



Operator's Guide

Auto PSIM 2.0 (english)

Last update 01/13/2026

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1 The list of terms used

1. The Guide – this document.
2. The system – the *Auto PSIM* software system.
3. Server – computer with installed *Auto PSIM* software package.
4. Traffic – the flow of vehicles.
5. Vehicle Tracer – the interface object designed for viewing the recognized LP numbers, the types and speeds of vehicles, as well as for searching the LPR database and creating reports for specific time periods.
6. Traffic Monitor – the interface object designed for monitoring vehicle movement.
7. fps – frame frequency. Number of video stream frames processed by software per 1 second.

2 Operator's Guide. Introduction

On page:

- [The purpose and structure of the Guide](#)
- [The purpose of the Auto PSIM system](#)
- [Recommendations for using the Auto PSIM system](#)

2.1 The purpose and structure of the Guide

The Guide is an informational reference designed for users of the *Auto PSIM* system with Operator access rights responded for operation with *Auto PSIM* software and corresponding interface objects.

The Guide contains the following material:

1. General description of the *Auto PSIM* software system.
2. How to use the *Auto PSIM* software system.
3. Description of the user interface of the *Auto PSIM* system.

2.2 The purpose of the Auto PSIM system

The *Auto PSIM* software system is designed for automated traffic monitoring and control, and has the following functionality:

1. License plate number recognition.
2. Centralized events registration and processing, generation of notifications and control commands according to flexible algorithms.
3. Searching matches between the recognized plate number and the numbers in the database connected to *Auto PSIM*.
4. Creating the photo and video archive.
5. Determining the overall traffic parameters and the parameters of individual vehicles.
6. Software scalability.

2.3 Recommendations for using the Auto PSIM system

The *Auto PSIM* software is installed as an extension to the Axxon PSIM software package.

For proper operation of the *Auto PSIM* system, please follow these recommendations:

1. Follow the job description accurately.
2. Use the system for the intended purpose only.
3. Do not use the computer with *Axxon PSIM* installed, to run other software which is not part of the *Axxon PSIM* package.

3 Using the Auto PSIM software system

3.1 Starting and closing the system

Please check the working condition of all hardware components – connections, cameras, etc – prior to starting the system.



The system can be started using one of the following methods:

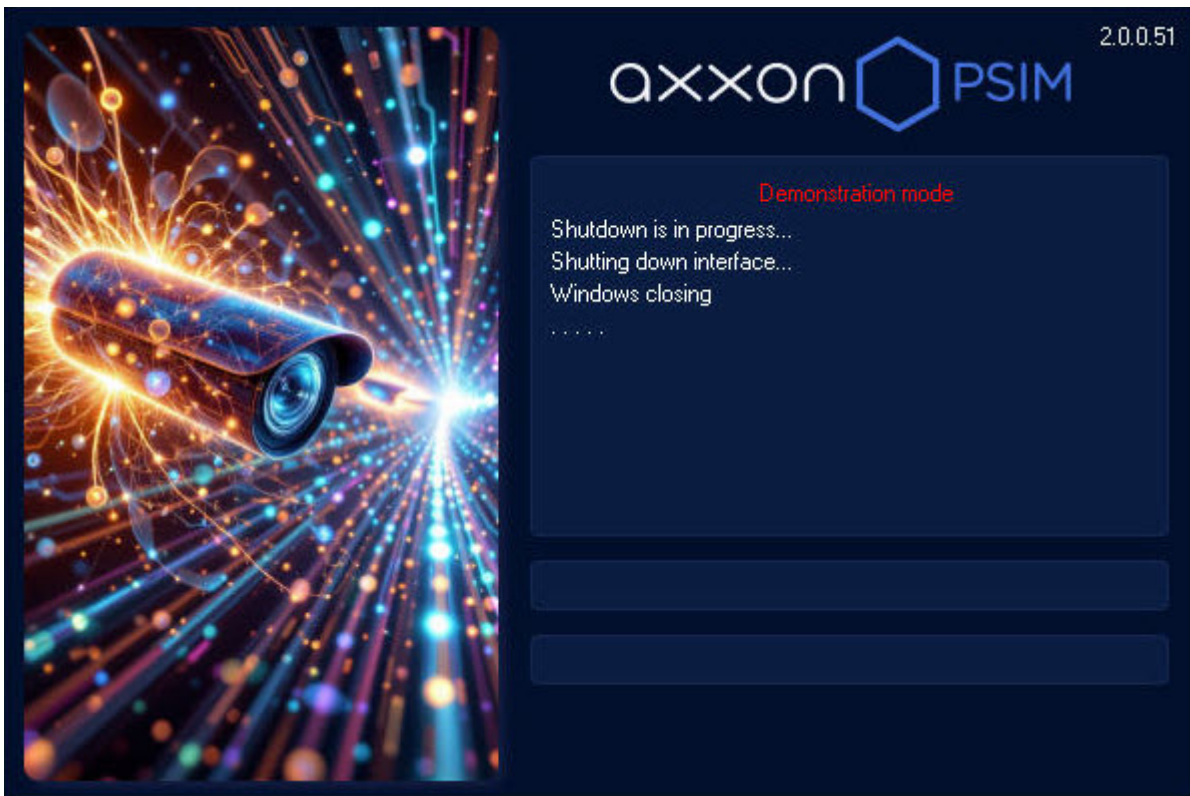
1. Automatically. The system starts automatically after the operating system boots up.
2. Manually. To start the system manually, in the **Start** menu, select **Programs -> Axxon PSIM -> Client Workstation**, or use the corresponding shortcut on the Desktop.

Access to the system can be protected by a password. In this case, enter your password to start the system.

To shut down the system, do the following:

1. Point the mouse to the upper right corner of the screen, the main control panel will open.
2. Click the icon on the panel.
3. Select **Shutdown** in the menu that opens.

The shut down process will start, the password will be required if set.



Note.

The system can be set up to forbid the shut down. Then, the **Shutdown** item is not present in the menu.

3.2 Working with the Traffic analysis monitor interface object

3.2.1 General description of the traffic analysis monitor operation

On the page:

- [The Statistics tab](#)
- [The Events tab](#)

The **Traffic analysis monitor** window has two tabs: **Statistics** and **Events**.

The Statistics tab

This tab displays the general statistics by the event types, including the number and type of vehicles from the *Traffic analysis* module.

Traffic analysis monitor

Statistics Events

RR channel 1

Type event	Event	Lane 1	Lane 2	Lane 3	Lane 4	Lane 5	Lane 6	Lane 7
- Traffic violations								
	Entered the oncoming lane	0	0	0	0	0	0	0
	Road accident	0	0	0	0	0	0	0
	Speeding	0	0	0	0	0	0	0
- Other events								
	Traffic jam	0	0	0	0	0	0	0
	Stop	0	0	0	0	0	0	0
	Speed drop	0	0	0	0	0	0	0
	Lost cargo	0	0	0	0	0	0	0
- Number of vehicles								
Light								
	Car	0	0	0	2	6	5	5
Average								
	Mini bus	0	0	0	0	0	1	0
	Truck up 5 tons	0	1	0	0	0	1	0
Dump truck								
	Three axle dump truck	0	0	1	0	0	0	0

Print Archive Clear

Traffic analysis monitor

Statistics Events

RR channel 1

Type event	Event	Lane 1	Lane 2	Lane 3	Lane 4	Lane 5	Lane 6	Lane 7
	Traffic jam	0	0	0	0	0	0	0
	Stop	0	0	0	0	0	0	0
	Speed drop	0	1	0	0	0	1	0
	Lost cargo	0	0	0	0	0	0	0
- Number of vehicles								
Light								
	Car	0	1	4	8	16	9	7
Average								
	Mini bus	0	0	0	1	0	5	1
	Truck up 5 tons	0	2	1	0	0	3	0
Dump truck								
	Three axle dump truck	0	0	2	0	0	0	1
Truck								
	Three axle truck	0	1	0	0	0	0	0
Mega Large								
	Mega large bus	0	0	0	0	0	1	0

Print Archive Clear

The window contains the **Type event**, **Event** columns, as well as all traffic lanes created at the stage of the road marking (for more details, see [Specifying the road marking settings](#)).

There are three buttons below the window: **Print** (prints a statistics), **Archive** (switches to the camera archive), and **Clear** (removes events from the list of the **Traffic analysis monitor** window).

When you use the **Archive** button, you can switch to the events archive from a camera, where you can configure the period and filters by the detector, by an event, and by the vehicle of this detector.

Use the **Monitoring** button if you want to switch to the monitoring mode from the archive viewing mode.

Traffic analysis monitor

Period from: 12/30/2025 12:00:00 AM
 to: 12/30/2025 05:47:23 PM

RR channel 1

Type event	Event	Lane 1	Lane 2	Lane 3	Lane 4	Lane 5	Lane 6	Lane 7
	Lost cargo	0	0	0	0	0	0	0
- Number of vehicles								
Average								
	Mini bus	0	1	0	1	0	6	1
	Truck up 5 tons	0	2	1	0	0	4	0
Dump truck								
	Three axle dump truck	0	0	2	0	0	0	1
Light								
	Car	0	1	4	8	19	11	8
Mega Large								
	Mega large bus	0	0	0	0	0	1	0
Truck								
	Three axle truck	0	1	0	0	0	0	0

Filters

Detection	Events
<input checked="" type="checkbox"/> RR channel 1	<input checked="" type="checkbox"/> Entered the oncoming lane
	<input checked="" type="checkbox"/> Traffic jam
	<input checked="" type="checkbox"/> Road accident
	<input checked="" type="checkbox"/> Stop
	<input checked="" type="checkbox"/> Speed drop
	<input checked="" type="checkbox"/> Lost cargo
	<input checked="" type="checkbox"/> Speeding
Vehicle	
	<input checked="" type="checkbox"/> Average:Mini bus
	<input checked="" type="checkbox"/> Average:Truck up 5 tons
	<input checked="" type="checkbox"/> Dump truck:Three axle dump truck
	<input checked="" type="checkbox"/> Light:Car
	<input checked="" type="checkbox"/> Mega Large:Mega large bus
	<input checked="" type="checkbox"/> Truck:Three axle truck

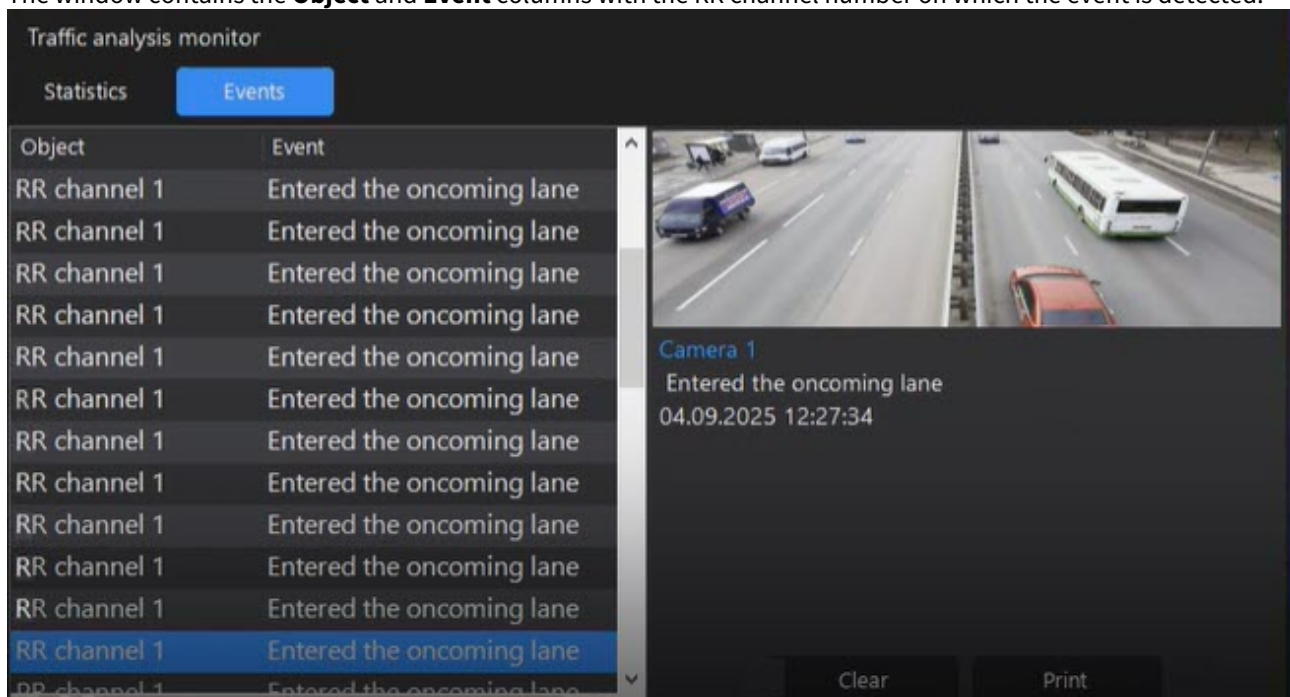
If you use the **Refresh** button, the data included in the sample is updated. The **OK** button is responsible for event filtering, and the **Cancel** button for filter resetting.

You can display the statistics data on the screen or print the **Statistics of violations, events and vehicle access** report by using the **Print** button (for more details, see [Viewing and printing the event statistics in the traffic analysis monitor window](#)).

The Events tab

This tab displays the list of events received from a camera.

The window contains the **Object** and **Event** columns with the RR channel number on which the event is detected.



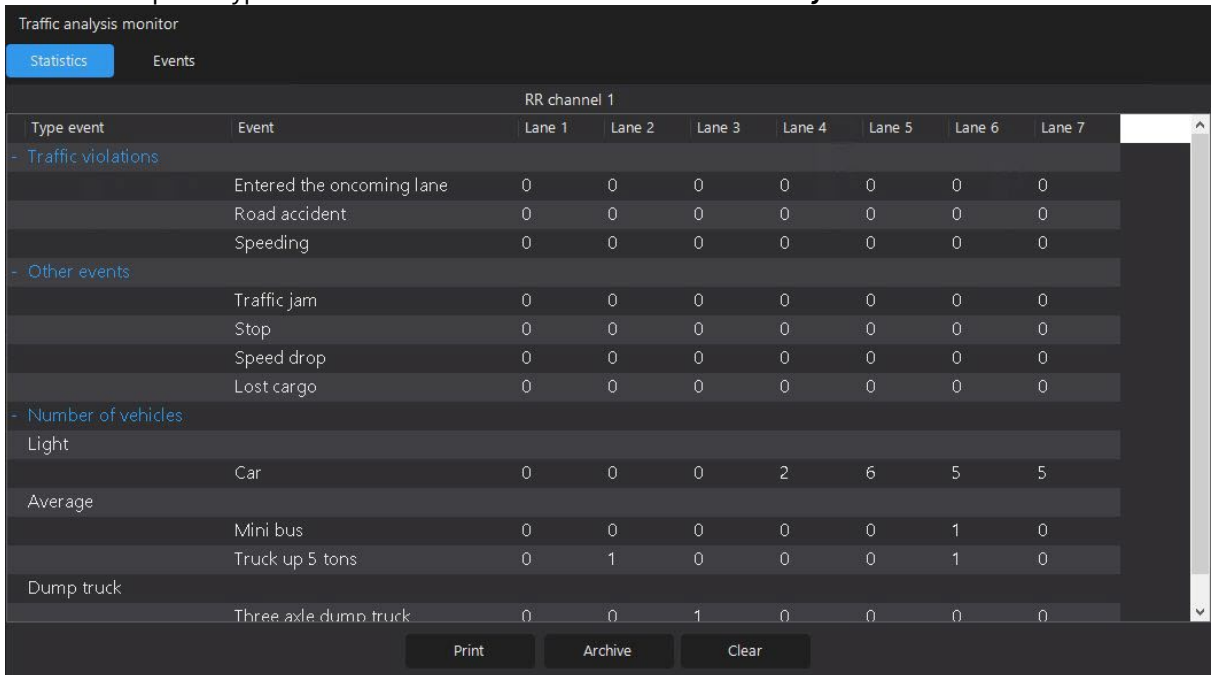
When you select an event from the list on the right side of the window, the details of this event are displayed: the camera name, the lane name, the event name, the date in the DD.MM.YYYY format, and the time of the event detection, as well as the photo from a camera that detects an event.

There are two buttons below the window: **Clear** to remove the information about the selected event from the right part of the window and **Print** to view and print a report by the selected event (for more details, see [Viewing and printing the event information in the traffic analysis monitor window](#)).

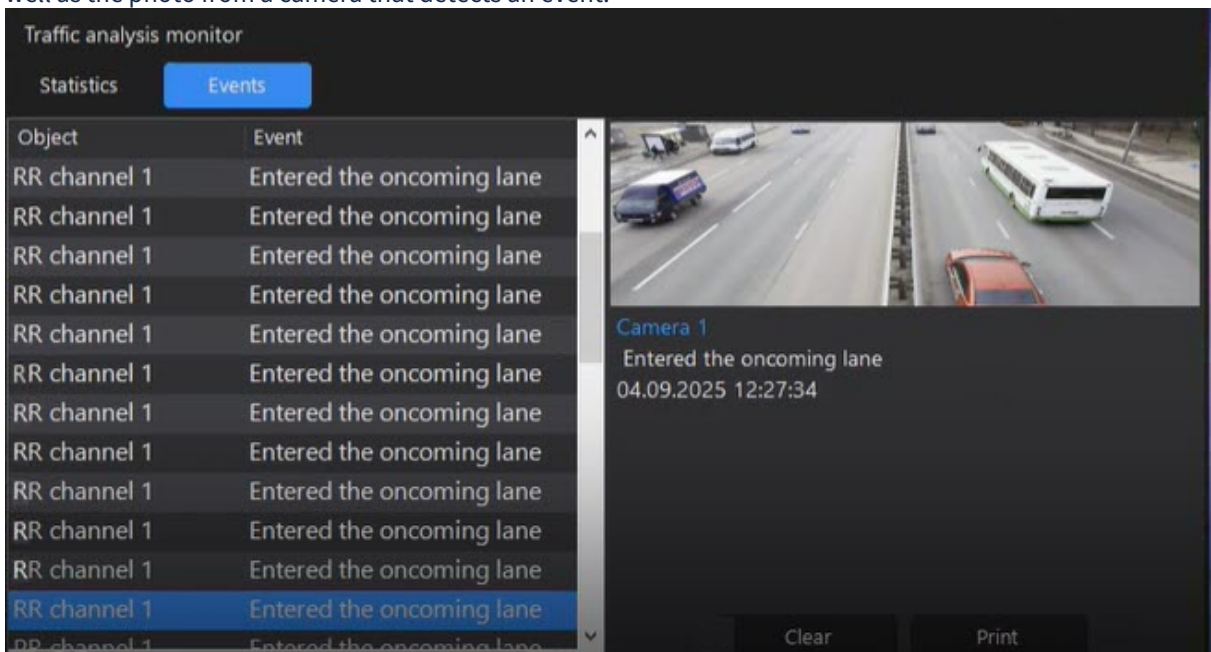
3.2.2 Viewing and printing the event information in the traffic analysis monitor window

You can print and view the event information received from a camera in the **Traffic analysis monitor** interface window. To do this, do the following:

1. Select the required type of event on the **Statistics** tab in the **Traffic analysis monitor** window.



2. Go to the **Events** tab.
3. Select an event from the list, the information of which you want to display.
As a result, the information about this event is displayed on the right side of the window: the camera name, the lane name, the event name, the date in the DD.MM.YYYY format, and the time of the event detection, as well as the photo from a camera that detects an event.



