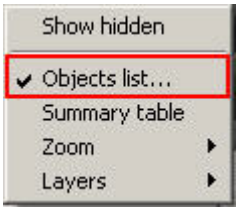
The middle part of the **Object list** window displays a table describing object statuses on all levels of the Map: each object is described by the name and current status. The table shows both visible and hidden objects, regardless of the display mode selected to show hidden objects on the Map. Each 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 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.

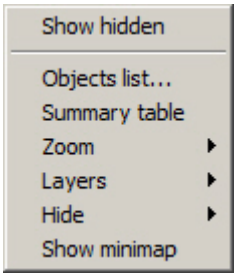
The lower part of the Object list window contains the **Latest event** and **Additional information** fields, which is designed to display the information about the object selected within the table (to select the object, click the left mouse button on the line containing the object in the table). The **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.



4.12.13 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).

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.

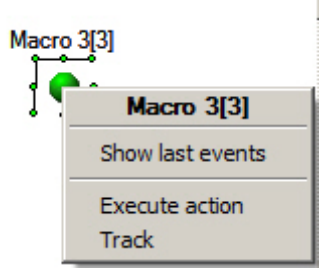
Map scale control panel is in the upper right of the minimap box:

- 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.

4.12.14 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 section of Installing and configuring security system components guide.
To start tracking select the **Track** menu item in the feature menu of the object on the map.

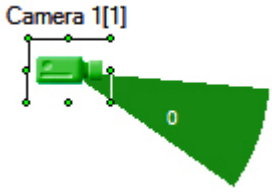


The **Track** item appears in the object menu on the Map only if the following conditions are met:

- Object tracking monitor on the Map is selected.
- Geo tagging is added.
- 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, 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.



4.12.15 Searching object on the map by its name and ID

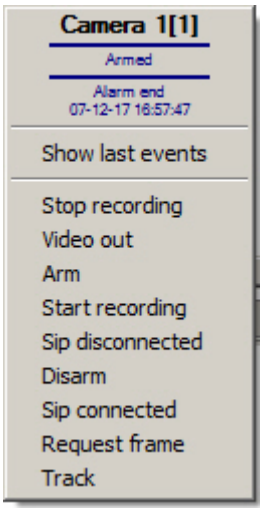
To search for an object on the map by its name or ID, press Ctrl+F on the keyboard. The Map search box is displayed in the upper-left corner of the Map window.

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, while the icon of the object is positioned in the center of the Map window. 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.

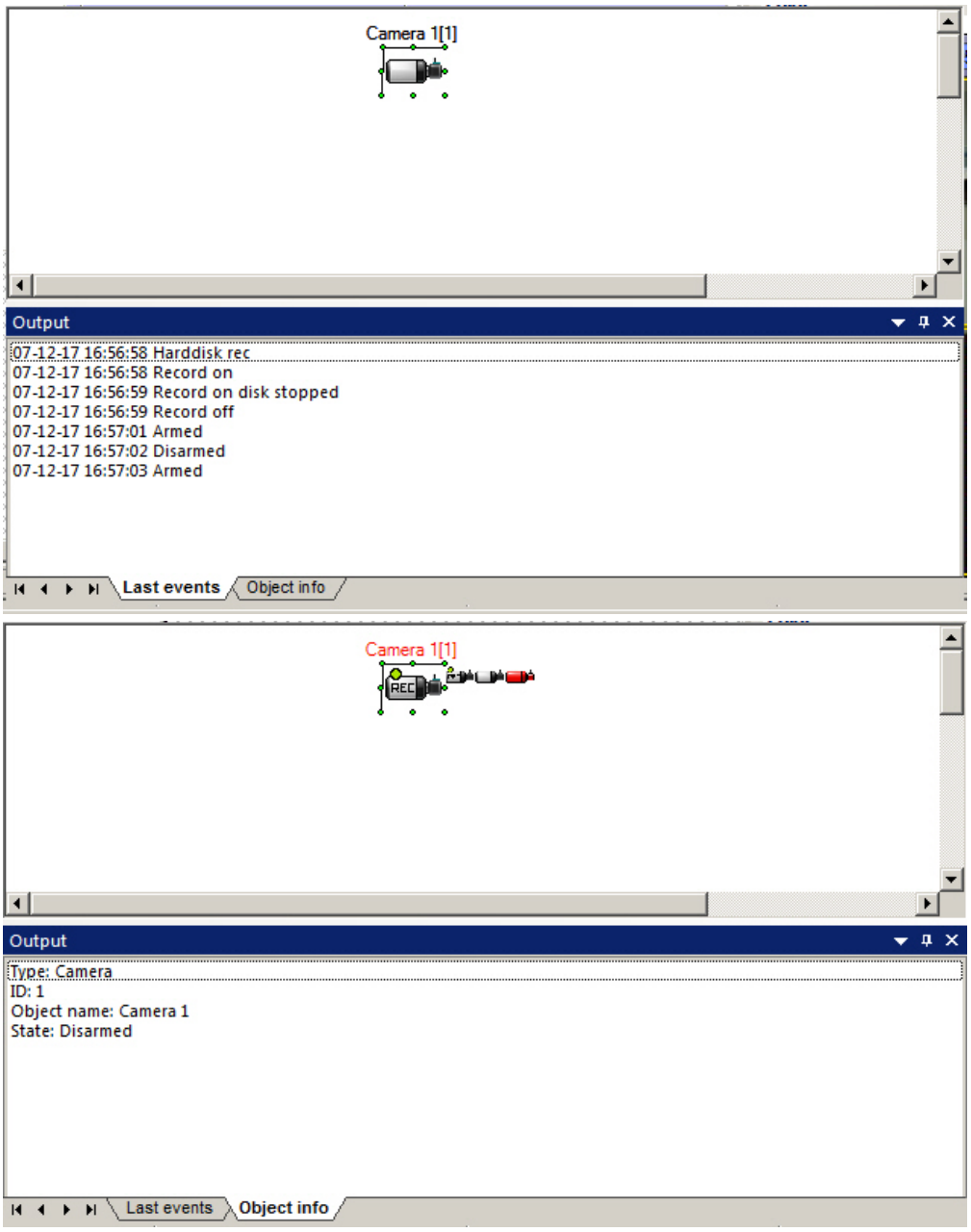
4.12.16 Viewing recent object events on the map

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).

