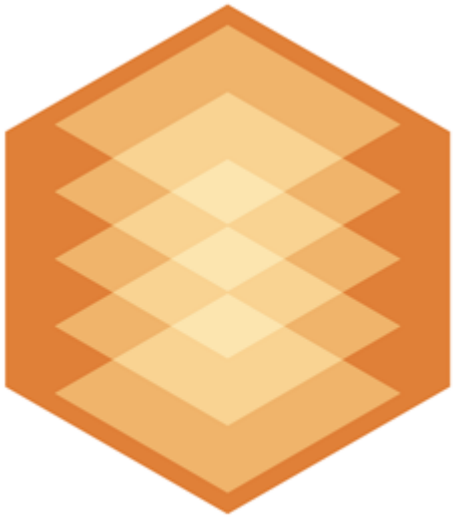


Detectors Pack

User Guide

Introduction

General information

Rus

The purpose of the document

Rus

The *Intellect software system – Intellect Detector pack: Operator's Manu*al contains the information necessary to install and operate the additional software modules that are part of the *Intellect* software system detector pack.

The structure of this document allows the user to skim the information contained on the *Intellect Detector* pack and to select, depending on the level of training, topics of interest for a more detailed study. Chapters in the manual - or the informational or reference content – each have their own underlying structure.

The Introduction Chapter is intended as a general introduction to this document.

The chapter on Software and hardware requirements states the requirements for computers in which the applicable modules that are part of the *Intellect Detector pack* will be installed.

Requirements for staff working with modules comprising the *Intellect Detector pack* are provided in the Staffing requirements chapter.

The chapter on the General description of the Intellect Detector pack describes the modules comprising the detector pack.

Recommendations for users and administrators to install, repair and remove the *Intellect Detector pack* are described in detail in the chapter on Installing the Intellect detector pack.

Information on configuring the **Queue length detection**, the **People counter detection, Stopped vehicle detection**, **Glow detection, Heat map detection**, **Detection of moving against crowd flow**, **Barcode detection**, **Train detection**, **Smoke detection** and **Fire detection** modules is provided in the Configuring detection modules section.

Information on operating the **Queue length detection**, the **People counter detection, Stopped vehicle detection**, **Glow detection, Heat map detection, Detection of moving against crowd flow**, **Barcode detection**, **Train detection**, **Smoke detection** and **Fire detection** modules is provided in the Operation with detection modules section.

Purpose of the Intellect detector pack

Rus

The following *Intellect Detector pack* modules are intended for integration and use with *Intellect*:

1. **Queue length detection**.
2. **People counter detection**.
3. **Stopped vehicle detection**.
4. **Glow detection**.
5. **Heat map detection.**
6. **Detection of moving against crowd flow.**
7. **Barcode detection.**
8. **Train detection.**
9. **Smoke detection.**
10. **Fire detection.**

The installation and functionality of these modules are shown in the appropriate sections (see the chapter on the General description of the Intellect Detector pack).

Software and hardware requirements

Computer and operating system requirements

Rus

The computer and operating system requirements for the modules that are part the *Intellect Detector pack* correspond to the same requirements for that of *Intellect* (see the Intellect system Administrator's Manual).

Camera requirements

Rus

Note.
In general, the requirements listed in the following sections are not mandatory. However, if these requirements are not met, the accuracy of the detector decreases.

The remaining camera requirements for the *Intellect Detector pack* modules correspond to similar requirements for *Intelle ct* software.

Camera requirements for the Queue length detection module

Rus

The requirements for the cameras that will work with the **Queue length detection** module are listed in the following table.

Camera	• Resolution: 720x576 (CIF4), using of 360x288 (CIF1) is acceptable; oversize images are reduces until CIF4. • Fps: not less than 6 • Color: analytics works with grey and color images. • Camera must be rigidly fixed.
Lighting	• The best working of detection is archived at medium lighting. Response to low (night) or over (flashing) lighting the quality of procedure working can be reduced. • Sharp changes of lighting can lead to short-time invalid analytics working.
Scene and camera angle	• The best position – camera "looks" to the scene vertically down. The better this requirement, the carefully the received estimation. • Sizes of camera field of view: 3x3m is minimal (6x6 people), 4x4m is optimal (8x8 people), 8x8m is maximal (16x16 people). • Background is static and is not changed sharply. • Analytics can work inappropriately on specular surfaces and in case of sharp shadows from moved objects. • Analytics can work inappropriately in case of in the camera field of view there are periodic movements of background objects (trees, working TV, etc.)
Objects image	• Image quality: the image is to be clear, without visible defects from reducing procedure. • Available size of a person: the area of a rectangle around the person as a percentage of the picture area is between 0.25% and 10%.

Camera requirements for the People counter detection module

Rus

The requirements for the cameras that will work with the **People counter detection** module are listed in the following table.

Camera	• Resolution: 720x576 (CIF4), using of 360x288 (CIF1) is acceptable. Resolution zoom-in over CIF4 is not improve the quality of recognizing procedure. • Fps: 25. • Color: only color camera can be in use. • Camera must be rigidly fixed.
Lighting	• The best working of detection is archived at medium lighting. Response to low (night) or over (flashing) lighting the quality of procedure working can be reduced. • Sharp changes of lighting can lead to short-time invalid analytics working.
Scene and camera angle	• The best position – camera "looks" to the scene vertically down. The better this requirement, the carefully the received estimation. • Sizes of camera field of view: 2x2m is minimal, 4x4m is optimal (8x8 people). • Background is static and is not changed sharply. • In the recognized are there no moving objects except of people. • Analytics can work inappropriately on specular surfaces and in case of sharp shadows from moved objects. • Analytics can work inappropriately in case of in the camera field of view there are periodic movements of background objects (trees, working TV, etc.) • People occulting by static objects is to be minimal (by columns, trees etc.).
Objects image	• Image quality: the image is to be clear, without visible defects from reducing procedure. • Available size of a person: the area of a rectangle around the person as a percentage of the picture area is between 10% and 60%.

Other:	• People shouldn't move by continuous flow, by groups by several people are counted properly.

Camera requirements for the Stopped vehicle detection module

Rus

The requirements for the cameras that will work with the **Stopped vehicle detection** module are listed in the following table:

Camera	• Resolution: not less than 720x480 • Fps: not less than 15, recommended fps is 25 • Camera must be rigidly fixed
Scene and camera angle	• Cars in the video image should be visually distinguishable • Recommended height of camera mounting: 6-7m • Recommended angle of camera mounting: 20-30 degrees correspondingly horizontal line • It is recommended to mount camera above the middle of analyzed traffic area • Efficiency of detection working is reducing if camera is mounted at the brink of traffic area • It is recommended to use Zoom-In/Zoom-Out functions to improve the response reflection from vehicles on a scene, i.e. settings at which vehicle details are crearly distinguishable
Objects image	• Available car size is from 0.1 to 0.8 from the size of recognizing area • Maximum allowable size of a car relatively the frame size is 35% from the frame height and 27% from the frame width • Minimum allowable size of a car relatively the frame size is 7% from the frame height and 6% from the frame width

Camera requirements for the Glow detection module

Rus

The requirements for the cameras that will work with the **Glow detection** module are follows:

- The camera must be rigidly fixed.
- Light sources in the video image should be visually distinguishable.
- The camera is pointed to the area where all light sources are located (ideally, the optical axis of the camera is pointed strictly perpendicularly to this area).

Camera requirements for the Detection of moving against crowd flow module

Rus

The requirements for the camera that will work with the **Detection of moving against crowd flow** module are follows:

- Camera "looks" to the scene vertically down.
- People move in the video image from up to down or from bottom to top.

Camera requirements for the Train detection module

Rus

The requirements for the camera that will work with the **Train detection** module are follows:

1. Camera requirements for the **Tracker** object (see the *Intellect software package. Administrator's Guide*. Current version of this document is stored in the documentation repository).
2. Camera is to be directed in the line of the railway or as close to it as possible.

Camera requirements for the Heat map detection module

Rus

The requirements for the cameras that will work with the **Heat map detection** module are listed in the following table.

Camera	• Resolution: 720x576 (CIF4), using of 360x288 (CIF1) is acceptable; oversize images are reduces until CIF4. • Fps: not less than 6 • Color: analytics works with grey and color images. • Camera must be rigidly fixed.

Lighting	• The best working of detection is archived at medium lighting. Response to low (night) or over (flashing) lighting the quality of procedure working can be reduced. • Sharp changes of lighting can lead to short-time invalid analytics working.
Scene and camera angle	• The best position – camera "looks" to the scene vertically down. The better this requirement, the carefully the received estimation. • Sizes of camera field of view: 3x3m is minimal (6x6 people), 4x4m is optimal (8x8 people), 8x8m is maximal (16x16 people). • Background is static and is not changed sharply. • Analytics can work inappropriately on specular surfaces and in case of sharp shadows from moved objects. • Analytics can work inappropriately in case of in the camera field of view there are periodic movements of background objects (trees, working TV, etc.)
Objects image	• Image quality: the image is to be clear, without visible defects from reducing procedure. • Available size of a person: the area of a rectangle around the person as a percentage of the picture area is between 0.25% and 10%.

Camera requirements for the Barcode detection module

Rus

The requirements for cameras that will work with the **Barcode detection** module are follows:

- area of the detected barcode is not less than 1296 pixels;
- each of barcode sides is not less than 10 pixels;

> **Note.**
> For example, barcode height is 10 pixels, than its width is to be not less than 130 pixels. Conversely, if barcode width is 10 pixels, than its height is to be not less than 130 pixels.

- maximal width and height of the detected barcode – 65536 pixels;
- the image is to be clear, lines should be visually separable from each other.

Camera requirements for the Smoke detection module

Rus

The requirements for cameras that will work with the **Smoke detection** module are follows:

1. It's recommended to use color cameras. Quality of recognition can be worse while using black and white cameras.
2. Resolution is not less than 640x480.
3. Smoke area is not less than 10% from the frame area.

Camera requirements for the Fire detection module

Rus

The requirements for cameras that will work with the **Fire detection** module are follows:

1. It's recommended to use color cameras. Quality of recognition can be worse while using black and white cameras.
2. Resolution is not less than 640x480.
3. Fire area is not less than 10% from the frame area.

Camera requirements for the Sweethearting detection module

Rus

Hadware requirements for **Sweethearting detection** module apply to graphics cards used for the operation of the recognition channels.

Requirements	Hardware	Number of recognition channels
Minimum hardware requirements for detector operation	Graphics card with 4GB of video memory and CUDA 8.0 support	Sufficient for operation of 1 recognition channel

Recommended hardware requirements for detector operation	NVIDIA GeForce GTX 1070 graphics card with 8GB of video memory	Sufficient for operation of 3 recognition channels

Camera requirements for the Fluid level detection module

The requirements for cameras working with the **Fluid level detection** module are as follows:

1. Video image from thermal camera must be high contrast.
2. The optical axis of the video camera must be perpendicular to the direction of carriages movement.

Staffing requirements

Rus

For the use of the *Intellect*-based detector, there are the following roles:

1. administrator;
2. operator.

In particular cases a person can perform the functions of both the administrator and operator. The main duties of the administrator are:

1. upgrading, configuring and monitoring the performance of the system hardware;
2. installing, upgrading, configuring and monitoring the performance of the system and basic software;
3. installing, configuring and monitoring the application software.

The administrator must have a high level of qualifications and practical experience in the implementation of the installation, configuration and administration of software and hardware used in the software package. The structure of the system provides the ability to control all functionality available by a single administrator, and also allows for the sharing of the administrative responsibility among multiple operators. The main duties of the operator are as follows:

1. work with the system's graphical user interface;
2. optimization of the PC for the tasks needed using the functionality provided in the system.

The system operator should have experience working with PC's based on Microsoft Windows operating systems at the level of a skilled user, and easily carry out basic operations.

General description of the Intellect Detector pack

Structure of the Intellect Detector pack

Rus

The *Intellect Detector pack* is comprised of the independent software modules that operate on the following platforms:

Module	x32	x64
Heat map detection	✓	✓
Detection of moving against crowd flow	✓	✓
Queue length detection	✓	✓
Smoke detection	✗	✓
Fire detection	✗	✓
Stopped vehicle detection	✓	✓
People counter detection	✓	✓
Train detection	✓	✓

Glow detection	✓	✓
Sweethearting detection	✗	✓
Barcode detection	✓	✗

Important!
Simultaneous operation of 32-bits and 64-bits modules on one PC is impossible.

Note.
When VMDA tracker process is separated to the single process, it operates correctly both in 32-bit and 64-bit platform. VMDA tracker configuration is described in the *Intellect software. Administrator's Guide*. Separating the VMDA tracker to the single process is performed with the VMDAEXT registry key which is described in the *Registry Keys Reference Guide*. The most recent versions of these documents are available in the AxxonSoft documentation repository.

The basic version of *Intellect* includes the software platform for the installation of these modules.

Functionality of the «Queue length detection» module

Rus

The **Queue length detection** module is designed to carry out the following functions:

1. Count the number of people waiting in line within a certain time interval.
2. Record the number of people waiting in line in a database.
3. Plot the crowding in an observed area.
4. Generate an event when threshold queue length is exceeded and record it to the Event protocol database.

Functionality of the «People counter detection» module

Rus

The **People counter detection** module is designed to carry out the following functions:

1. Count visitors in an observed area.
2. Record incidence of visitor entries into an observed area in a database.
3. Record incidence of visitor exits from an observed area in a database.
4. Generate reports in the number of visitors to an observed area.

Functionality of the «Stopped vehicle detection» module

Rus

The **Stopped vehicle detection** module is designed to carry out the following functions:

1. Recognizing cars stopped in the specified areas.
2. Recognizing jams in the specified areas.
3. Recording Jams and Stopped cars events to the database.
4. Recording events of jam elimination or start of movement of previously detected stopped car to the database.

Functionality of the «Glow detection» module

Rus

The **Glow detection** module is designed to carry out the following functions:

1. Keeping track of light sources (lamps) in an observed area.
2. Record events about recognizing of light sources insertion or elimination to the database.

Functionality of the Heat map detection

Rus

The **Heat map detection** is designed to define zones of stopping and to estimate delay time of visitors in areas of interest.

Functionality of the «Detection of moving against crowd flow»

Rus

The **Detection of moving against crowd flow** module is designed to detect objects moving in the video image in direction different from direction of movement the majority of same objects. The **Detection of moving against crowd flow** module performs the following functions:

1. Recognizing movement against a crowd.
2. Recording events about recognizing a movement against a crowd to the database.

Functionality of the «Sweethearting detection» module

Rus

The **Sweethearting detection** module is designed to prevent episodes of intentional employee theft by scan avoidance at the cash register (sweethearting). The module provides the following functions:

1. Recognizing the events of scanning at cash registers in real-time video.
2. Recording events of successful scanning in the event log.
3. Recording events of successful scanning in the database.

Functionality of the «Barcode detection»

Rus

The **Barcode detection** is designed to define barcodes or QR-codes in areas of interest.

Functionality of the "Train detection" module

Rus

The **Train detection** module is designed to carry out the following functions:

1. Recognizing of train presence/absence in the monitored area.
2. Recording events of train appearance in the monitored area to the database.
3. Recording events of train disappearance from the monitored area to the database.

Functionality of the "Smoke detection" module

Rus

The **Smoke detection** module is designed to carry out the following functions:

1. Recognizing smoke in the specified area of video image.
2. Recording events of smoke recognition to the database.

> **Info**
> The **Smoke detection** module is generic and can work both with CPUs and GPUs.

Functionality of the "Fire detection" module

Rus

The **Fire detection** module is designed to carry out the following functions:

1. Recognizing fire in the specified area of video image.
2. Recording events of fire recognition to the database.

Functionality of the «Fluid level detection» module

The **Fluid level detection** module operates together with the carriages license plates recognition module which is the part of the Auto-Intellect software. For more details on this module, refer to the Auto-Intellect software. Administrator's Guide (the most relevant version of this document is available in the AxxonSoft documentation repository).

The **Fluid level detection** module provides the following functionality:

1. Determination of the fluid level in carriages passing in the field of view of the thermal camera.
2. Record data on the fluid level into the database.
3. Putting titles indicating the fluid level onto the video image in the Video Surveillance Monitor.
4. Transfer of data about the fluid level to the *Auto-Intellect* software for display in the **Vehicle Tracer** interface window and then search for events in the database.

Installing the Intellect Detector pack

General information on installing the Intellect Detector pack

Rus

The installation of the *Intellect detector pack* takes place in the following order:

1. Install *Intellect* (see the Intellect system Administrator's Manual).
2. Install the *Intellect Detector pack* (see the chapter on Installation).

Installing the Intellect Detector pack

Description of the Intellect Detector pack installation files

Rus

The *Intellect Detector pack* installation files on CD-ROM.

The installation files contain the installation program and the necessary software components to install the *Intellect Detector pack* on the computer.

Only an administrator can install the *Intellect Detector pack*.

Installation

Rus

The *Intellect Detector Pack* software is installed as a part of the *Intellect* software. Information about compatibility of the *Intellect* software versions and *Intellect Detector Pack* is presented by link: https://doc.axxonsoft.com/confluence/display/ASdoc/General+information+about+product+releases+and+versions+compatibility.

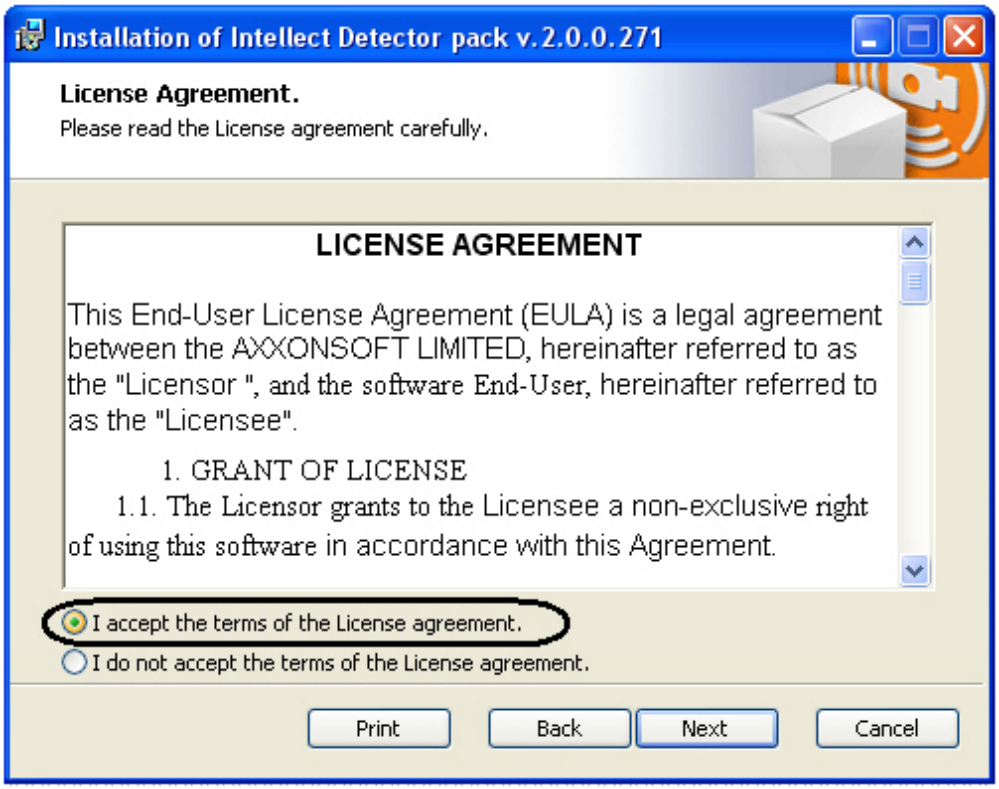
To install the *Intellect Detector pack*, the following steps must be carried out:

1. Insert the CD-ROM with the *Intellect Detector pack* installation files into the CD/DVD drive. A window will open showing the contents of the disc.

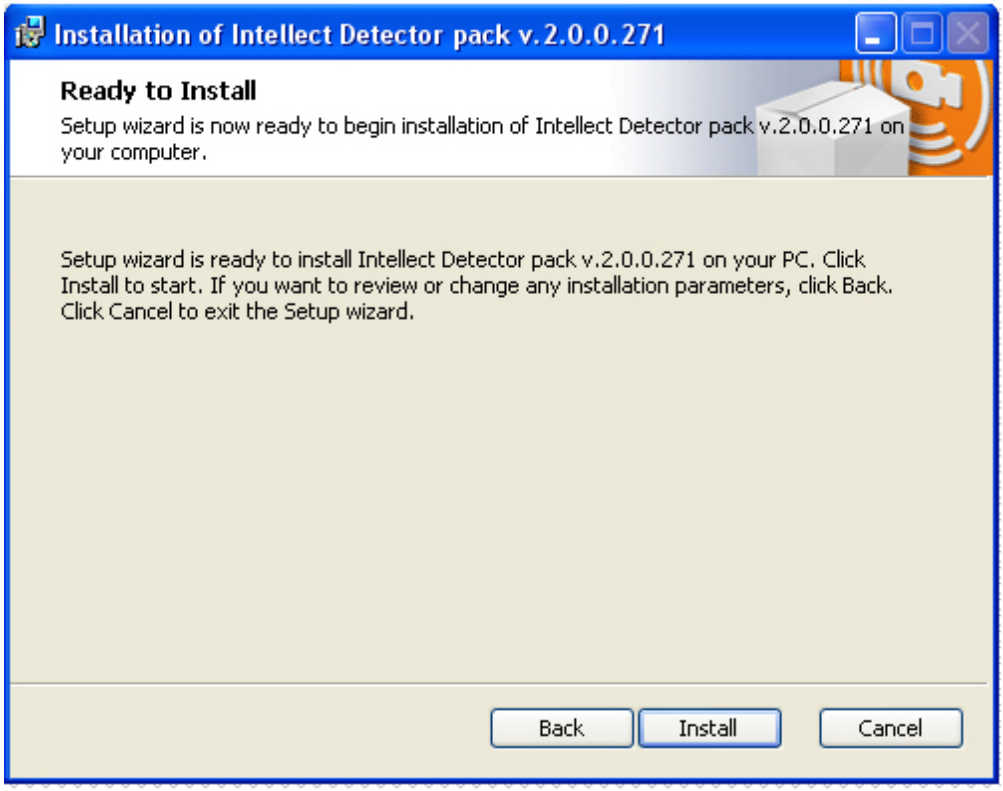
   

2. Run **Setup.exe**, which will start the *Intellect Detector pack* installation.
   As a result, a window will appear with the message **Welcome to the Intellect Detector Pack v.2.0.0 Setup Wizard**.

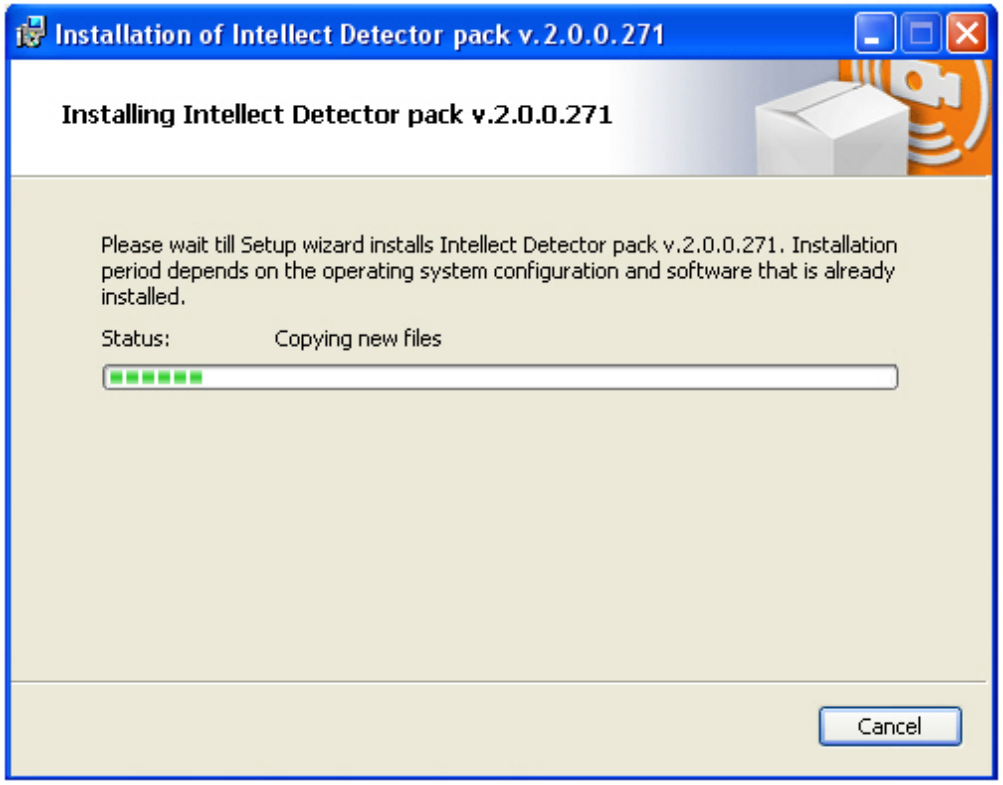
3. Click **Next**.
   The **License agreement** window will appear.