4. Click the **Print** button.
As a result, the **Report on event** window for viewing a report opens:

Report on event

Detection: RR channel 1
Date and time: 03.09.2025 17:55:39
Lane:
Analytics: Speed drop
Camera: Camera 1



You can view it and, if necessary, print it by using the print button located on the top panel of the toolbar (for more details, see [The program for viewing reports of the traffic analysis monitor](#)).

Viewing and printing the information about the event detected by a camera is complete.

3.2.3 Viewing and printing the event statistics in the traffic analysis monitor window

You can print and view the event statistics received from a camera in the **Traffic analysis monitor** interface window. To do this, do the following:

1. Go to the **Statistics** tab in the **Traffic analysis monitor** window.
2. Select the statistic data that you want to display:
 - a. If you need the monitoring data, select the event type from the list, the statistics of which you want to display in a report. If you don't select anything, a report is built by all event types.

Traffic analysis monitor

Statistics Events

RR channel 1

Type event	Event	Lane 1	Lane 2	Lane 3	Lane 4	Lane 5	Lane 6	Lane 7
- Traffic violations								
	Entered the oncoming lane	0	0	0	0	0	0	0
	Road accident	0	0	0	0	0	0	0
	Speeding	0	0	0	0	0	0	0
- Other events								
	Traffic jam	0	0	0	0	0	0	0
	Stop	0	0	0	0	0	0	0
	Speed drop	0	0	0	0	0	0	0
	Lost cargo	0	0	0	0	0	0	0
- Number of vehicles								
Light								
	Car	0	0	0	2	6	5	5
Average								
	Mini bus	0	0	0	0	0	1	0
	Truck up 5 tons	0	1	0	0	0	1	0
Dump truck								
	Three axle dump truck	0	0	1	0	0	0	0

Print Archive Clear

Traffic analysis monitor

Statistics Events

RR channel 1

Type event	Event	Lane 1	Lane 2	Lane 3	Lane 4	Lane 5	Lane 6	Lane 7
	Traffic jam	0	0	0	0	0	0	0
	Stop	0	0	0	0	0	0	0
	Speed drop	0	1	0	0	0	1	0
	Lost cargo	0	0	0	0	0	0	0
- Number of vehicles								
Light								
	Car	0	1	4	8	16	9	7
Average								
	Mini bus	0	0	0	1	0	5	1
	Truck up 5 tons	0	2	1	0	0	3	0
Dump truck								
	Three axle dump truck	0	0	2	0	0	0	1
Truck								
	Three axle truck	0	1	0	0	0	0	0
Mega Large								
	Mega large bus	0	0	0	0	0	1	0

Print Archive Clear

b. If you need the archive data from a camera, then

- i. Go to the archive by clicking the **Archive** button.

Traffic analysis monitor		RR channel 1						
Type event	Event	Lane 1	Lane 2	Lane 3	Lane 4	Lane 5	Lane 6	Lane 7
-	Number of vehicles							
Average	Mini bus	0	1	0	1	0	6	1
	Truck up 5 tons	0	2	1	0	0	4	0
Dump truck	Three axle dump truck	0	0	2	0	0	0	1
Light	Car	0	1	4	8	19	11	8
Mega Large	Mega large bus	0	0	0	0	0	1	0
Truck	Three axle truck	0	1	0	0	0	0	0

- ii. In the **Period from** and **to** fields, specify the beginning and ending of the data receiving period using arrows and a calendar, respectively.
- iii. Click the **Filters** button to filter the data by the detector, as well as by an event and by the vehicle of this detector.

- iv. To save the selection, click the **OK** button; to reset, click the **Cancel** button.
 - v. Click the **Refresh** button.
3. Click the **Print** button.
As a result, the window for viewing the **Statistics of violations, events and vehicle access** report opens:

doc - Preview report

File View Navigate Document Help

99 %

Statistics of violations, events and vehicle access

30 December 2025

RR channel 1

Type event	Lane 1	Lane 2	Lane 3	Lane 4	Lane 5	Lane 6	Lane 7
Traffic violations							
Entered the oncoming lane	0	0	0	0	0	0	0
Road accident	0	0	0	0	0	0	0
Speeding	0	0	0	0	0	0	0
Other events							
Traffic jam	0	0	0	0	0	0	0
Stop	0	0	0	0	0	0	0
Speed drop	0	1	0	0	0	1	0
Lost cargo	0	0	0	0	0	0	0
Number of vehicles							
Light							
Car	0	2	8	18	38	23	16
Average							
Mini bus	0	2	0	2	0	10	2
Truck up 5 tons	0	3	2	0	0	7	0
Dump truck							
Three axle dump truck	0	0	4	0	0	0	2
Truck							
Three axle truck	0	2	0	0	0	0	0
Small biaxial bus	0	0	0	0	0	1	0
Mega Large							

Page 1 of 2 - Zoom 99%

You can view and print a report using the print button located on the top panel of the toolbar (for more details, see [The program for viewing reports of the traffic analysis monitor](#)).

Viewing and printing the information about the statistics from a camera is complete.

3.3 Using the Vehicle Tracer interface object

3.3.1 Introduction

The **Vehicle Tracer** interface object includes the following components:

1. **On-line monitor** – is designed for displaying the data about identified plates and for handling alarms.
2. **Events monitor** – displays video frame with a vehicle, which plate is being recognized at the moment and also identified number and speed.
3. **Alarm window** – is designed for displaying the data about vehicles in case of coincidence of recognized plates with plates which are stored on the external orientation database.

Note.

Events monitor and **Alarm window** components are optional and aren't displayed with corresponding system settings (see the document [Auto PSIM software package. Administrator's Guide](#)).

3.3.2 Viewing the data about passing vehicle

You can see the passing vehicle data in the **Events monitor** window.



Note

The **Events monitor** component may not be displayed due to the corresponding system settings.

In the **Events monitor** window, the following data is displayed:

1. License plate recognizer (the name of the corresponding **LPR channel** object) (**1**);
2. An image of a vehicle with a caption in the black area, which can contain the following data (**2**):
 - a. Date and time of receiving the vehicle data.
 - b. Vehicle license plate.
 - c. Country.
 - d. Type of license plate (only for the *Vehicle type recognition module*, *RR vendor and model recognizer module*, or *AR MMR module*).
 - e. Vehicle speed.
 - f. Vehicle direction.
 - g. Speed, permitted on the controlled road area.
 - h. ID of speed detector.
 - i. Control point—name of the camera that captured the vehicle.
 - j. GPS coordinates.
 - k. Vehicle vendor (only for the *Vehicle type recognition module*, *RR vendor and model recognizer module*, or *AR MMR module*).
 - l. Vehicle model (only for the *Vehicle type recognition module*, *RR vendor and model recognizer module*, or *AR MMR module*).
 - m. Vehicle color (only for the *Vehicle type recognition module*, *RR vendor and model recognizer module*, or *AR MMR module*).
 - n. Other information about the speed detector (see [Setting up the frame sign parameters](#)).

Note

To change the composition of the titles, use the **TitleFields** registry key. Titles are specified in the format "date_and_time, number, country, speed, direction, allowed_speed, device_number, place_control, gps, type, make, model, color" case-insensitively (for details, see [Registry keys reference guide](#), for more information on working with the registry, see [Working with Windows OS registry](#)).

You can use the parameters of the **FontSize.N** and **TimestampFontSize.N** registry keys to change the size of the black area containing captions and their font (see [Registry keys reference guide](#). For more information on working with the registry, see [Working with Windows OS registry](#)).

3. Recognized license plate and the license plate image (3).

Note

- If the license plate hasn't been recognized, the **UNDEFINED** message will be displayed in the field.
- If the characters of the recognized license plate are displayed incorrectly, it is necessary to change the font of the recognized license plate to the one that will contain all the characters of the corresponding country license plates (see [Setting up the font of the recognized LP number](#)).
- The image of the recognized license plate is compressed or stretched to fit the red frame. By double-clicking in a separate window, you can view the image of a recognized license plate. The set window sizes are saved after you restart the computer.

Note

- In case the *AUTO-Uragan* or *AR-Auto* module is used for recognition, allowed speed, vehicle speed and ID of speed detector are displayed only if the *Speed traps server* module is connected.
- In case the alarm is registered for a vehicle (overspeeding, and/or identification of a plate in the external plates database), the field with a video frame is highlighted in red (2).

3.3.3 Viewing the data about the last identified vehicle

The data about the last identified vehicle is displayed in the **Last event** group of the **Online monitor** window (left area of this window).

ONLINE MONITOR Server status



VEQ9698 WEQ 9698

Parameter	Value
Recognizer	LPR channel 1
Country	Malaysia
Recognition time	2022-10-24 10:48:35
Speed	37 km/h
Speed limit	60 km/h
Validity	69 %
Direction	To camera
Regional code	698
Camera	Camera 1

Cars

Processed Hide
Show All
Trace
Alarm
Accept



AHE1612

LPR channel 1
2022-10-24 10:44:40



VV9273

LPR channel 1
2022-10-24 10:44:37



WRS582

LPR channel 1
2022-10-24 10:44:34



WXT189

LPR channel 1
2022-10-24 10:44:32

Print
Search
Video archive
Filter
Comment

Note

If there is an event selected in the identified vehicles protocol or in the alarms protocol, the data about this event will be displayed in the **Last event** group (see [Viewing the identified vehicles protocol](#), [Viewing the alarms protocol](#)).

To view the data about the last identified vehicle, do the following:

1. A frame with a vehicle and a caption is displayed in the area (1).

ONLINE MONITOR



Parameter	Value
Recognizer	LPR channel 1
Country	Malaysia
Recognition time	2022-10-24 10:48:35
Speed	37 km/h
Speed limit	60 km/h
Validity	69 %
Direction	To camera
Regional code	698
Camera	Camera 1

2. The identified license plate and license plate image are displayed in the area (2).

Note

- If a license plate hasn't been recognized, **NOT DETECTED** message is displayed in the area.
- If the characters of the recognized license plate are displayed incorrectly, it is necessary to change the font of the recognized license plate to the one that contains all characters of the corresponding country license plates (see [Setting up the font of the recognized LP number](#)).
- Image of the recognized license plate is compressed or stretched to fit the red border.

3. Depending on the available data, the following information can be displayed in the area (3):

- a. In the **Recognizer** field, the name of the license plate recognizer is displayed (the name of the corresponding **LPR channel** object).
- b. In the **Country** field, the country to which the identified license plate belongs is displayed.

Note

This field is not displayed when the *IV* module is used for recognition.

- c. In the **Recognition time** field, the date and time of receiving the vehicle information is displayed.
- d. In the **Speed** field, the vehicle speed is displayed.

Note

In case the *AUTO-Uragan* or *AR-Auto* modules are used for identification, and the *Speed traps server* module is not connected, zero speed value is displayed.
Depending on the *Vehicle Tracer* settings, the speed is displayed in km/h or mi/h.

- e. In the **Speed limit** field, the speed limit allowed on this part of the road is displayed.
- f. In the **Speeding** field, the difference between the captured vehicle speed and the speed limit allowed on this part of the road is displayed.

Note

This field is displayed if the speeding event was registered, otherwise this field isn't displayed.

- g. In the **Validity** field, the accuracy level of license plate recognition in percent is displayed (the minimum acceptable value is specified in the **Min. recognition quality, %** field on the settings panel of the **LPR channel** object, see [Setting up the results filtering](#)).
- h. In the **Direction** field, the vehicle's direction is displayed (**Undefined, To the camera, From the camera, To the right, To the left**).
- i. In the **Regional code** field, the regional code of the vehicle is displayed.

Note

You can hide this field (see [Setting up the Vehicle Tracer interface window](#)).

- j. In the **Camera** field, the name of the camera, which captured the vehicle is displayed.
- k. In the **SDK data file** field, the data file about the triggered module is displayed.

Note

The **SDK data file** field is displayed only if the *AR-Railway* module is used.

- l. In the **Address** field, the camera location address is displayed.
- m. In the **Identifier (№)** field, the camera ID number is displayed.
- n. In the **Certificate (№)** field, the certificate number is displayed.
- o. In the **Calibration** field, the calibration expiration date is displayed.
- p. In the **Vendor, Model** and **Color** field, the vendor, model and color of the recognized vehicle are displayed.

Note

The **Vendor, Model** and **Color** fields are displayed only if the *RR vendor and model recognizer* is used.

- q. In the **Type** field, the type of the recognized vehicle is displayed.

Note

This field is displayed only if the *Vehicle type recognition module* and/or the *RR vendor and model recognizer* are used.

- r. In the **Dangerous goods class** and **Dangerous goods composition** fields, the class and the contents of the dangerous cargo are displayed correspondingly.

Note

The **Dangerous goods class** and **Dangerous goods composition** fields are displayed only if the *AR-Auto* module and the Hazard Identification Number Recognition Engine (ADR) are used.

- s. In the **GPS coordinates** field, the coordinates of the camera installation are displayed.

Viewing the data about the last identified vehicle is complete.

Note

In case an alarm is registered for a vehicle, the reason of alarm is also displayed in the **Last event** group. The data about any event selected in the identified vehicles protocol or in the alarm protocol can be viewed in the same way (see [Viewing the identified vehicles protocol](#), [Viewing the alarms protocol](#)). A passing vehicle event can be created using a script (see [Scripts used in the Auto PSIM software package](#)).

3.3.4 Viewing the identified vehicles protocol

The identified vehicles protocol is displayed in the **Online monitor** window.

To access to the protocol, go to the **Cars** tab (1). The identified vehicles protocol is a table which contains the information about identified vehicles (2).

ONLINE MONITOR

Server status

1 Cars

Processed Hide Show All Trace Alarm Accept

3

4

MCB8718

LPR channel 1 5
2022-10-24 10:51:26 6

2

WLP4443

LPR channel 1
2022-10-24 10:51:24

WXG7386

LPR channel 1
2022-10-24 10:51:20

MCU9920

LPR channel 1
2022-10-24 10:51:18

Print Search Video archive Filter Comment

Parameter	Value
Recognizer	LPR channel 1
Country	Malaysia
Recognition time	2022-10-24 10:51:26
Speed	26 km/h
Speed limit	60 km/h
Validity	76 %
Direction	To camera
Regional code	718
Camera	Camera 1

For every vehicle (event) the following data is displayed:

1. Video frame of the vehicle (3).
2. Identified vehicle LP number (4).

Note

- If the LP number hasn't been recognized, **UNDEFINED** message will be displayed in the field.
- If the characters of the recognized number are displayed incorrectly, it is necessary to change the font of the recognized number to the one that will contain all the characters of the corresponding country LP numbers (see [Setting up the font of the recognized LP number](#)).

3. Vehicle speed.

Note

Vehicle speed is displayed only if the *Speed traps server* module is connected.

4. LPR channel (5).
5. Date and time of receiving the information about the vehicle (6).

For alarms, the information about reasons of alarms is also displayed (see [Alarms operation](#)). The alarms which were not processed by the operator, are highlighted with red, and processed alarms are highlighted with yellow (see [Alarm processing](#)).

Note

Any alarm event is duplicated: first, an event message with a recognized LP number is received without an alarm, then the same message is received with alarm. You can hide the processed events (see [Hiding the processed events in the protocol](#)).

To view the detailed information about the event, do the following:

1. Left-click the required event.
2. As a result, the data about the vehicle will be displayed in the **Last event** group. Online update of the identified vehicles protocol will be suspended.
3. View the data about the event as described in the [Viewing the data about the last identified vehicle](#) section.
4. To restore the online update of the identified vehicles protocol click the **Trace** button in the upper area of the **Online monitor** window.



Viewing the detailed data about the event is complete.

3.3.5 Alarms operation

Alarms operation is done in the **Online monitor** window.

Alarm is triggered by one of the following ways:

1. Automatically – in case of overspeeding or vehicle's plate identification in the external database.
2. Manually.

Manual alarm triggering

To enable the manual alarm triggering, do the following:

1. Left-click the required event in the identified vehicles protocol (1).

The screenshot shows the 'ONLINE MONITOR' interface. On the left, a large camera view shows a white car with license plate VU9045. Below the camera view is a table with the following data:

Parameter	Value
Recognizer	LPR channel 1
Country	Malaysia
Recognition time	2022-10-24 11:05:07
Speed	38 km/h
Speed limit	60 km/h
Validity	98 %
Direction	To camera
Regional code	045
Camera	Camera 1

On the right side of the interface, there is a list of identified vehicles. The vehicle with license plate VU9045 is highlighted with a red border. Above this list, there are buttons for 'Alarm' (highlighted in red) and 'Accept'. At the top right, there is a 'Server status' button. The interface also includes a search bar and various control icons at the bottom.

2. Click the **Alarm** button (2).
3. As a result, this event will be highlighted in red, and if it is the first alarm, the Alarms protocol tab will become available (3). For the alarm which was triggered by the operator, the **Marked by the operator** cause

of alarm is displayed (4).



Note.

For the information about alarms protocol, see [Viewing the alarms protocol](#).

Manual alarm triggering is complete.

Viewing the alarms protocol

The **Alarms protocol** tab located in the upper area of the **Online monitor** window (1) automatically becomes available in case of the alarm event. The alarms protocol is a table which contains the information about the vehicles for which the alarms were triggered (2).

Note.

The information about the last alarm is displayed on the tab.

ONLINE MONITOR Server status

Cars VU9045 ▲ 6 1

Processed Hide Show All Trace Alarm Accept

2

VU9045
LPR channel 1
2022-10-24 11:14:59
Marked by the operator:

AHE1612
LPR channel 1
2022-10-24 11:14:16
Marked by the operator:

WXT189
LPR channel 1
2022-10-24 11:14:08
Marked by the operator:

W9656
LPR channel 1
2022-10-24 11:14:03
Marked by the operator:

Print Search Video archive Filter Comment

Parameter	Value
Recognizer	LPR channel 1
Country	Malaysia
Recognition time	2022-10-24 11:14:59
Speed	38 km/h
Speed limit	60 km/h
Validity	98 %
Direction	To camera
Cause of alarm	Marked by the operator:
Regional code	045
Camera	Camera 1

The alarms which were not processed by the operator, are highlighted with red, and processed alarms are highlighted with yellow (see [Alarm processing](#)).