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 general information about the object (type, ID, object name and state) is displayed in the **Object info** tab.



You can change the size of this 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.

4.13 Operations using the Client

On page:

4.13.1 General information

Client is a PC,where *Intellect* system with the **Remote Monitoring Work Station** configuration is installed.

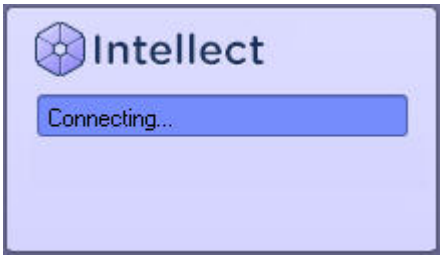
4.13.2 Starting the Client

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.

4.13.3 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.

4.14 Video surveillance using the Web browser

4.14.1 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.

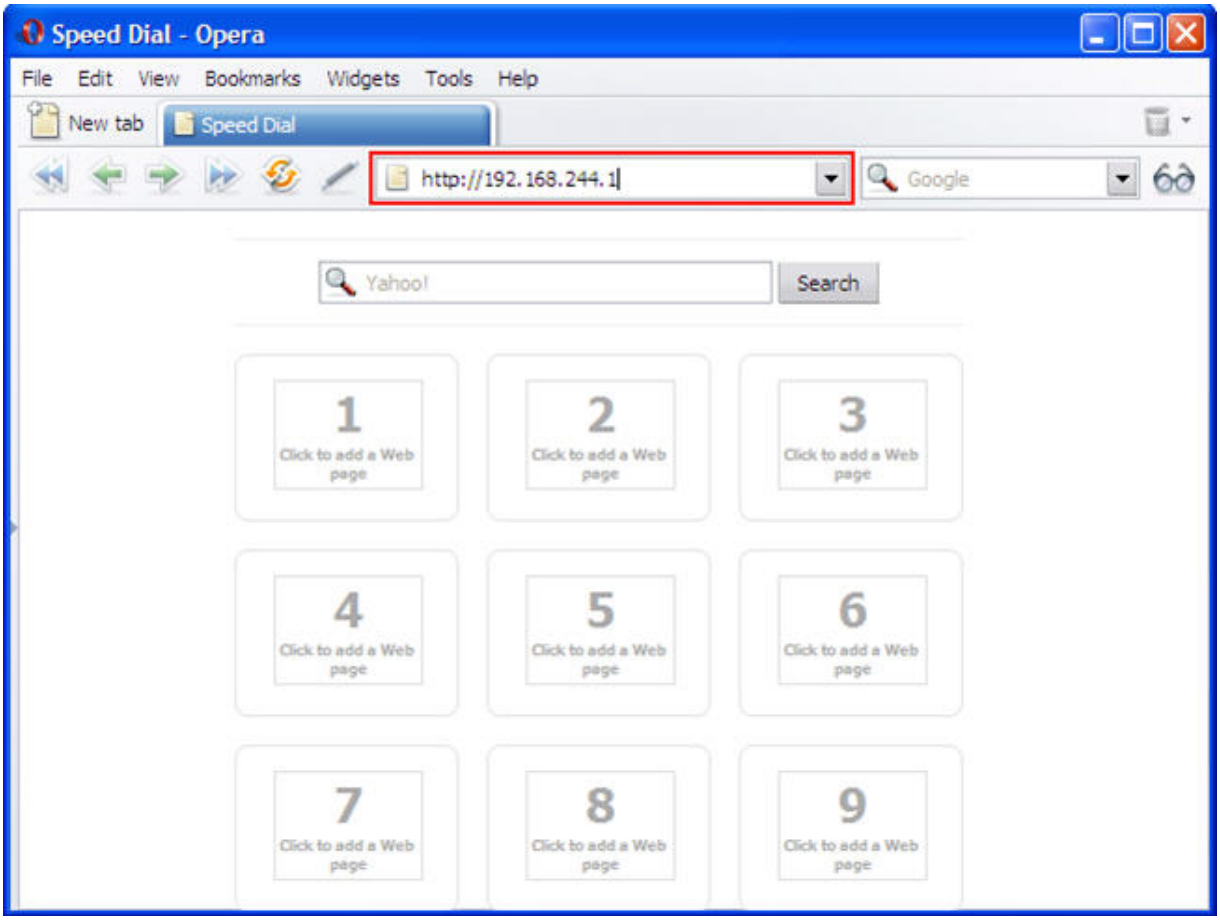
Color of the window border	Color of the camera number border	Camera Status
Yellow	Yellow	The camera is armed, no video recording is in process
Red	Red	An alarm event has been registered with the camera, alarm response recording starts and recording initiated at the Operator's command before the alarm, 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

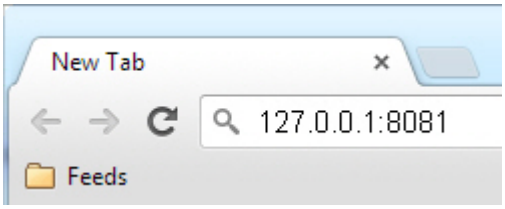
Note.
All indication diagrams as presented correspond only to the basic detector zones, without auxiliary zones. Whenever a camera is armed or disarmed within auxiliary detector zone, the colour of the video surveillance window border remains unchanged, however in case of an alarm event in the auxiliary zone, the window border becomes red. That is why camera arming and disarming within an auxiliary zone is not indicated.