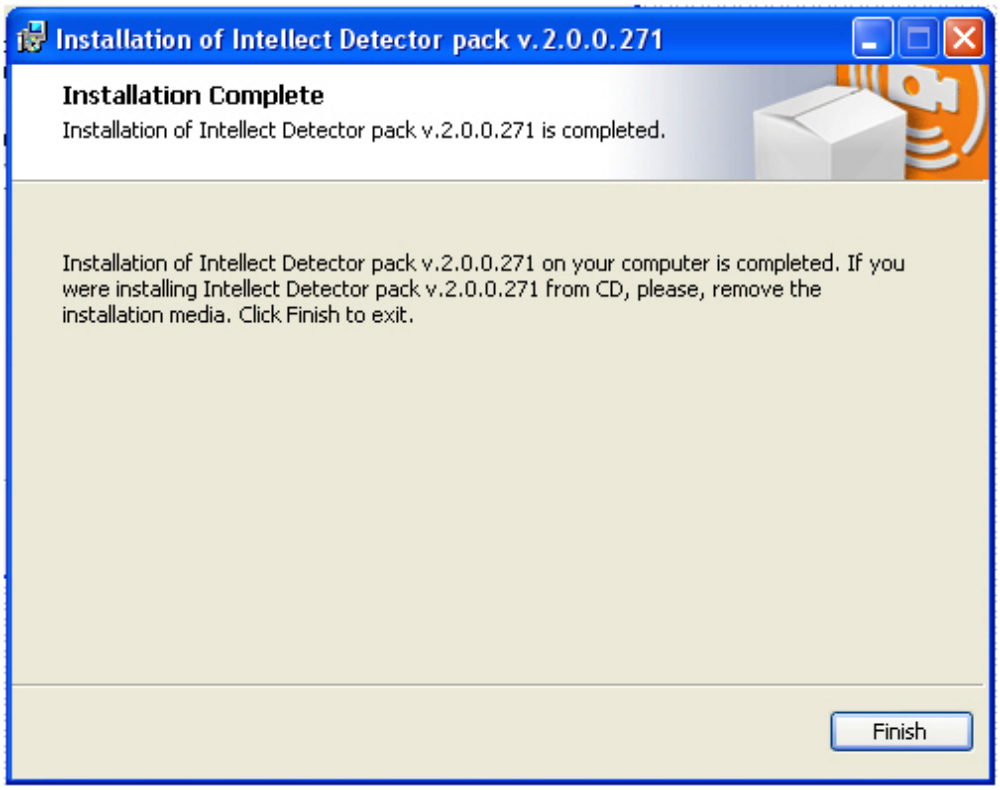
4. After reading the license agreement, agree with the terms of the agreement by clicking on the check box stating **I accept the terms of the License agreement**, otherwise the installation of the software system will be discontinued.
5. Click **Next**.
   The **Ready to install** window will appear.



6. Click **Install**.
   As a result, the **Intellect Detector pack installation process** window will appear.



After installing all components, the **Installation complete window** will appear.



7. Click **Finish**.

The *Intellect Detector pack* installation in complete.

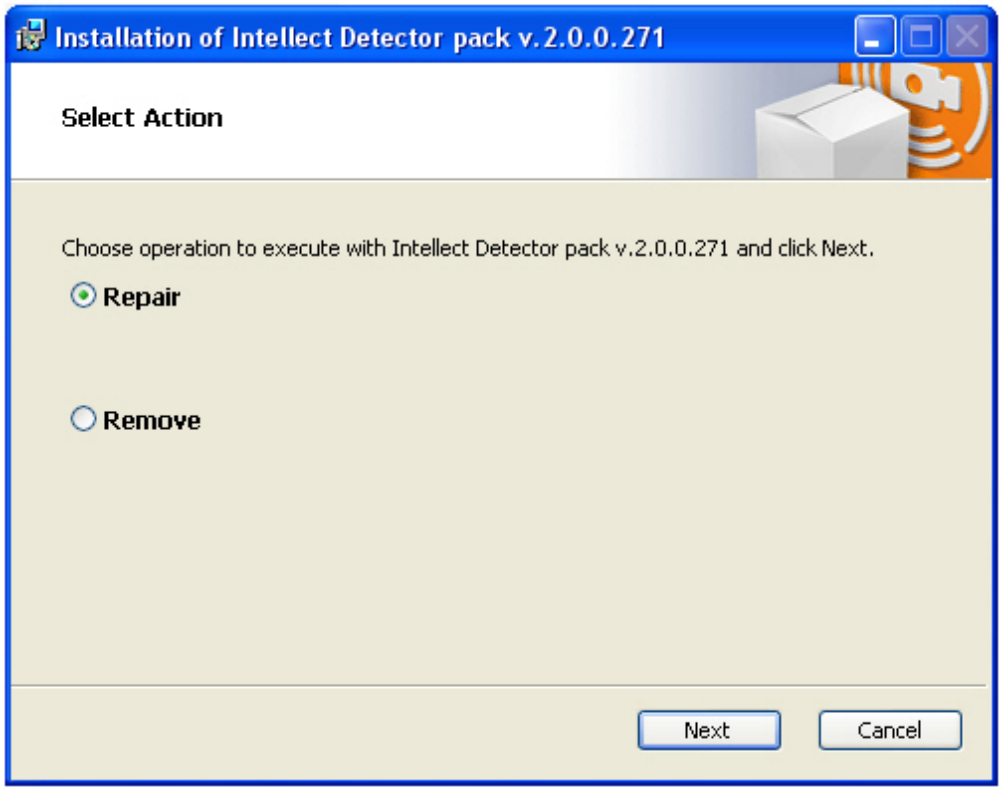
Repair

Rus

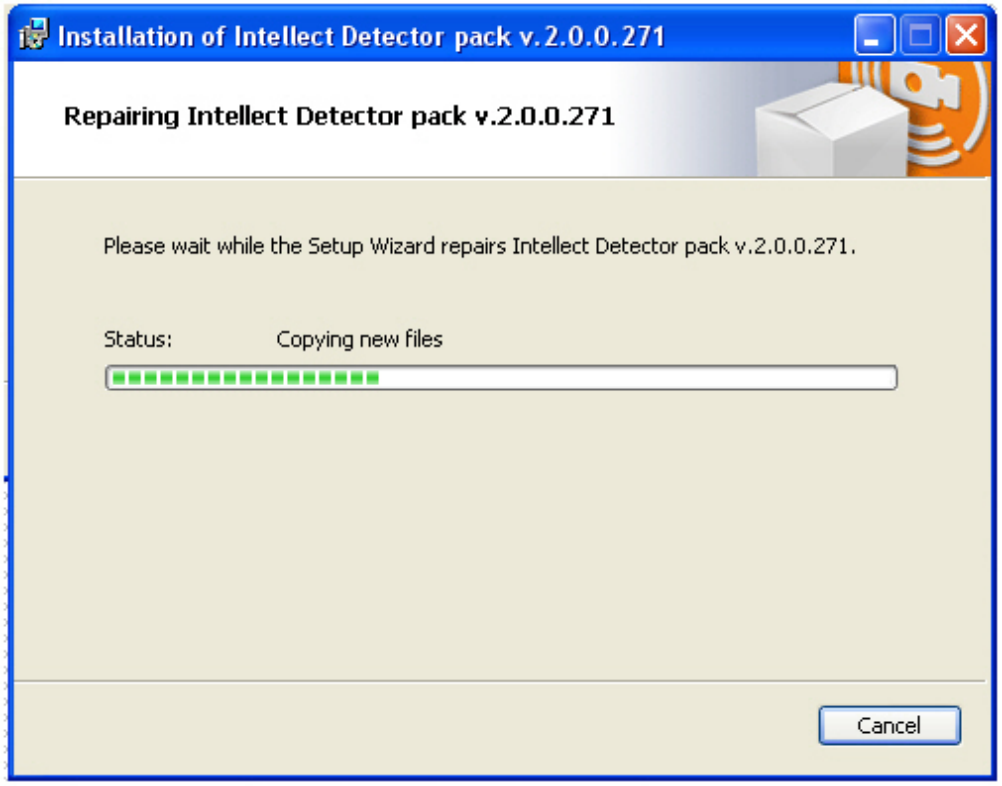
To repair the *Intellect Detector pack*, the following steps must be carried out:

1. Insert the CD-ROM with the *Intellect Detector pack* installation files into the CD/DVD drive. A window will open showing the contents of the disc.

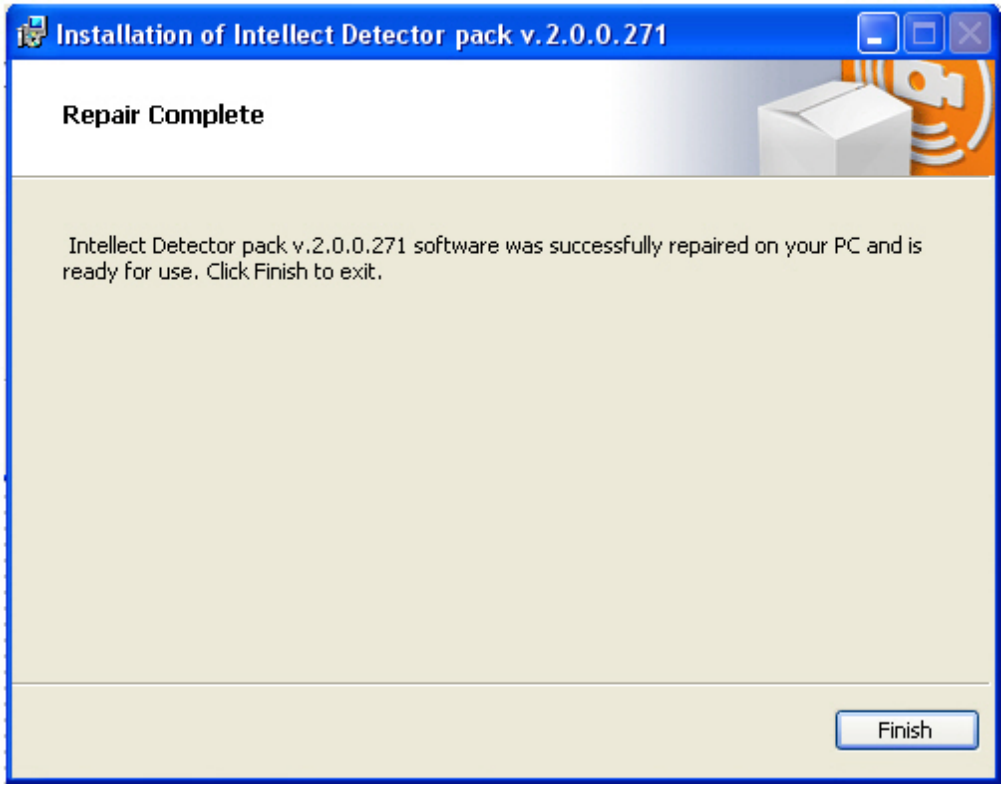
2. Run **Setup.exe**, which will start the *Intellect detector pack* installation.
   As a result, the **Select action** window will appear.



3. Select **Repair**.
4. Click **Next**.
   The **Intellect Detector pack repair process** window will appear.



After installing all components, the Repair complete window will appear.



5. Click **Finish**.

The *Intellect Detector* pack repair is complete.

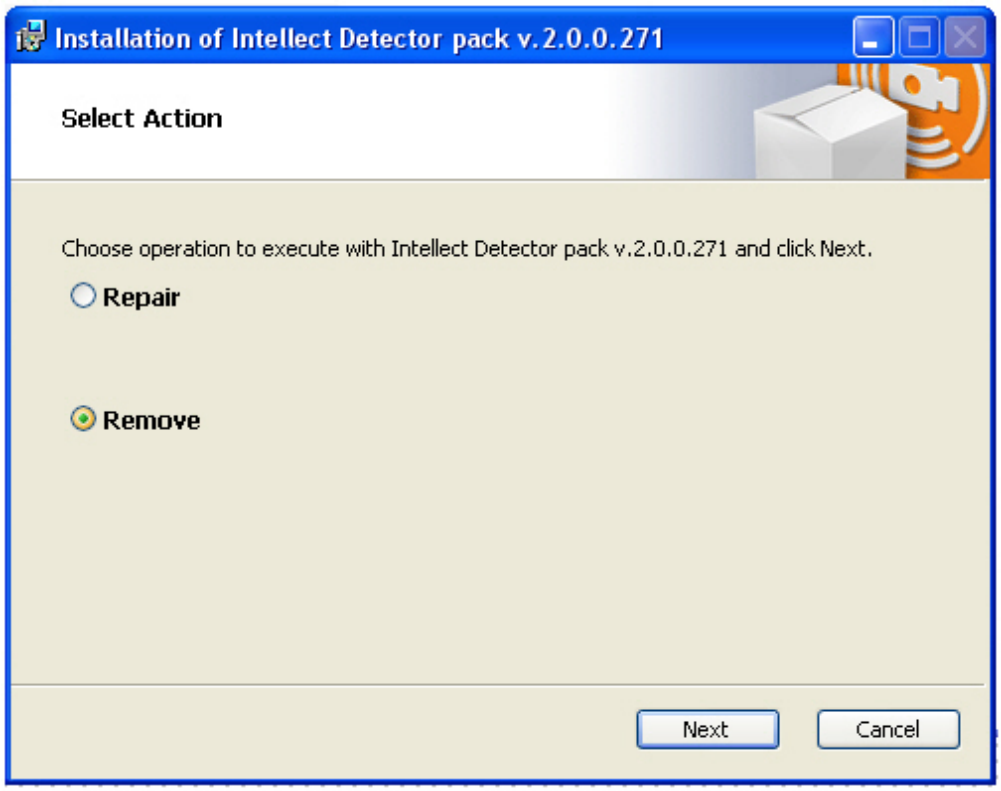
Removal

Rus

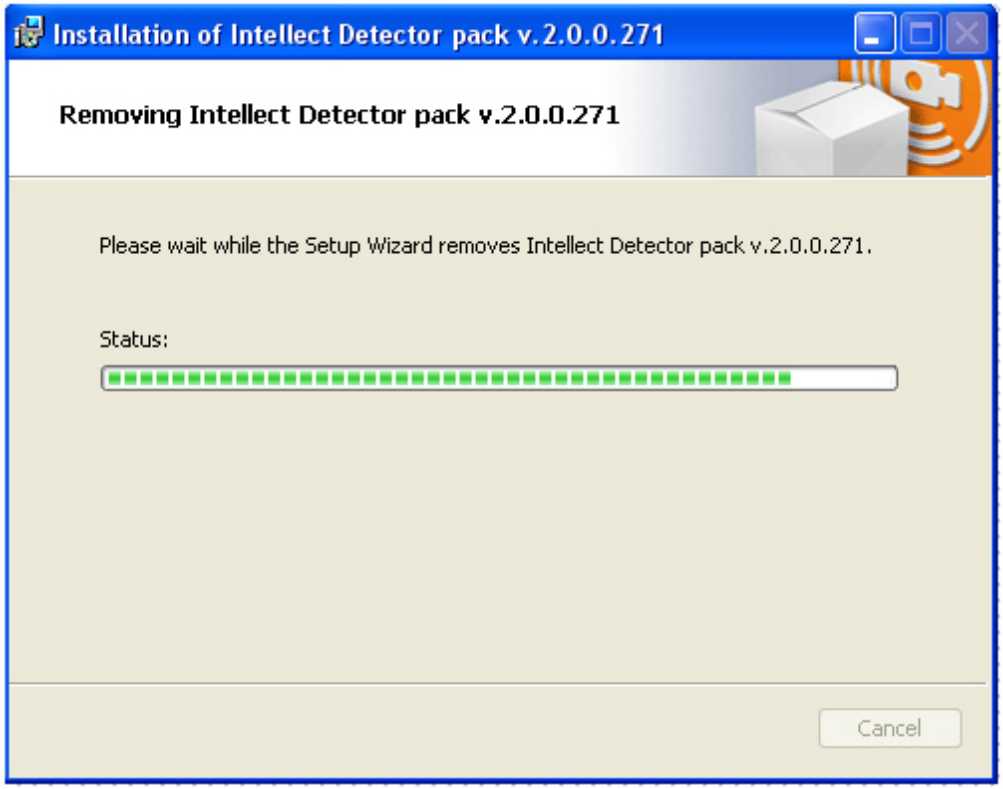
To remove the *Intellect Detector pack*, the following steps must be carried out:

1. Insert the CD-ROM with the *Intellect Detector pack* installation files into the CD/DVD drive. A window will open showing the contents of the disc.

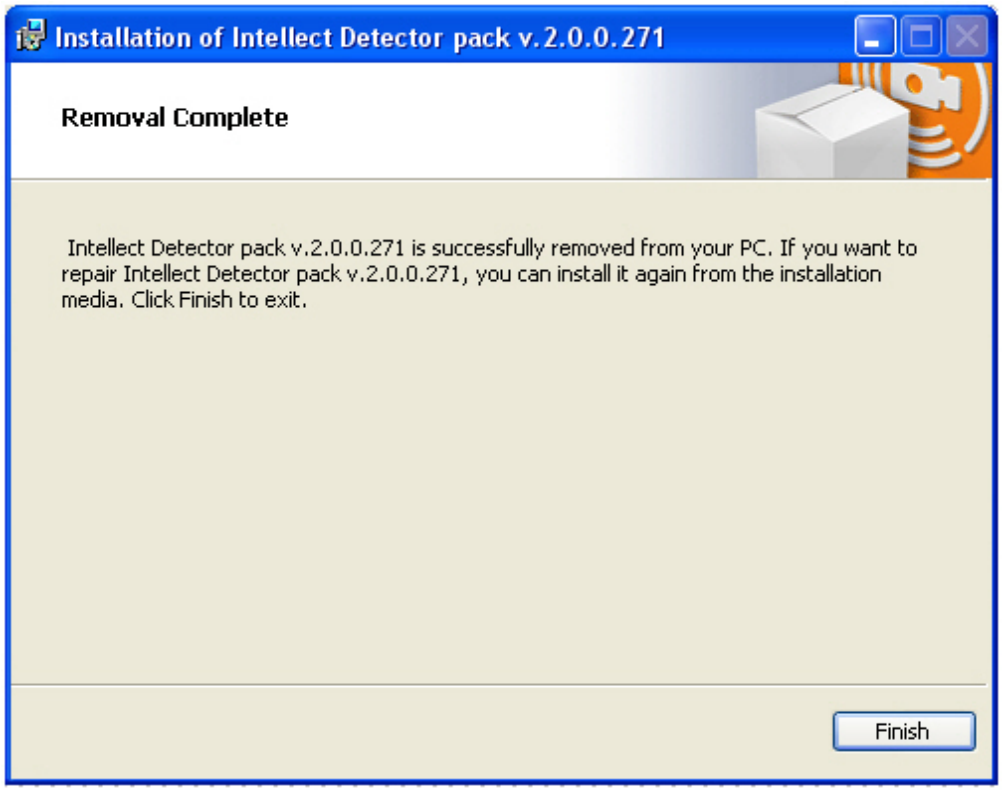
2. Run **Setup.exe**, which will start the *Intellect Detector pack* installation.
   As a result, the **Select action** window will appear.



3. Click **Remove**.
4. Click **Next**.
   The **Intellect Detector pack removal process** window will appear.



Upon the deletion of the files, a message will appear stating that the *Intellect Detector pack* was removed.



5. Click **Finish**.

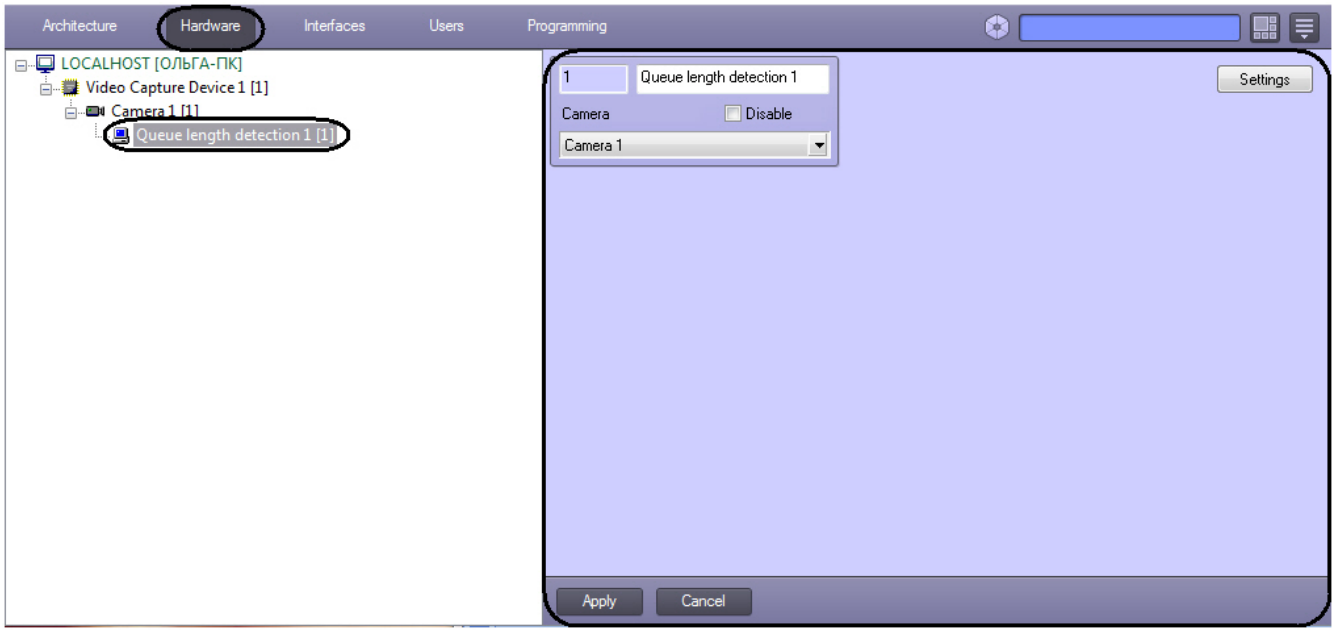
The *Intellect Detector pack* removal is complete.

Configuring detection modules

Configuring the «Queue length detection» module

Rus

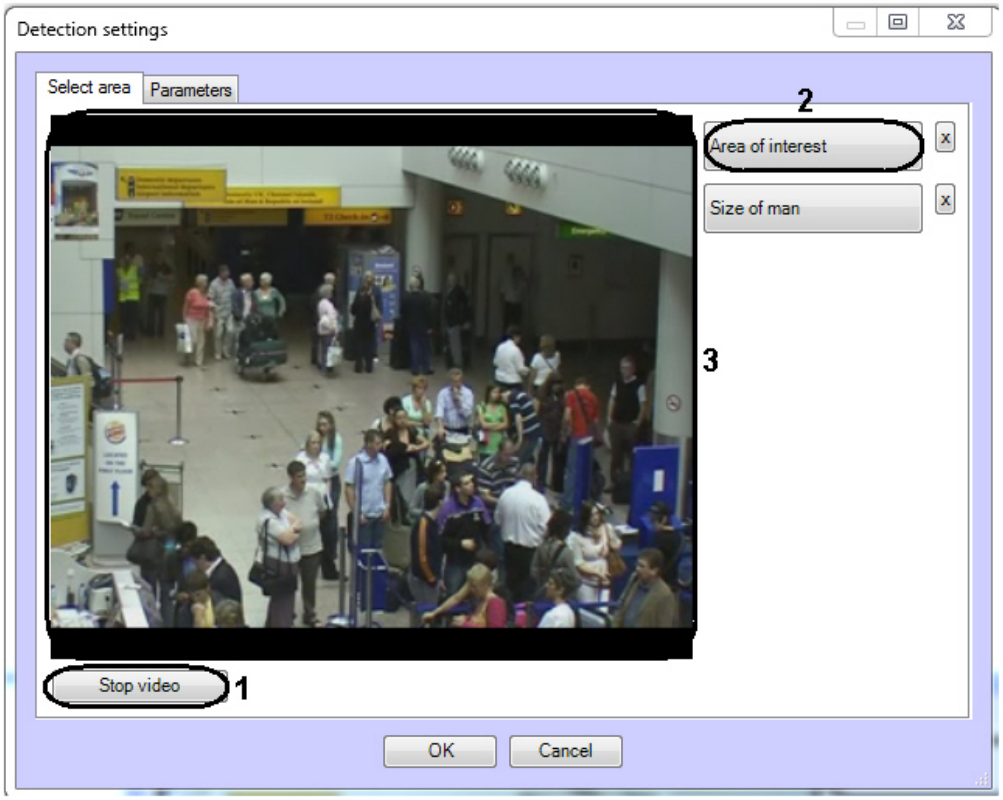
The **Queue length detection** module can be configured using the **System settings** menu, under the **Hardware** tab, on the **Queue Length Detection** control panel, using the **Camera** settings.



The **Queue length detection** module is set up as follows:

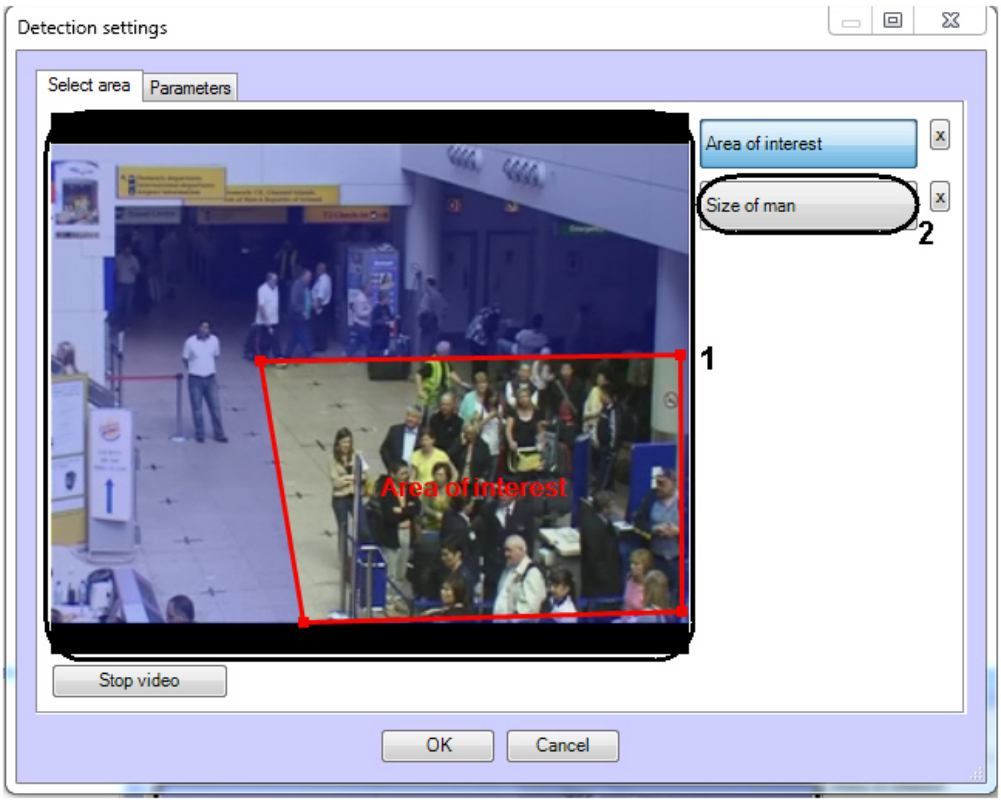
1. Go to the **Queue Length Detection** control panel.

2. Click **Settings**.
   The **Detection settings** window will appear.



3. Specify the area of interest and the approximate size of people in the video image:
   a. Click **Stop video** to capture the video image (**1**).
   b. Click **Area of interest** (**2**).
   c. Using the left mouse button select the four corners of the area on the captured video image (**3**) to be analyzed (**1**). Only one area may be so designated. If a second area is specified, then the first area will be deleted. Upon selection of the area the remaining part of the video image will be dimmed.