Note.

Any alarm event is duplicated: first, an event message with a recognized LP number is received without an alarm, then the same message is received with alarm. You can hide the processed events (see [Hiding the processed events in the protocol](#)).

To view the alarms protocol, do the same as to view the identified vehicles protocol (see [Viewing the identified vehicles protocol](#)). The only difference is that for an alarm the information about the alarm reason is also displayed:

1. **Marked by the operator** - means the alarm is triggered by the operator (the time of triggering is also displayed);
2. **Is found in: <external database name>** - means the identified LP is found in the external database;
3. **Overspeeding** - means the vehicle overspeeding is registered.


Detailed information about an alarm with the alarm reason is displayed in the **Last event** group (see [Viewing the data about the last identified vehicle](#)). To view the detailed information about an alarm, do the same as to view the information about the event, registered in the identified vehicles protocol (see [Viewing the identified vehicles protocol](#)).

In case the identified vehicle LP is found in the **External Plates Database**, the information about the vehicle, stored in this base, will be displayed in the field (3).

Note

To display the side panel, click the (4) button.

ONLINE MONITOR Server status



VU9045

VU9045

Parameter	Value
Recognizer	LPR channel 1
Country	Malaysia
Recognition time	2022-10-24 11:14:59
Speed	38 km/h
Speed limit	60 km/h
Validity	98 %
Direction	To camera
Cause of alarm	Marked by the operator:
Regional code	045

Cars

VU9045

▲ 6

Processed
Hide
Show
All
Trace

Alarm

Accept

VU9045

LPR channel 1
 2022-10-24 11:14:59
 Marked by the operator:

AHE1612

LPR channel 1
 2022-10-24 11:14:16
 Marked by the operator:

W9656

LPR channel 1
 2022-10-24 11:14:03
 Marked by the operator:

WVP1643

LPR channel 1
 2022-10-24 11:14:00
 Marked by the operator:

Print
Search
Video archive
Filter
Comment

Database:

3

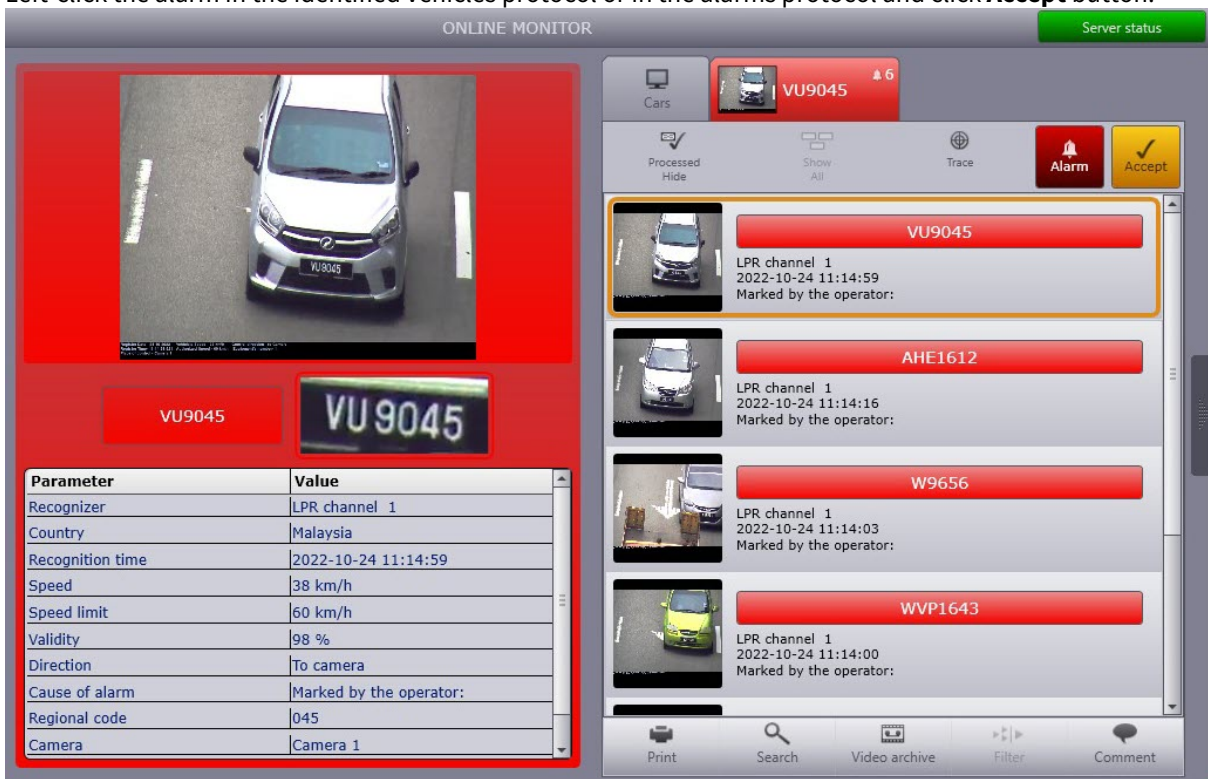
Comment:

4

Alarm processing

Alarm processing is done in the following way:

1. Left-click the alarm in the identified vehicles protocol or in the alarms protocol and click **Accept** button.



2. As a result, the event will be highlighted with yellow.



Alarm processing is completed.

Hiding the processed events in the protocol

It is possible to hide the processed events in the identified vehicles protocol and alarms protocol. To do this, click the **Processed Hide** button. As a result, when all alarms are processed, then the Alarms protocol tab becomes hidden.

The screenshot displays the 'ONLINE MONITOR' interface. On the left, a camera feed shows a white car with license plate 'VU9045'. Below the feed is a table with the following data:

Parameter	Value
Recognizer	LPR channel 1
Country	Malaysia
Recognition time	2022-10-24 11:14:59
Speed	38 km/h
Speed limit	60 km/h
Validity	98 %
Direction	To camera
Cause of alarm	Marked by the operator:
Regional code	045
Camera	Camera 1

On the right, the 'Alarms' tab is active, showing a list of processed events. The 'Processed Hide' button is highlighted. The list includes:

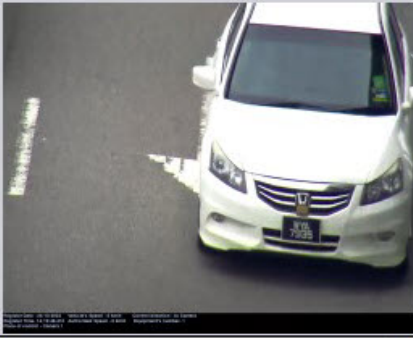
- VU9045**: LPR channel 1, 2022-10-24 11:14:59, Marked by the operator:
- AHE1612**: LPR channel 1, 2022-10-24 11:14:16, Marked by the operator:
- W9656**: LPR channel 1, 2022-10-24 11:14:03, Marked by the operator:
- WVP1643**: LPR channel 1, 2022-10-24 11:14:00, Marked by the operator:

Viewing the alarm information in the Alarm window

Depending on the certain configuration, the **Alarm window** can be displayed automatically in the following cases:

1. If the recognized license plate number coincides with the number stored in the external online monitoring database. As a result, the **Report of vehicle found in DB** sign will be displayed at the top of the alarm window.
2. If the alarm event was triggered manually. As a result, the **Marked by the operator:** sign will be displayed at the top of the alarm window.

Marked by the operator: **1** Total alarms: 1



2022-10-24 14:19:48

License plate: **WYA7935**

Control server: LPR channel 1
 Direction: To camera
 Internal Vehicles DB: External Plates DB 1
 State: Not confirmed

Field	Value
id	34c01a79-dabc-43eb-9565-42610c7b3b26
db_id	0a5aeeee2-a75e-ed11-ab00-b42e999c8d82
License plate number	WYA7935
Active for search	Yes
Date/time of creation	07/11/2022 02:25:26 PM
Storage time	14/11/2022 02:25:26 PM
deleted	No
rights	
Comment	

3

<< < > >> Trace 4 5 Confirmed (information sent) No confirmation 6

The following data is displayed in the **Alarm window**:

1. Event information (1):

- Date and time when the alarm event was recorded.
- License plate number.
- Recognition server name that recorded the event.
- Vehicle direction of movement relative to the camera.
- Name of the external database.

Note

The field with the name of the external database is hidden if the the alarm event was triggered manually.

- Current state of the alarm event.

Note

There can be the following states of the alarm event:

- **Not confirmed** - a new event that has not yet been confirmed.
- **Processing...** - an alarm event is confirmed, but the information has not yet been recorded to the database.
- **Confirmed** - the alarm is confirmed and recorded to the database (you may not notice this state since the event is deleted from the Alarm window after a successful confirmation).
- **Error** - the confirmation is not recorded to the database due to the heavy load on the Server. It is necessary to confirm the event again.

- The description from the stolen vehicles database (2): ID, LP number, storage time, search status, date and time of creation, comment, full name of the operator who created the report.

Note

The table with the description from the stolen vehicles database is hidden if the the alarm event was triggered manually.

Use buttons to scroll the alarm events (3).

To confirm the active alarm status, click the **Confirmed (information sent)** button (5). As a result the alarm will be marked as received in the **On-line monitor** window, and deleted from the **Alarm window**. If the **Trace** checkbox is set (4), the confirmed alarm will be deleted from all **Alarm windows** in the distributed system.

To close the window of stolen vehicle report click the **No confirmation** button (6). If you click this button, the alarm status will not be changed in the **On-line monitor** (alarm will not be processed).

3.3.6 Adding comments to the events

It is possible to add the comments to the events. It can be done in the **Online monitor** window.

Attention!

It is not possible to add the comments to the accepted events (highlighted with yellow).

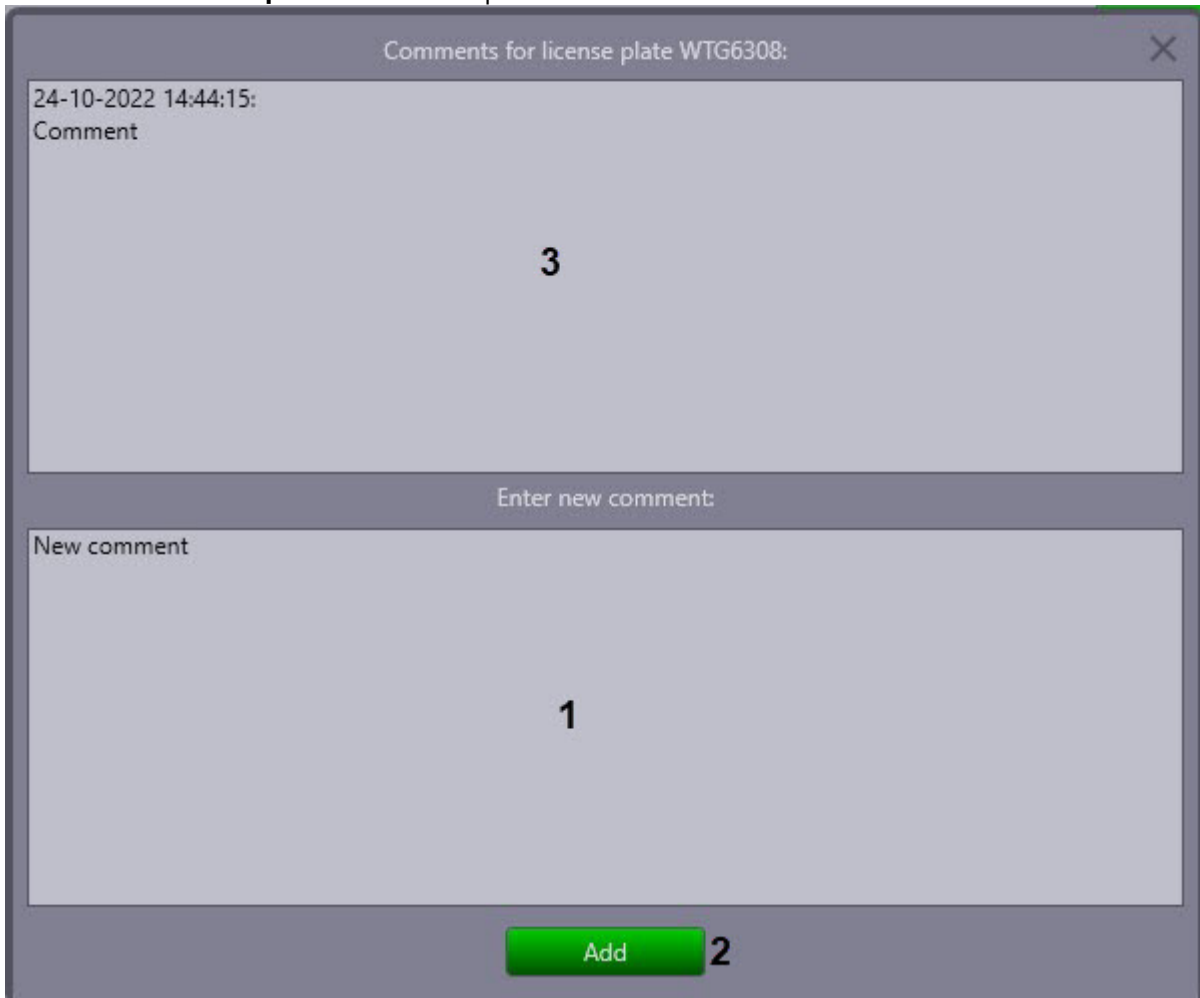
To add a comment to the event, do the following:

- Left-click the event in the identified vehicles protocol or events protocol. Online update of the protocol displayed on the screen will be suspended.



- Click **Comment** button.

3. **Comments for license plate** window will open in result.



4. In the **Enter new comment** field (1), specify a required comment.
 5. Click the **Add** button (2) to add the comment to the event.

Note

The **Comments for license plate <LP number>** field (3) displays the previous comments, if any, and the date when they were added to this event.

6. To view the comments to the event, left-click the required event in the identified vehicles protocol or events protocol. Comments will be displayed in the corresponding field (1).

Note

To display the side panel, click the (2) button.



Adding the comments to the event is completed.

3.3.7 Printing and exporting the vehicle data

Printing and exporting the vehicle data is done in the following way:

1. Left-click the event in the identified vehicles protocol or events protocol. Online update of the protocol, displayed on the screen, will be suspended.




2. To build a report with vehicle data, click the **Print** button (1), which is located in the left corner of the bottom panel.

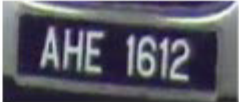
- The report preview program will be displayed.

Vehicle data


Recognizer	<u>LPR channel 1</u>
Country	<u>Malaysia</u>
Recognition time	<u>2022-10-24 15:18:39</u>
Speed	<u>75 km/h</u>
Speed limit	<u>60 km/h</u>
Speeding	<u>15 km/h</u>
Validity	<u>96 %</u>
Direction	<u>To camera</u>
Regional code	<u>612</u>
Camera	<u>Camera 1</u>
















LPR channel 1
2022-10-24 15:18:39














AHE1612
(75 km/h)



- If necessary, do the following operations with the report, then quit the report preview program by clicking the **File -> Exit viewer** in the main menu, or by clicking the **X** button in the top right corner. The available operations for the report are listed in the table below.

Operation	Operation invocation		
	Main menu item	Context menu item	Toolbar button
Open the report, saved in .rsd or .xml	File -> Open	-	
Save the report in .rsd or .xml	File -> Save	-	
Export the report to one of the common formats	File -> Export	-	
Print the report	File -> Print	-	
Activate the «Hand» tool	View -> Scrolling	Scrolling	
Zoom in the report pages	View -> Zoom in	Zoom in	
Zoom out the report pages	View -> Zoom out	Zoom out	
Enable dynamic scaling of report pages	View -> Dynamic scaling	Dynamic scaling	
Zoom in the selected area of the report	View -> Region scaling	Region scaling	
Scale in page size	View -> In page size	In page size	
Scale in page width	View -> In page's width size	In page's width size	
Display pages in real size	View -> Real size	Real size	
Enter or select from the list the required scale of displaying the report pages	View -> Set the scaling	Set the scaling	193 % ▾
Enable the nonstop paginal report displaying	-	-	

Operation	Operation invocation		
	Main menu item	Context menu item	Toolbar button
Enable the page-by-page report displaying	-	-	
Go to the first page	Navigate -> The first page	The first page	
Go to the previous page	Navigate -> Previous page	Previous page	
Go to the next page	Navigate ->The next page	The next page	
Go to the last page	Navigate ->The last page	The last page	
Go to the certain page (open the «Go to page» dialog window)	Navigate -> Go to page	-	-
Display the previous view	Navigate -> Back	Back	
Display the next view	Navigate -> Forward	Forward	
Find the required characters in the report	Document -> Find	Find	
Update the report	Document -> Update	Update	
Edit the report (open the editing program)	Document -> Edit the report	Edit the report	
Display table of contents	-	-	
Display information about the program to view the report	Help -> About program	-	-
Close the preview report program	File -> Close	-	-

Note.

Operations with report files (opening, saving, exporting, and printing) are performed via the standard OS Windows dialog windows.

Note.

To go to the required page, enter the page number in the **Page No** field of the **Go to page** dialog window and then click **OK**.

Printing and exporting the vehicle data is completed.

3.3.8 Viewing the video archive by event

You can view the video archive by event from a video camera which is used for the license plate recognition.

Note

For this feature to work, the appropriate monitor should be selected on the settings panel of the **Vehicle Tracer** object (see [Selecting the Monitor object for playing back the video archive](#)).

To view the video archive by event, do the following:

1. Select an event in the identified vehicles protocol or alarms protocol by left-clicking on it. As a result of the operation, the online update of the protocol displayed on the screen will be suspended.

The screenshot shows the 'ONLINE MONITOR' interface. On the left, a video feed displays a white Suzuki van with license plate WEU 2676. Below the video, a table provides details for the license plate recognition:

Parameter	Value
Recognizer	LPR channel 1
Country	Malaysia
Recognition time	2022-10-24 15:20:45
Speed	68 km/h
Speed limit	60 km/h
Speeding	8 km/h
Validity	97 %
Direction	To camera
Regional code	676
Camera	Camera 1

On the right, a list of events is shown, with the event for license plate WEU2676 highlighted. The event details are:

- WEU2676
- LPR channel 1
- 2022-10-24 15:20:45

Other events in the list include WRG8892, WWT5681, and WJC6218. The interface also features a 'Server status' indicator, 'Cars' filter, 'Show All', 'Trace', 'Alarm', and 'Accept' buttons, and a bottom toolbar with 'Print', 'Search', 'Video archive', 'Filter', and 'Comment' options.