4.14.2 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 , the Setting the parameters of connecting Clients to the Web-server 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 using the appropriate settings. In this case a login or user password will be required to access the Web server.

4.14.3 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.

4.14.4 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.

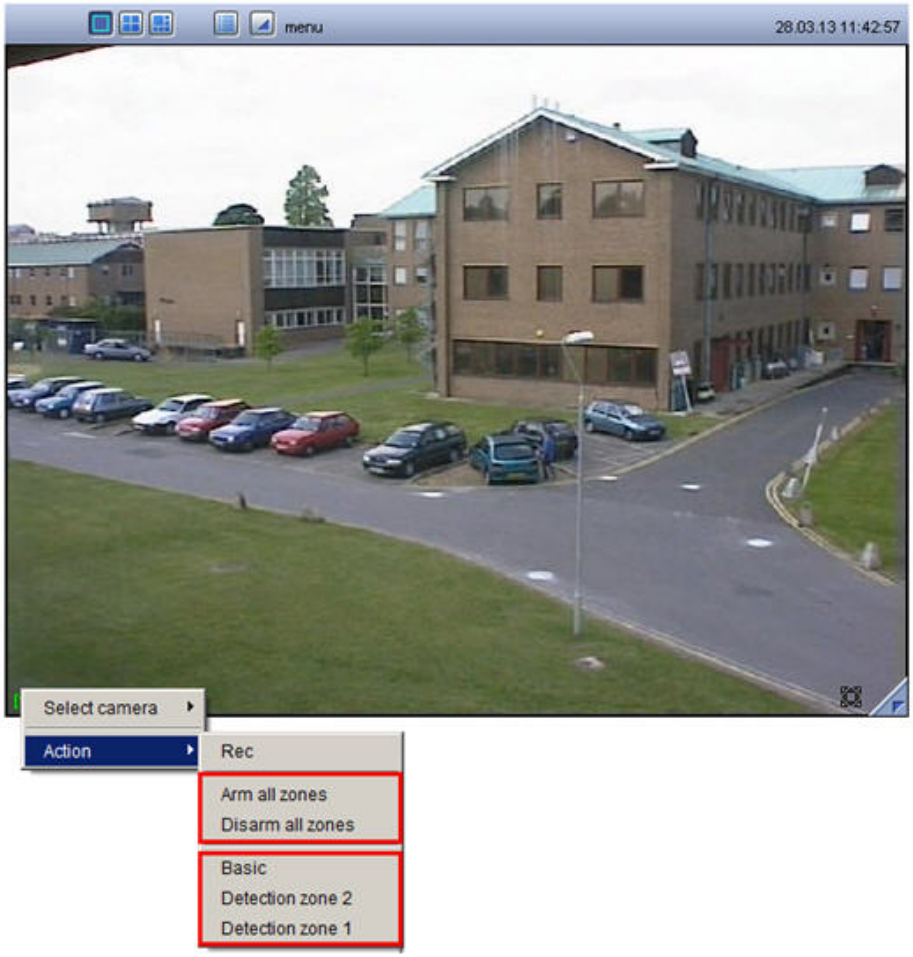
To arm the camera, select **Arm** in the feature menu.

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 section).

4.14.5 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 section).

4.14.6 Video recording

Video recording on the camera is controlled via the feature menu of the Web server video surveillance window.

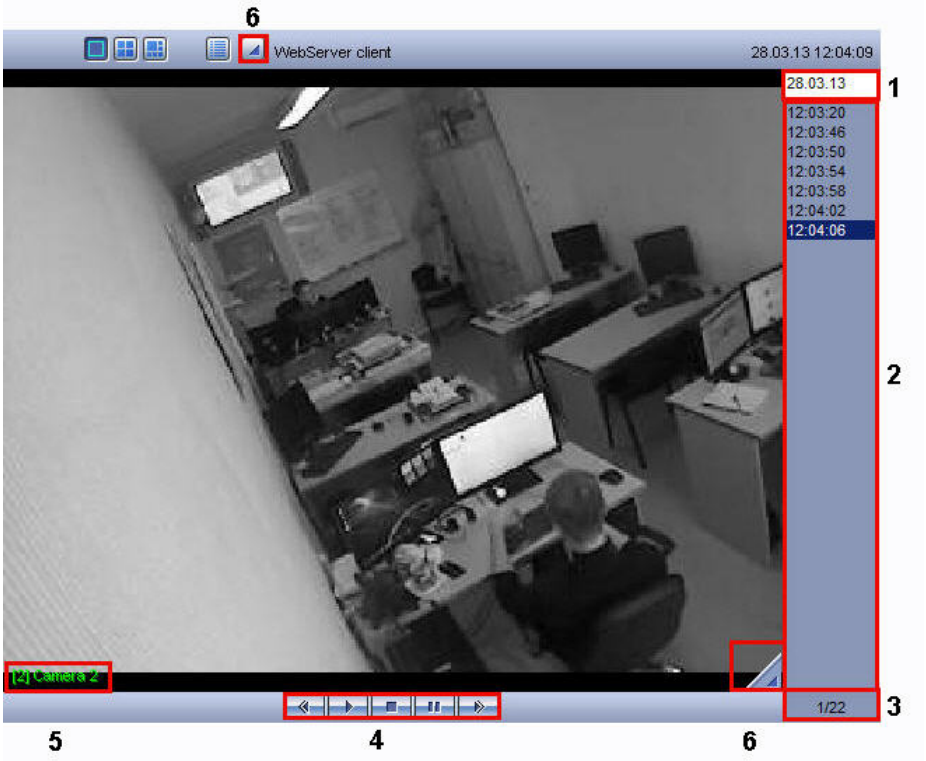
To start video recording on the camera, select **Start recording** in the feature menu of the video surveillance window, which corresponds to the given camera.

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 section).

4.14.7 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.