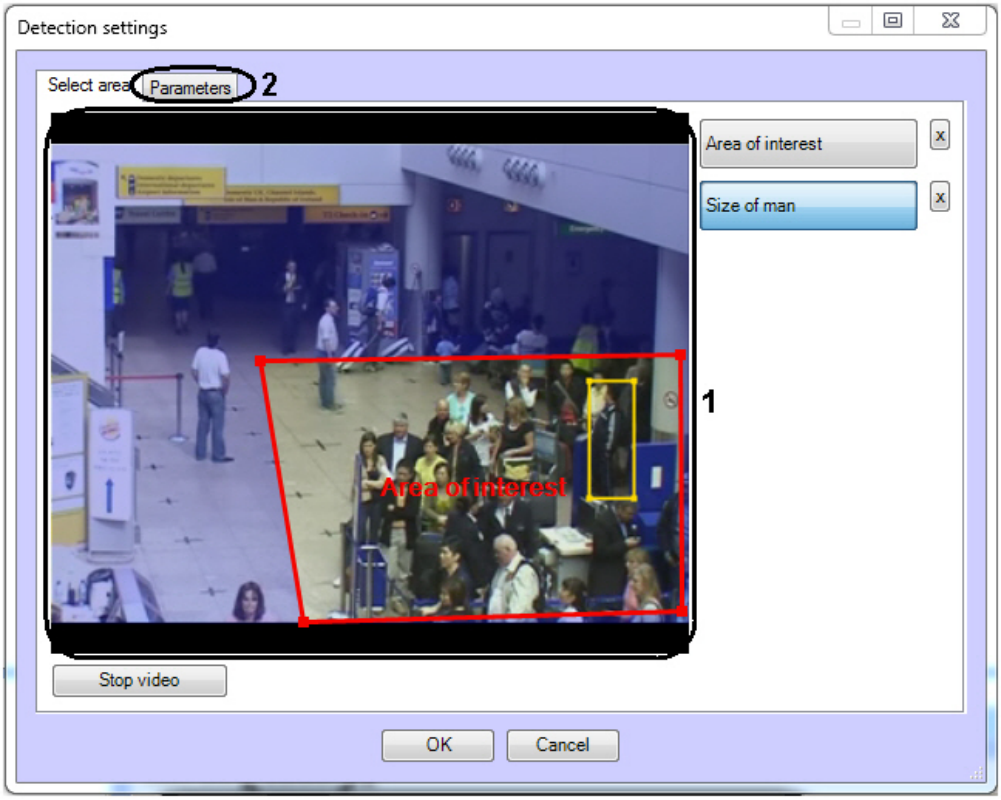
> **Note.**
>
> To remove a selected area, click the x button next to the **Area of interest** button.



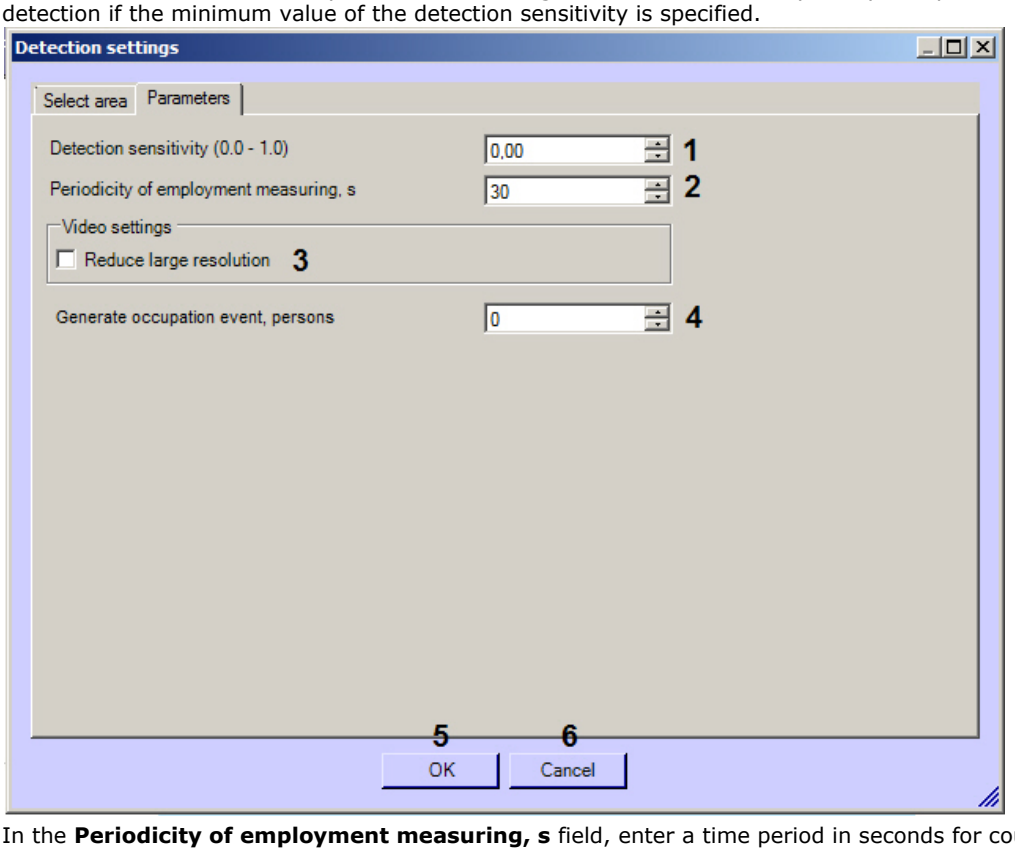
   d. Click **Size of man** (**2**).
   e. On the captured video image (**1**) specify the approximate size of a person. To do this use the left mouse

button to specify a rectangular area (**1**).

> **Note.**
>
> To remove the person size, click the [x] button next to the **Size of man** button.



4. Set the module parameters:
   a. Go to the **Parameters** tab (**2**).
   b. Set the detection sensitivity field in a range from 0 to 1 with up to two decimal places (**1**). The higher sensitivity, the less perturbations will be considered as a queue. i.e. the algorithm will react to more inconsiderable motion. So, only considerable change od scene will be analyzed by the queue length detection if the minimum value of the detection sensitivity is specified.



   c. In the **Periodicity of employment measuring, s** field, enter a time period in seconds for counting the

number of persons in the observed area (**2**). Minimum value of this parameter is an interval between frames of analyzed video stream, but not less than 1 second and not more than 3600 seconds. Value of the parameter depends on scene characteristics. For example, if a queue in the field of video camera view is not changing for a long time, than the parameter value can be reasonably large. It is not recommended to specify value of this parameter more than 3-5 minuts for correct working of algorithm on the average scene.

> **Note.**
> The more frequently employment measurings, the more frames are analyzed by algorithm and the higher the system capacity.

d. Set the **Reduce large resolution** checkbox to create and process the new frame consist of even lines of initial frame (**3**).
e. In the **Generate occupation event, people** field enter the value of the Queue length detection counter (number of persons) to generate the OCCUPANCY_EVENT event when it is exceeded (**4**). This event comes from **Camera** and **Queue length detection** objects. The event have the following parameters: current counter value (occupancy<>) and the threshold value (raise_count<>). The events can be used in scripts and programs (please refer to *Programming Guide (JScript)* and *Programming Guide* for more info on scripts and programs; the most relevant versions of these documents can be found in AxxonSoft documentation repository).

5. Click **OK** to save changes and return to the control panel of the **Queue length detection** (**5**).

> **Note.**
> To return to the control panel of the **Queue length detection** without saving changes, click **Cancel** (**6**).

6. On the **Queue length detection** control panel, click **Apply**.

Configuring the **Queue length detection** module is complete.

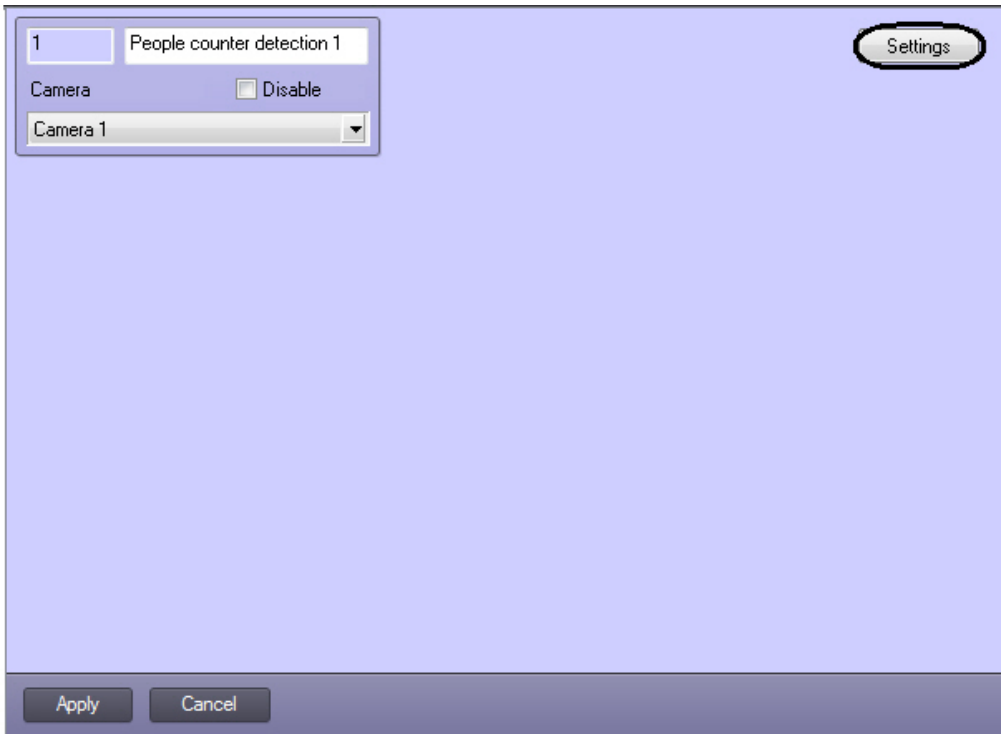
Configuring the «People counter detection» module

Rus

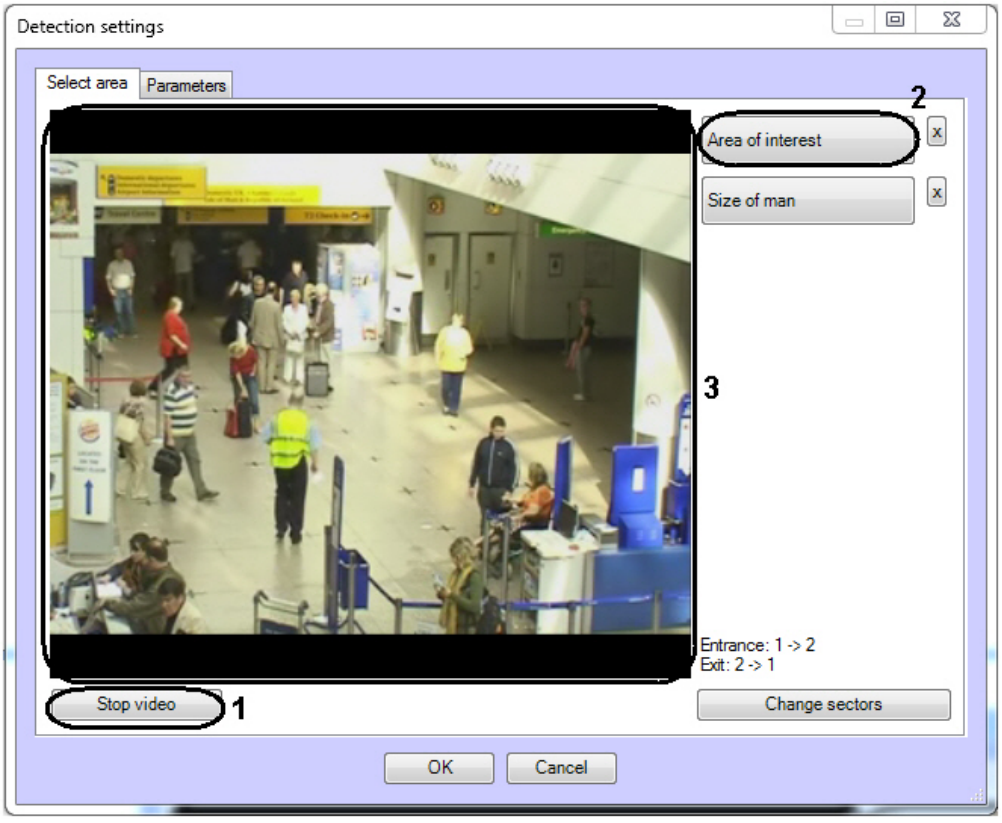
The **People counter detection** module can be configured using the **System settings** menu, under the **Hardware** tab, on the **People counter detection** control panel, using the **Camera** settings.

The **People counter detection** module is set up as follows:

1. Go to the **People Counter Detection** control panel.



2. Click **Settings**. The **Detection settings** window will appear.

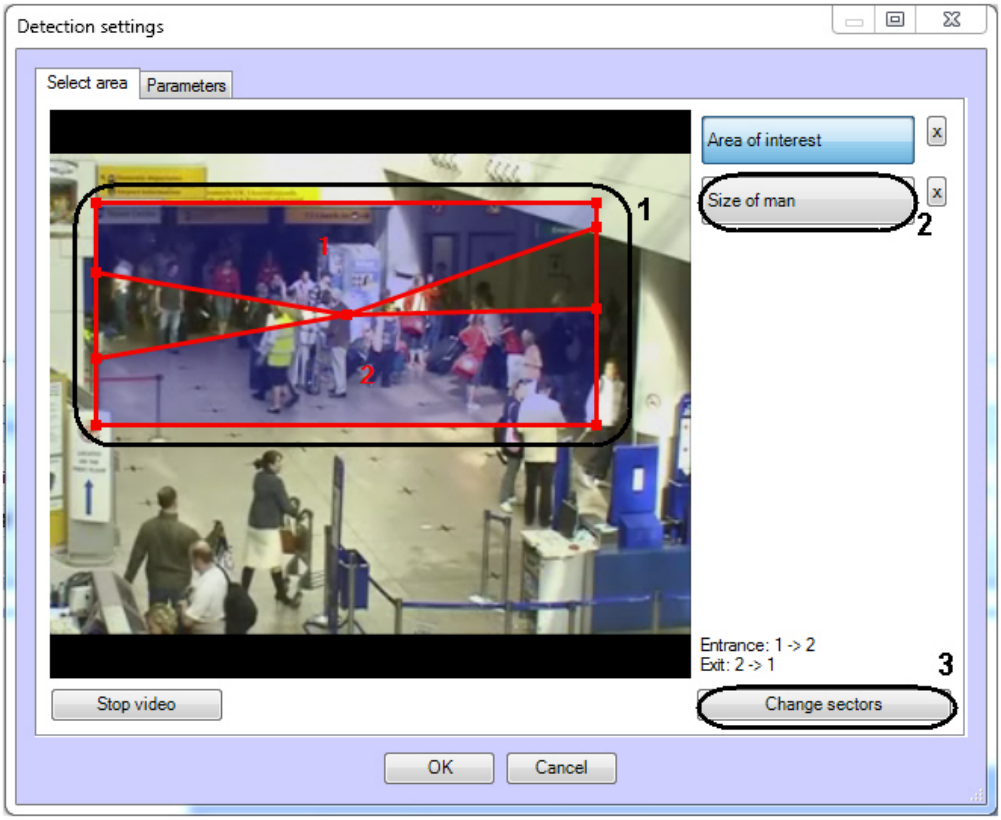


3. Specify the area of interest and the approximate size of people in the video image:
   a. Click **Stop video** to capture the video image (**1**).
   b. Click **Area of interest** (**2**).
   c. Using the left mouse button select the four corners of the area on the captured video image (**3**) to be analyzed. Only one area may be so designated. If a second area is specified, then the first area will be deleted.

> **Note.**
>
> To remove a selected area, click the x button next to the **Area of interest** button.

> **Note.**
> The area of interest is divided into two sections - 1 and 2. If an object moves from sector 1 to

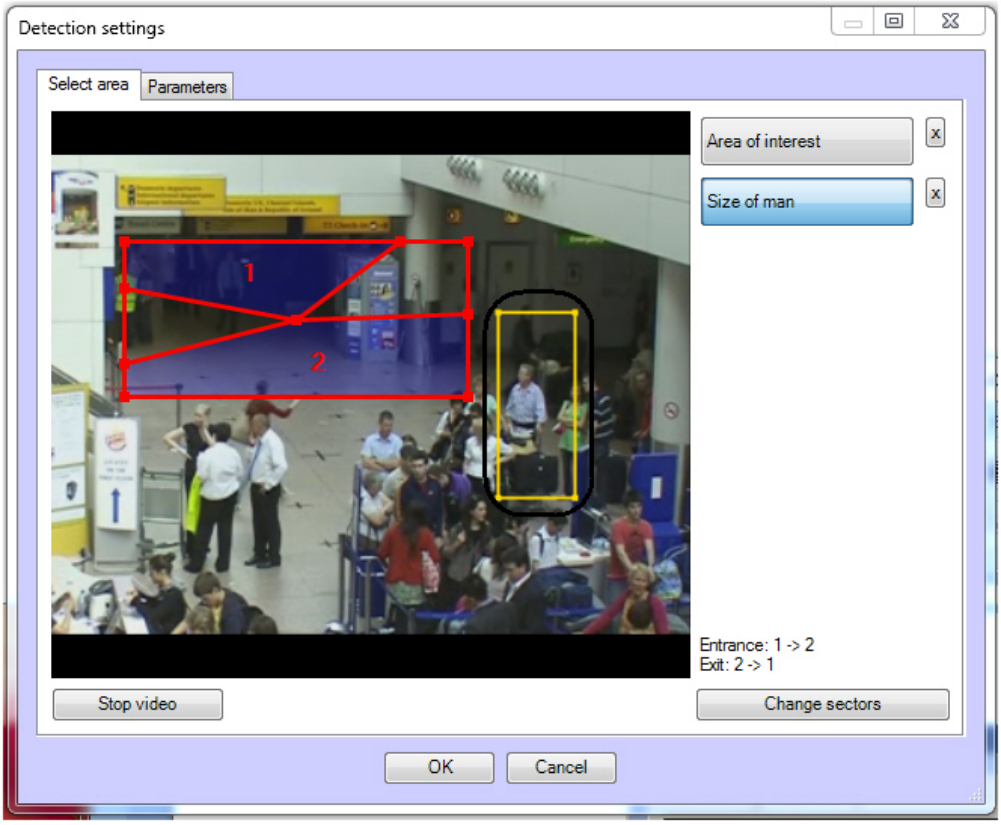
sector 2, it is logged as the entry of a visitor; if the visitor moves from sector 2 to sector 1, it is logged as an exit.



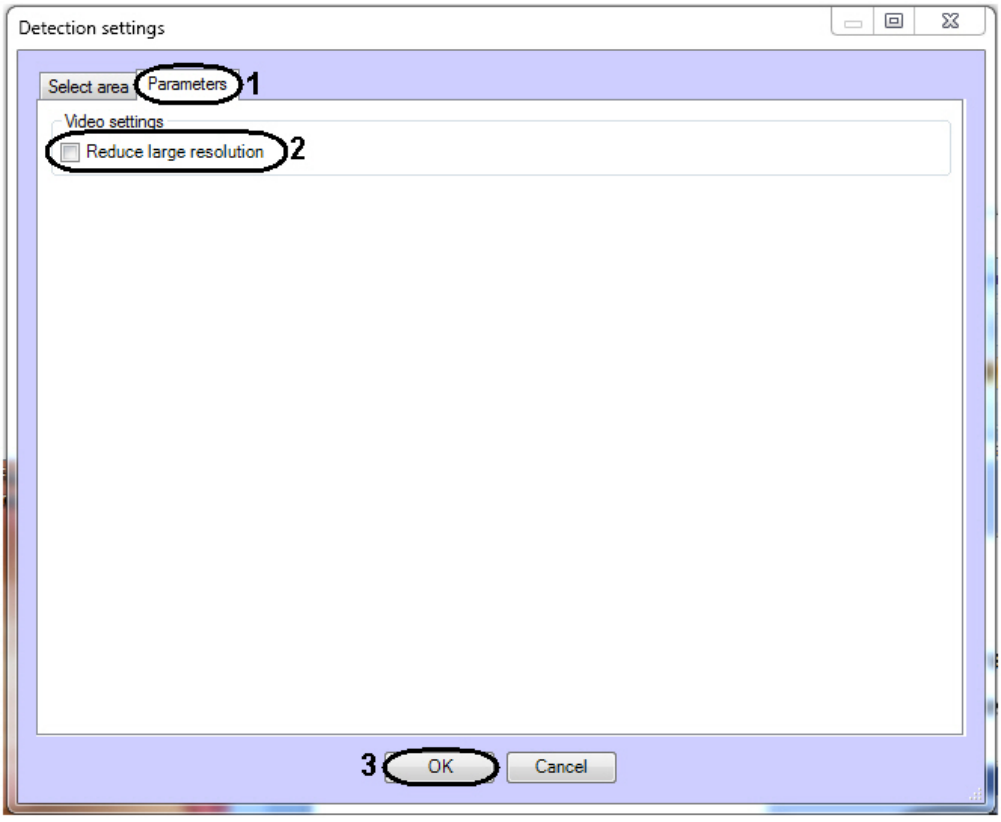
d. Set the desired size, shape and position of the sectors in the area of interest by moving their boundaries (**1**) .
e. If you want to swap sectors 1 and 2, click **Change sectors** (**2**).

4. Set the approximate person size as follows:
   a. Click on **Person size** (**3**).
   b. On the captured video image set the approximate person size. To do this, use the left mouse button to select a rectangular area (**1**).

> **Note.**
>
> To remove the person size, click the x button next to the **Person size** button.



5. Setting the module parameters:
   a. Go to the **Parameters** tab in the **Detection settings** window (**1**).



   b. Set the **Reduce large resolution** checkbox to create and process the new frame consist of even lines of initial frame (**2**).
6. Click **OK** (**3**).

Configuring the *People counter detection* module is complete.

Configuring the «Stopped vehicle detection» module

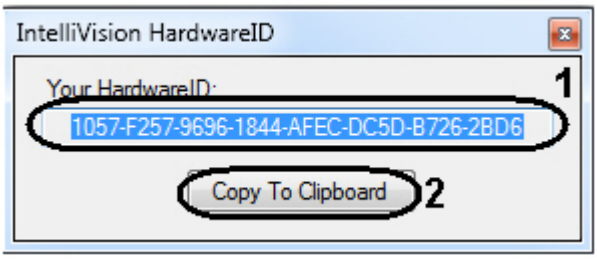
Licensing the «Stopped vehicle detection» module

Rus

To license the «Stopped vehicle detection» module do the following:

1. Go to the *<Intellect installation folder>\Modules\IntelliVision* folder.
2. Run the *HardwareID.exe* utility.

> **Attention!**
> Start the *HardwareID.exe* utility from the name of computer Administrator.
>
> Also the utility is to be started after the full loading of operating system, specifically after start of all needed services and applications.



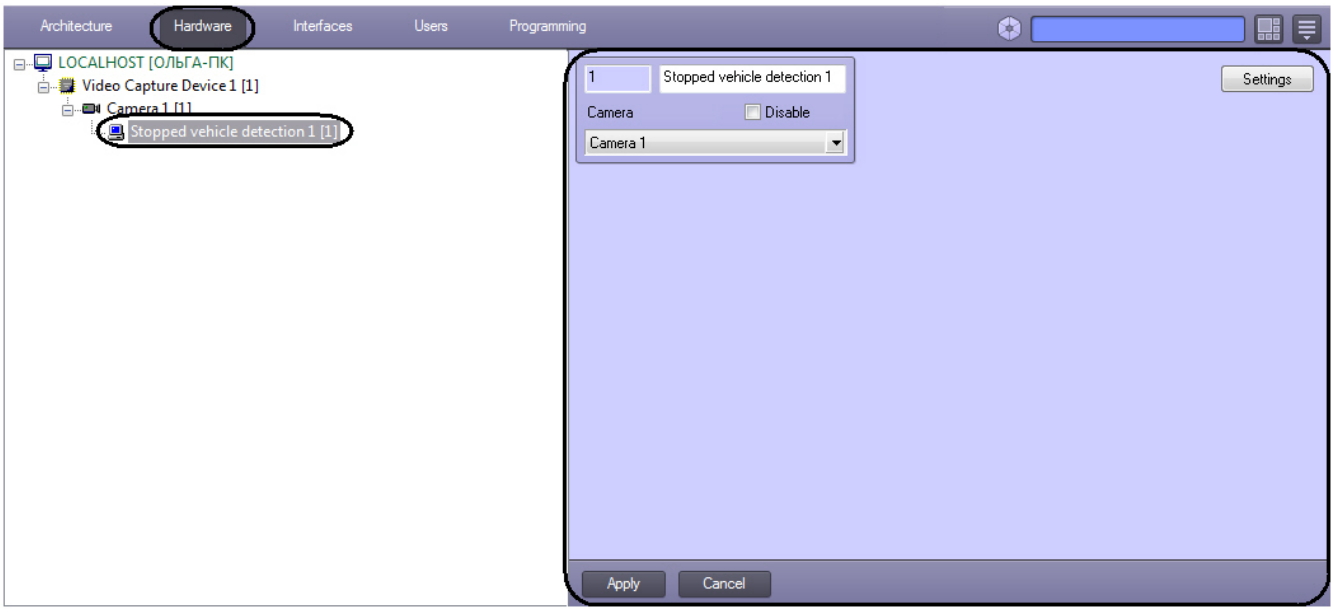
3. In the **Your HardwareID** field the code is displayed (**1**).
4. Click the **Copy To Clipboard** button to copy the code to the clipboard (**2**).
5. Send the code to the manager of the ITV company and specify the number of **Stopped vehicle detection** which are planned to be used.
6. Receive the regkey.dat file from the manager of the ITV company.
7. Put the received file to the *<Intellect installation folder>\Modules* folder.

Licensing the «Stopped vehicle detection» module is completed.