2. Click the **Video archive** button (1).
 - If the **Monitor** object is selected for the video archive playback, the video surveillance window of the corresponding monitor will switch to the archive playback mode. For details on working with the

video archive, see the *Axxon PSIM. Operator's Guide*, the most current version of the documentation is located in the [AxxonSoft documentation repository](#)).

- If the **AxxonOne monitor** object is selected for the video archive playback (see [Setting up the joint operation of Auto PSIM and Axxon One](#)), the *Axxon One* interface window will open in the archive playback mode. For information on working with the video archive, see the *Axxon One. Operator's Guide*, the most current version of the documentation is located in the [AxxonSoft documentation repository](#)).

Viewing the video archive by event is completed.

3.3.9 Using filters in the protocols

You can select events to be displayed in the identified vehicles protocol and alarms protocol.

 **Attention!**

Both displayed and hidden in the protocol events are saved in the recognizers database of the *Auto PSIM* software.

You can select the events using the following filters:

1. Speed.
2. Overspeeding.
3. License plate.
4. Validity.
5. Region.
6. Direction.
7. Alarm type.
8. Plate recognizers.

To select the filter, do the following:

1. Click **Filter** button in the **Online monitor** window (1).

ONLINE MONITOR Server status



WEU2676



Parameter	Value
Recognizer	LPR channel 1
Country	Malaysia
Recognition time	2022-10-24 15:20:45
Speed	68 km/h
Speed limit	60 km/h
Speeding	8 km/h
Validity	97 %
Direction	To camera
Regional code	676
Camera	Camera 1

Cars WJC6218 96

2 Show All

Trace Alarm Accept



WEU2676

LPR channel 1
2022-10-24 15:20:45



WRG8892

LPR channel 1
2022-10-24 15:20:43



WWT5681

LPR channel 1
2022-10-24 15:20:42



WJC6218

LPR channel 1
2022-10-24 15:19:49
Speed: 81 km/h

Print
Search
Video archive
1 Filter
Comment

2. **Filters** dialog window will be displayed in result.

The screenshot shows the 'Filters' dialog window with the following elements:

- Speed, km/h**: Dropdown menu set to 'No filtering' (labeled 1).
- Speeding, km/h**: Dropdown menu set to 'No filtering' (labeled 2).
- Number**: Dropdown menu set to 'No filtering' (labeled 3).
- Validity**: Dropdown menu set to 'No filtering' (labeled 4).
- Region**: Dropdown menu set to 'No filtering' (labeled 5).
- Direction**: Dropdown menu set to 'No filtering' (labeled 6).
- Alarm type**: Dropdown menu set to 'No filtering' (labeled 7).
- Plates recognizers**: A list box (labeled 8) containing a checked checkbox for 'LPR channel 1'.
- Buttons**: A red 'Reset' button (labeled 9) and a green 'OK' button (labeled 10) at the bottom.

3. From the **Speed, km/h** list (1) select the required filter, then specify the speed value(s) in the field(s) in km/h. The following speed filters are available:

- **No filtering** — the event is displayed in protocols with any vehicle speed;
- **More** — the event is displayed in protocols if the vehicle speed exceeds the specified value;
- **Less** — the event is displayed in protocols if the vehicle speed is below the specified value;
- **Interval** — the event is displayed in protocols if the vehicle speed is within the specified speed range.

Note

Available range for specifying the **Speed** filter values is 0-300.

- From the **Speeding, km/h** list (2) select the required filter, then specify the overspeeding value in the field in km/h.

The following overspeeding filters are available:

- **No filtering** – the event is displayed in protocols with any vehicle overspeeding;
- **More** – the event is displayed in protocols if the vehicle overspeeding exceeds the specified value.

Note.

The overspeeding value is calculated as the difference between the recorded vehicle speed and the speed, permitted in the controlled area of the road.

Available range for specifying the **Speeding** filter values is 0-100.

- From the **Number** list (3) select the required filter and then in the field enter the LP number or its part which identification leads to event displaying in protocols.

The following LP filters are available:

- **No filtering** – the event is displayed in protocols with any vehicle LP number;
- **Register** – the event is displayed in protocols if the vehicle LP number exactly matches the specified value;
- **Contains** – the event is displayed in protocols if the vehicle LP number contains the specified value.

Note.

The value specified for the **Register** and **Contains** filters may include usual characters and «*» characters which stand for an unidentified LP character. If the value contains one or several «*» characters, only the LPs which contain the unidentified characters in the specified combination, are displayed in the protocols.

- From the **Validity** list (4) select the required filter of the LP recognition validity percentage, then specify the percentage value in the field(s).

The following validity filters are available:

- **No filtering** – the events are displayed for those vehicles which plates are recognized with any validity;
- **More** – events are displayed in the protocol if the recognizing validity is higher than the specified value;
- **Interval** – vehicle event is displayed in the protocol if the recognizing validity of vehicle plate belongs to the specified range of values.

Note

Available range for specifying the **Validity** filter values is 0-100.

- From the **Region** list (5) select the required region filter, where the vehicle has been registered, and then enter the region number in the field.

The following region filters are available:

- **No filtering** – the events are displayed in protocols for the vehicles, registered in any region;
- **Equal** – the events are displayed in protocols for the vehicles, registered in the specified region.

- From the **Direction** list (6) select the vehicle direction for which the event should be displayed in protocols.

The following direction filters are available:

- **No filtering** – the events are displayed in protocols with any vehicle direction;
- **From camera** – the event is displayed in protocols if the vehicle was moving away from the camera;

- **Towards the camera** — the events are displayed in protocols if the vehicle was moving towards the camera;
 - **Undefined** — the events are displayed in protocols if the vehicle direction was not determined.
9. From the **Alarm type** list (7) select the alarm type. Only alarms of the selected type will be displayed in protocols.

The following alarm type filters are available:

- **No filtering** — the events are displayed in protocols with any alarm type or its absence;
 - **Overspeeding** — the events for which overspeeding has been registered are displayed in protocols;
 - **LP found in database** — the events for which the LPs have been found in the external plates database are displayed in protocols;
 - **Alarm set by operator** — the events, initialized manually, are displayed in protocols;
 - **Running a red light** — the events for which the red lights running has been registered are displayed in protocols;
 - **Entered the oncoming lane** — the events for which the entering the oncoming lane has been registered are displayed in protocols;
 - **Crossed the stop line** — the events for which the crossing the stop line has been registered are displayed in protocols;
 - **Stop over crosswalk line** — the events for which the stopping on the crosswalk line has been registered are displayed in protocols.
10. In the **Plates recognizers** (8) group set the checkboxes for those LP recognition Servers, which data should be displayed in protocols.
11. Click **OK** to save filters settings and close the **Filters** dialog window (10).

Note.

To reset all the settings, click the **Reset** button (9).



Filtering the events to be displayed in the protocols is complete.

Note

You can disable any filtering without changing the settings in the **Filters** dialog window. To do this, click the **Show all** button in the **Online monitor** window (2). All the registered events will be displayed in protocols in result. To resume the usage of filters, click this button again.

3.3.10 Viewing the Vehicle Tracer errors

If there are no **Vehicle Tracer** errors, the **Server status** button in the right upper corner of **Online monitor** window

is green . If errors are registered, the button is red .






To view the **Vehicle Tracer** errors, do the following:

1. Click the **Server status** button.

- The **Errors** dialog window will be displayed in result.



- The data about the occurred errors is displayed in the field (1).
- The list of all possible error sources is displayed in the field (2): LPR channels and/or external databases. Current error sources are marked by the  sign, idle sources are marked by the  sign.
- To delete the data about the errors and close the **Errors** dialog window, click the **Clear** button (3).
- To close the **Errors** dialog window without deleting the data about the errors, click the  button.

Viewing the **Vehicle Tracer** errors is completed.

3.3.11 Creating the additional Online monitor components

It is possible to create the additional **Online monitor** interface components. To do this, double left-click the **Events monitor** component. As a result, the additional **Online monitor** component will be displayed in the center of the screen.

Parameter	Value
Recognizer	LPR channel 1
Country	Malaysia
Recognition time	2022-10-24 15:31:12
Speed	77 km/h
Speed limit	60 km/h
Speeding	17 km/h
Validity	97 %
Direction	To camera
Regional code	186
Camera	Camera 1

Working with **Additional Online monitor** components is similar to working with the main **Online monitor** component.

3.3.12 Searching the events in the recognizers databases

Opening and closing the Event search in the Recognizers DBs window

On this page:

- [General info about searching the events in the recognizers databases](#)
- [Opening and closing the Event search in the Recognizers DBs window](#)
- [Opening the Event search in the Recognizers DBs window using the Windows command line](#)

General info about searching the events in the recognizers databases

You can search the events in the the *Auto PSIM* recognizers databases via the **Event search in the Recognizers DBs** dialog window.

The full list of operations provided to the operator in the window **Event search in the Recognizers DBs**, is the following:

1. Searching the events, stored in the *Auto PSIM* local or remote recognizers databases.
2. Printing the search results reports.

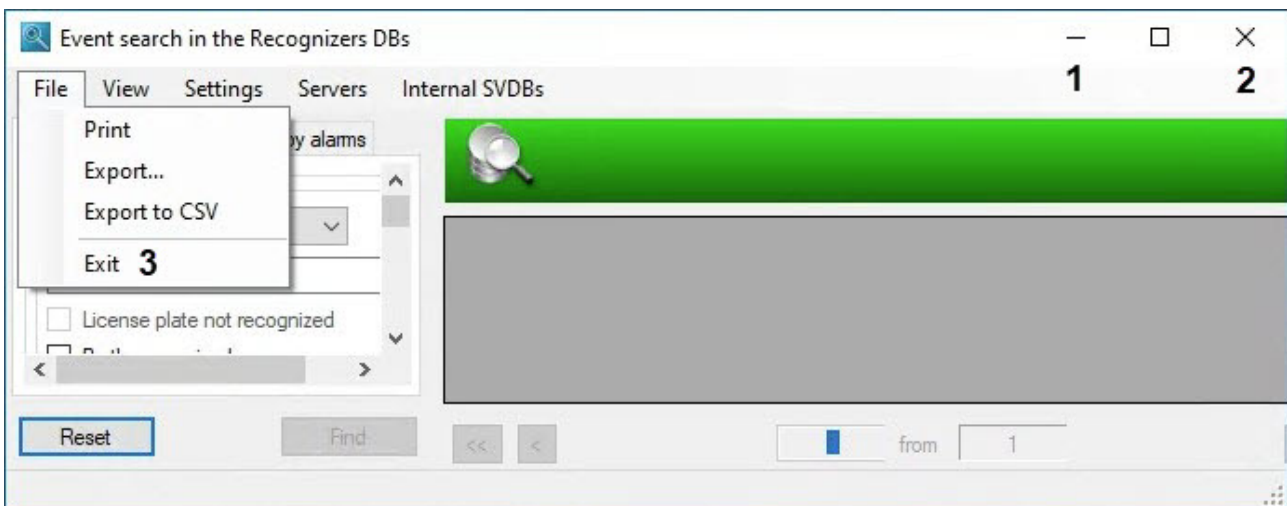
3. Creating the personal LPs database (**Active tracking** database).

Opening and closing the Event search in the Recognizers DBs window

To open the window, click the **Search** button in the **Online monitor** interface object.



As a result, the **Event search in the Recognizers DBs** window will be opened.



To minimize the **Event search in the Recognizers DBs** window, click the (1) or (2) buttons. As a result, the window will be minimized to the Taskbar but will continue working.

To close the **Event search in the Recognizers DBs** window, select the **File** → **Exit** item in the main menu (3). As a result, the window will be closed completely.

Opening the Event search in the Recognizers DBs window using the Windows command line

The **Event search in the Recognizers DBs** window can also be opened using the Windows command line, even when the *Axxon PSIM* is unloaded. To do this, run the following command:

```
<Axxon PSIM installation directory>\Modules>VehiclePlateSearch.run "C:\Users\<Username>\AppData\Local\Temp\PlateSearchSettings_1.xml"
```

Command example:

```
C:\Program Files (x86)\Axxon PSIM\Modules>VehiclePlateSearch.run "C:\Users\User\AppData\Local\Temp\PlateSearchSettings_1.xml"
```

"C:\Users\UserName\AppData\Local\Temp\PlateSearchSettings_1.xml" - is the path to the PlateSearchSettings_1.xml configuration file, which is generated each time you click the **Search** button in the **Online monitor** interface window in accordance with the current system configuration. If the system configuration has changed, then to re-generate the file, click the **Search** button again or make changes to the file manually.

Note

If you work in the **Event search in the Recognizers DBs** window with the *Axxon PSIM* unloaded, then the vehicle frames and license plate images will not be displayed.

Configuring the events search

On the page:

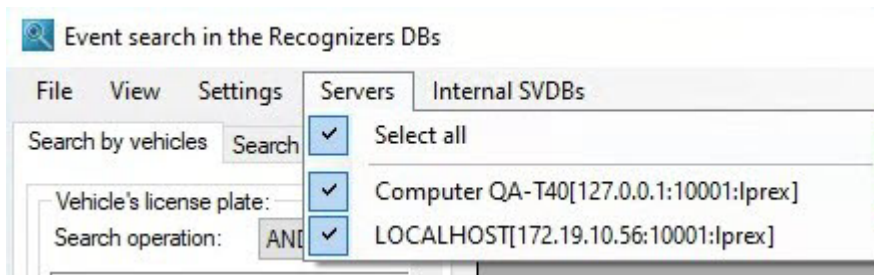
- [Selecting the recognizer databases for the events search](#)
- [Configuring the search results](#)
- [Configuring the video archive](#)

Events search is set up in the following order:

1. Select the database, where events should be searched.
2. Configure the displaying of search results.
3. Configure the video archive.

Selecting the recognizer databases for the events search

To select the recognizer databases for events search, first select the servers where the required LPR databases are. To do this, in the main menu of the **Event search in the Recognizers DBs** window, in the **Servers** item, select the required server names. To select all system servers, click **Servers** → **Select all**.



Note

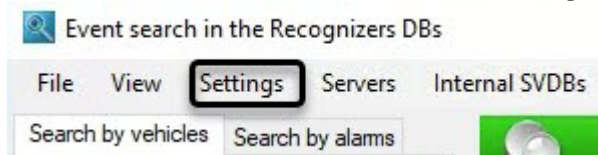
Each time you open the **Event search in the Recognizers DBs** window, the access to the selected servers is checked. If any of the selected servers is unavailable, then after the timeout expires, the header of the search results table will display a list of servers to which it was not possible to connect, and the header itself will be highlighted with red. If all servers are available, the header will be highlighted with green. The timeout for connecting to the selected *Auto PSIM* servers is set on the settings panel of the **Vehicle Tracer** module window (see [Setting up the Vehicle Tracer interface window](#)). If you use the Server/Remote Administrator's workstation and Remote Client configuration, you must set the value of the string parameter of the registry key **VehiclePlateSearch.UseRestIp=1** to enable the event search (see [Registry keys reference guide](#)).

Configuring the search results

Event search results are displayed in the table. You can choose which table columns should be displayed and which shouldn't, add new columns and also edit the columns displayed names.

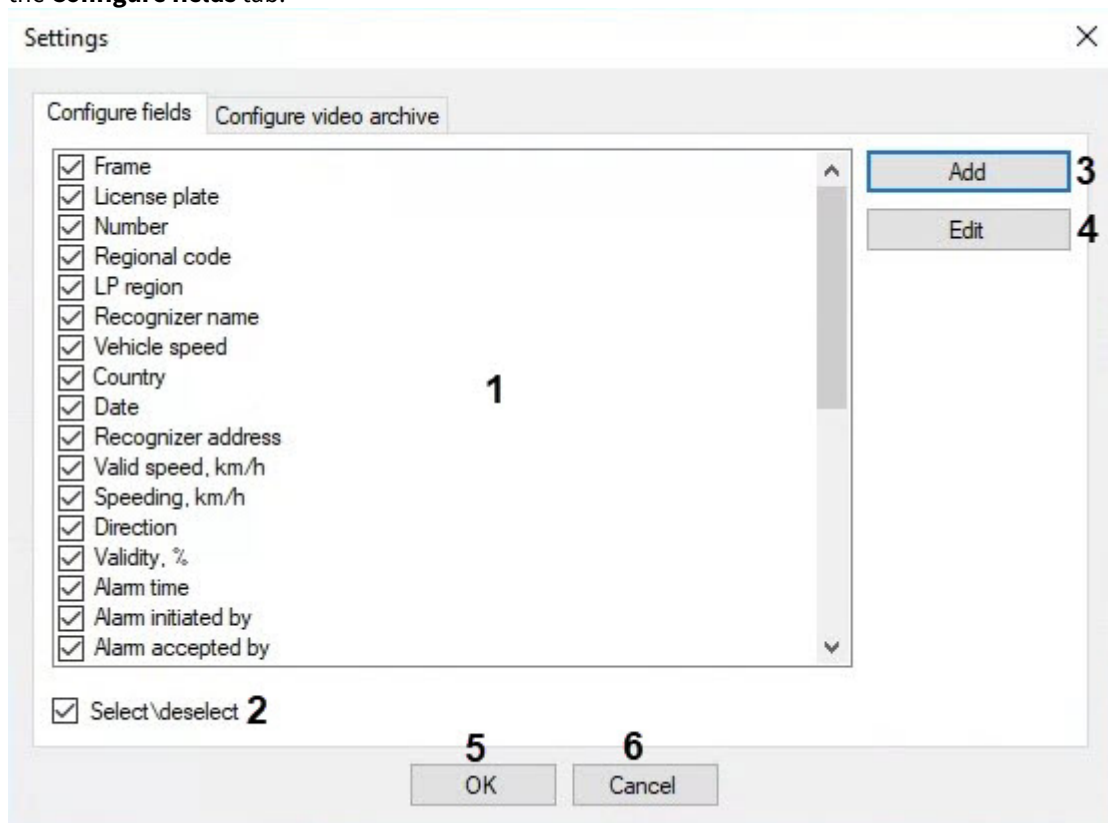
To configure the search results displaying, do the following:

1. In the main menu of the **Event search in the Recognizers DBs**, click **Settings**.



As a result the **Settings** dialog window is displayed. The search results displaying is configured on

the **Configure fields** tab.



- In the field (1) set the checkboxes for the columns that should be displayed in search results table.

Note

To display all the available columns in the search results table, set the **Select\deselect** checkbox (2). If this checkbox isn't set, the search results table is not displayed.