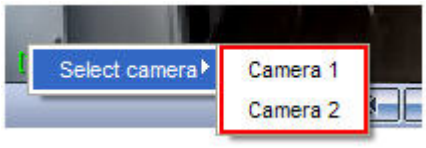


Elements of the playback control panel are described in the table.

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

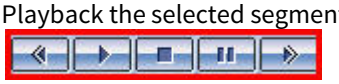
An algorithm for browsing through the archive may be as follows:

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.

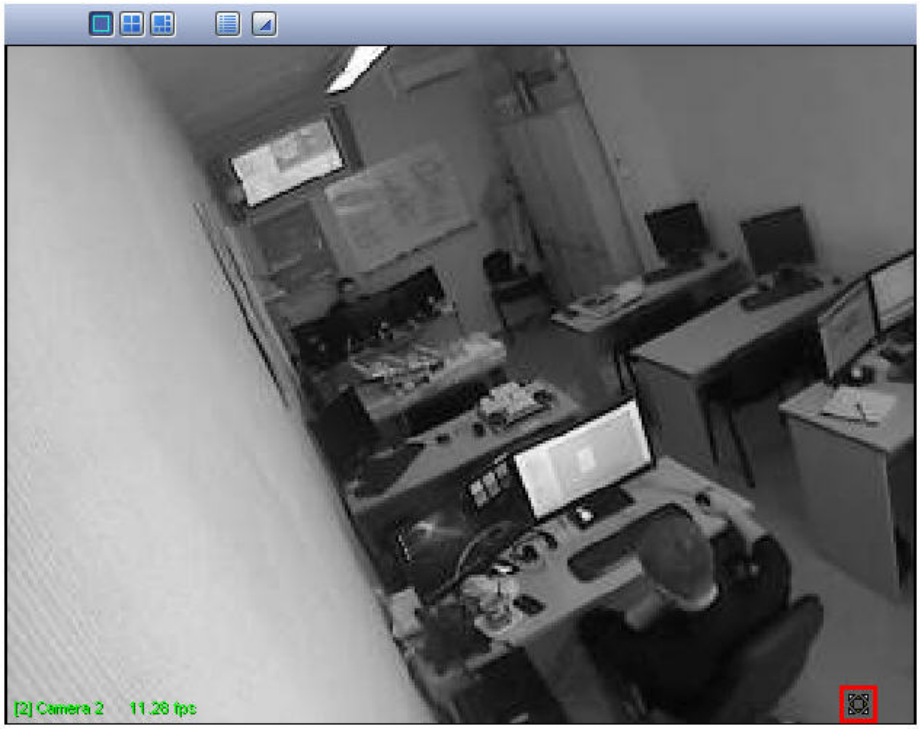


The  button starts playing back the selected recording segment, the  button stops playback.

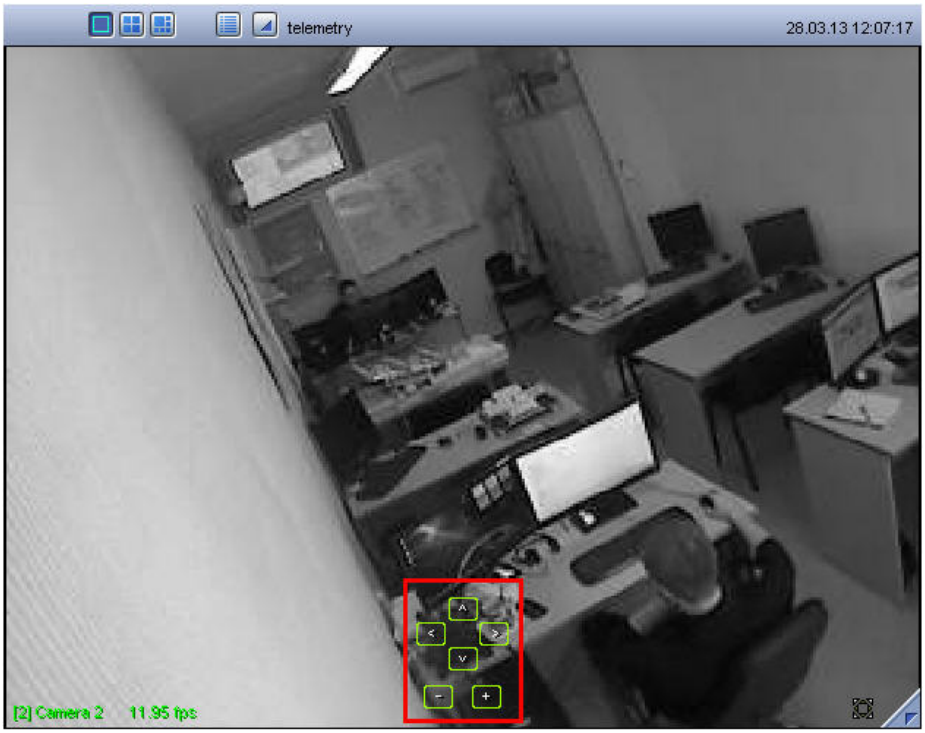
The  and  buttons are used to rewind and fast forward the recording segments in the playback mode, as well as to list the frames in the pause mode. If the recording playback is stopped using the  button, then the  button is for going to the beginning of the recording and the  button is for going to the end of the recording. To shift to the pause mode, press the  button, to restore playback – press the  button.

4.14.8 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  .

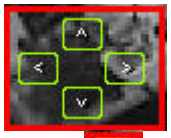


To access PTZ unit controls, click  with any mouse button. You will get an image of the PTZ unit control panel.



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.

4.15 Video surveillance using the iOS mobile client

The remote connection of the Intellect software to the Server using devices of Apple company is performed with the help of iOS mobile client of iOS of 7.0 version or higher. This client is available for free in the Apple store and can be in use with the following devices:

1. iPhone 3GS, iPhone 4, iPhone 4S, iPhone 5;
2. iPodtouch (over the 3d generation);
3. iPad (all generations).