Configuring the «Stopped vehicle detection» module

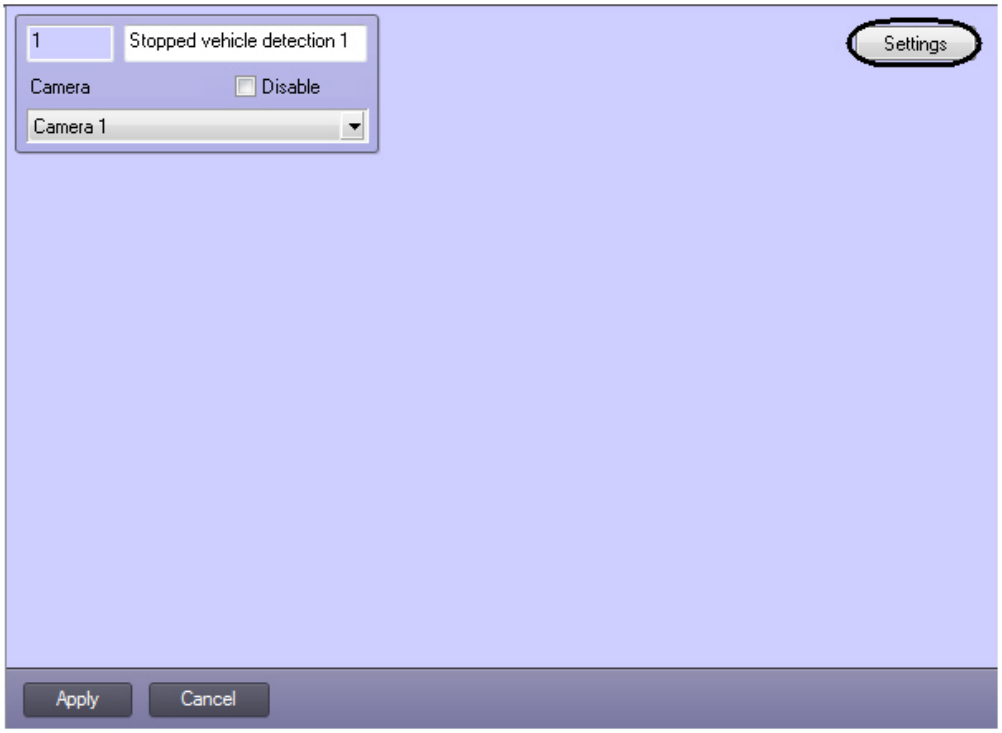
Rus

The **Stopped vehicle detection** module can be configured using the **System settings** menu, under the **Hardware** tab, on the **Stopped vehicle detection** control panel, using the **Camera** settings.



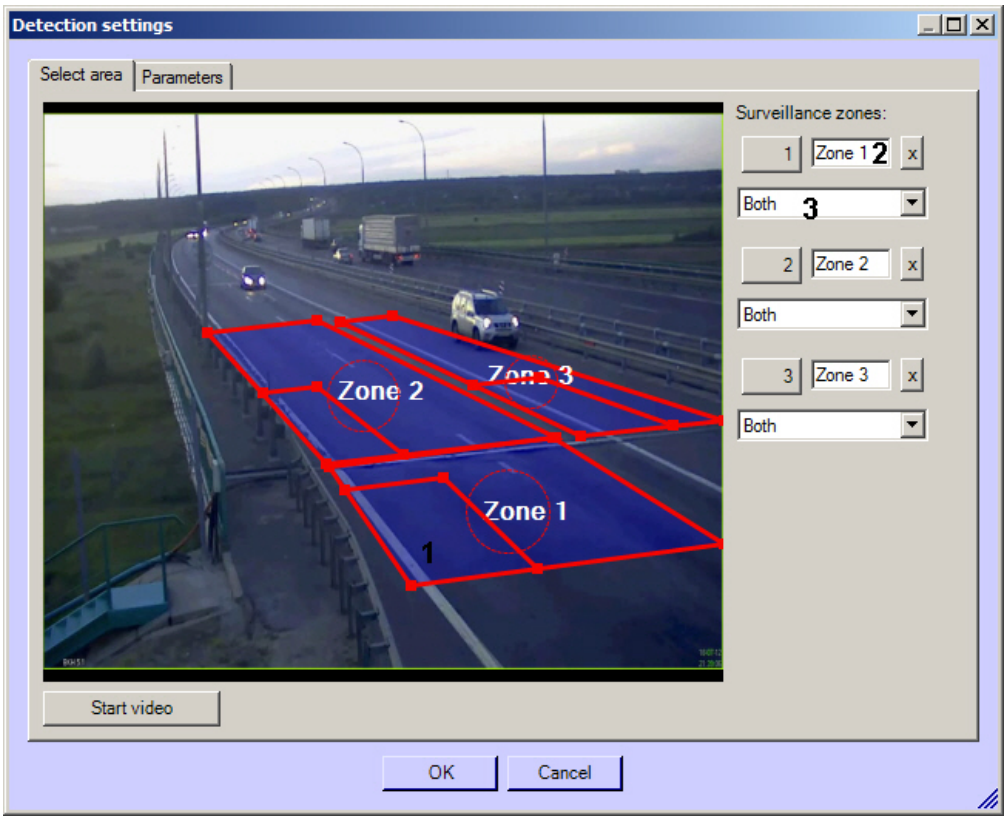
The **Stopped vehicle detection** module is set up as follows:

1. Go to the **Stopped vehicle detection** control panel.



2. Click **Settings**. The **Detection settings** window will appear.

3. Configure zones and areas of interest. Several zones can be added. Notification is performed on detection tool triggering in any zone. To add a zone, do the following:
    a. Click **Stop video** to capture the video image.
    b. Click the left mouse button to add a zone on the captured video image (**1**).

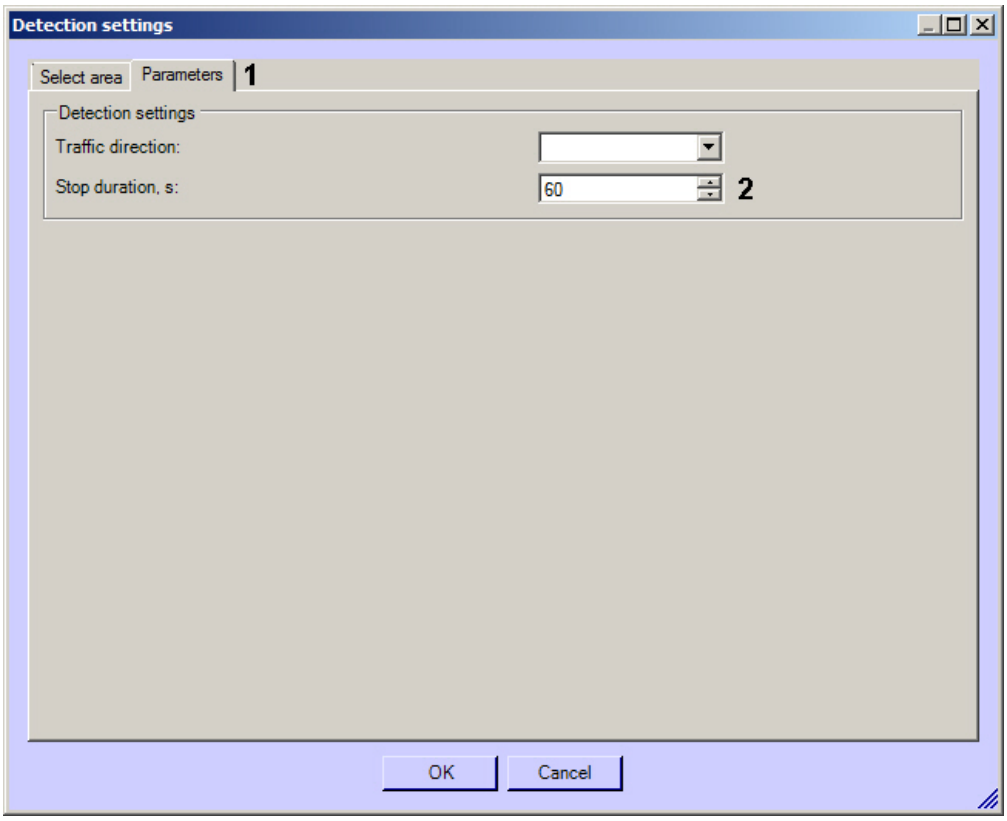


c. Set the required size, shape and position of the analyzed areas. To rotate the area, use the board dragging. To drag the area on the frame use the circle dotted line. To change the area size, use the grid points marked squares. The minimal height and size of the smallest base of trapezoid is 0.05 of the frame height.
d. Specify the approximate size of the vehicle by changing the size of the internal areas in the bottom left corner of the main areas (**1**).

> **Note.**
> The analyzed areas may be covered with not more than 256 detection zones. Recognition of stopped cars is performed only on that part of analyzed area which is covered by these zones. The part of analyzed area will not be covered by detection zones if the car size is much smaller than the size of analyzed area. To control the coverage area by detection zones, use the debug window (see Appendix 1. Debug window).

e. Enter none names (**2**).
f. Select the direction of the vehicles moving towards the camera for each zone (**3**).

4. Go to the **Parameters** tab (**1**) and set the minimal stop duration in seconds in the **Stop duration, s** field using the up and down buttons (2).



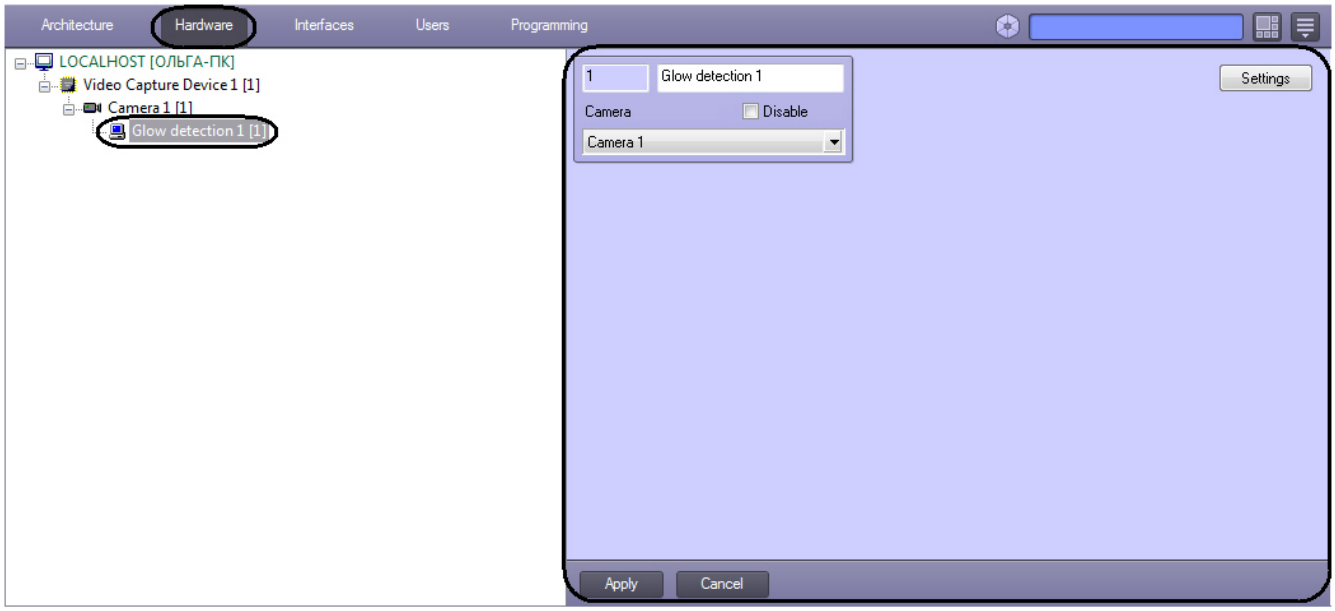
5. Click **OK**.

Configuring the **Stopped vehicle detection** module is completed.

Configuring the «Glow detection» module

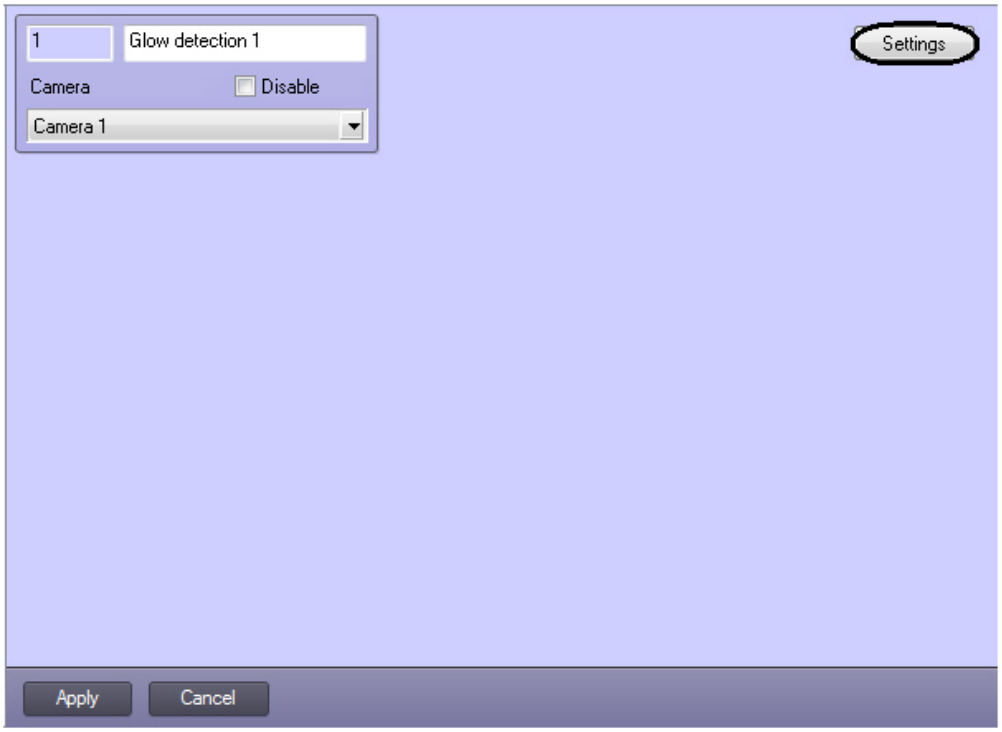
Rus

The *Glow detection* module can be configured using the **System settings** menu, under the **Hardware** tab, on the **Glow detection** control panel, using the **Camera** settings.

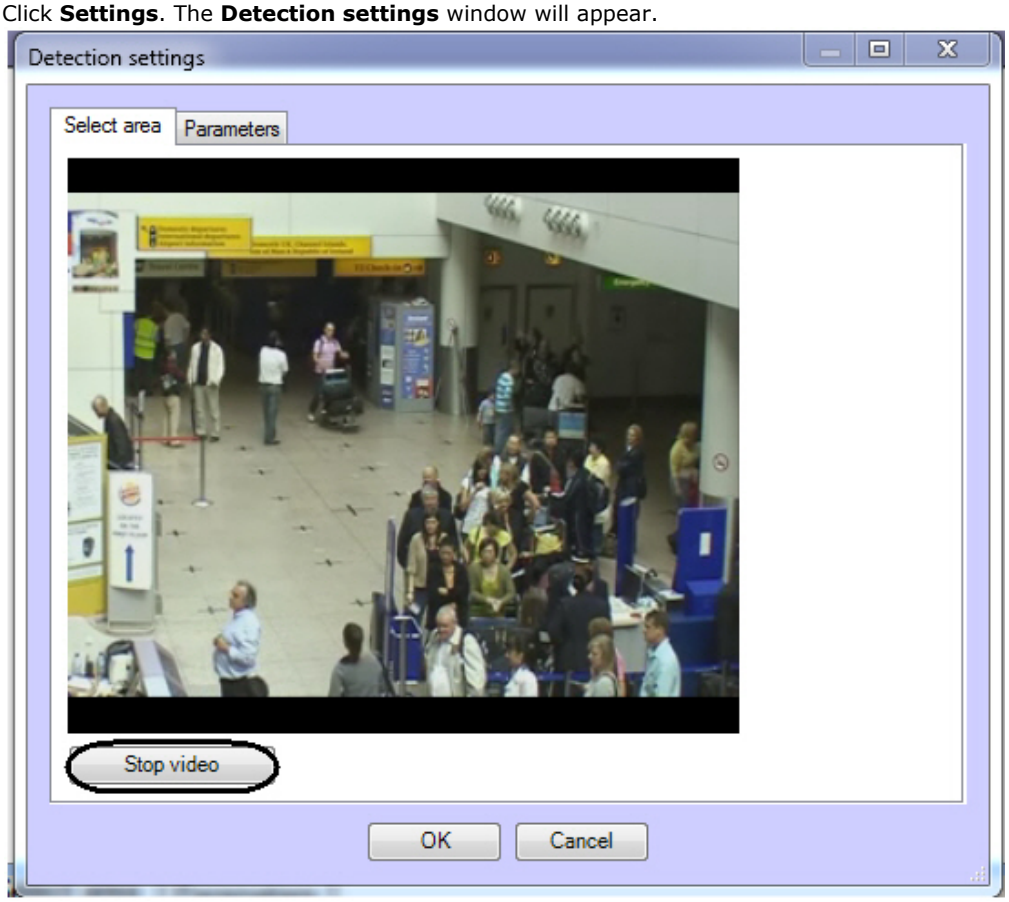


The *Glow detection* module is set up as follows:

1. Go to the **Glow Detection** control panel.

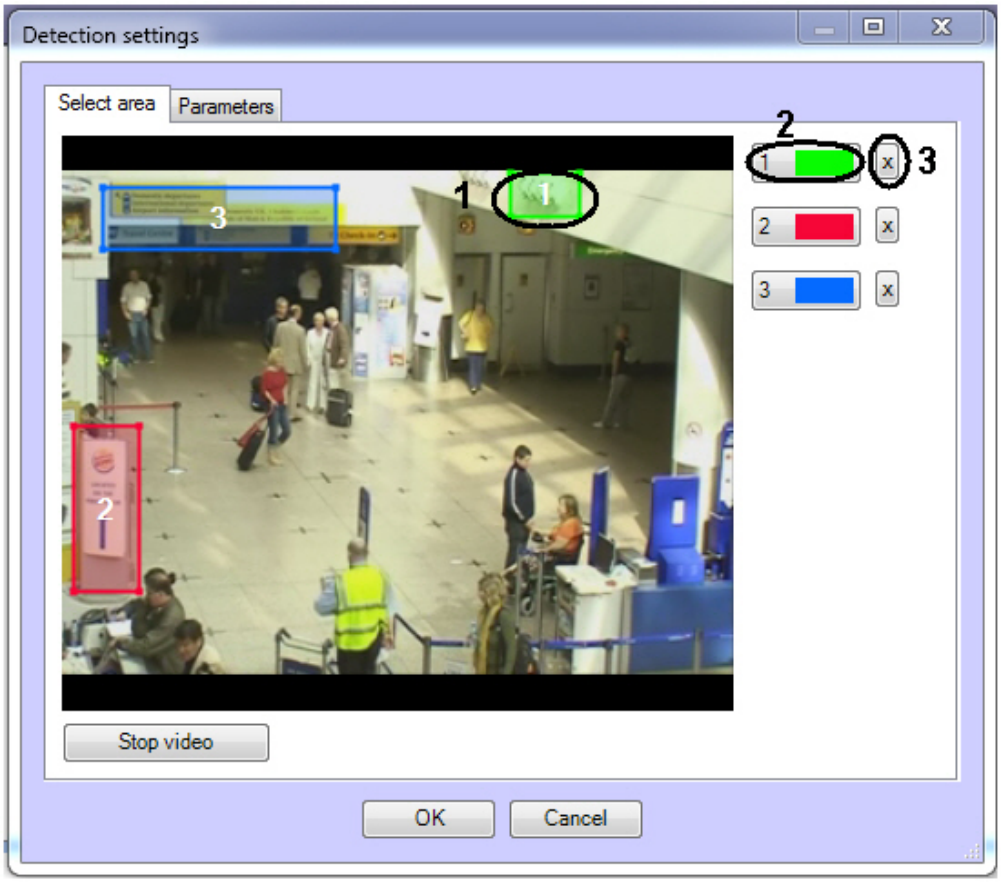


2. Click **Settings**. The **Detection settings** window will appear.



3. Specify the location of lights sources in the image which are to be tracked by detection:
    a. Click **Stop video** to capture the video image.
    b. On the captured video image specify areas to be analyzes (**1**). Click the left mouse button in the frame area and stretch it to the required size. The minimal allowed size of the analyzed area is 15x15 pixels. The maximum allowed size of the analyzed area is 200x200 pixels.

Areas of interest are numbered in the order of creation starting from 1. The number of analyzed area is not limited. Adding the area at the right from the video image the corresponding button is displayed (**2**).



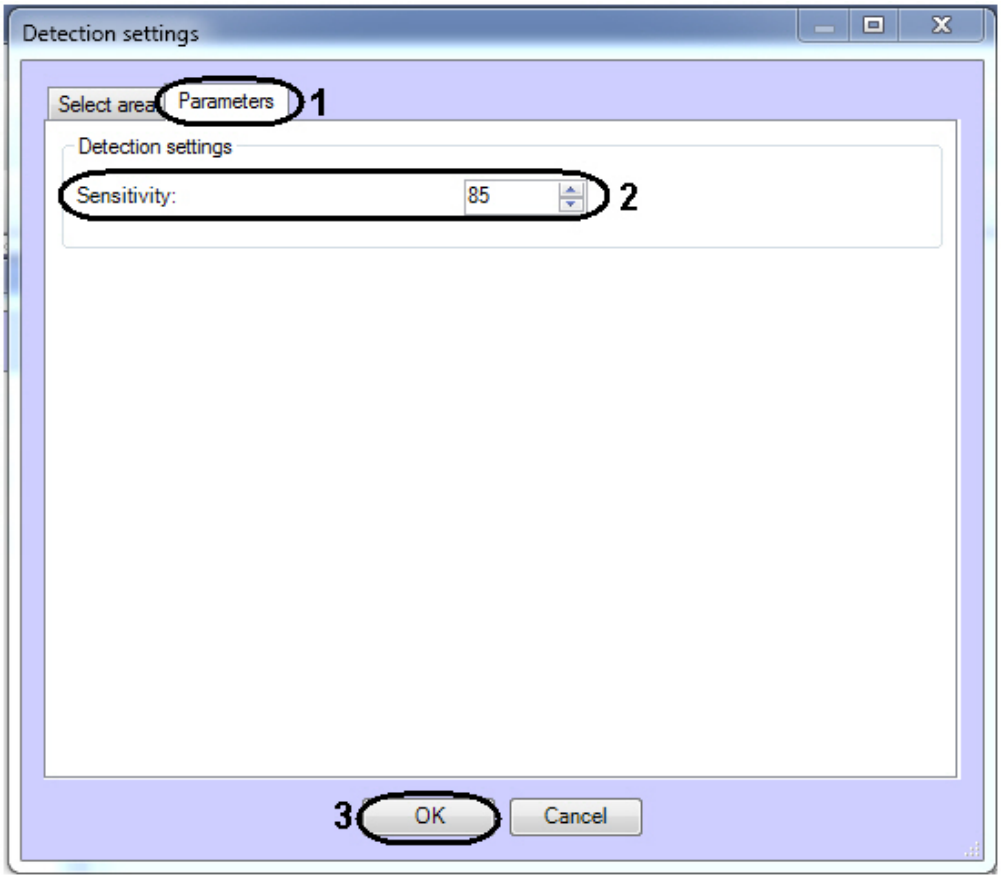
c. Specify the required size, shape and location of sectors in the area of interest moving their borders. Selecting the area take into account that the local change of illuminance and specular surface near lamps in the area of interest can cause the false detection triggering.

d. To specify the area again click the button with its number in the list of areas and mark the area in the video image frame (**2**).

e. Click the  button next to the **Area of interest** button (**3**).

4. Specify the glow detection sensitivity:

a. Go to the **Parameters** tab in the **Detection settings** window (**1**).



b. Using the **up-down** buttons enter the value of sensitivity parameter in the **Sensitivity** field (**2**). The optimal value is selected experimentally by testing detection on triggering in the required conditions. The value range is from 0 to 100. The more sensitivity the more possibility of false triggering. The less sensitivity, the more possibility of losing event.

5. Click the **OK** button (**3**).

Configuring the *Glow detection* module is complete.

Configuring the «Heat map detection» module

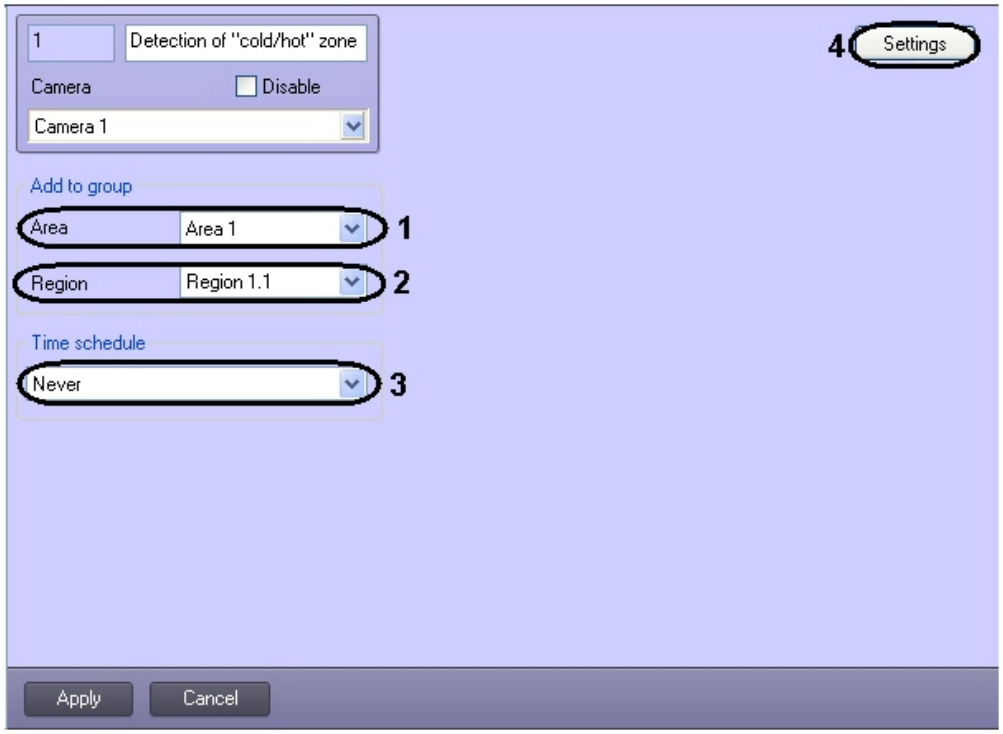
Rus

Attention!
For correct operation of the *Heat map detection* module the installed Analytics Pack subsystem is required.