Column name (by default)	Column content
Frame	Video frame with a vehicle
License plate	Video frame with vehicle LP number
Number	Identified LP number
Region number	Region number of the identified number
LP region	Region of the identified LP number
Recognizer name	LPR channel object name, corresponding to the vehicle detector

Column name (by default)	Column content
Vehicle speed	Vehicle speed
Country	The country of the recognized LP number
Date	Date and time of the vehicle identification
Recognizer address	LP detector address
Valid speed, km/h	Speed in km/h permitted on the road area covered by the detector
Speeding, km/h	Vehicle overspeeding in km/h
Direction	An indication that the vehicle was moving towards the detecting camera
Validity, %	LP identification accuracy in percent
Alarm time	Time of the LP detection alarm registration
Alarm initiated by	Name of the operator who initiated the alarm
Alarm accepted by	Name of the operator who processed the alarm
Comment from external DB	Comment on the vehicle report in the external plates DB added by the operator
Alarm accepted at	Time of the LP detection alarm acceptance by the <i>Auto PSIM</i> operator
Alarm handing delay, sec	Time between registering the alarm and its acceptance by the operator
Comment	Comment on the event added by the operator
Alarm type	Alarm type (overspeeding or vehicle identification in the external plates databases)
Alarm processed	An indication that the alarm was accepted by the operator

Column name (by default)	Column content
External DB	An indication that the alarm was found in the external plates database
Red-light phase start time	Time of the red-light phase start during which the alarm was registered (if the <i>Red lights running</i> module is used)
Time passed since the red-light phase start	Time between the red-light phase start and the alarm registration (if the <i>Red lights running</i> module is used)
Category	Vehicle category identified by license plate
Camera	Name of the video camera which captured the vehicle
Type	Vehicle type (if the <i>Vehicle type recognition module</i> and/or the <i>RR vendor and model recognizer</i> are used)
Vendor	Vehicle vendor (if the <i>RR vendor and model recognizer</i> is used)
Model	Vehicle model (if the <i>RR vendor and model recognizer</i> is used)
Vehicle color	Vehicle color (if the <i>RR vendor and model recognizer</i> is used)
Frame from a synchronous camera	Video frame from a synchronous video camera displaying a vehicle
Dangerous goods class	Class of the dangerous cargo (if the <i>AR-Auto</i> module and the Hazard Identification Number Recognition Engine (ADR) are used)
Dangerous goods composition	Contents of the dangerous cargo (if the <i>AR-Auto</i> module and the Hazard Identification Number Recognition Engine (ADR) are used)

- To add a new column to the search results table, do the following:

- a. Click **Add (3)**. As the result the **Configure fields** dialog window will be displayed.

- b. In the **Field name in the DB** field, specify the name of the column in the connected recognizer database, which content should be displayed in the search results table (1).
 c. In the **Field name in the interface** field, specify the name for this column which should be displayed in the search results table (2).
 d. Click **Save** to save the applied changes and close the **Configure fields** dialog window (3).

Note

Click **Cancel** to close the window without saving any changes (4).

4. To edit the column name in the search results table, do the following:
 a. In the **Configure fields** group select the column, which name should be changed (1).
 b. Click **Edit (4)**.
 c. As a result the **Configure fields** dialog window with the disabled **Field name in the DB** field is displayed.

- d. In the enabled **Field name in the interface** field, specify the new column name and save the changes (see steps 4.3-4.4).
 5. Click **OK** to save the changes and close the **Configure fields** dialog window (5).

Note

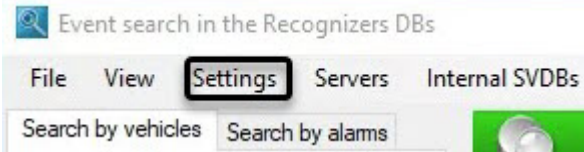
Click **Cancel** to close this window without saving any changes (6).

Configuring the displaying of the search results is completed.

Configuring the video archive

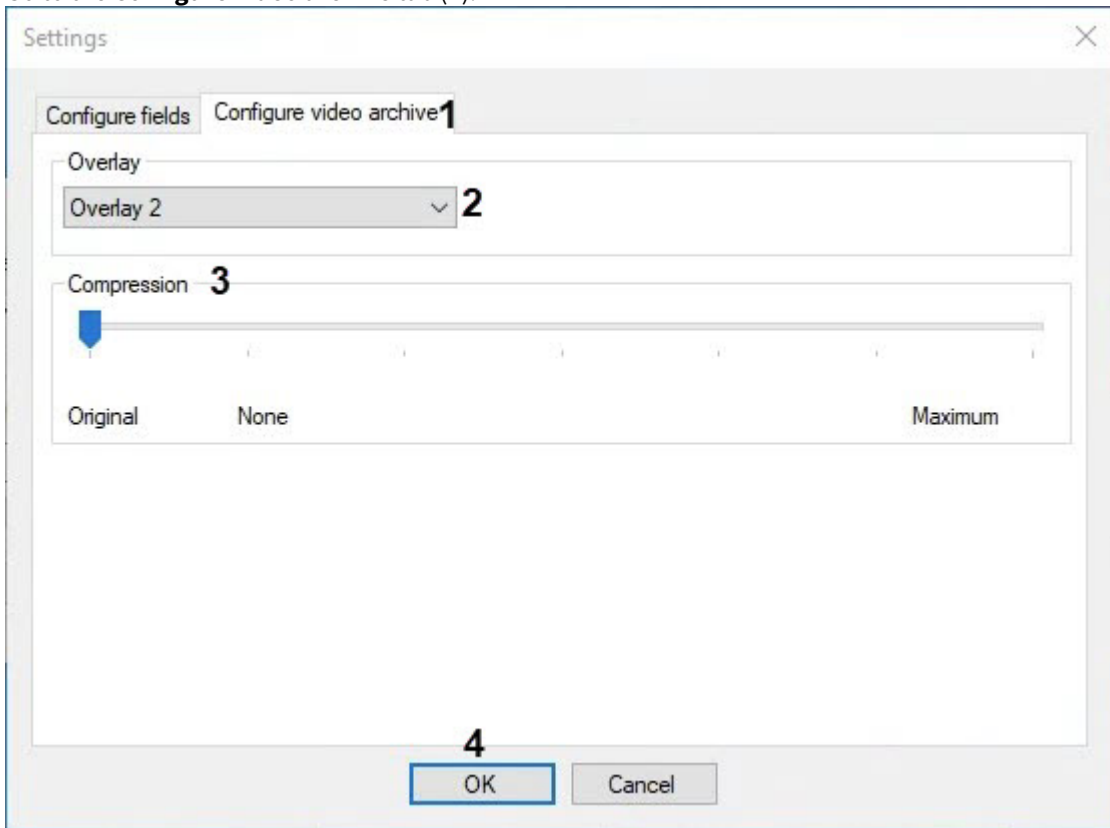
Video recordings of the events are displayed in the video archive. To configure the video recordings playback, do the following:

1. In the main menu of the **Event search in the Recognizers DBs**, click **Settings**.



As a result the **Settings** dialog window is displayed.

2. Go to the **Configure video archive** tab (1).



3. From the **Overlay** drop-down list, select the Overlay mode (2).

Note

Overlay is used to process the video using the video card and **Direct X** libraries, before it is displayed. Overlay allows to improve the image due to optimization of the pixel color settings. At the same time, the CPU load is reduced as the video is processed with the resources from the video capture card.

The overlay modes are presented in the table.

Overlay mode	Description
No	Videos from the video cameras are not processed by the video card
Overlay 1	Videos from the video cameras are processed as one stream

Overlay 2 (set by default)	Videos from the video cameras are processed independently of one another
-----------------------------------	--

4. In the **Compression** field, set the cursor according to the required video compression rate (**3**).
 - **Default**—means the original compression rate, size and quality of the video corresponds to the video image that is sent to the server.
 - **None**—means minimal compression rate, full video size, best quality.
 - **Maximum**—means maximum compression rate, minimal video size, worst quality.
5. To save changes click **OK** (**4**).

The configuring of the video recordings playback is completed.

Creating a search query

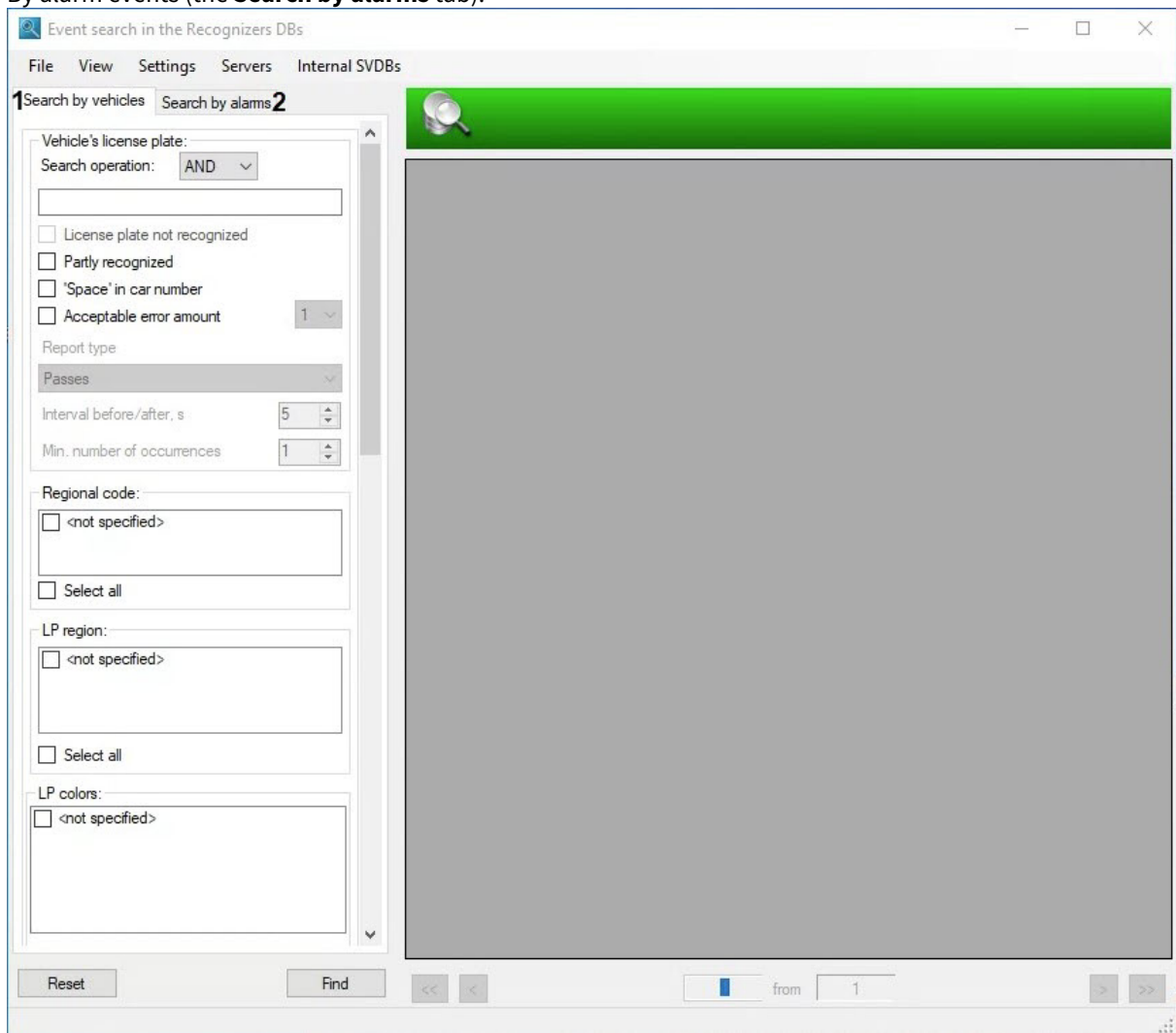
On the page:

- [Creating a search query by recognized vehicles](#)
- [Creating a search query by alarms](#)
- [Starting a search](#)

You can form a search query:

1. By recognized vehicles (the **Search by vehicles** tab).

2. By alarm events (the **Search by alarms** tab).



Creating a search query by recognized vehicles

To create a search query by recognized vehicles, do the following:

1. Go to the **Search by vehicles** tab (1).

2. In the **Vehicle's license plate** group:

- a. From the **Search operation** drop-down list (2), select a logical construction, used for uniting several elements of the key phrase, which correspond to the LP numbers or their parts that are being searched:
 - **AND**—for searching by numbers, containing all the elements of the key phrase;
 - **OR**—for searching by numbers, containing at least one element of the key phrase.
- b. In the field (3), enter the key phrase. The elements of the key phrase can be separated by comma ",", or semicolon ";".

Note

The key phrase can include usual characters and picture-characters in the required combination.

Picture-characters	Description of a picture-character	Example of search query
%	Any number of any characters	Search query A%385%78 returns LP numbers, containing the elements A, 385 and 78 , divided by any number of characters, for example AO38578 and A385MK78
_ (underscore)	Any single character	Search queries _91_AT_7 and T9__AT07 return the LP number T919AT07

Picture-characters	Description of a picture-character	Example of search query
[]	Any single character within the range [A-E] or in the set [ABCDE]	Search query [E-M][2-5] 53 returns LP numbers, containing the sequence of four characters. The sequence ends in 53 , the first character belongs to the range E-M , the second one belongs to the range 2-5 , for example, K453MH02, M253BT63
[^]	Any single character outside the range [^A-E] or the set [^ABCDE]	Search query [^E-M] 499 returns LP numbers, containing the sequence of four characters. The sequence ends in 499 , the first character does not belong to the range E-M , for example B499BK57 and H499578

- c. Set the **License plate not recognized** checkbox (4) if it is necessary to display all numbers.

 **Note**

The **License plate not recognized** checkbox is available only if the **OR** logical construction is selected in the **Search operation** drop-down list.

- d. Set the **Partly recognized** checkbox (5) if it is necessary to display partially recognized numbers.
- e. Set the **'Space' in car number** checkbox (6) if it is necessary to display the numbers that contain a space between the characters.
- f. Set the **Acceptable error amount** checkbox (7) to display the numbers with the errors (character mismatches), the amount of which is indicated in the drop-down list.
- g. From the **Report type** drop-down list (8), select the type of vehicle search:
- i. **Passes**—standard search.
 - ii. **Escort vehicles**—search for all vehicles that have been recorded near the specified vehicle within the time interval set in the **Interval before/after, s** parameter.
- h. In the **Interval before/after, s** field (9), specify the time in seconds within which it is necessary to search for the vehicle.

 **Note**

This parameter is available if the **Escort vehicles** value is selected in the **Report type** drop-down list.

- i. In the **Min. number of occurrences** field (10), specify the minimum number of vehicle records within the time set in the **Interval before/after, s** parameter.

 **Note**

This parameter is available if the **Escort vehicles** value is selected in the **Report type** drop-down list.

3. In the **Regional code** group, set the checkboxes for those regional codes, the events for which must be returned during search.

Regional code:

<not specified>

Select all

⚠ Attention!

Only those regional codes are displayed, the license plate of which has already been recognized earlier, since this information is received from the database of recognized license plates.

4. In the **LP region** group, set the checkboxes for those regions, the events from which must be returned during search.

LP region:

<not specified>

Select all

⚠ Attention!

Only those regions are displayed, the license plate of which has already been recognized earlier, since this information is received from the database of recognized license plates.


5. In the **LP colors** group, select color of regional code and basic color of the license plate.

LP colors:

<not specified>

⚠ Attention!

Only those license plate colors are displayed, the license plate of which has already been recognized earlier, since this information is received from the database of recognized license plates.

6. In the **Date/Time** group, specify the time range within which the required events have been registered. By default, this range is not activated (the **from** and **to** checkboxes are clear). To activate it, set the **from** and/or **to** checkboxes and then click the  button and in the appeared calendar, set the required date. Enter the required time in the field **From** and/or **To**. If you select only the lower or upper limit, the search query returns the events, registered before or after the set time, respectively. To disable the search by date and

time, clear the **from** and **to** checkboxes.

Date/Time

from: 2022-11-10 14:21:08

to: 2022-11-10 14:30:41

- In the **Plate recognizers** group, set the checkboxes for those plate recognizers, the events from which must be returned during search.

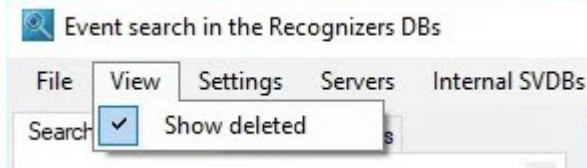
Plate recognizers:

LPR channel 2

Select all

Note

Information about objects deleted from *Axxon PSIM* isn't displayed in the **Plate recognizers** group. To search by deleted servers of plate recognizers, in the **View** menu of the **Event search in the Recognizers DBs** window, select **Show deleted**.



After this, all deleted LPR channels are displayed in the **Plate recognizers** group. Set checkboxes for those plate recognizers which you want to use during search.

- In the **External DB** group, set the checkboxes for those external databases, the events of finding the recognized number from which must be returned during search.

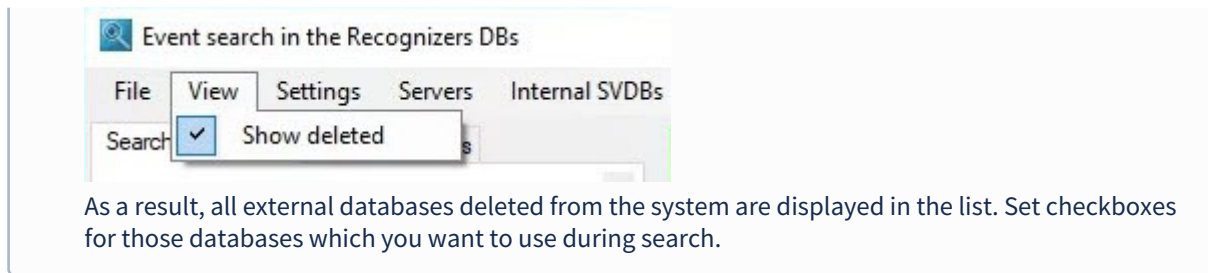
External DB:

External Plates DB 2

Select all

Note

The **External database** group contains a list of all databases that have ever been used together with the *Vehicle Tracer* module, but, by default, databases deleted from *Axxon PSIM* aren't displayed in the list. To search by deleted databases, in the **View** menu of the **Event search in the Recognizers DBs** window, select **Show deleted**.