The iOS client is designed for the following functions:

1. the video image viewing in a real time mode;
2. ptz control;
3. archive viewing;
4. digital zooming of video image;
5. video camera control: arming/disarming, recording to archive on/off;
6. maps viewing;
7. executing macros;
8. list of events viewing.

Detailed information about mobile client and about working with it is presented in the iOS Mobile client. User guide document.

4.16 Working with panoramic video surveilance window

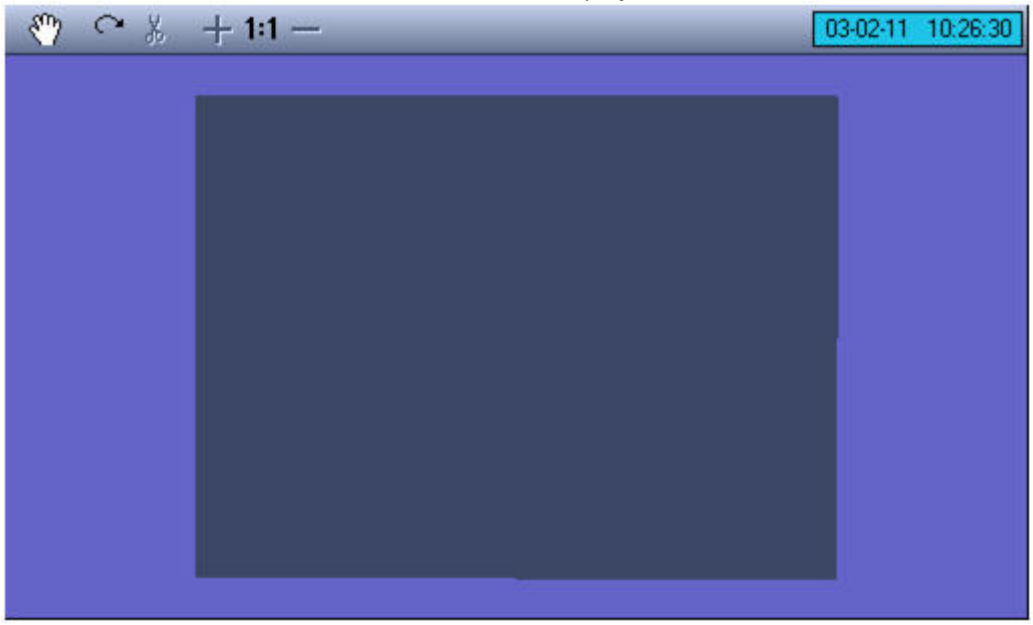
The Panoramic video surveillance window is designed for creating and using the panoramic image.

4.16.1 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 section).
2. Select **Interface** button on the control panel.

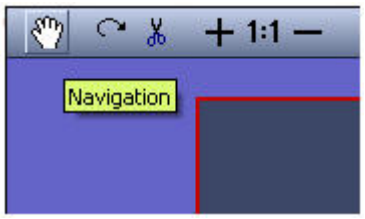
3. Control menu of the Intellect software user interface will be displayed in result
4. Select the **Screen** point.
5. The Panoramic video surveillance window will be displayed in result.



4.16.2 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).

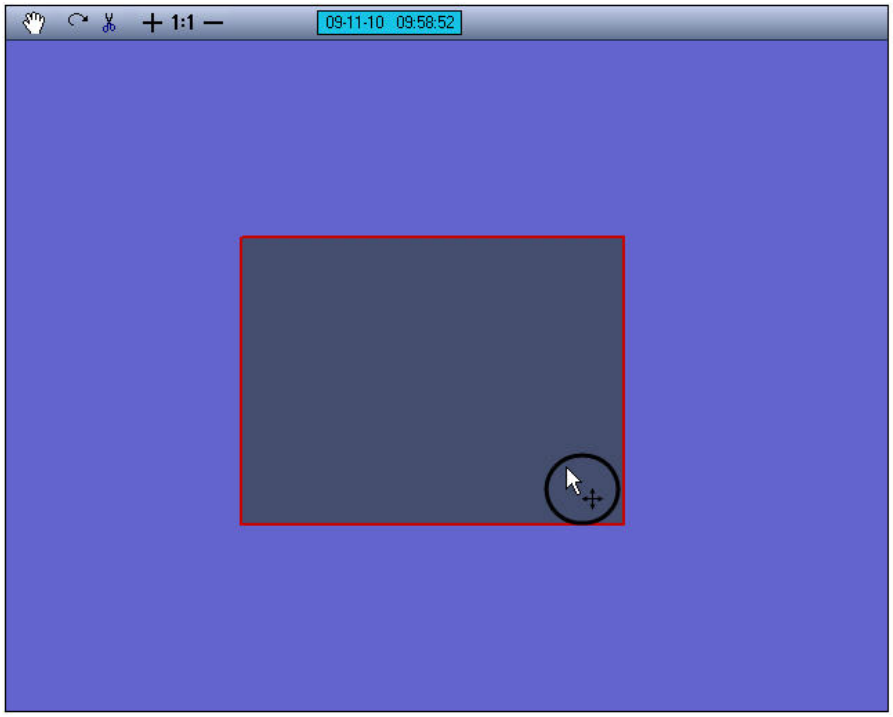
By default this navigation mode is disabled.



4.16.3 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.