The **Heat map detection** module can be configured using the **System settings** menu, under the **Hardware** tab, on the **Heat map detection** control panel, using the **Camera** settings.

The **Heat map detection** module is set up as follows:

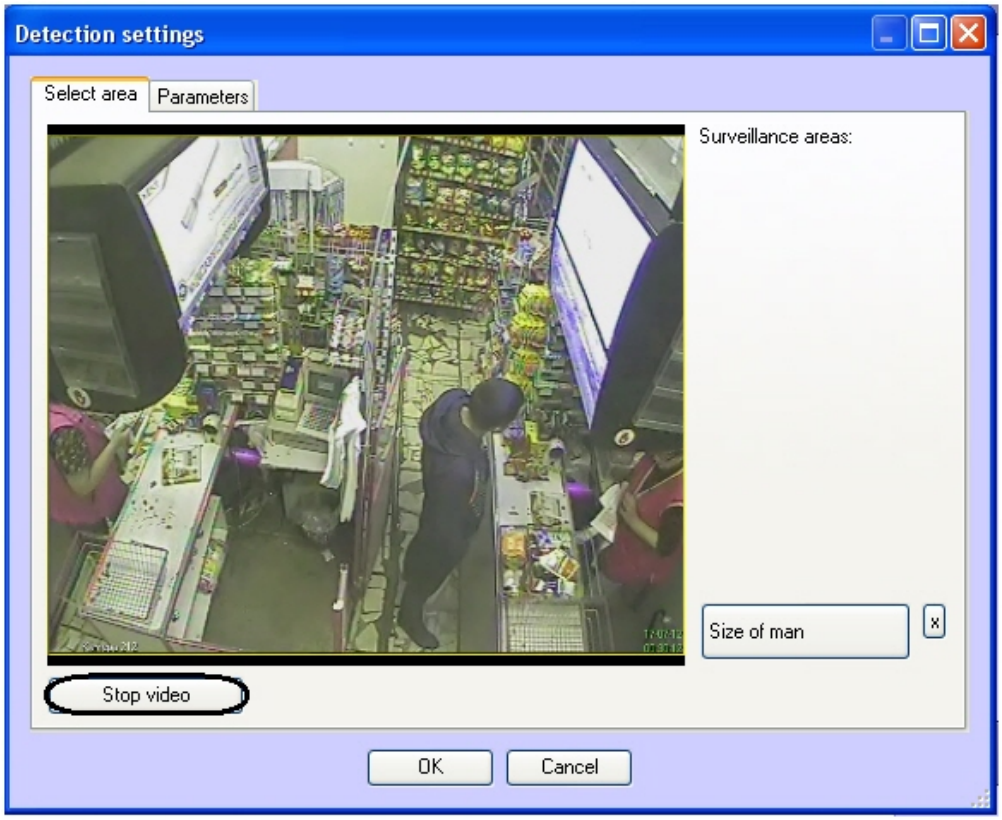
1. Go to the **Heat map detection** control panel.



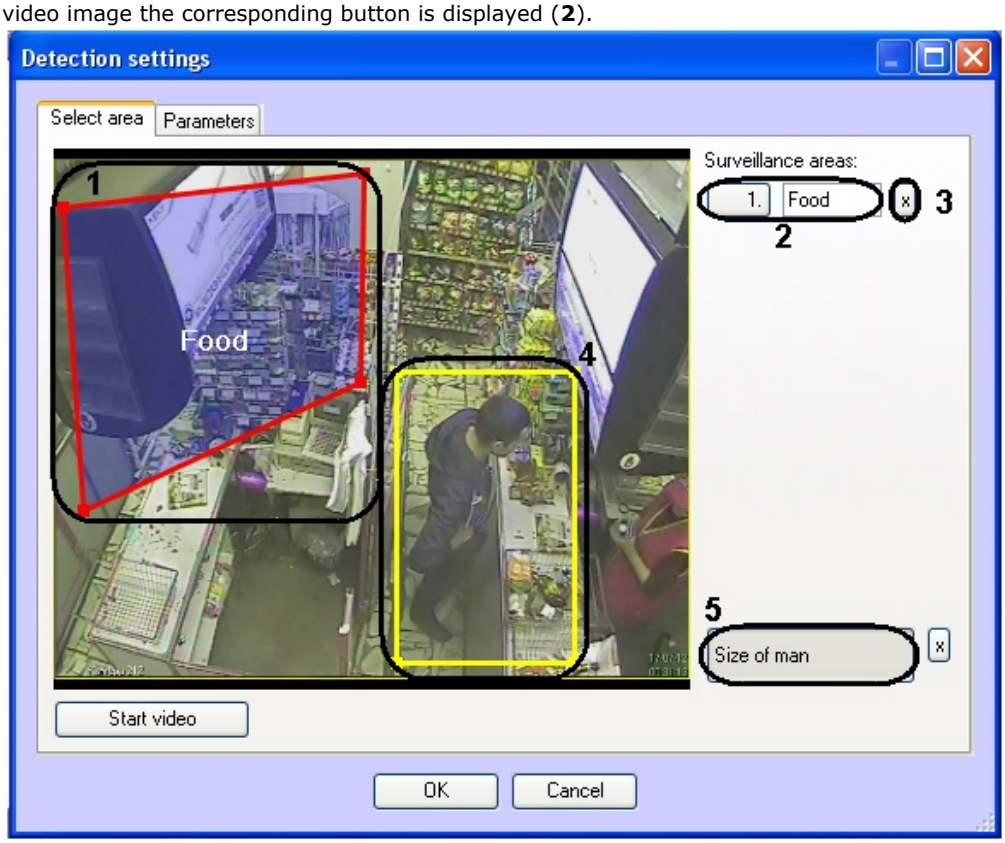
2. From the **Area** drop-down list select the **Area** object to display the list of regions which belong to this area (**1**).
3. From the **Region** drop-down list select the **Region** object to which this detection is to be referred to (**2**).
4. From the **Time schedule** drop-down list select the corresponding time schedule during which the detection will work (**3**).

> **Note.**
> If none of time schedule is specified the detection will work 24 hours every day.

5. Click the **Settings** button (**4**). The **Detection settings** window will appear.



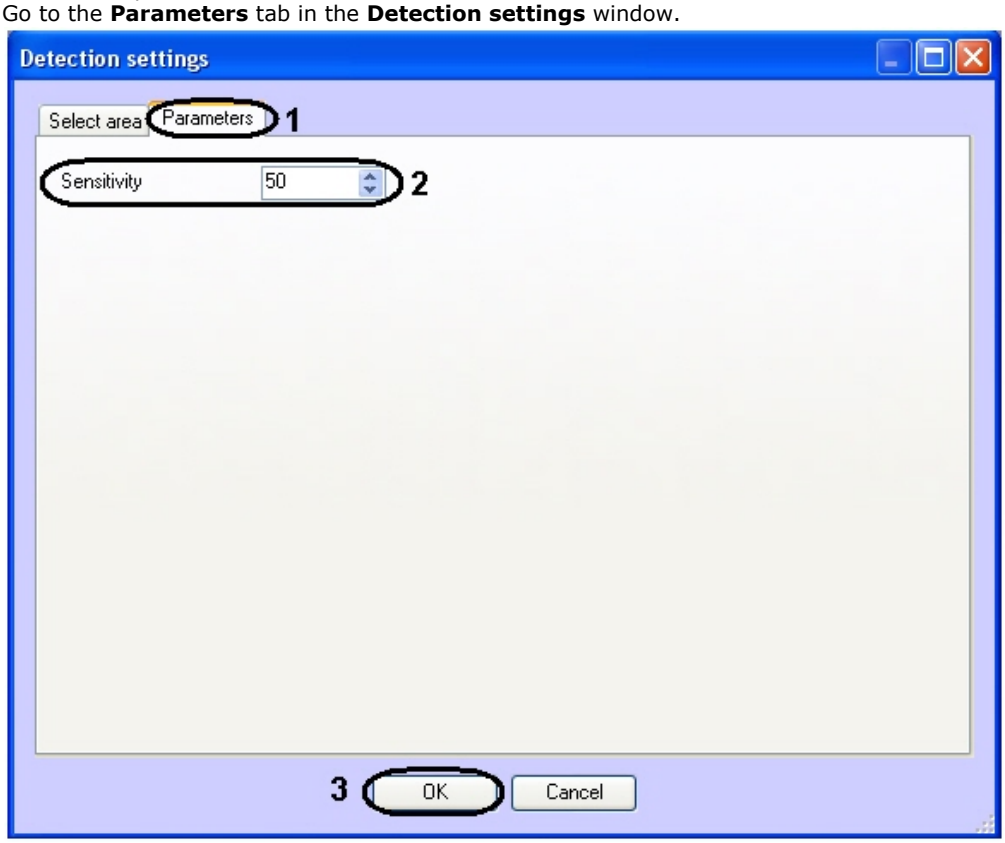
6. Specify the area of interest and the approximate size of people in the video image:
   a. Click the **Stop video** button to capture the video image.
   b. On the captured video image specify areas to be analyzed (**1**). To specify the area set the nodal points of interested area using the left mouse button. After setting the last nodal point click the right mouse button and closing the curve will perform automatically.
   Areas of interest are numbered in the order of creation starting from 1. Adding area at the right from the video image the corresponding button is displayed (**2**).



   c. To remove a selected area click the x button next to the **Area of interest** button (**3**).
7. Set the approximate person size as follows:
   a. Click the **Size of man** button (**5**).
   b. On the captured video image set the approximate person size. To do this, use the left mouse button to select a rectangular area (**1**).

c. To remove the person size click the button next to the **Size of man** button.

8. Setting the module parameters:
   a. Go to the **Parameters** tab in the **Detection settings** window.



   b. Using the **up-down** buttons enter the value of sensitivity parameter in the **Sensitivity** field (**2**). The optimal value is selected experimentally by testing detection on triggering in the required conditions. The value range is from 0 to 100. The more sensitivity the more possibility of false triggering. The less sensitivity, the more possibility of losing event.
9. Click the **OK** button (**3**).

Configuring the Heat map detection module is completed.

Configuring the «Detection of moving against crowd flow» module

Behavior of detection of moving against crow flow module

Rus

Operation of the detection of moving against crowd flow is controlled by the following parameters:

1. **Movement against a crowd** – direction reversed to direction in which a crowd is moved in the video image. Direction of crowd movement is called the right direction.
2. **Number of people in a crowd** – minimal number of people moved in direction of crowd movement in which detection should trigger.

Detection will not function in case of number of people in a crowd moved in right direction is less than the **Number of people in a crowd** parameter.
If number of people moved in right direction is more or equal to the **Number of people in a crowd**, then:

- detection functions if number of people moved against a crowd is from 1 to 2 included;
- detection doesn't function if number of people moved against a crowd is 3 or more;
- detection doesn't function if there is no people moved against a crowd.

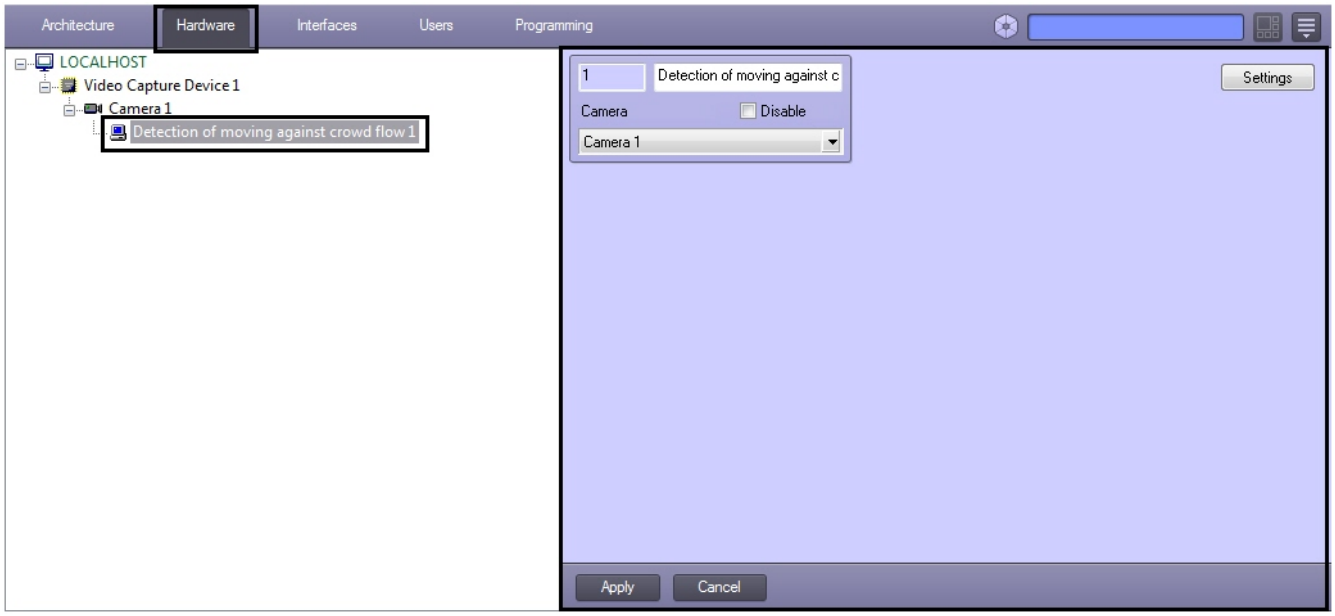
There will not new detection triggers while a person on which detection functioned is stayed in the monitored area.

Example. A steady flow of people goes against a crowd. In the monitored area only 1 or 2 persons move against a crowd. In this case only one trigger will happened when the first person will go against a crowd. New triggers will not happen until a flow moved against a crowd will not stopped.
If all people moved against a crowd are out of monitored area, i.e. in the monitored area there is only crowd moved in the right direction and new person moved against a crowd enter the area, then detection will function.

Configuring the «Detection of moving against crowd flow» module

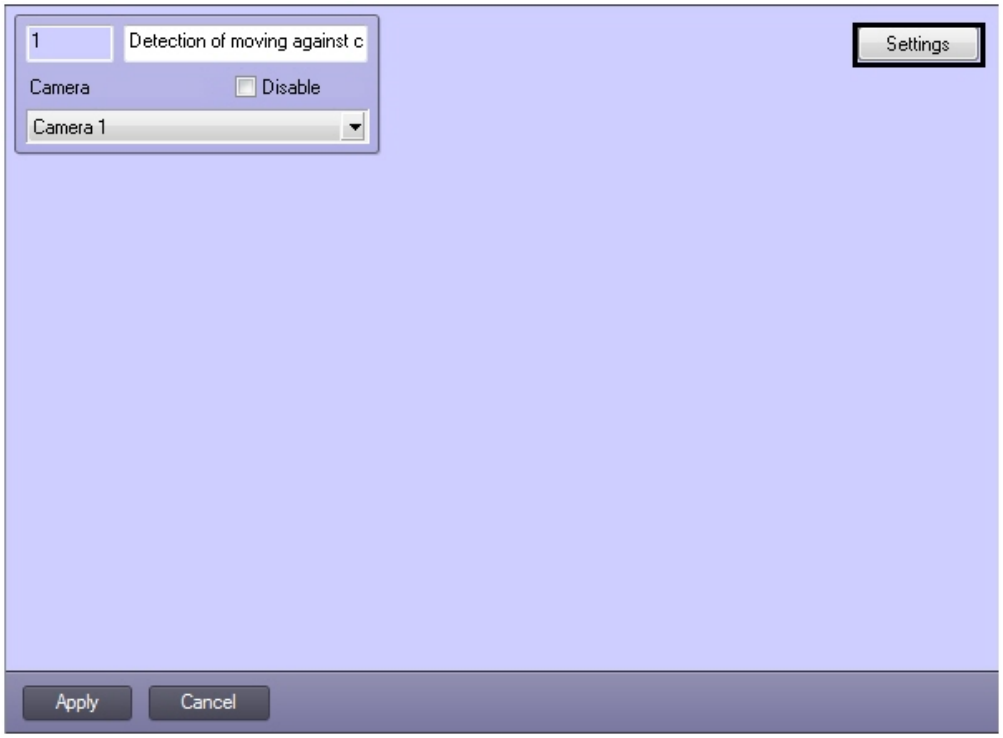
Rus

The *Detection of moving against crowd flow* module can be configured using the **System settings** menu, under the **Hard ware** tab, on the **Detection of moving against crowd flow** object's control panel created on the basis of the **Camera** o bject.

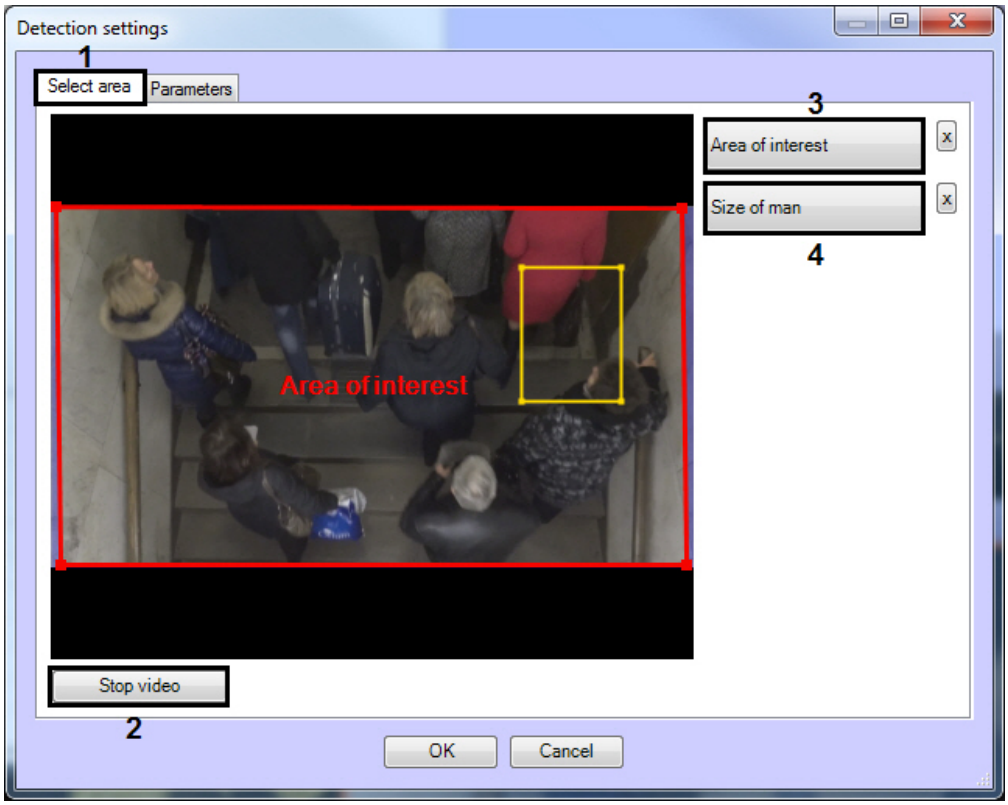


The *Detection of moving against crowd flow* module is set up as follows:

1. Go to the **Detection of moving against crowd flow** control panel.



2. Click **Settings** button. The **Detection settings** window will appear.



3. Specify the detection surveillance:
   a. Go to the **Select area** tab (**1**).
   b. Click the **Stop video** button to capture the video image (**2**).
   c. Click the **Surveillance territory** button (**3**).
   d. On the captured video image specify areas to be analyzed. To specify the area set the nodal points of interested area using the left mouse button. Area is considered to be specified when the last nodal point is consisted with the first one. It is possible to add only one area. While attempting to add the second area the first one will be deleted. After area specifying the remaining part of video image will be darkened.

      Note.

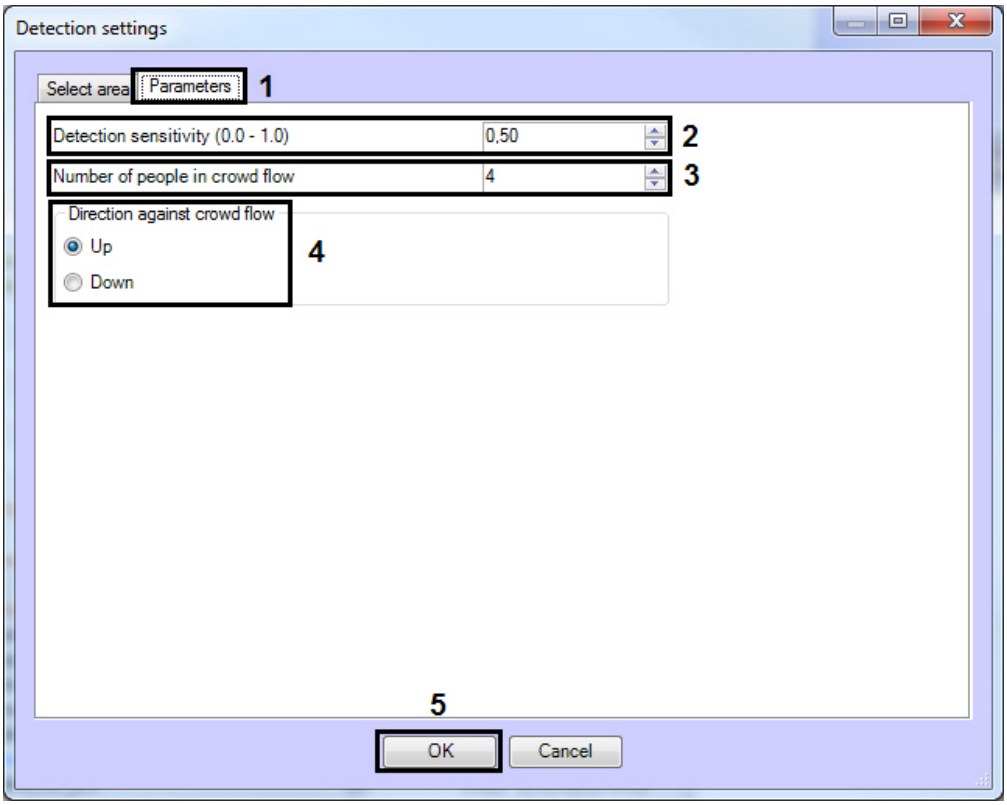
      To remove the area click the x button next to the **Area of interest** button.

   e. Click the **Human size** button (**4**). Set the required person size. To do this, click the left mouse button on the captured video image and extend a rectangular area to required size.

      Note.

      To remove the area click the x button next to the **Size of man** button.

4. Specify parameters of detection of moving against crowd flow:
   a. Go to the **Parameters** tab (**1**).



b. In the **Detector sensitivity** field enter the value of sensitivity parameter using up-down button (**2**). Optimal value of parameter is selected experimentally by testing the detection for triggers in required conditions. The range of values is from 0 to 1. The less detection sensitivity, the more probability of event missing.
c. In the **Men in crowd** field specify the minimal number of people moved in direction of crowd movement in which detection should function (**3**).
d. Set the **Direction against crowd** switch to the position, corresponding to the objects movement against a crowd on the video image (**4**).

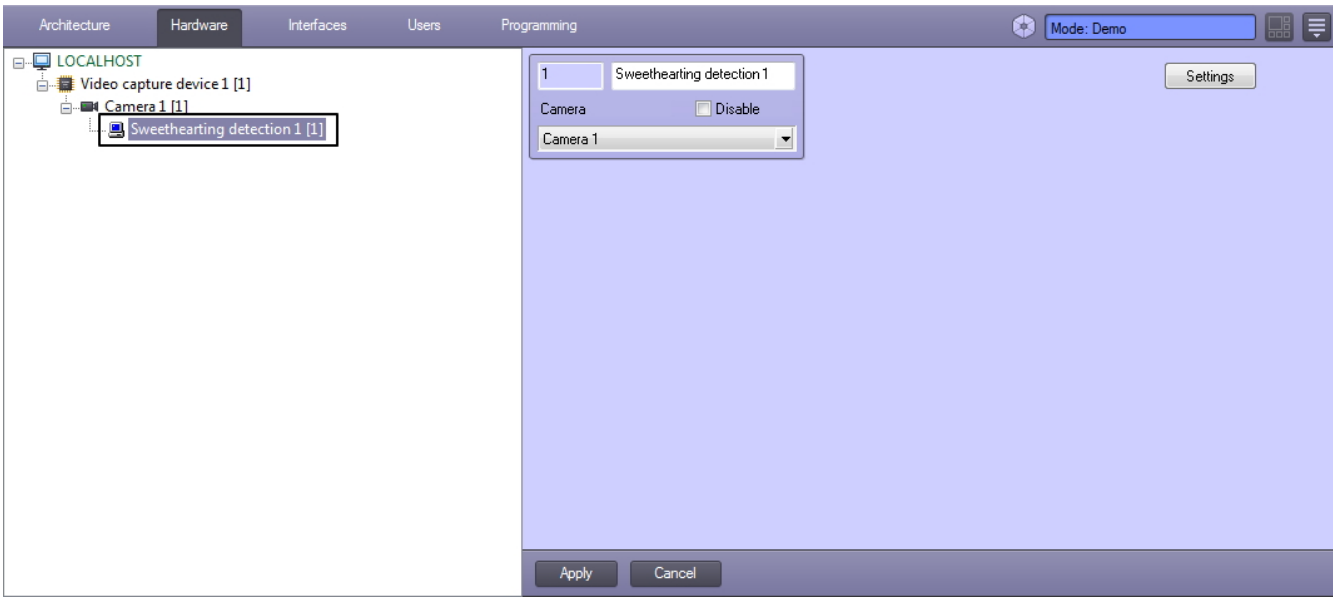
5. Click the **OK** button (**5**).

Configuring the detection of moving against crowd flow module is complete.

Configuring the «Sweethearting detection» module

Rus

The **Queue length detection** module is configured on the settings panel of the **Sweethearting detection** object, which is created on the basis of the **Camera** object on the **Hardware** tab of the **System settings** dialog window.