9. From the **Registered speed** group, select the required filter of vehicle speed and then enter the threshold values of vehicle speed. The following speed filters are available:

Registered speed:

interval

from: 0 to: 0

- **<not important>**—events of the vehicle, moving with any speed will be returned;
 - **more**—events of the vehicle, moving with a speed, exceeding a threshold value, will be returned;
 - **less**—events of the vehicle, moving with a speed, not exceeding a threshold value, will be returned;
 - **interval**—events of the vehicle, moving with a speed, belonging to a specified interval threshold values, will be returned;
10. From the **Direction** drop-down list, select the required filter by the direction of vehicle movement. The following direction filters are available:

Direction: <no matter>

- **<no matter>**—events of the vehicle, moving in any direction relative to the license plate recognition camera will be returned;
 - **undefined**—events of the vehicle, which direction of movement is undefined, will be returned;
 - **from the camera**—events of the vehicle, moving away from the license plate recognition camera will be returned;
 - **to the camera**—events of the vehicle, moving towards the license plate recognition camera will be returned;
 - **to the right**—events of the vehicle, moving to the right of the license plate recognition camera will be returned;
 - **to the left**—events of the vehicle, moving to the left of the license plate recognition camera will be returned.
11. In the **Countries** group, set the checkbox for the country, the events from which must be returned during search.

Countries:

<not specified>

Select all

Attention!

Only those countries are displayed, the license plate of which has already been recognized earlier, since this information is received from the database of recognized license plates.

12. In the **Comment** group:

- a. From the **Search operation** list (1), select a logical construction, used for uniting several elements of the key phrase, corresponding to the comments to the events that are being searched for:
 - **AND**—for searching by comments, containing all the elements of the key phrase;
 - **OR**—for searching by comments, containing at least one element of the key phrase.
- b. In the field (2), enter the key phrase, containing one or several elements separated by a comma and corresponding to the comments to the events, which are being searched for, and which were specified in the **Online monitor** window (see [Adding comments to the events](#)).
- c. Set the **Empty comment** checkbox (3) to include the uncommented events in the search.

Note

This parameter is available if the **OR** logical construction is selected in the **Search operation** drop-down list.

- d. Set the **Non-empty comment** checkbox (4) to include only the commented events in the search.
13. From the **Validity** list, select the required validity filter and then enter the threshold of validity values. The following validity filters are available:

- **<not important>**—events of the vehicles, which numbers have been recognized with any validity, will be returned;
- **more**—events of the vehicles, which numbers have been recognized with validity, exceeding the entered threshold value, will be returned;
- **less**—events of the vehicles, which numbers have been recognized with validity, not exceeding the entered threshold value, will be returned;
- **interval**—events of the vehicles, which numbers have been recognized with validity, belonging to the specified interval of threshold values, will be returned.

14. In the **Recognition cameras** field, set the checkboxes for the cameras, the events from which must be returned during search.

- In the **Vendor** group, set the checkbox for the vendors, from which vehicles you want to return events during search.

Vendor:

<not specified>

Select all

- In the **Model** group, set the checkbox for the vehicle models, the events from which you want to return during search.

Model:

<not specified>

Select all

- In the **Type** group, set the checkbox for the vehicle types, the events from which you want to return during search.

Type:

<not specified>

Select all

- In the **Vehicle color** group, set the checkbox for the vehicle colors, the events from which you want to return during search.

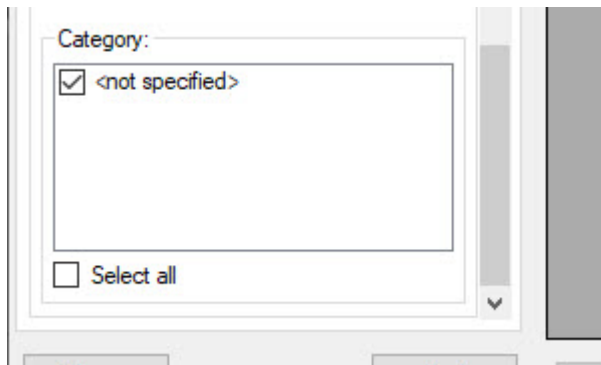
Vehicle color:

<not specified>

Select all

Reset
Find

- In the **Category** group, set the checkbox for those categories of vehicles, the events from which you want to return during search.

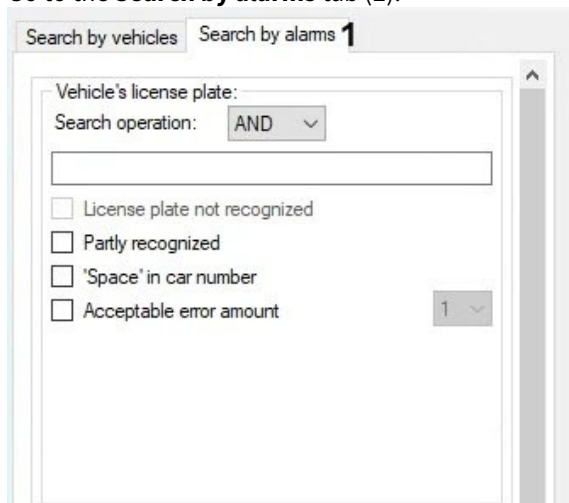


To clear the **Search by vehicles** tab from the entered search criteria, click the **Reset** button.

Creating a search query by alarms

To create the search query by alarms, do the following:

1. Go to the **Search by alarms** tab (1).



2. Repeat steps 2-8 of the **Creating the search query by recognized vehicles** section as applied to the interface elements of the **Search by alarms** tab.
3. From the **Permitted speed** list, select the required speed filter, permitted on the controlled road area and then enter the threshold speed values in km/h. The following filters of the permitted speed are available:



- **<not important>**—events, registered on the road area with any permitted speed will be returned;
 - **more**—events, registered on the road area with any permitted speed, exceeding the entered threshold value will be returned;
 - **less**—events, registered on the road area with any permitted speed, not exceeding the entered threshold value will be returned;
 - **interval**—events, registered on the road area with the permitted speed, that belong to the entered threshold value interval will be returned.
4. From the **Alarm handling delay, s** list, select the required filter according to the alarm handling delay and then in the fields, enter the threshold values of delay time in seconds. The following filters of alarm handling

delay are available:

Alarm handling delay, s

interval

from: 0 to: 0

- **<not important>**—alarm events, accepted in any time after being registered or unaccepted at all, will be returned;
- **more**—alarm events, accepted with a delay, exceeding the entered threshold value, will be returned;
- **less**—alarm events, accepted with a delay, not exceeding the entered threshold value, will be returned;
- **interval**—alarm events, accepted with a delay, belonging to the entered threshold value interval, will be returned.

5. From the **Alarm processed** list, select the required alarm processing filter. The following alarm processing filters are available:

Alarm processed: <no matter>

- **<no matter>**—both processed and unprocessed events will be returned;
- **alarm is not processed**—only unprocessed events will be returned;
- **alarm processed**—only processed events will be returned.

6. In the **Alarm accepted by** group, set the checkboxes for the operators who received the alarm events to display these events in the search query.

Alarm accepted by:

<not specified>

Select all

Note

This parameter is available if the **<not important>** or **alarm processed** value is selected in the **Alarm processed** list (see above).

7. In the **Alarm type** group, set the checkboxes for the alarms, which must be returned in the results of a search query:

Alarm type

Run over stop line

Speeding

Stop over crosswalk line

Select all

- **Alarm is set by operator**—manually initiated alarm events will be returned;
- **Entered the oncoming lane**—events, for which entering the oncoming lane has been registered, will be returned;
- **Marking rules violation**—events, for which the violation of marking rules has been registered, will be returned;
- **Parking rules violation**—events, for which the violation of parking rules has been registered, will be returned;
- **Plate number is found in the DB**—events of the vehicles, which license plates have been found in the external database, will be returned;
- **Red light violation**—events, for which running a red light has been registered, will be returned;

- **Red light violation at intersection**—events, for which running a red light at intersection has been registered, will be returned;
- **Run over stop line**—events, for which stopping over the stop line has been registered, will be returned;
- **Speeding**—events, for which speeding has been registered, will be returned;
- **Stop over crosswalk line**—events, for which stopping over the crosswalk line at the stoplight has been registered, will be returned.

8. In the **Comment from external DB** group:

- From the **Search operation** list (1), select the logical construct which is used to combine several elements of the key phrase, that correspond to the comments to the events you are searching for in external databases:
 - **AND**—to search for comments that contain all elements of the key phrase;
 - **OR**—to search for comments that contain at least one element of the key phrase.
 - In the field (2), enter a key phrase consisting of one or more elements, separated by commas, that correspond to the comments to the events you are searching for in external databases that are specified in the **External DB** group (see [Creating the Active tracking database](#)).
9. From the **Speeding** list, select the required speeding filter and then enter the threshold values of speeding in km/h. The following filters of the speeding are available:

- **<not important>**—events of the vehicle, moving with any speeding or with the absence of it, will be returned;
- **more**—events of the vehicle, moving with speeding, exceeding the entered threshold value, will be returned;
- **less**—events of the vehicle, moving with speeding, less than the entered threshold value, will be returned;
- **interval**—events of the vehicle, moving with speeding, in the entered range of threshold values, will be returned.

Note

This parameter is available if the **Speeding** checkbox is set in the **Alarm type** group. The value of speeding is calculated as a difference between the fixed vehicle speed and the speed, permitted on the controlled area of the road.

10. From the **Red light shows at, s** list, select the required filter for the red light start and then in the fields, enter the threshold values in seconds. The following filters of the running a red light are available:

- **<not important>**—events of the vehicles, which violated a red light, will be returned;
- **more**—events of the vehicles, which violated a red light after the entered threshold value of the red light start, will be returned;

- **less**—events of the vehicles, which violated a red light before the entered threshold value of the red light start, will be returned;
- **interval**—events of the vehicles, which violated a red light within the entered range of threshold values of the red light start, will be returned.

Note

This parameter is available if the **Red light violation** checkbox is set in the **Alarm type** group.

11. In the **Alarm initiated by** field, select the required operators who initiated alarm events. The corresponding alarm events will be displayed in the search results.

Alarm initiated by:

<not specified>

Select all

Reset Find

Note

This parameter is available if the **Alarm is set by operator** checkbox is set in the **Alarm type** group.

To clear the **Search by alarms** tab from the entered search criteria, click the **Reset** button.

Starting a search

After forming a search query by vehicles or by alarms, click the **Find** button.

As a result, a table with search results that match the entered search criteria is displayed:

Event search in the Recognizers DBs

File View Settings Servers Internal SVDBs

Search by vehicles Search by alarms

Vehicle's license plate:
 Search operation: AND
 License plate not recognized
 Partly recognized
 'Space' in car number
 Acceptable error amount 1
 Report type: Passes
 Interval before/after, s: 5
 Min. number of occurrences: 1

Regional code:
 <not specified>
 Select all

LP region:
 <not specified>
 Select all

LP colors:
 <not specified>

Search results. 5320 records found

License plate	Frame	Number	Regional code	LP region
WXT 1189		WXT1189		
WRS 582		WRS582		
VV 9273		VV9273		
AHE 1612		AHE1612		
WXM 8838		WXM8838		
WPA 1000		WPA1000		

Reset Find 1 from 213

If the **Escort vehicles** report type was selected, the search results table looks like this:

Event search in the Recognizers DBs

File View Settings Servers Internal SVDBs

Search by vehicles Search by alarms

Vehicle's license plate:
 Search operation: AND
 AHE1612
 License plate not recognized
 Partly recognized
 'Space' in car number
 Acceptable error amount 1
 Report type: Escort vehicles
 Interval before/after, s: 5
 Min. number of occurrences: 1

Regional code:
 <not specified>
 Select all

LP region:
 <not specified>
 Select all

LP colors:
 <not specified>

Search results. 3 records found

Frame	License plate	Number	Count
		VV9273	26
		WB3070R	23
		W2928E	23






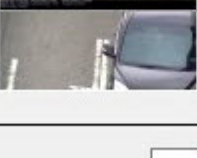
Reset Find 1 from 1

Viewing, printing and exporting the search results

Columns of the **Search results** table are displayed according to the settings configured in the **Configure fields** dialog window (see [Configuring the events search](#)).





The description of the columns content is given in the same section of the Guide.

Search results. **5320 records found**

License plate	Frame	Number	Regional code	LP region
WXT 1189		WXT1189		
WRS 582		WRS582		
VV 9273		VV9273		
AHE 1612		AHE1612		
WXM 8838		WXM8838		
WPA 4888		WPA4888		

Navigation: << < 1 from 213 > >>

To navigate in the results table, use the following interface elements:

1. button  —go to the first page of the table;
2. button  —go to the previous page of the table;
3. field —go to the required page of the table;
4. field —the number of pages in the table;
5. button  —go to the next page of the table;
6. button  —go to the last page of the table.

Note.

To go to the required page, enter its number in the field , and then press **Enter** on the keyboard.

You can print or export the search results as a report (see [Printing the search results report](#)), as well as export to the JPG file (see [Exporting the search results to JPG files](#)).

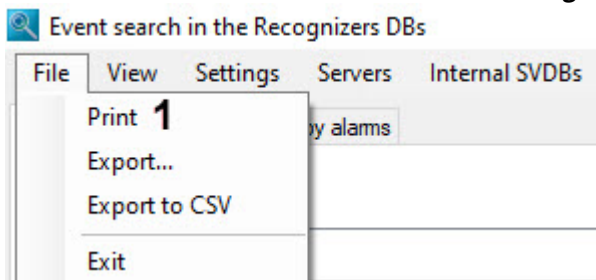
You can sort the search results within a page by clicking the corresponding column.

You can sort the search results by date on all pages by clicking the **Date** column.

Printing the search results report

The event search results can be printed as a report. To do this, do the following:

1. In the main menu of the **Event search in the Recognizers DBs** window, click **File** → **Print (1)**.

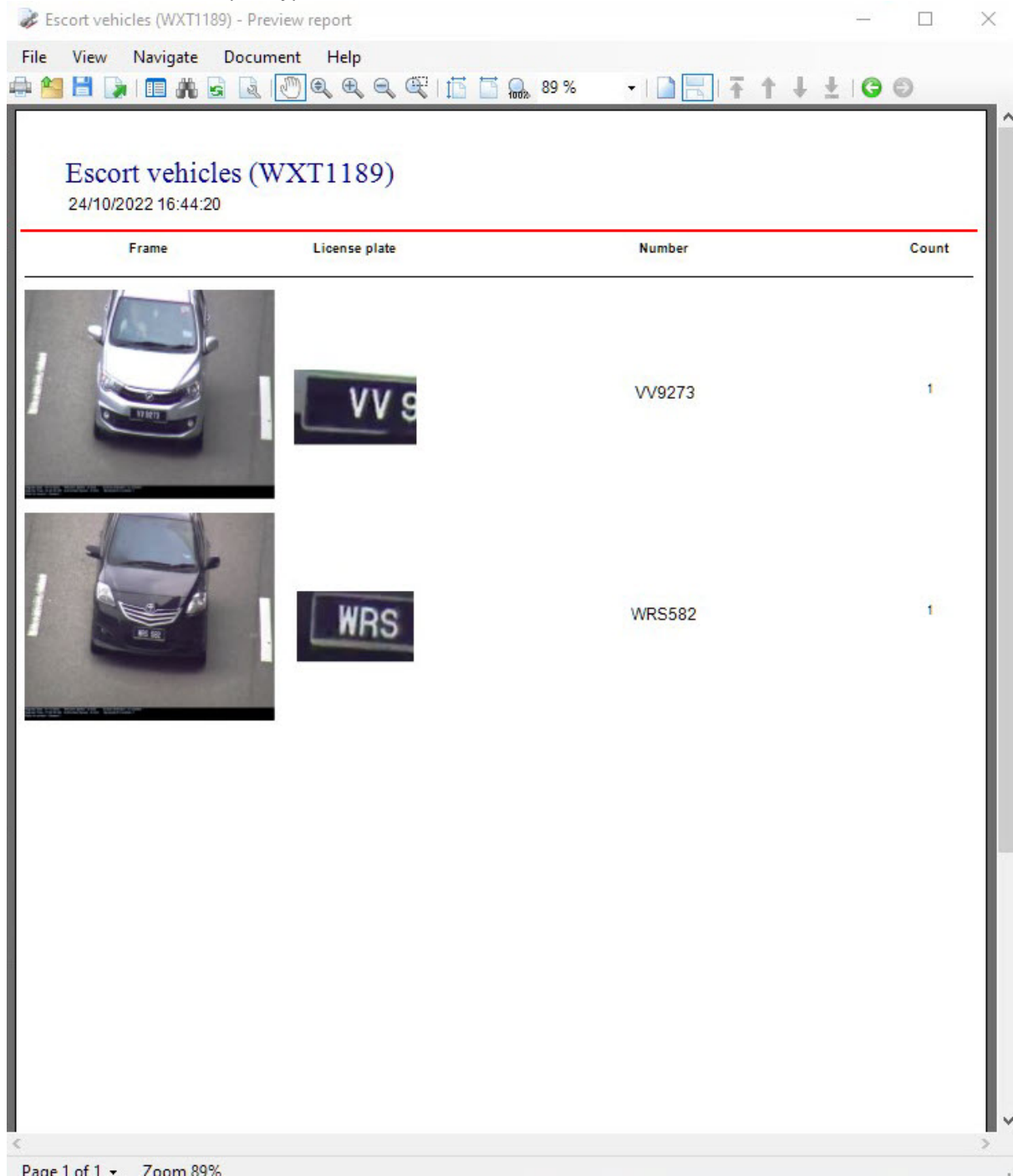






2. As a result, the report preview program will launch.

Plates protocol
09 March 2023

Recognizer	Number	Country	Direction	Recognition time	License Plates DB	External DB comment	Speed	Category	License plate	Image	Synchronous camera
LPR channel 1	DKC1998	MEX 998	To camera	2023-03-09 12:15:16					DKC-19-98		
LPR channel 1	DKC1998	MEX 998	To camera	2023-03-09 12:15:16	External Plates DB 1	Vini Junior			DKC-19-98		
LPR channel 1	DKC1998	MEX 998	To camera	2023-03-09 12:16:16	External Plates DB 1	Vini Junior			DKC-19-98		

If the **Escort vehicles** report type was selected:

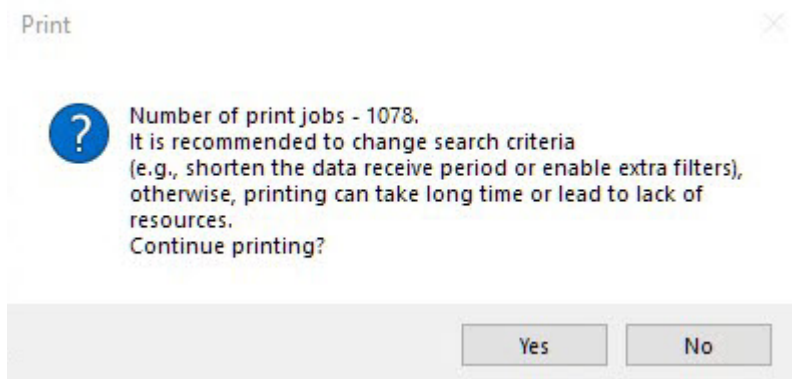


Frame	License plate	Number	Count
		VV9273	1
		WRS582	1

Page 1 of 1 Zoom 89%

Perform the necessary operations with a report in the report viewing window. All operations in this window are similar to those described on the page [Printing and exporting the vehicle data](#).