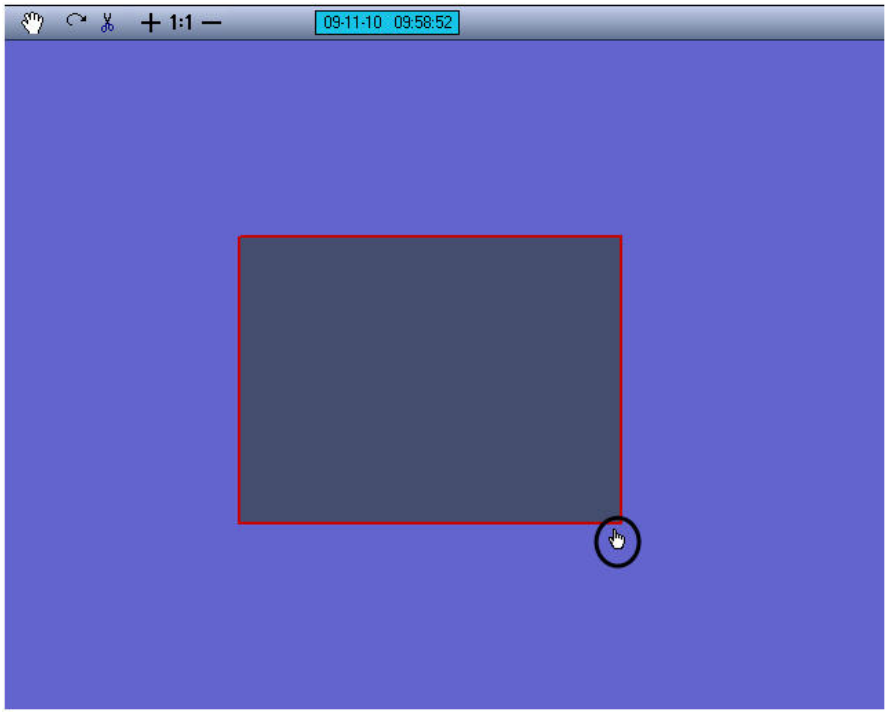
To move images do the following:

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.

4.16.4 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.



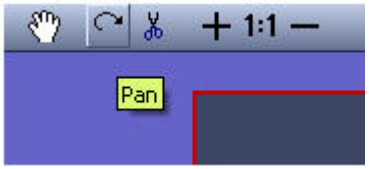
To correct the video image perspectives do the following:

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.

4.16.5 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.



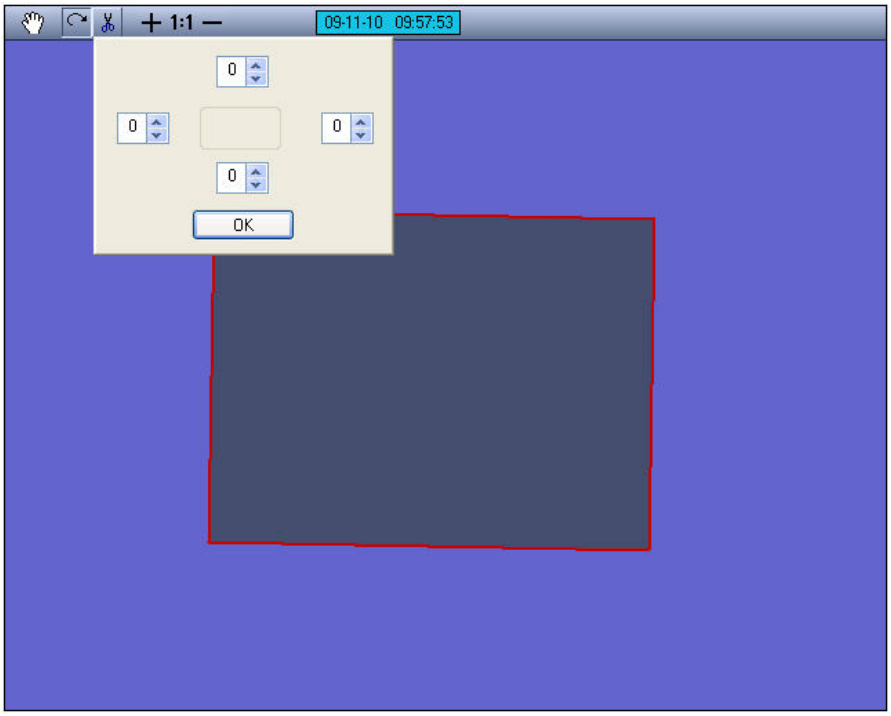
To pan the video image do the following:

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.

4.16.6 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.

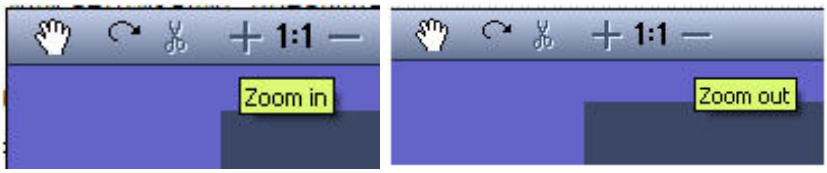
Note.
If **Accept** button has been pressed after setting the width of image area that has to be cut one can return to initial image sizes only by zeroizing the set cut borders and clicking **OK** button.

Note.
The maximum cut of each border of the selected video image is equal to 15 pixels.

4.16.7 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.

4.16.8 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.

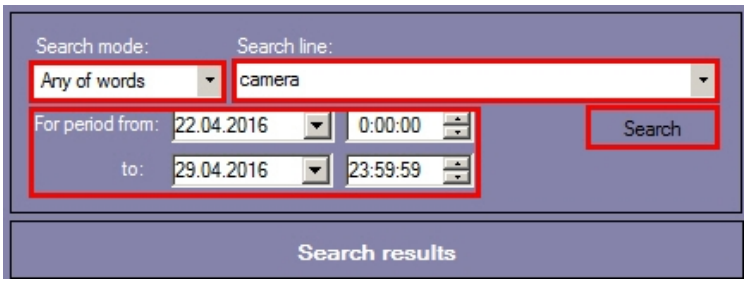
Image restore mode is available in any mode of video processing.

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.

4.17 Working with Captions search interface object

4.17.1 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.