The **Sweethearting detection** module is configured as follows:

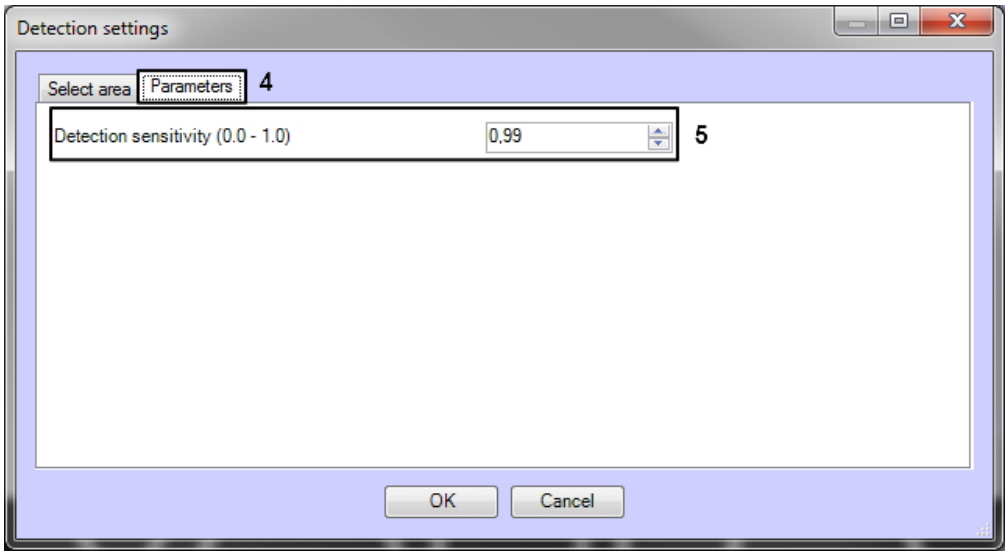
1. Go to the settings panel of the **Sweethearting detection** module.

2. Click **Settings**.
   The **Detection settings** window will open.

3. Specify the area of interest and the approximate size of people in the video image:
   a. Go to the **Select area** tab (1).
   b. Click **Stop video** to capture the video image (2).
   c. Click **Area of interest** (3).
   d. Using the left mouse button select the four corners of the area on the captured video image to be analyzed. Only one area may be so designated. If a second area is specified, then the first area will be deleted. Upon selection of the area the remaining part of the video image will be dimmed.

> **Note**
>
> To remove a selected area, click the button next to the **Area of interest** button.

4. On the **Parameters** tab (4), you can set the detection sensitivity in the range from 0 to 1.0 (5).



5. Click **OK** to save changes and return to the settings panel of the **Sweethearting detection** object.

> **Note.**
> To return to the control panel of the **Sweethearting detection** without saving changes, click **Cancel**.

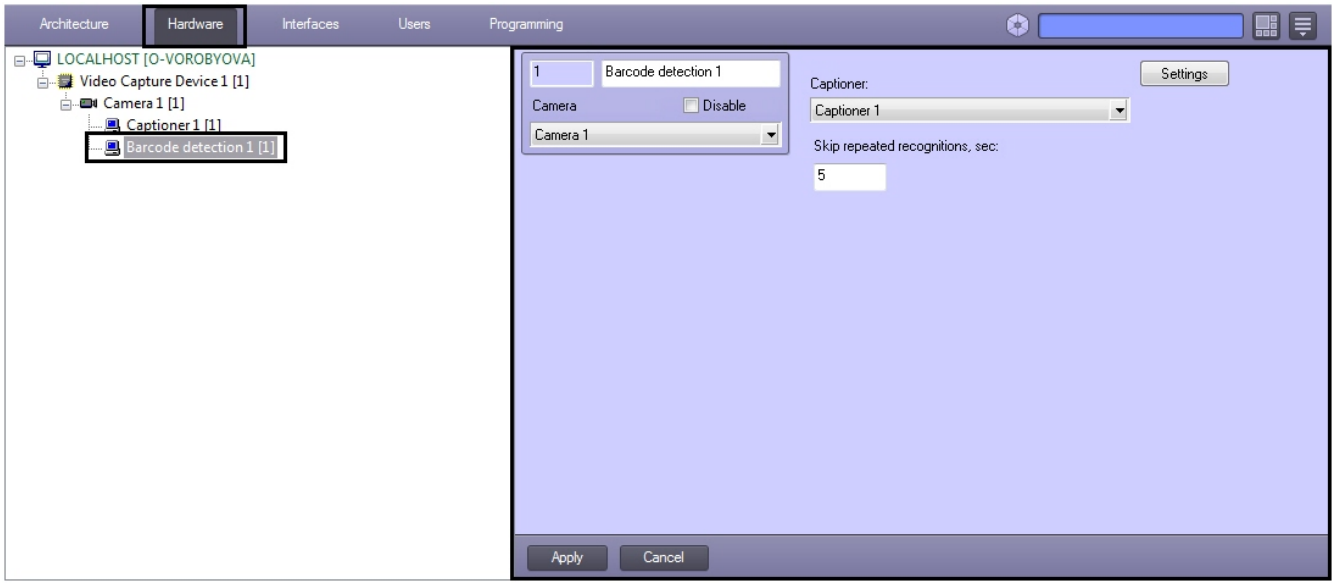
6. On the **Sweethearting detection** control panel, click **Apply**.

Configuring the **Queue length detection** module is complete.

Configuring the «Barcode detection» module

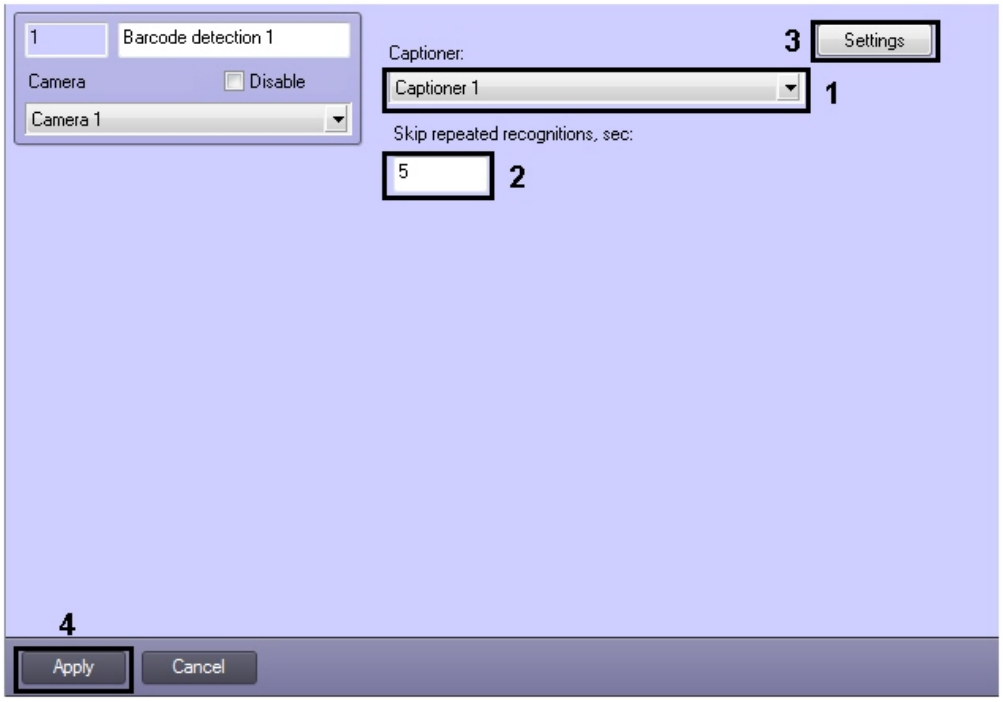
Rus

The **Barcode detection** module can be configured using the **System settings** menu, under the **Hardware** tab, on the **Barcode detection** control panel, using the **Camera** settings.



The **Barcode detection** module is set up as follows:

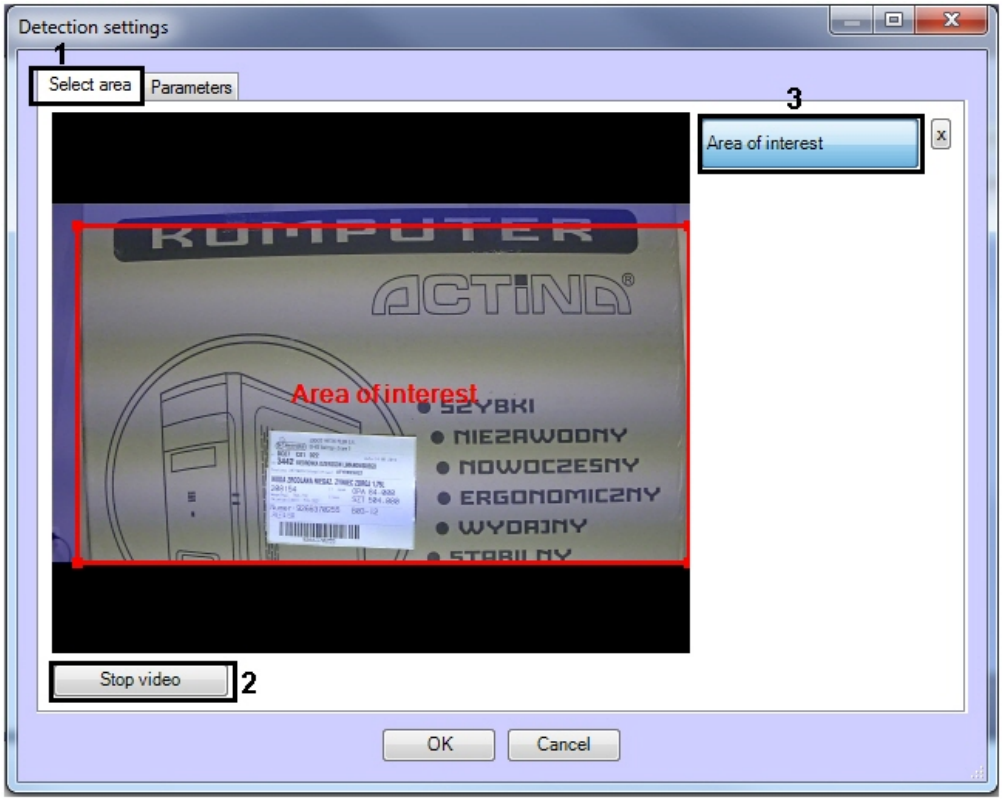
1. Go to the **Barcode detection** control panel.



2. From the **Captioner:** drop-down list select the captioner with the help of which result will be displayed in the monitor (**1**)
3. In the **Skip repeated recognitions, sec:** field enter the time in seconds in which the repeated code is recognized (**2**).

> **Note.**
> If there are some different barcodes or QR-codes one after another, then recognition is performed instantly. If there are some repeated barcodes then new result will be displayed after time period specified in the settings.

4. Click **Settings** (**3**).
   The **Detection settings** window will appear.



5. Specify the detection surveillance area:
   a. Go to the **Select area** tab (**1**).
   b. Click the **Stop video** button to capture the video image (**2**).
   c. Click the **Area of interest** button (**3**).
   d. On the captured video image specify areas to be analyzed. It is possible to add only one area. While attempting to add the second area the first one will be deleted. After area specifying the remaining part of

video image will be darkened.

> **Note.**
>
> To remove the area click the button next to the **Area of interest** button.

e. Click **OK** to save changes and return to the control panel of the **Barcode detection** (**4**).

> **Note.**
> To return to the control panel of the **Barcode detection** without saving changes, click **Cancel**.

6. On the **Barcode detection** control panel, click **Apply**.

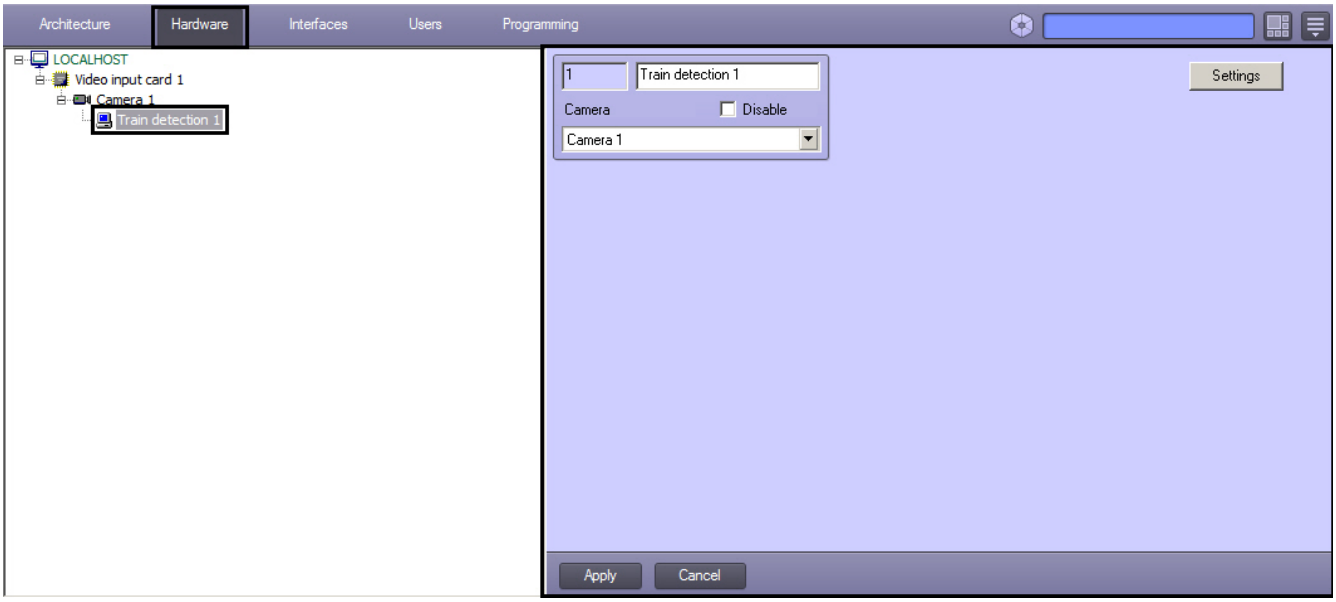
Configuring the **Barcode detection** module is complete.

Configuring the «Train detection» module

Rus

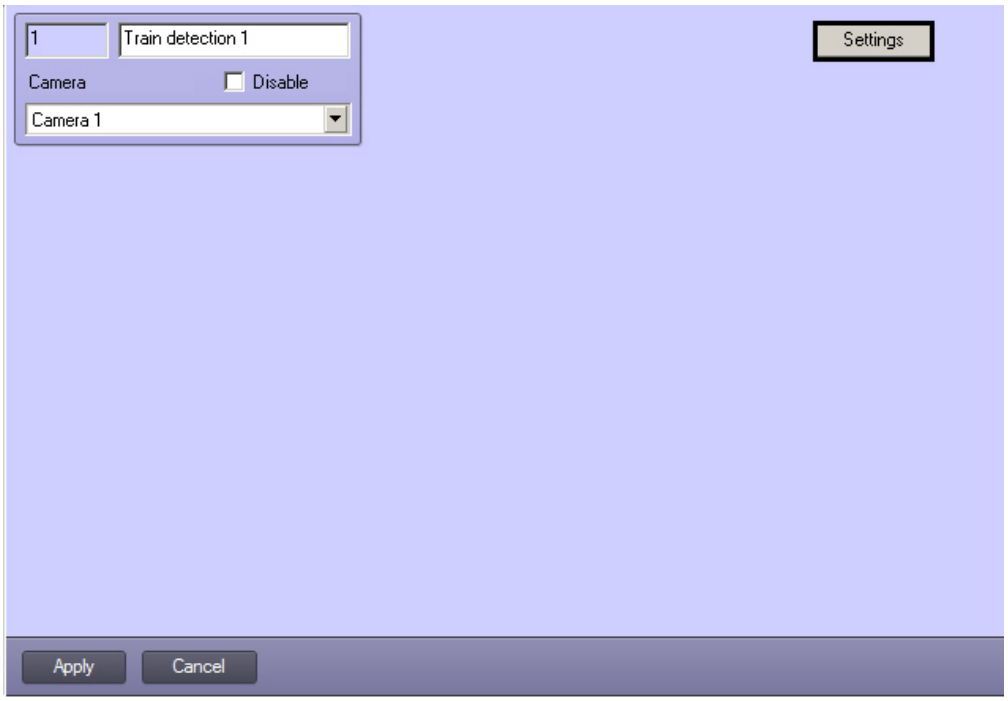
> **Note.**
> It is not recommended to create more than 4 **Train detection** objects for correct operation of the *Train detection* module.

The **Train detection** module can be configured on the settings panel of the **Train detection** object created on the basis of the **Camera** object on the **Hardware** tab of the **System settings** dialog window.

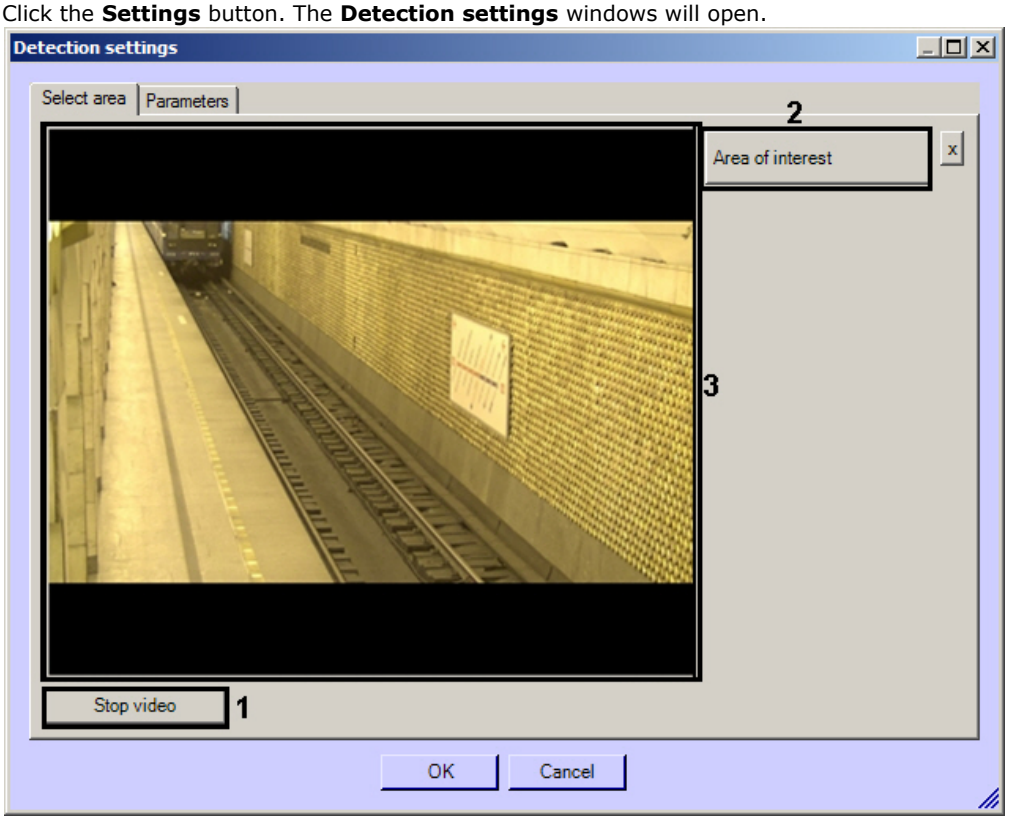


The **Train detection** module is configured as follows:

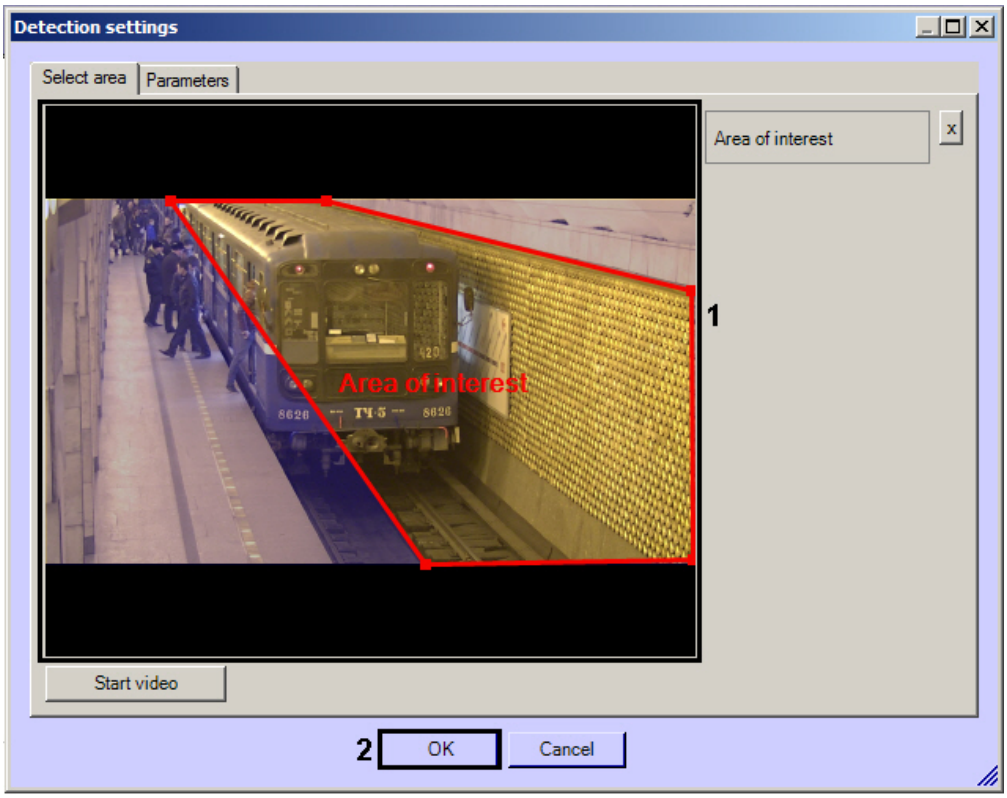
1. Go to the **Train detection** control panel.



2. Click the **Settings** button. The **Detection settings** windows will open.



3. Specify the detection surveillance area on the video image:
    a. Click the **Stop video** button to capture the video image (**1**).



b. Click the **Area of interest** button (**2**).
c. On the captured video image (**3**) sequentially specify nodal points of area to be analysed by clickng the left mouse button (**1**). It is possible to add only one area. While attempting to add the second area the first one will be deleted. After area specifying the remaining part of video image will be darkened.

> **Note.**
>
> To remove the area click the x button next to the **Area of interest** button.

> **Note.**
> The area of interest is to be specifyied in such a way as to be no any motion in it except of the train motion.

d. Click the **OK** button to save changes and return to the control panel of the **Train detection** (**4**).

> **Note.**
> To return to the control panel of the **Train detection** without saving changes, click **Cancel**.

4. Click **Apply** on the **Train detection** control panel.

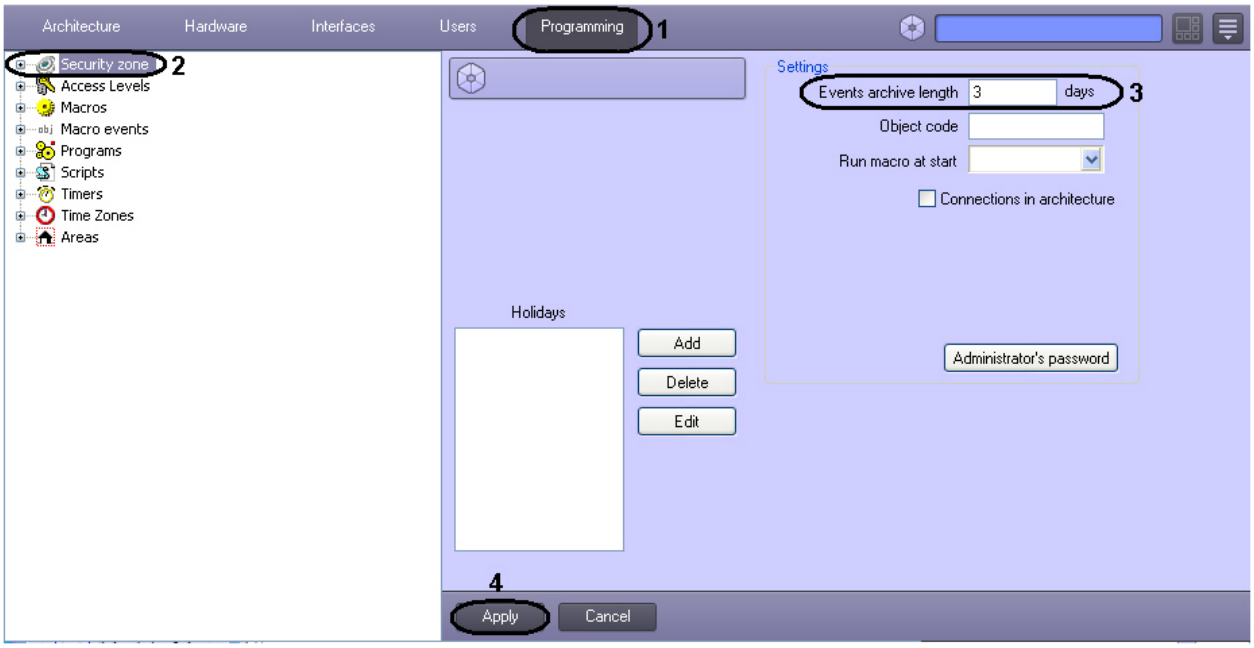
Configuring the **Train detection** module is complete.