If there are more than 1000 entries in the search results the following message will be displayed before the preview report program launch.



Note

If the search results contain more than 1000 entries, the report may not be generated, because Windows does not allocate more than 2 GB of memory to the x86-bit processes.

Click **Yes** to continue. Click **No** to return to change the search criteria.

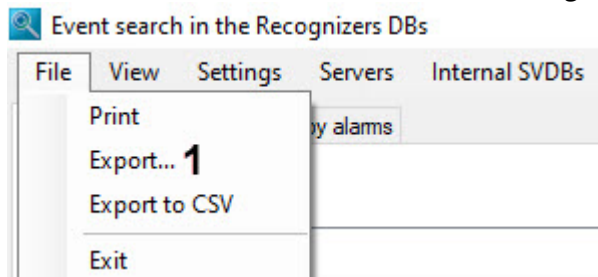
Exporting the search results to JPG files

The events search results can be exported to JPG files. For each event, the following objects will be created:

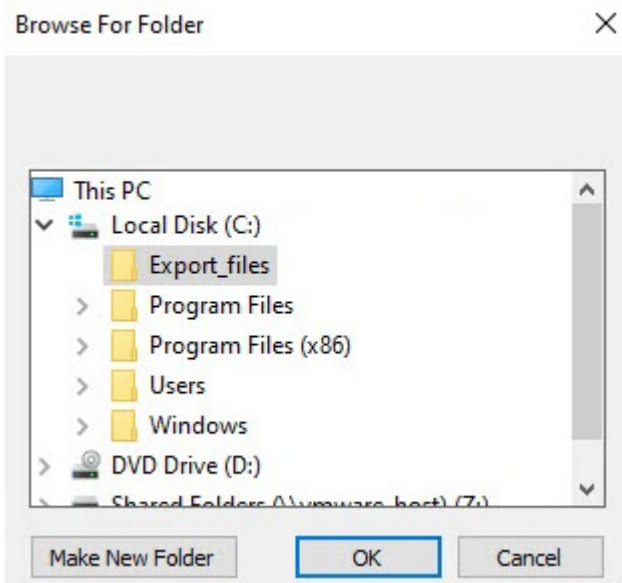
- a JPG file containing the frame from the main camera;
- a JPG file containing the frame from the synchronous camera with the *_secondary.jpg name (if the synchronous camera is configured);
- an archive containing meta data in the **ARENA** module format (if Debug4 mode is enabled). This functionality is required for integration with the TRIS.

To export the events search results to JPG files, do the following:

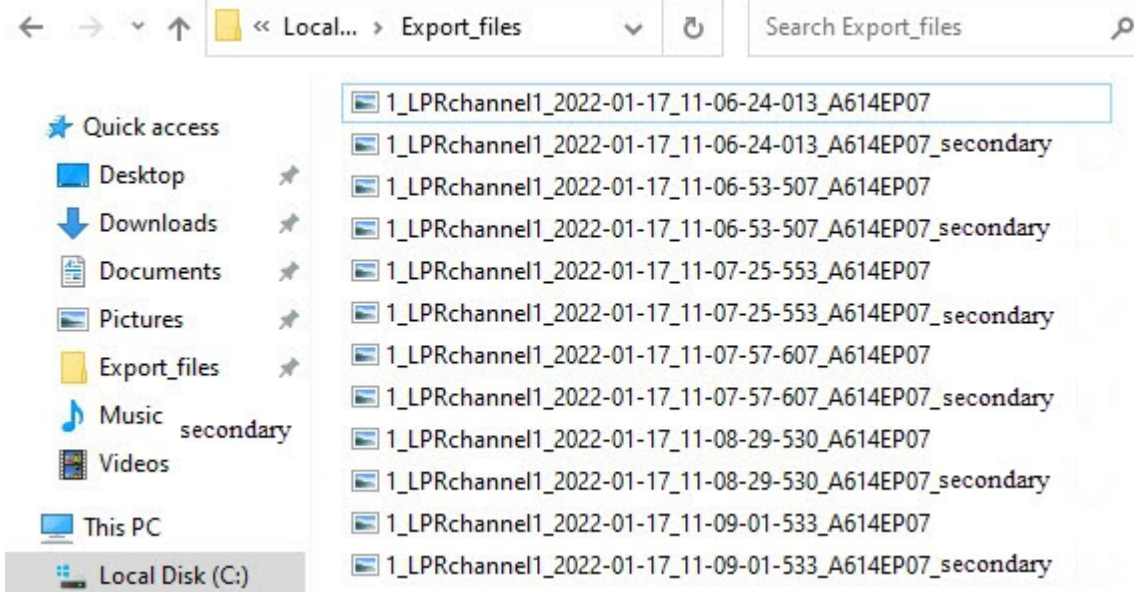
1. In the main menu of the **Event search in the Recognizers DBs** window, click **File** → **Export (1)**.



2. In the opened window select the folder in which the JPG files with search results are to be exported. Click **OK**.



3. As a result all JPG files corresponding to event search results will be exported to the specified folder. File names contain the following information:
detection tool ID, detection tool name, date and time, license plate, country (if defined), photo type (for example, secondary indicates that a photo is taken from a second synchronous camera, if there is any).



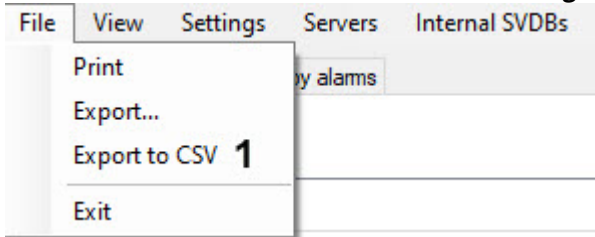
Exporting the events search results to JPG files is complete.

Exporting the search results to CSV file

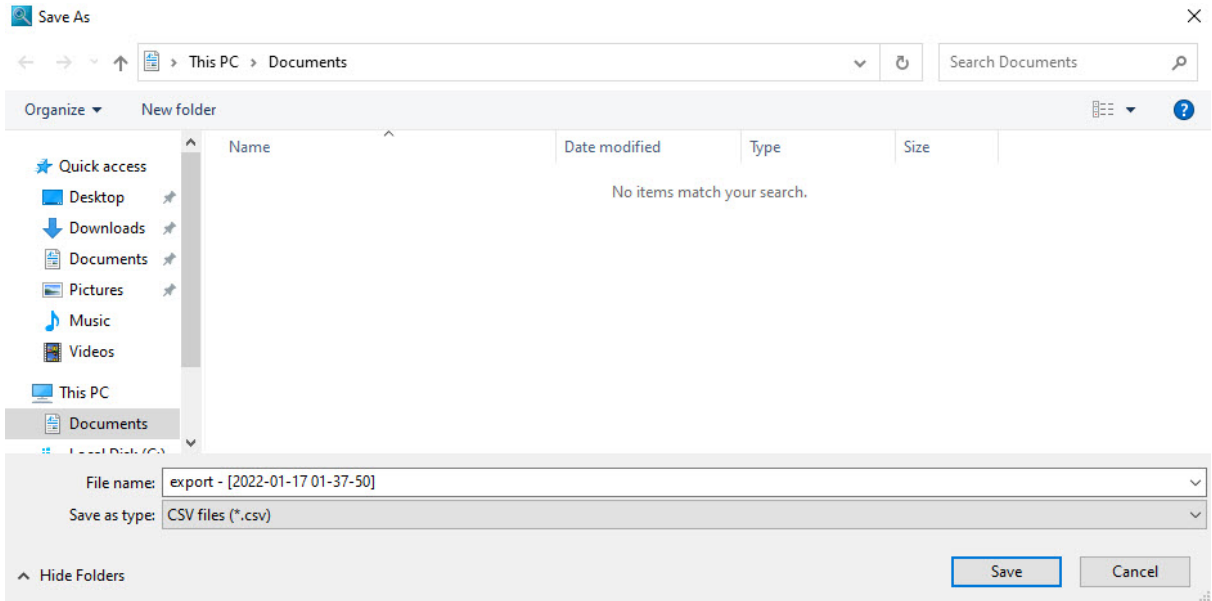
You can export the event search results to a CSV file.

To export event search results to a CSV file, do the following:

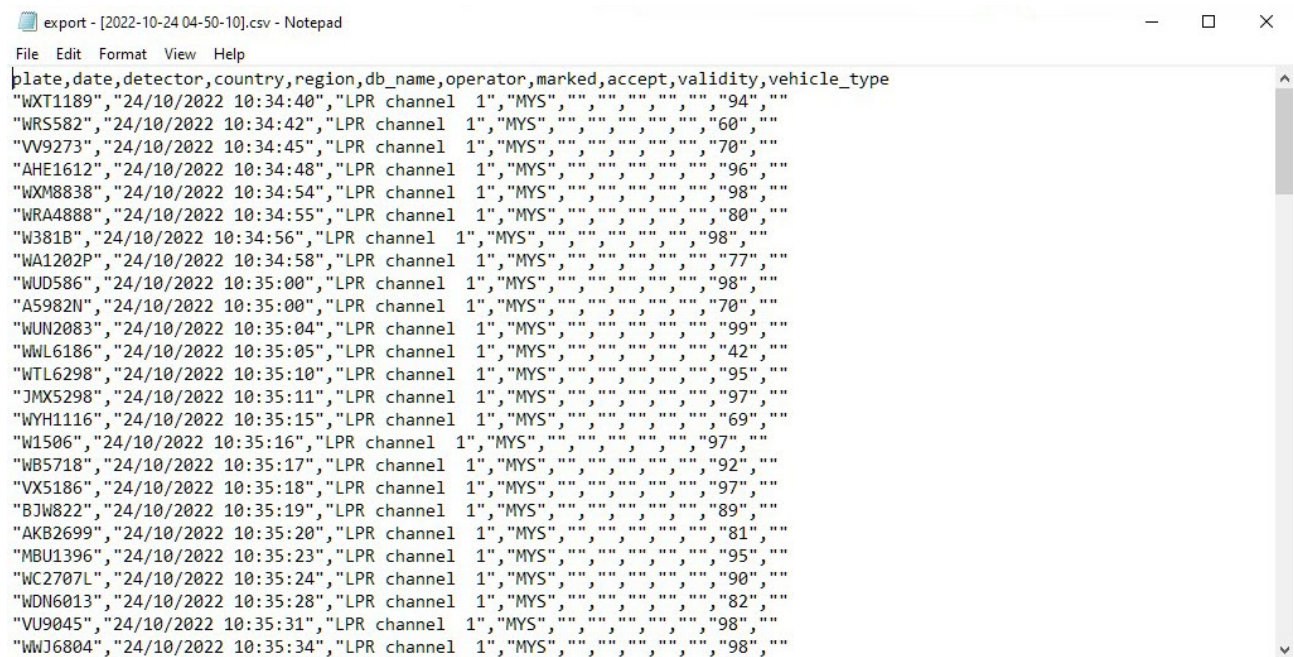
1. In the main menu of the **Event search in the Recognizers DBs** window, click **File** → **Export to CSV (1)**.



2. In the opened window, select the folder in which the CSV file with search results is to be exported, and click **Save**.



As a result, a CSV file containing the search results will be created in the specified folder.



Exporting the events search results to a CSV file is complete.

Previewing and printing the event data

To view the event data, double left-click the corresponding string in the search results table. The **View event** dialog window will open.

The screenshot shows the 'View event' dialog window. It contains two side-by-side camera views of a white Toyota Hiace van. Below the views is a large license plate '10-29383' and a smaller inset of the license plate '29383'. To the right is a 'Print' button and a large empty area. At the bottom is a table with event metadata and a 'Comments' field.

Recognizer	LPR channel 1
Country	United Arab Emirates: Abu Dhabi
Recognition time	2023-12-01 16:53:08
Validity	61 %
Direction	To camera
Category	Private
Camera	Camera 1
Vendor	Toyota
Model	Hiace
Color	Gray
Type	LightCommercialVehicle

In the **View event** window, the following event information is displayed:

1. The main video frame with a caption in the black area which contains the following data (1):
 - a. date and time of receiving the vehicle data;
 - b. vehicle license plate;
 - c. country;
 - d. type of license plate (only for the *Vehicle type recognition module*, *RR vendor and model recognizer module*, or *AR MMR module*);
 - e. vehicle speed;
 - f. vehicle direction;
 - g. speed, permitted on the controlled road area;
 - h. ID of speed detector;
 - i. control point—name of the camera that captured the vehicle;
 - j. vehicle vendor (only for the *Vehicle type recognition module*, *RR vendor and model recognizer module*, or *AR MMR module*);
 - k. vehicle model (only for the *Vehicle type recognition module*, *RR vendor and model recognizer module*, or *AR MMR module*);

- l. vehicle color (only for the *Vehicle type recognition module, RR vendor and model recognizer module, or AR MMR module*).

Note

By double-clicking in a separate window, you can view the frame with a recognized vehicle. The set window sizes are saved after you restart the computer. You can use the parameters of the **FontSize.N** and **TimestampFontSize.N** registry keys to change the size of the black area containing captions and their font (see [Registry keys reference guide](#). For more information on working with the registry, see [Working with Windows OS registry](#)).

2. Additional video frame if any (2).

Note

By double-clicking in a separate window, you can view the frame with a recognized vehicle. The set window sizes are saved after you restart the computer.

3. Field (3) with the following data:
 - a. recognized license plate of a vehicle;
 - b. image of a recognized license plate.



Note

By double-clicking in a separate window, you can view the image of a recognized license plate. The set window sizes are saved after you restart the computer.

4. Field (4) with the following data:
 - a. recognizer of a vehicle license plate;
 - b. country;
 - c. date and time when the vehicle license plate was recognized;
 - d. validity in %;
 - e. vehicle direction in relation to the license plate recognition camera;
 - f. name of the camera that captured the vehicle;
 - g. vehicle speed;
 - h. vehicle vendor (only for the *Vehicle type recognition module, RR vendor and model recognizer module, or AR MMR module*);
 - i. vehicle model (only for the *Vehicle type recognition module, RR vendor and model recognizer module, or AR MMR module*);
 - j. vehicle color (only for the *Vehicle type recognition module, RR vendor and model recognizer module, or AR MMR module*);
 - k. type of license plate (only for the *Vehicle type recognition module, RR vendor and model recognizer module, or AR MMR module*).
5. Vehicle data from the external LP database if the recognized LP has been found there (5);
6. Comments to the event (6).

To print the Report or/and export it to one of the most commonly used formats, click the **Print** button (7). A program to preview the report will launch. The vehicle data report will be displayed in the window of this program.

Vehicle data

Recognizer	<u>LPR channel 1</u>
Country	<u>United Arab Emirates: Abu Dhabi</u>
Recognition time	<u>2023-12-01 15:06:36</u>
Validity	<u>61 %</u>
Direction	<u>To camera</u>
Regional code	<u>AZ</u>
Regional code	<u>Abu Dhabi</u>
Category	<u>Private</u>
Camera	<u>Camera 1</u>
Vendor	<u>Toyota</u>
Model	<u>Hiace</u>
Color	<u>Gray</u>
Type	<u>LightCommercialVehicle</u>
Basic color of license plate	
Extra color of license plate	

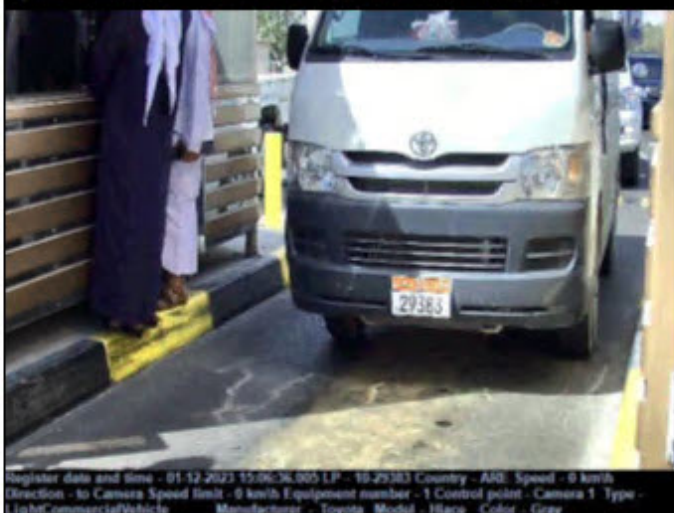


Register date and time - 01-12-2023 15:06:36,005 LP - 10-29383 Country - ARE Speed - 0 km/h
Direction - to Camera Speed limit - 0 km/h Equipment number - 1 Control point - Camera 1 Type -
LightCommercialVehicle Manufacturer - Toyota Model - Hiace Color - Gray

LPR channel 1
2023-12-01 15:06:36



10-29383



Register date and time - 01-12-2023 15:06:36,005 LP - 10-29383 Country - ARE Speed - 0 km/h
Direction - to Camera Speed limit - 0 km/h Equipment number - 1 Control point - Camera 1 Type -
LightCommercialVehicle Manufacturer - Toyota Model - Hiace Color - Gray

Perform the necessary operations with a report and then quit the program by clicking the **File** -> **Exit** menu items, or by clicking the ✕ button (see step 4 in [Printing and exporting the vehicle data](#)).

Creating the Active tracking database

The **Active tracking** database is the *Auto PSIM* database and is filled up by operator via the *Vehicle Tracer* module.

Note.

- It is impossible to remove and change records via the *Vehicle Tracer* module except for changing the suspect vehicle profile status.
- All operator actions with the Active tracking database (for example, adding or deleting a suspect vehicle profile, changing the start or end date of the suspect vehicle profile) are logged.

For total interaction between the **Active tracking** database and the *Vehicle Tracing* module the following conditions should be met:

1. The **Active tracking** database should be connected to *Auto PSIM* as an external plates database.
2. This external database should be used by the *Vehicle Tracer* module for analyzing the recognized license plates.

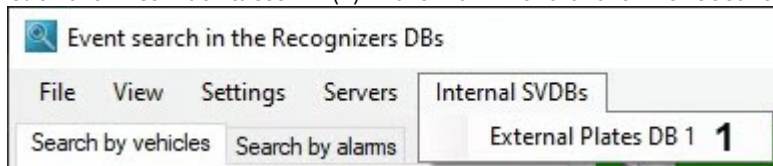
If the following conditions are met, the interaction between the **Active tracking** database and the *Vehicle Tracer* module is performed in the following way:

1. The operator adds the vehicle LP to the **Active tracking** database via the *Vehicle Tracer* module, and specifies the reason of its adding.
2. The *Vehicle Tracer* module compares the passing vehicle LP with the LPs stored in the **Active tracking** database. If the correspondence between these LPs is established, the alarm event is generated with the location of the number in the corresponding database.