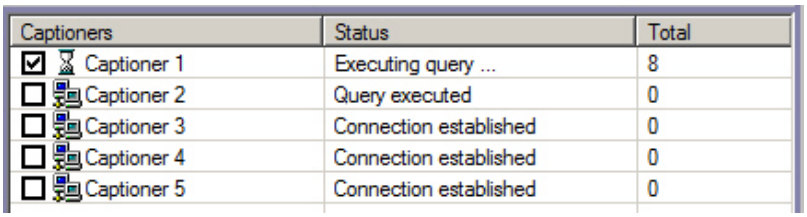
Time interval for data search is set in the **Period from** and **to** fields.

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.

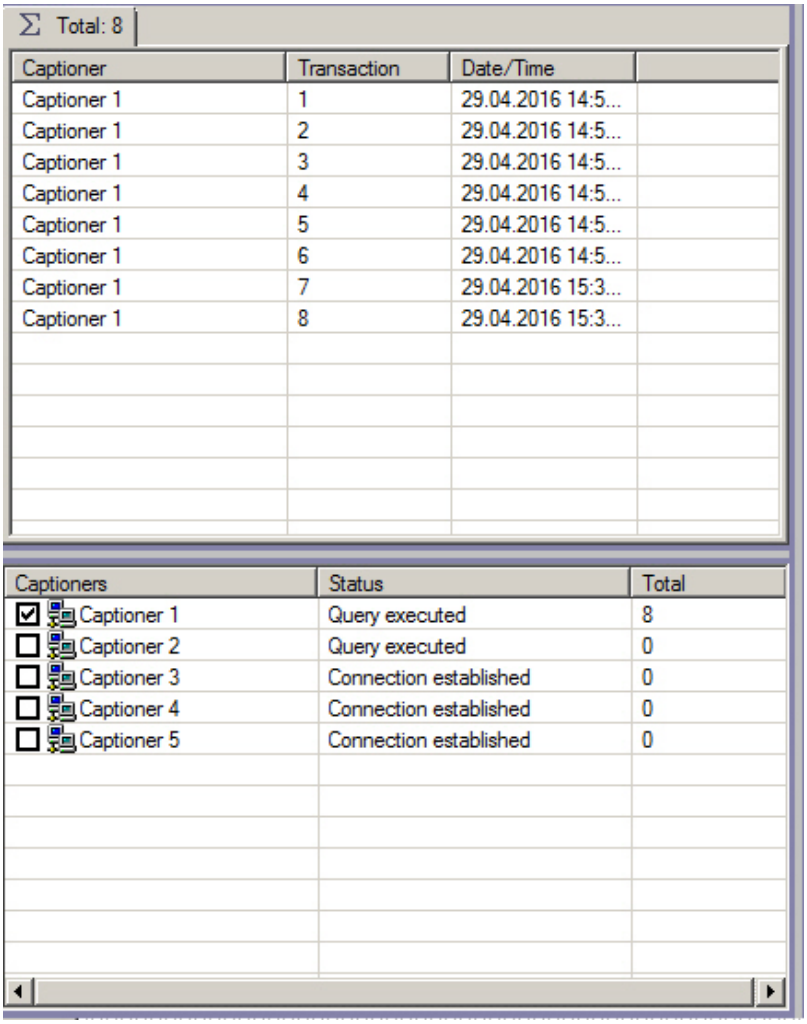
When the search is performed, the query status is displayed in the table of captions databases states (Query executing state for all selected captions databases).



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.

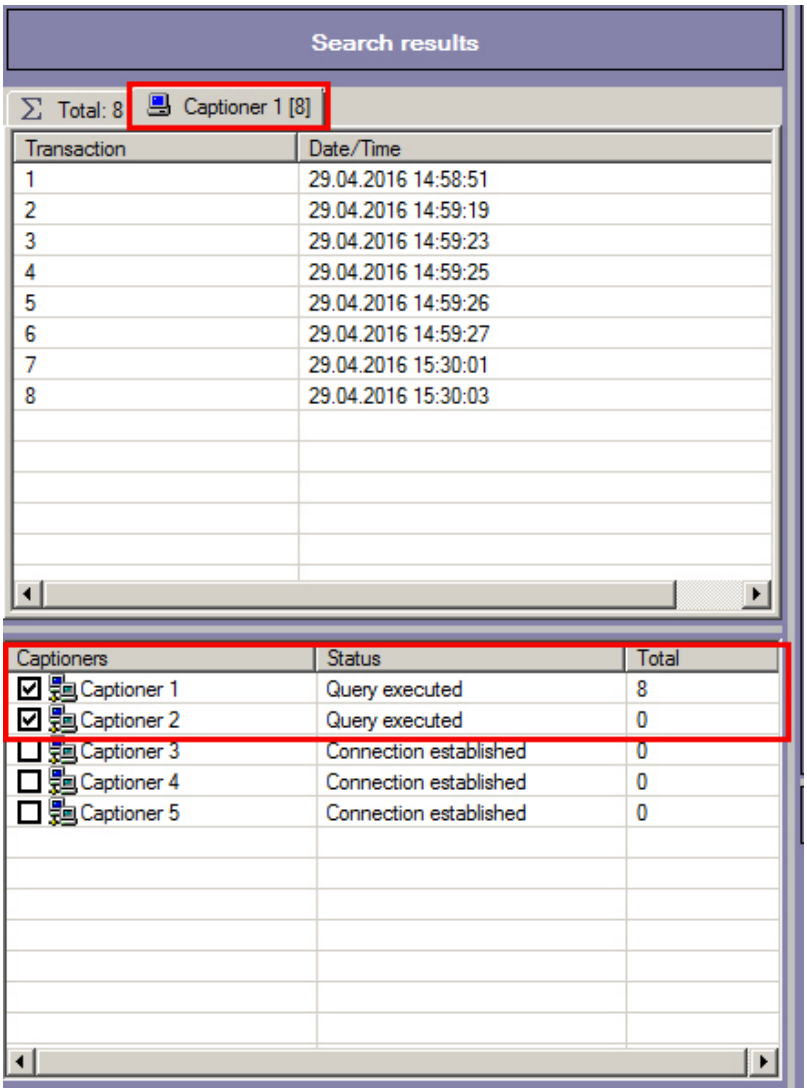


Total: 8

Captioner	Transaction	Date/Time	
Captioner 1	1	29.04.2016 14:5...	
Captioner 1	2	29.04.2016 14:5...	
Captioner 1	3	29.04.2016 14:5...	
Captioner 1	4	29.04.2016 14:5...	
Captioner 1	5	29.04.2016 14:5...	
Captioner 1	6	29.04.2016 14:5...	
Captioner 1	7	29.04.2016 15:3...	
Captioner 1	8	29.04.2016 15:3...	