Configuring the events archive length

Rus

Reports by results of detection working received with the help of *Report System* web-reports subsystem are creating on information from the event log database. On default the event archive is storing in the database for three days, but it is insufficient for proper report creating. To increase the events archive length, do the following:

1. Go to the **Programming** tab of **System settings** dialog box (**1**).



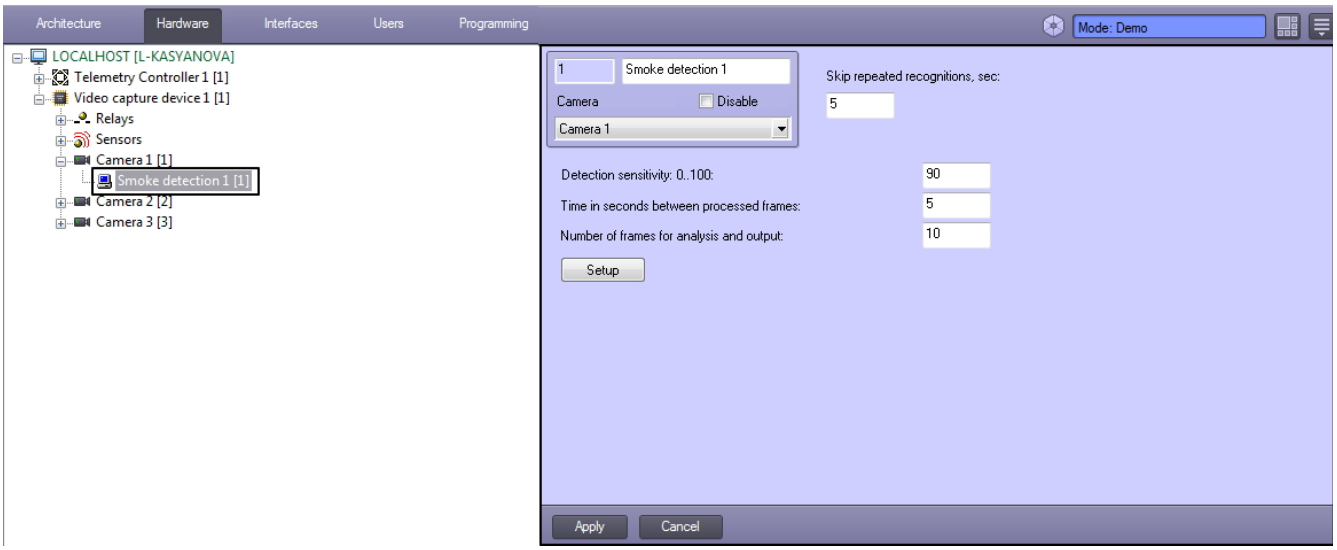
2. Go to the **Security zone** object's settings panel (**2**).
3. Enter the period of events storage in the database in the **Events archive length ___ days** field (**3**). For example, specify the archive storage period equal to 30 days.
4. Click the **Apply** button (**4**).

Configuring the events archive length is completed.

Configuring the "Smoke detection" module

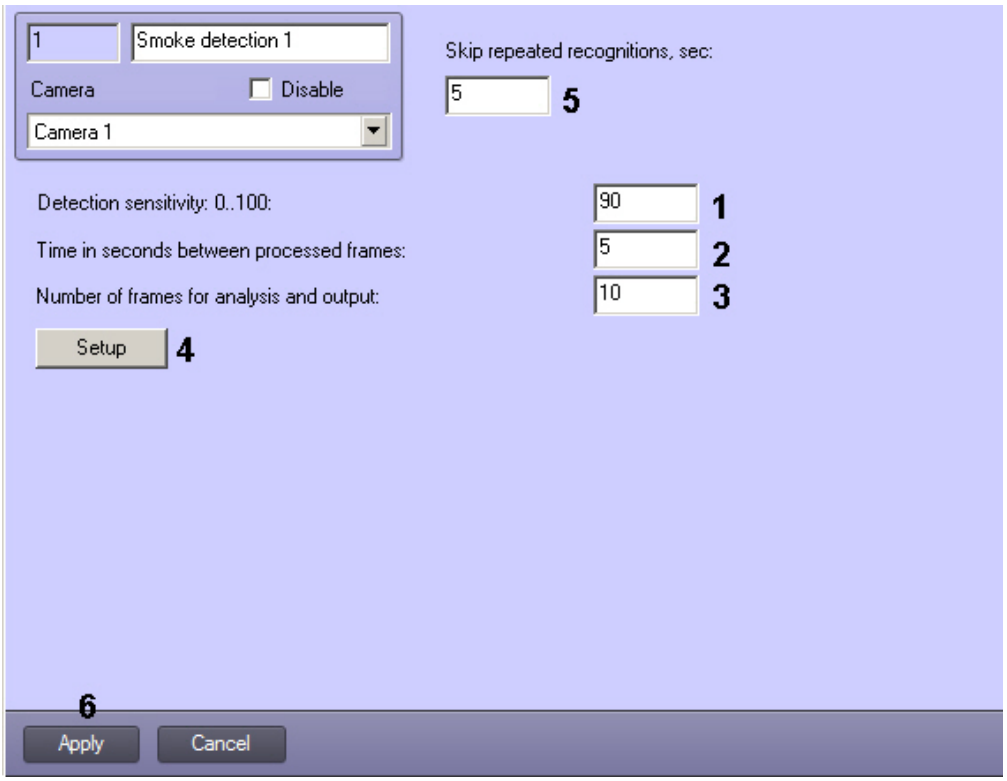
Rus

The **Smoke detection** module can be configured on the settings panel of the **Smoke detection** object created on the basis of the **Camera** object on the **Hardware** tab of the **System settings** dialog window.



The **Smoke detection** module is configured as follows:

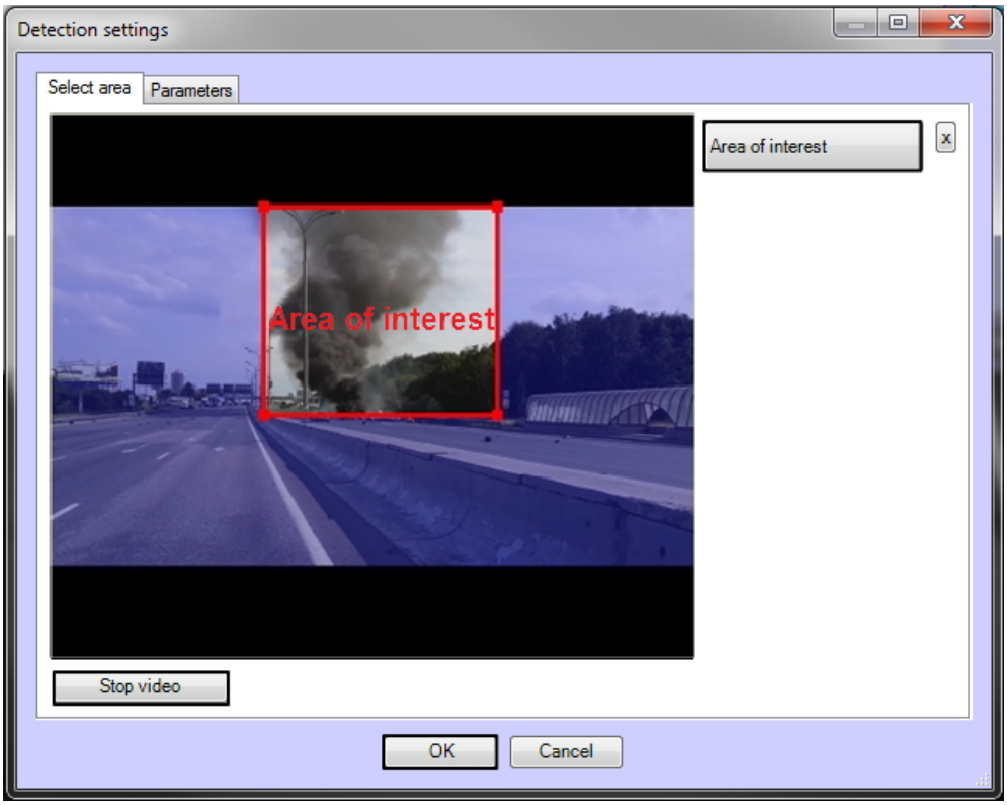
1. Go to the **Smoke detection** object's control panel.



2. In the **Detection sensitivity: 0..100:** field enter the sensitivity of detection – integer value from 0 to 100 (1). This parameter has an impact on sufficient probability of smoke recognition for alarm. For example, if sensitivity is 0, than frame on which smoke is recognizied with certainty more than 95% will be alarming. If sensitivity is 100, than frame with 50% certainty of smoke recognition will be alarming.
3. In the **Distance in seconds between processed frames:** field enter the time period in seconds separating frames used by algorithm for smoke analysis (2). This parameter has an impact on processor capacity: the less the parameter, the more capacity. Also it has an impact on operation speed of algorithm: the less distance between frames. the faster required number of frames will be collected for decision and alarm, if it's required.
4. In the **Number of frames for analysis and output:** field enter minimum number of frames for detection analysis before alarm generating (3). The more the value, the more certain the result of detection operation. At the same time, if value is too large, the short-time smoke can be missed.

> **Note.**
> Multiplication of **Distance in seconds between processed frames * Number of frames for analysis and output** parameters characterizes time period (in seconds) at the end of which after smoke alarm will be triggered.

5. Specify the detection surveillance area on the video image:
   a. Click the **Setup** button (4). The **Detection settings** window will open.



b. Click the **Stop video** button to capture the video image.
c. Click the **Area of interest** button.
d. Specify area on which smoke recognition will be detected.
e. Click the **OK** button.

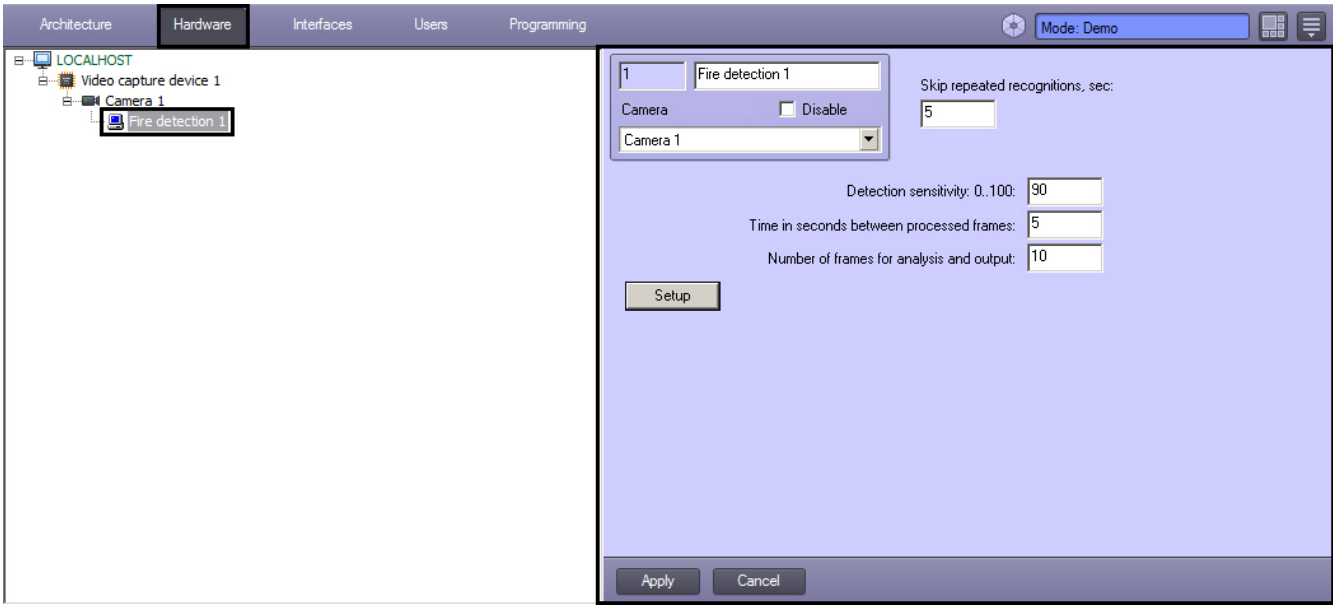
6. In the **Skip repeated recognitions, sec** field enter the period in seconds uring which the repeated smoke recognition will not trigger the alarm (5).
7. Click the **Apply** button (6).

Configuring the **Smoke detection** module is complete.

Configuring the "Fire detection" module

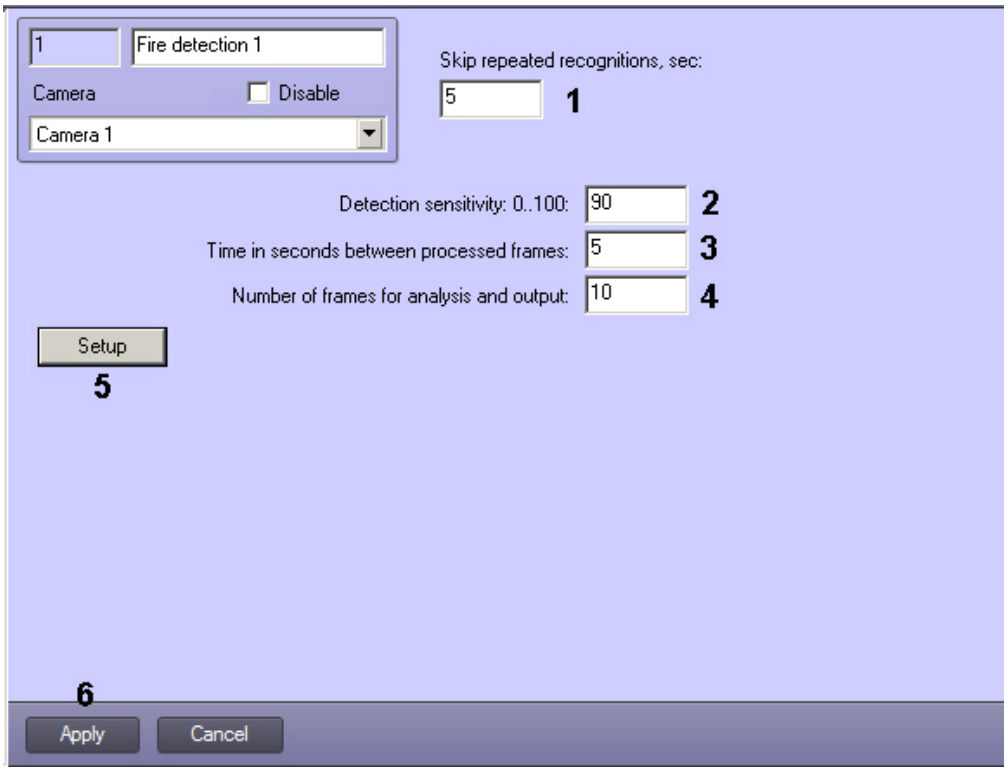
Rus

The **Fire detection** module can be configured on the settings panel of the **Fire detection** object created on the basis of the **Camera** object on the **Hardware** tab of the **System settings** dialog window.



The **Fire detection** module is configured as follows:

1. Go to the **Fire detection** object's control panel.



2. In the **Skip repeated recognitions, sec** field enter the time period in seconds during which the system must ignore repeated messages about ignition (1). For example, if 5 seconds is set for the **Distance in seconds between processed frames** parameter, and there is a fire on the image during a longer period of time then set **S kip repeated recognitions, sec** to a higher value (for example, 10 seconds) to avoid receiving messages of ignition from the detector every 5 seconds.
3. In the **Detection sensitivity: 0..100:** field enter the sensitivity of detection – integer value from 0 to 100 (2). This parameter has an impact on sufficient probability of fire recognition for alarm. For example, if sensitivity is 0, than frame on which fire is recognizied with certainty more than 95% will be alarming. If sensitivity is 100, than frame with 50% certainty of fire recognition will be alarming.
4. In the **Distance in seconds between processed frames:** field enter the time period in seconds separating frames used by algorithm for fire analysis (3). This parameter has an impact on processor capacity: the less the parameter, the more capacity. Also it has an impact on operation speed of algorithm: the less distance between frames. the faster required number of frames will be collected for decision and alarm, if it's required.
5. In the **Number of frames for analysis and output:** field enter minimum number of frames for detection analysis before alarm generating (4). The more the value, the more certain the result of detection operation. At the same time, if value is too large, the short-time fire can be missed.

> **Note.**
> Multiplication of **Distance in seconds between processed frames * Number of frames for analysis and output** parameters characterizes time period (in seconds) at the end of which after fire alarm will be triggered.

6. Specify the detection surveillance area on the video image:
   a. Click the **Setup** button. The **Detection settings** window will open.

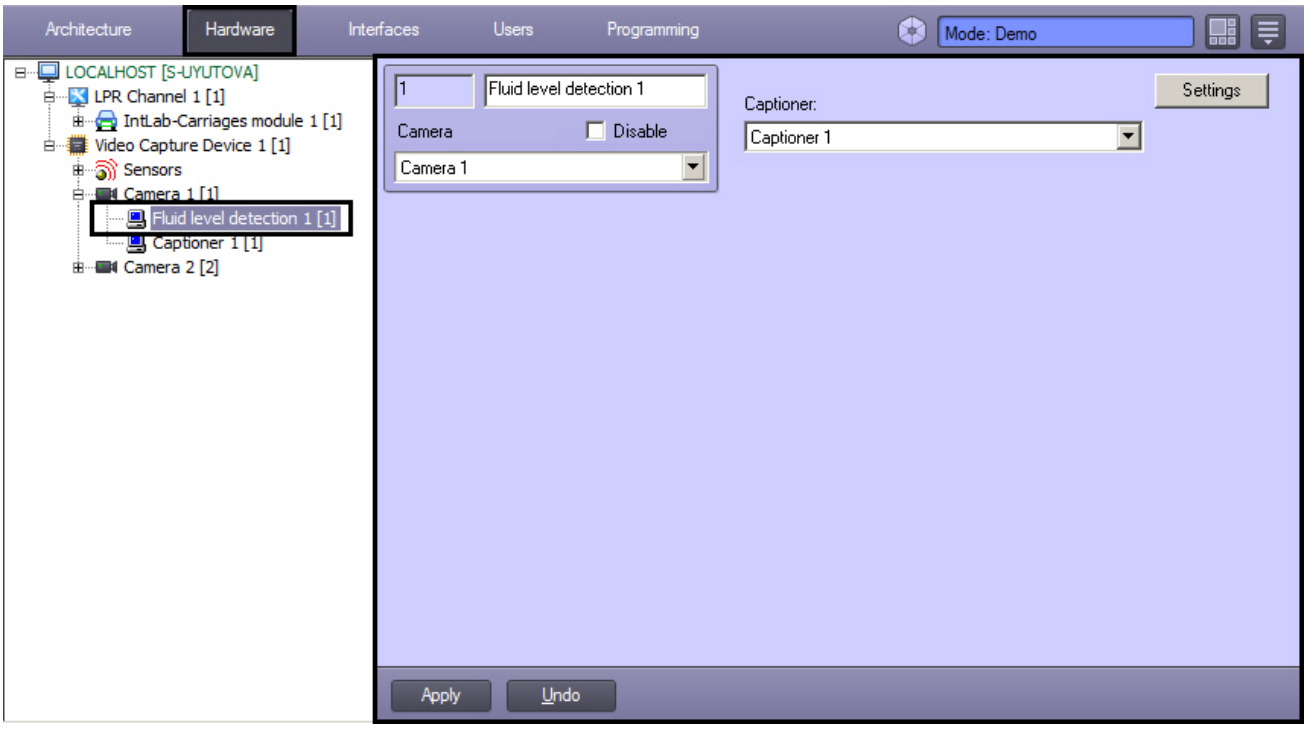
b. Click the **Stop video** button to capture the video image (1).
c. Click the **Area of interest** button (2).
d. Specify area on which smoke recognition will be detected (3).
e. Click the **OK** button (4).

7. Click the **Apply** button (6).

Configuring the **Fire detection** module is complete.

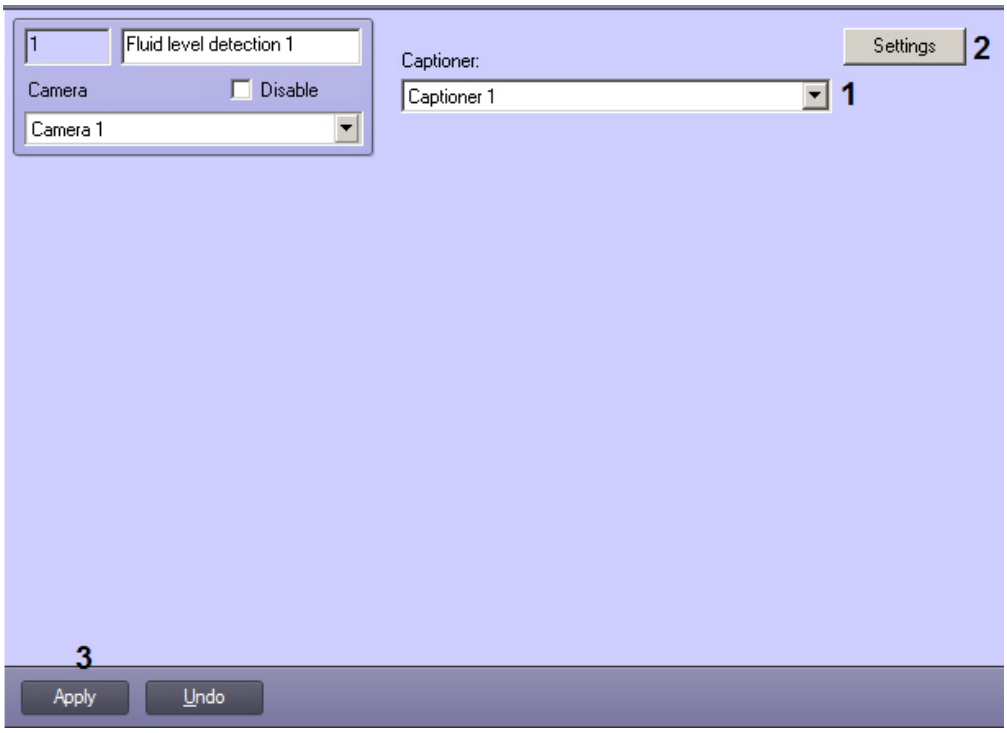
Configuring the «Fluid level detection» module

The *Fluid level detection* module is configured on the **Fluid level detection** object settings panel. This object is created under the **Camera** object on the **Hardware** tab of the **System settings** window.



The *Fluid level detection* module is configured as follows:

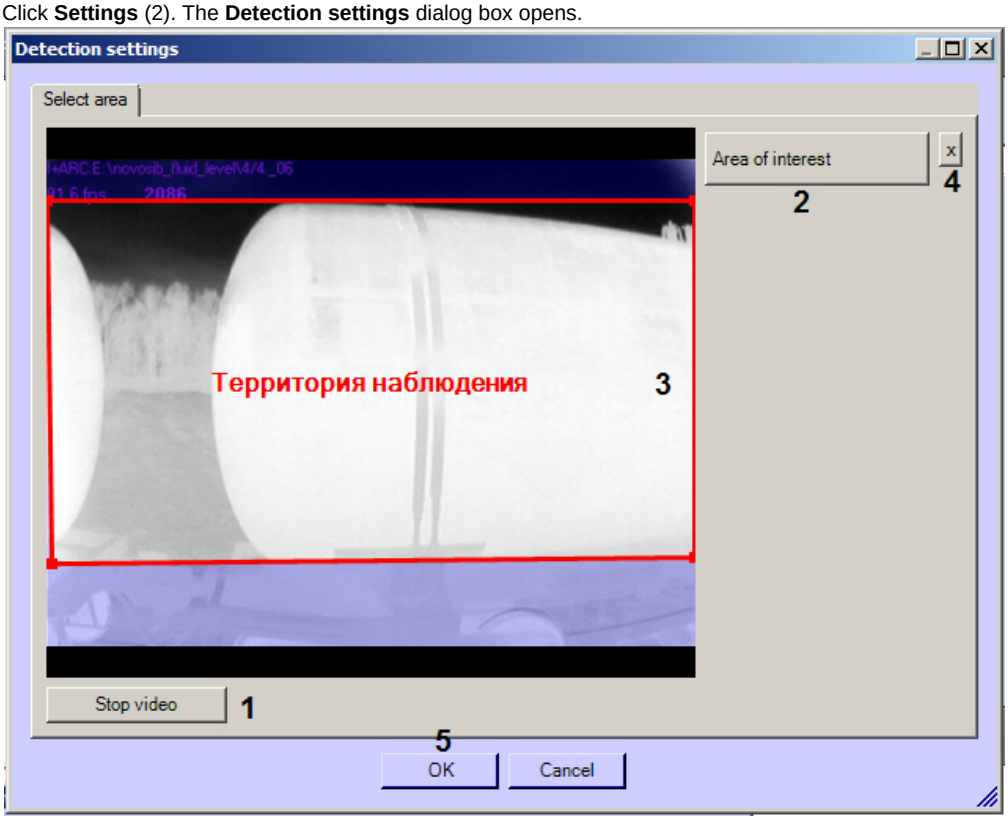
1. Go to the **Fluid level detection** object settings panel.



2. In the **Captioner** drop-down list select the **Captioner** object created under the same **Camera** object as the **Fluid level detection** object (1). This captioner will be used to overlay captions of fluid level onto the camera video image in the Video Surveillance Monitor.

> **Note.**
> For more info on how to create and configure the **Captioner** and **Monitor** objects refer to the *Intellect software. Administrator's Guide*. For details on operation of these objects refer to *Intellect software. Operator's Guide*. The most relevant versions of these documents are available in the AxxonSoft documentation repository).

3. Click **Settings** (2). The **Detection settings** dialog box opens.



4. Stop the frame in this settings window to set the area of interest. For that, click the **Stop video** button (1).
5. Click the **Area of interest** button (2).
6. Using the left mouse button select the four corners of the area on the captured video image (**3**). Only one area may be so designated. Upon selection of the area the remaining part of the video image will be dimmed.

Note.
To remove a selected area, click the **x** button (4).

7. Click **OK** (5).
8. Click **Apply** on the **Fluid level detection** object settings panel to save changes.

After the fluid level detection tool is configured, it can be assigned to the **IntLab-Carriages** module for joint operation with the *Auto-Intellect* s oftware (see also *Auto-Intellect software. Administrator's Guide*, the most relevant versions of this document is available in the AxxonSoft documentation repository).

Operating with detection modules

Operating the «Queue length detection» module

Obtaining traffic information in the area of interest

Rus

As reported in the **Event log** interface at specified intervals by the **Queue length detection** module.

Source	Event	Partition	Add. info	Date	Time
Camera 1	Alarm	Region 1		12-05-12	10:22:46
Queue Length Detection 1	Queue full		0	12-05-12	10:23:17
Queue Length Detection 1	Queue full		0	12-05-12	10:23:27
Queue Length Detection 1	Queue full		5	12-05-12	10:23:37
Queue Length Detection 1	Queue full		15	12-05-12	10:23:47
Queue Length Detection 1	Queue full		19	12-05-12	10:23:57
Queue Length Detection 1	Queue full		22	12-05-12	10:24:07
Queue Length Detection 1	Queue full		24	12-05-12	10:24:17
Queue Length Detection 1	Queue full		25	12-05-12	10:24:27
Queue Length Detection 1	Queue full		25	12-05-12	10:24:37
Queue Length Detection 1	Queue full		24	12-05-12	10:24:47
Queue Length Detection 1	Queue full		24	12-05-12	10:24:57
Queue Length Detection 1	Queue full		26	12-05-12	10:25:07
Queue Length Detection 1	Queue full		25	12-05-12	10:25:17

Each line item contains information about the number of people in the area of interest at that moment in time.

Note.
For more information on working with the **Event log** interface, see the Intellect system Administrator's Manual.