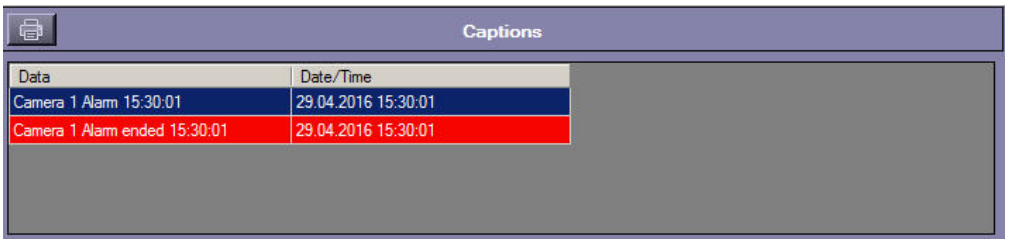
Captioners	Status	Total
Captioner 1	Query executed	8
Captioner 2	Query executed	0
Captioner 3	Connection established	0
Captioner 4	Connection established	0
Captioner 5	Connection established	0

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.

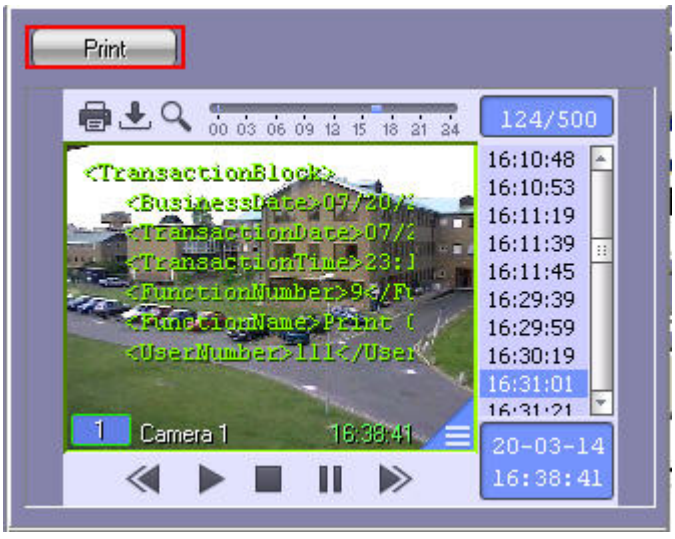
The video corresponding to the selected transaction is displayed in the search results field.

Export and processing functions simillar to those of Video surveillance monitor are available in this window, including video clips export with subtitles. For more details on using Video surveillabce monitor functions, see Operator's Guide.

4.17.2 Printing the search results

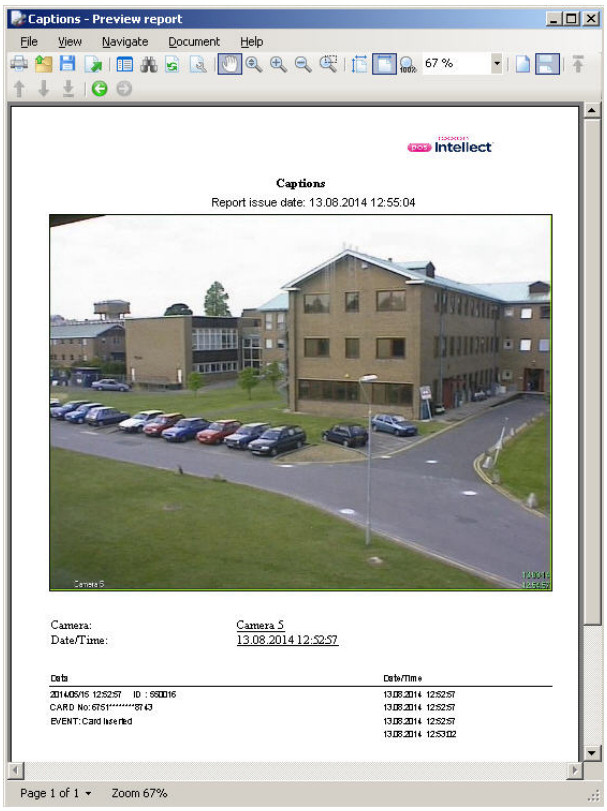
The search results including video snapshot can be printed as well as exported to different formats.

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.


Captions - Preview report
File View Navigate Document Help
67 %
Intellect
Captions
Report issue date: 13.08.2014 12:55:04
Camera: Camera 5
Date/Time: 13.08.2014 12:52:57
Data
Date/Time
2014/05/16 12:52:57 ID : 980016
CARD No: 6751********8743
EVENT: Card inserted
13.08.2014 12:52:57
13.08.2014 12:52:57
13.08.2014 12:52:57
13.08.2014 12:53:02
Page 1 of 1
Zoom 67%

5 Postscript

More detailed information on the Intellect software package is presented in the documents titled:

1. Installing and configuring security system components guide;
2. Programming Guide (JScript).
3. Administrator's Guide;

If while operating the given software product you have faced difficulties and problems, you are welcome to contact us. However before addressing us, we kindly ask you to answer the following questions:

1. What is the problem?
2. When did the problem 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