Generating a report on the traffic in the area of interest

Rus

Reports on the traffic in the area of interest are generated via the web-based *Report System*.

All necessary information is provided in the *web-based Report System User's Manual.*

Visualization of operating the Queue length detection

Rus

Visualization of operating the Queue length detection in the Monitor window can be realized with the help of user scripts on the base of **Titles** object. Detailed description of one of these scripts is presented in the 1.7 Examples of scripts on the Jscript language section of Programming guide (Jscript) document – Example 1. Visualization of operating the Queue length detection in the Video surveillance monitor.

Operating the «People counter detection» module

Obtaining information on number of visitors

Rus

The **People counter detection** module provides entries onto the **Event log** when visitors pass through the area of interest.

Source	Event	Partition	Add. info	Date	Time
Camera 1	Alarm	Region 1		12-05-12	10:29:35
People Counter Detection 1	Visitor exit			12-05-12	10:30:40
People Counter Detection 1	Visitor exit			12-05-12	10:30:43
People Counter Detection 1	Visitor exit			12-05-12	10:30:52
People Counter Detection 1	Visitor entrance			12-05-12	10:31:19
People Counter Detection 1	Visitor exit			12-05-12	10:31:42
People Counter Detection 1	Visitor entrance			12-05-12	10:31:43
People Counter Detection 1	Visitor exit			12-05-12	10:32:03
People Counter Detection 1	Visitor exit			12-05-12	10:32:15
People Counter Detection 1	Visitor entrance			12-05-12	10:32:32

When a visitor moves from sector 1 to sector 2, it is logged as **Visitor entry**; if the visitor moves from sector 2 to sector 1, it is logged as **Visitor exit**.

Note.
For more information on working with the **Event log** interface, see the Intellect system Administrator's Manual.

Generating a visitor report

Rus

Visitor reports are generated via the web-based *Report System*.

All necessary information is provided in the *web-based Report System Users's Manual.*

Visualization of operating the People counter detection

Rus

Visualization of operating the People counter detection in the Monitor window can be realized with the help of user scripts on the base of **Titles** object. Detailed description of one of these scripts is presented in the 1.7 Examples of scripts on the Jscript language section of Programming guide (Jscript) document – Example 2. Visualization of operating the People

counter detection in the Video surveillance monitor.

Operating the «Stopped vehicle detection» module

Rus

The **Stopped vehicle detection** module sends messages to the **Event log** when the stopped vehicle is detected in the surveillance area.

Source	Event	Partition	Add. info	Date	Time
Stopped cars detector 1	Stopped car			27-11-12	13:18:11
Stopped cars detector 1	Stopped car			27-11-12	13:18:15
Stopped cars detector 1	Traffic jam			27-11-12	13:18:20
Stopped cars detector 1	Traffic jam			27-11-12	13:18:21
Stopped cars detector 1	Stopped car			27-11-12	13:18:29
Stopped cars detector 1	Stopped car			27-11-12	13:18:32
Stopped cars detector 1	Stopped car			27-11-12	13:18:36
Stopped cars detector 1	Traffic jam			27-11-12	13:18:37
Stopped cars detector 1	Traffic jam			27-11-12	13:18:38
Stopped cars detector 1	Traffic jam			27-11-12	13:18:41

Note.
For more information on working with the **Event log** interface, see the Intellect system Administrator's Manual.

When a traffic jam is detected, it is logged as a **Traffic jam** event.

If a stopped car is detected in the surveillance area, it is logged as a **Stopped car** event.

Note.
The independent_zone<> parameter of the STOPPEDCAR (**Stotted car**) event contains the id number of a zone where the stopped car was detected. This parameter can be used in macros, programs and scripts. More details on these tools are available in the *Intellect Software. Administrator's Guide*, *Intellect Software. Programming Guide* and *Intellect Software. Programming Guide (JScript)*. The most recent versions of these documents are available at AxxonSoft documentation repository.

Operating the «Glow detection» module

Rus

The **Glow detection** module sends messaged to the **Event viewer** when the light source is detected or lost in the surveillance area.

Source	Event	Partition	Add. info	Date	Time
Glow detection 1	Disabled		3	07-05-13	10:14:55
Glow detection 1	Enabled		1	07-05-13	10:14:56
Glow detection 1	Disabled		2	07-05-13	10:14:56
Glow detection 1	Disabled		3	07-05-13	10:14:56
Glow detection 1	Disabled		1	07-05-13	10:14:57
Glow detection 1	Disabled		2	07-05-13	10:14:57
Glow detection 1	Disabled		3	07-05-13	10:14:57
Glow detection 1	Enabled		2	07-05-13	10:14:59

When a light source is detected (enabled), it is logged as an **Enabled** event. If a light source is lost (disabled), it is logged as a **Disabled** event. The number of surveillance area from which the event received is displayed in the **Add. Info** column.

Operating the «Heat map detection»

Generating a report on the basis of Heat map detection

Rus

Reports are generated via the web-based *Report System*.

All necessary information is provided in the *web-based Report System Users's Manual.*

Operating the «Detection of moving against crowd flow»

Rus

The **Detection of moving against crowd flow** module sends the **Moving against crowd flow** message to the **Event viewer** when the objects moved against a crowd are recognized in the monitored area.

Source	Event	Region	Add. info	Date	Time
Detection of moving against crowd flow 1	Moving against crowd flow		0	01-10-15	16:27:52
Detection of moving against crowd flow 1	Moving against crowd flow		0	01-10-15	16:28:07

Note.
For more information on working with the **Event viewer** interface, see the Intellect system Operator's Manual.

Operating the «Sweethearting detection» module

Rus

The **Sweethearting detection** module sends the message to the **Event viewer** interface window in case a scanned good appears in the area of interest.

Detailed information about working with *Event viewer* interface window is presented in the *Intellect software package. Operator's Guide*. Current version of this document is available in the AxxonSoft documentation repository.

Generating sweethearting reports

Rus

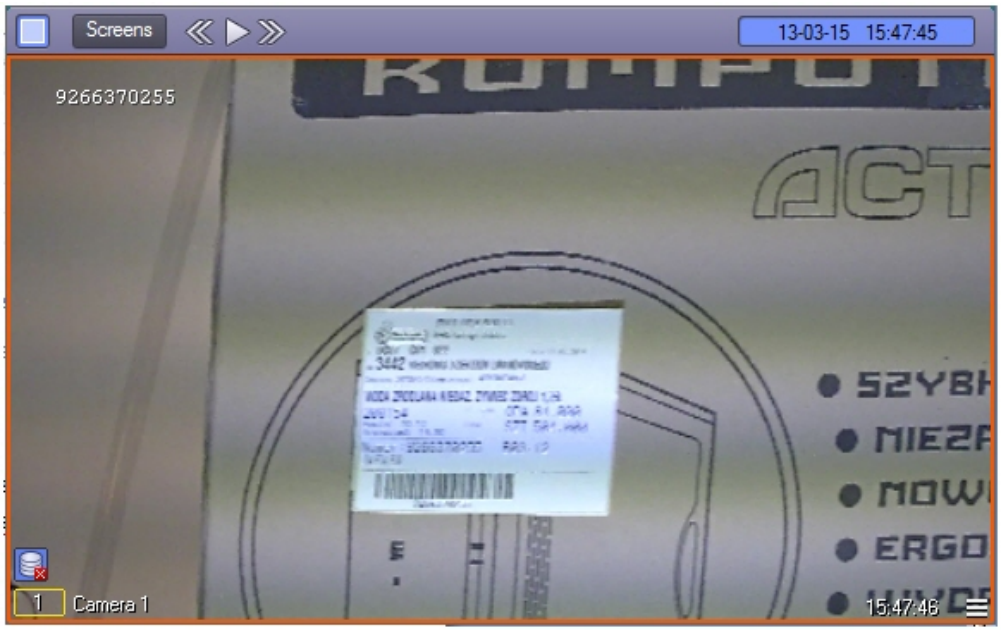
Sweethearting reports are generated via the web-based *Report System*.

All necessary information is provided in the *Intellect Web Report System. User Guide.*

Operating the «Barcode detection» module

Rus

In case of recognizing barcode or QR-code in the area of interest the result of the **Barcode detection** operation will be displayed in the **Monitor** interface objects using the **Captioner** object.



Search by detected barcodes is performed using the **Search by captions** interface object.

Operating the «Train detection» module

Rus

The **Train detection** module sends messages to the **Event viewer** interface window in case of train recognizing in the monitored area or in case of train disappearance from the monitored area.

Source	Event	Region	Add. info	Date	Time
Train detection 1	Train arrived			19-10-15	12:44:53
Train detection 1	Train departed			19-10-15	12:45:51
Train detection 1	Train arrived			19-10-15	12:47:38
Train detection 1	Train departed			19-10-15	12:48:37
Train detection 1	Train arrived			19-10-15	12:50:24
Train detection 1	Train departed			19-10-15	12:51:23

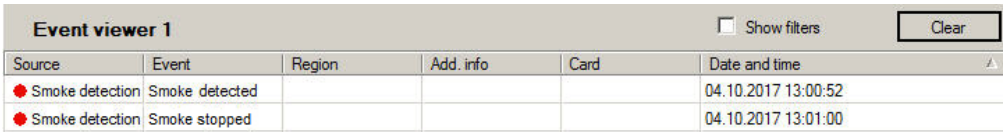
When the train is recognized, it is logged as an **Train arrived** event. When the train is disappeared, it is logged as an **Train departed** event.

Operating the "Smoke detection" module

Rus

The **Smoke detection** module sends **Smoke detected** messages to the **Event viewer** interface window in case of smoke recognizing in the monitored area. When smoke disappears in the monitored area, the **Smoke stopped** event is displayed. If smoke is permanently present in the monitored area, only event of smoke detection is displayed. If the detection tool is configured correctly, no other events from it comes until smoke disappearance. See also Configuring the "Smoke detection" module.

Detailed information about working with *Event viewer* interface window is presented in the *Intellect software package. Operator's Guide*. Current version of this document is available in the AxxonSoft documentation repository.



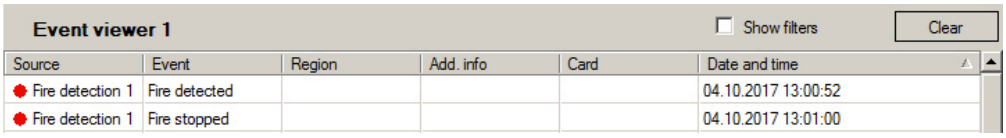
Operating the "Fire detection" module

Rus

The **Fire detection** module sends **Fire detected** messages to the **Event viewer** interface window in case of fire recognizing in the monitored area. When fire disappears in the monitored area, the **Fire stopped** event is displayed. If fire is permanently present in the monitored area, only event of fire detection is displayed. If the detection tool is configured

correctly, no other events from it comes until fire disappearance. See also Configuring the "fire detection" module.

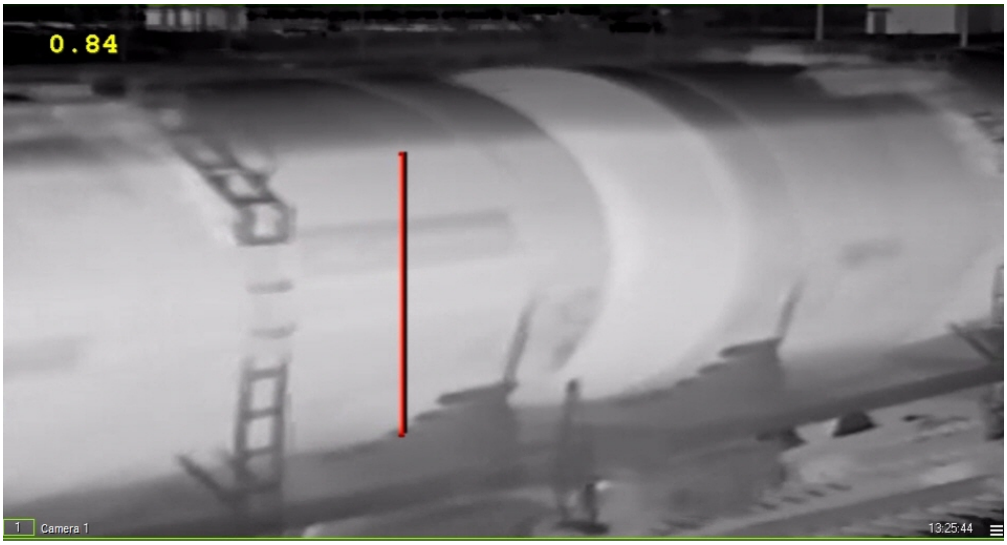
Detailed information about working with *Event viewer* interface window is presented in the *Intellect software package. Operator's Guide*. Current version of this document is available in the AxxonSoft documentation repository.



Operating the «Fluid level detection» module

Fluid level detection is operated in the **Vehicle tracer** interface window which is the part of the *Auto-Intellect* software. For details on operation of this object refer to the *Auto-Intellect. Operator's Guide* (the most relevant versions of this document is available in the AxxonSoft documentation repository).

In addition, a script can be created that allows drawing a vertical line on the video image in the Surveillance Window, showing the level of the fill:



For details on scripts refer to the *Intellect software. Programming Guide (JScript)* (the most relevant versions of this document is available in the AxxonSoft documentation repository).

Script text is given below. After copying, replace cam (camera identifier) and x1, x2, y1, y2 parameters with actual values.

```
if(Event.SourceType == "FLUID_DETECTOR" && Event.SourceId == "1" && Event.Action ==
"FLUID_ACTION")
{
 var L = Event.GetParam("param0");
 L=100-L*100; //the L parameter sets the line height
 DoReactStr("MONITOR","","SET_MARKRECT","cam<"+cam+">,color<255>,id<"+cam+">,x1<"+
x1+">,x2<"+x2+">,y1<"+L+">,y2<"+y2+">");
 //  координаты x1, x2, y1, y2 set line position in the Surveillance window
}
```

Appendix 1. Debug window

General information

Rus

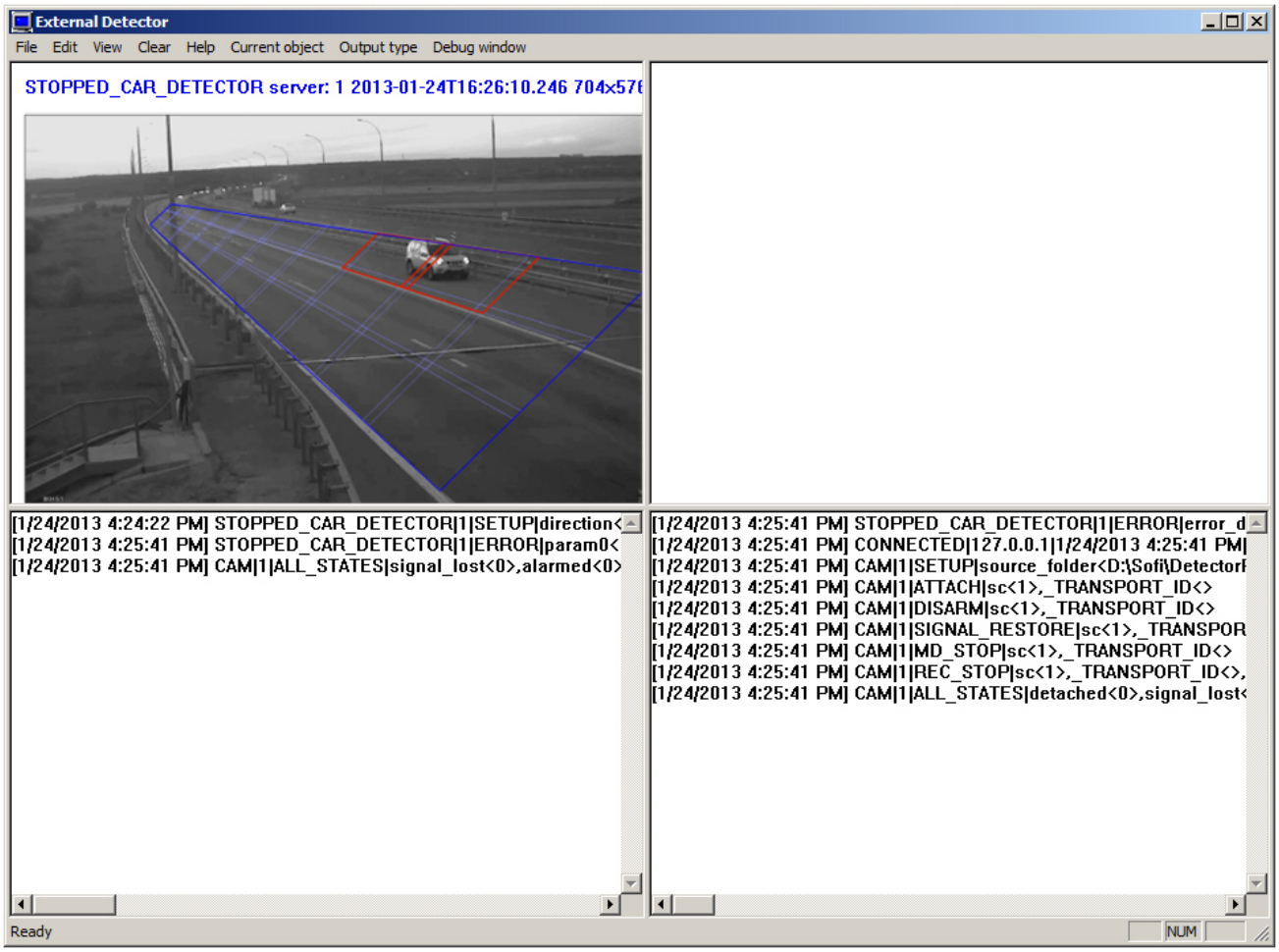
The debug window is designed to control events received from detections registered in the system. Besides, the function of displaying the detection area above the video image received from camera is available in the debug window.

Start the debug window

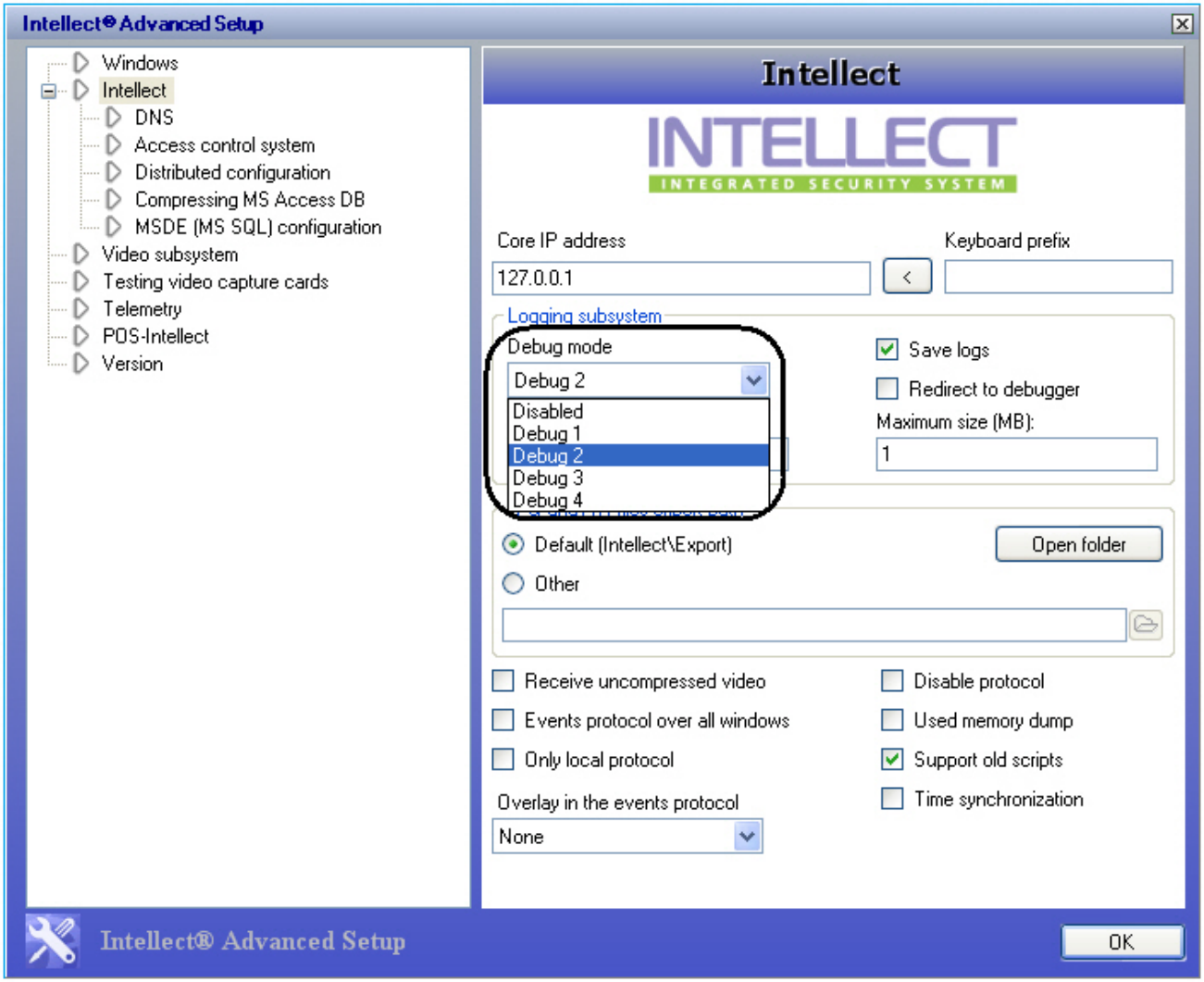
Rus

Start of the debug window is performed from the Windows task bar. Double click the left mouse button on the  icon to start the debug window.

As a result the External detector window is displayed.



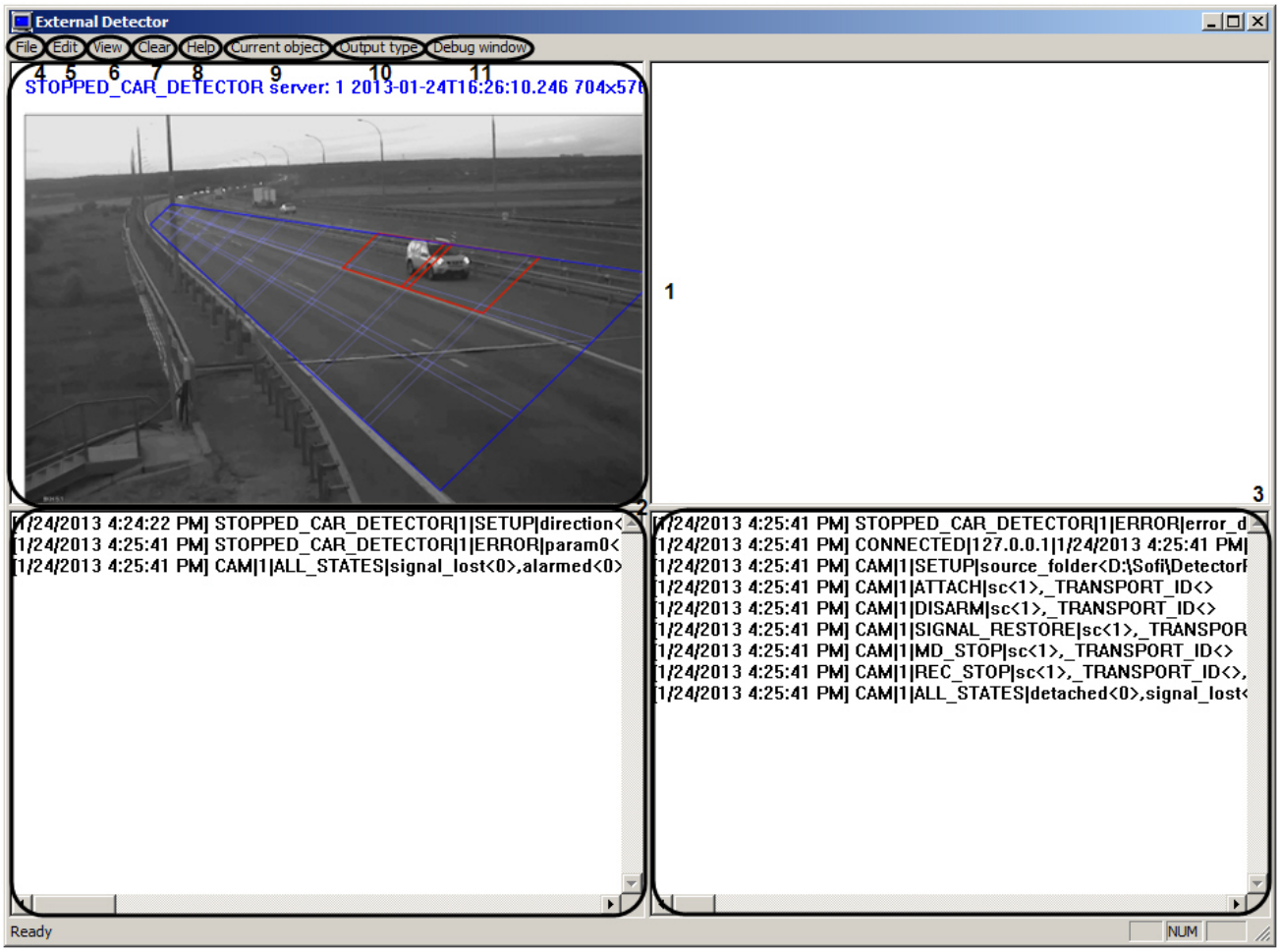
Attention!
Start the debug window is possible only if the **Debug** mode is enabled with the help of *Intellect Advanced Setup* u tility.



Interface of debug window

Rus

The debug window contains the interface components described in the following table.



No	Name	Description
1	Preview area	Element is designed for displaying the detection area above the video image. Besides detection area the specific detection settings are displayed: • the person size for queue length detection and people counter detection; • detection zones for stopped vehicle detection.
2	Area of Events viewing from detectors	Events from detectors registered in the system are displayed in this area.
3	Area of system events viewing	All system events except events from detectors are displayed in this area.
4	**File** menu	Access to the Exit function**.**
5	**Edit** menu	Access to the operations with text.
6	**View** menu	Access to the function of displaying and hiding the status bar.
7	**Clear** button	Clear areas of events viewing.
8	**Help** menu	Access to the information about program.
9	**Current object** menu	Selection of a detector settings of which are displayed in the preview area. The detector selection have an impact on the camera from which the video stream is used for displaying in the preview window.