The **Active tracking** option is convenient to be used in the *Auto PSIM* distributed system, as it enables the operator at his workstation to notify the remote workstation operators about the vehicle that is to be captured.

The information about the vehicle is added to the **Active tracking** database as follows:

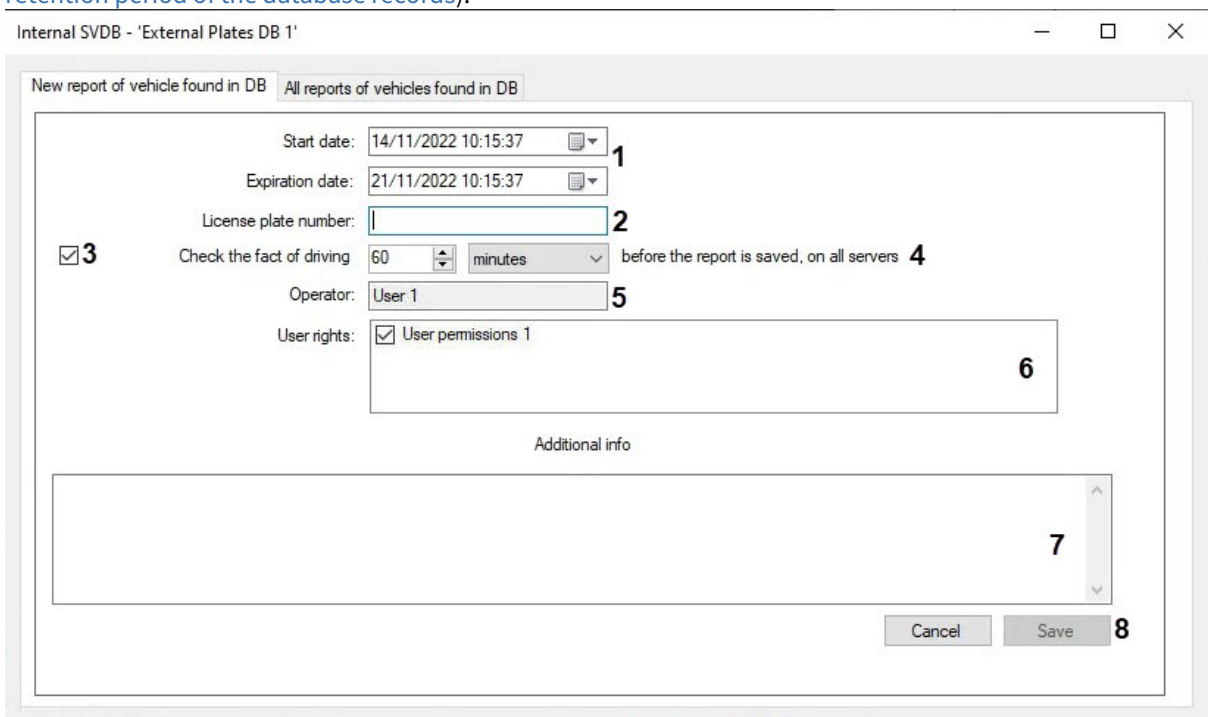
1. Click the **External Plates DB (1)** in the main menu of the **Event search in the Recognizers DBs** window.



- As a result the **Internal SVDBs** dialog window will open.



- Click **Enter** to add records to the database.
- Indicate the start and expiration date of the suspect vehicle profile (1). All alarm events about the number being in the corresponding external LP database will be guaranteed to be stored until the expiration of the suspect vehicle profile, despite the periodic procedure for clearing the archive of events (see [Configuring the retention period of the database records](#)).



- In the **License plate number** field (2) specify the vehicle number. To enter a two-line number, use two underscore characters " __ " as a line separator, for example: **123ABC__TH777**.

6. If it is necessary to check the fact of vehicle driving to the vehicle report by all boundaries, do the following:
 - set the **Check the fact of driving** checkbox (3);
 - enter the time period for which it is required to check the fact of vehicle driving to the vehicle report by all boundaries (4).
7. The **Operator** field (5) indicates the current operator creating the suspect vehicle profile.
8. In the **User rights** list (6), set the check boxes for those *Axxon PSIM* user rights that should receive an alarm event when the LP number is found in the database. In order for only the current operator to receive an alarm event, it is necessary to uncheck all the boxes in the **User rights** list.

Note

To receive alarm events, it is necessary that the selected user has full access to the **External plates DB** object, to which the suspect vehicle profile is entered. If any restrictions are set in the user rights for the **External plates DB** object, then users with such rights will not receive alarm events.

9. If necessary, in the **Additional info** field (7) enter a description of the reason for creating the suspect vehicle profile.
10. Click **Save** to save changes (8).

Note.

The suspect vehicle profiles added to the database receive the **Active** status.

11. Go to the **All reports of vehicles found in DB** tab to change the status of suspect vehicle profile.

Internal SVDB - 'External Plates DB 1'

New report of vehicle found in DB | All reports of vehicles found in DB

Find: 4 Search 2 Edit Delete 5

Number	Date and Time	End time	Comment	Active	Operator	User rights
WKG1848	14.11.2022 10: 15: 37	21.11.2022 10: 15: 37		<input checked="" type="checkbox"/> 3		

1

7 Refresh Change 8 Save 6

12. The table displays a list of all suspect vehicle profiles in the database that the current operator has access to (1):
 - In the **Number** column, the LPs on the wanted list are displayed.
 - In the **Date and Time** column, the time of adding the vehicle report to the database is displayed.
 - In the **End time** column, the expiration time of the suspect vehicle profile is displayed.
 - In the **Comment** column, the reason by which the vehicle report is created is displayed.
 - In the **Active** column, the checkboxes are set for the active vehicle reports.
 - In the **Operator** column, the operator who added the vehicle report to the database is displayed.

- In the **User rights** column, the rights of users who will receive an alarm event about finding a number in the database is displayed.

Note

You can sort the suspect vehicle profiles by clicking on the name of the corresponding column.

13. The **Date and Time**, **End time** and **Comment** columns can be edited. To do this, select the corresponding value in the column, then double-click on this value or click on the **Edit** button (2).

Note

The columns **Number**, **Operator** and **User rights** are not editable.

14. To change the suspect vehicle profile status, in the **Active** column (3), set the check boxes for the suspect vehicle profiles that are active, or uncheck the boxes for those suspect vehicle profiles that are inactive.
15. To search for the vehicle in the table, enter the search request in the **Find** field (4) and click the **Search** button. A list of vehicles matching the search request will be displayed.

Note

The data is searched in the following fields: **Number**, **Date and Time**, **Operator**, **Comment**.

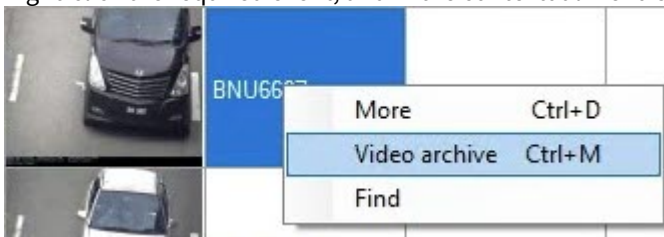
16. To remove the selected suspect vehicle profile, click **Delete** (5).
17. To save the changes, click **Save** (6).
18. To update the list of suspect vehicle profiles, click **Refresh** (7).
19. To save all suspect vehicle profiles to a CSV file, click **Change** (8) and select the **Save to CSV** item.
20. To load previously saved suspect vehicle profiles from a CSV file, click **Change** (8) and select the **Import from CSV** item.

Adding the vehicle data to the **External Plates DB** is completed.

Viewing the video archive by an event

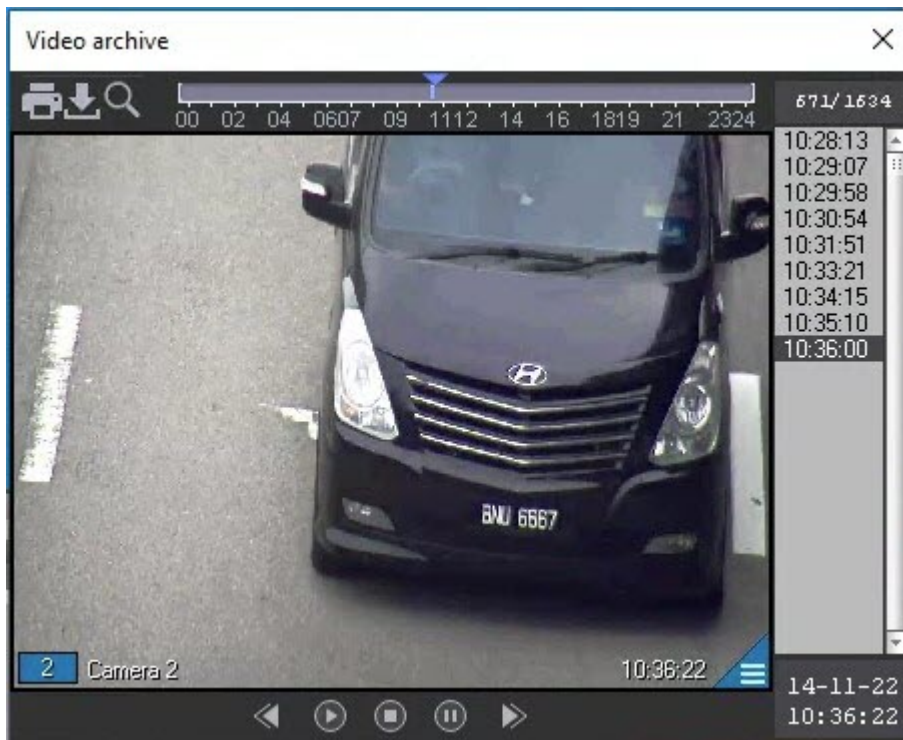
Viewing the video archive by event can be initiated in three ways:

1. Right-click the required event, and in the contextual menu select the **Video archive** option.



2. Left-click the required event, and on the keyboard push the **Ctrl + M** keys combination.
3. Holding the **Shift** key, double left-click the required event.

As a result, the video archive with videos of the event will open.



To close the video archive, click the **X** button in the right upper corner of the window.
Viewing the video archive by event is completed.

4 Description of the Auto PSIM user interface

4.1 Description of the interfaces of the Traffic analysis monitor object

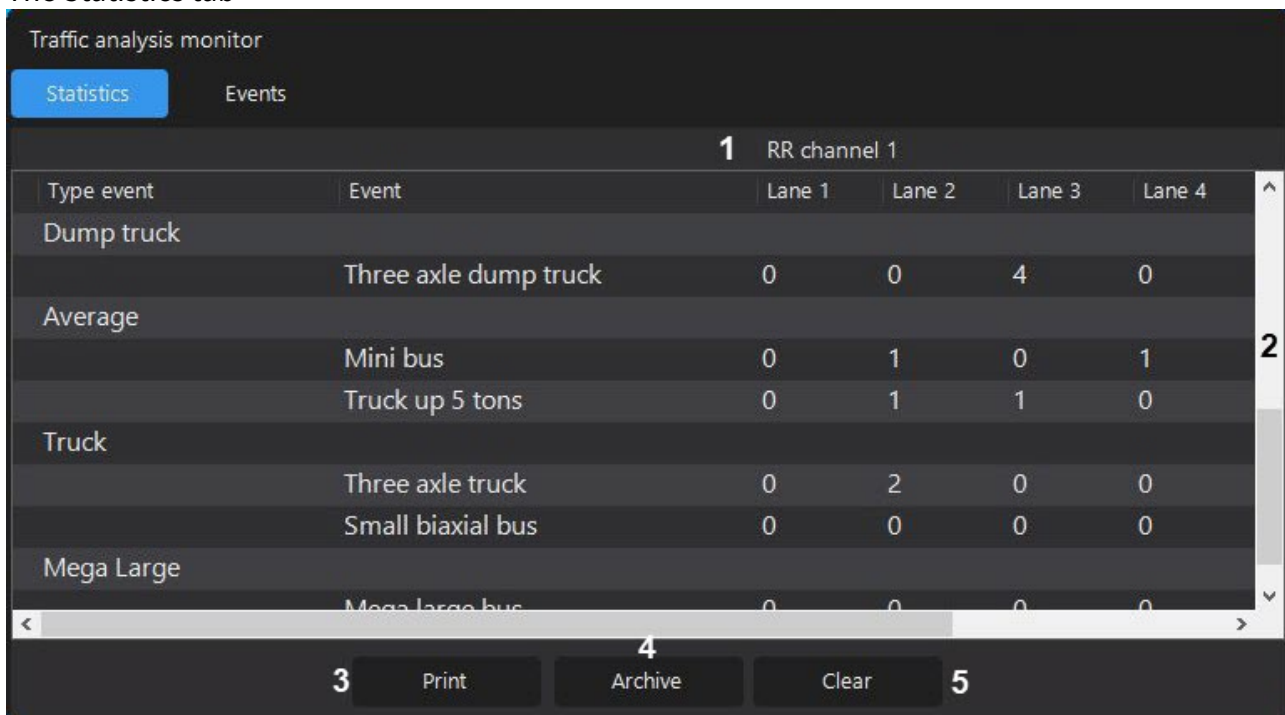
4.1.1 The interface of the Traffic analysis monitor object

On the page:

- [The Statistics tab](#)
- [The Events tab](#)
- [The event archive mode from cameras](#)

The interface of the **Traffic analysis monitor** window contains the following elements.

The Statistics tab



		1 RR channel 1			
Type event	Event	Lane 1	Lane 2	Lane 3	Lane 4
Dump truck	Three axle dump truck	0	0	4	0
	Average				
Truck	Mini bus	0	1	0	1
	Truck up 5 tons	0	1	1	0
	Three axle truck	0	2	0	0
Mega Large	Small biaxial bus	0	0	0	0
	Mega large bus	0	0	0	0

4

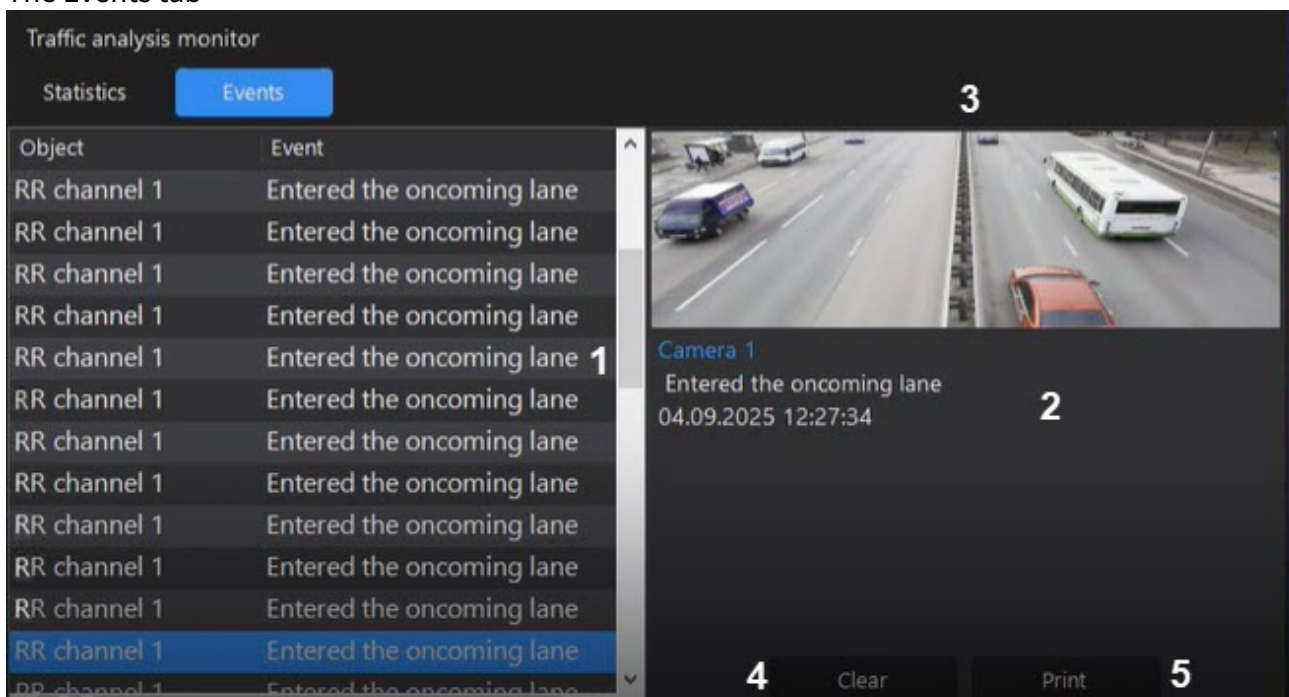
3 Print Archive Clear 5

By default, the event monitoring mode is enabled. To switch to the archive mode, use the **Archive** button.

Description of the interface elements.

Number of the element	Element	Description of the element
1	Data source	RR channels from which the statistic data is displayed
2	Statistic data	The table of the general statistic data received from cameras, by event types, including the number and type of the vehicle
3	The Print button	Prints the statistic data
4	The Archive button	Switches to the event archive mode from cameras
5	The Clear button	Deletes the statistic data from the table

The Events tab



Description of the interface elements.

Number of the element	Element	Description of the element
1	Events detected by cameras	The table of events detected by cameras

Number of the element	Element	Description of the element
2	The information area about the selected event in the list	The information about the selected event: the camera name, the lane name, the event name, the date in the DD.MM.YYYY format, the time of detecting an event, the photo made by the camera when detecting an event
3	The photo area of the selected event in the list	The photo of the selected event made by the camera in the list
4	The Clear button	Deletes detected events by the camera from the table
5	The Print button	Prints a report about the selected Report on event (see Viewing and printing the event information in the traffic analysis monitor window)

The event archive mode from cameras

The screenshot shows the 'Traffic analysis monitor' interface. At the top, there are tabs for 'Statistics' and 'Events'. Below the tabs, the 'Period from' and 'to' fields are set to '12/30/2025 12:00:00 AM' and '12/30/2025 05:47:23 PM' respectively. A 'Filters' button is labeled '2' and a 'Refresh' button is labeled '3'. The main data area is titled 'RR channel 1' and is labeled '4'. It contains a table with columns for 'Type event', 'Event', and seven lanes (Lane 1 to Lane 7). The table lists various event types and their corresponding counts in each lane. A 'Print' button is labeled '6' and a 'Monitoring' button is labeled '7'. A 'Clear' button is labeled '8'. A vertical scrollbar on the right side of the table is labeled '5'.

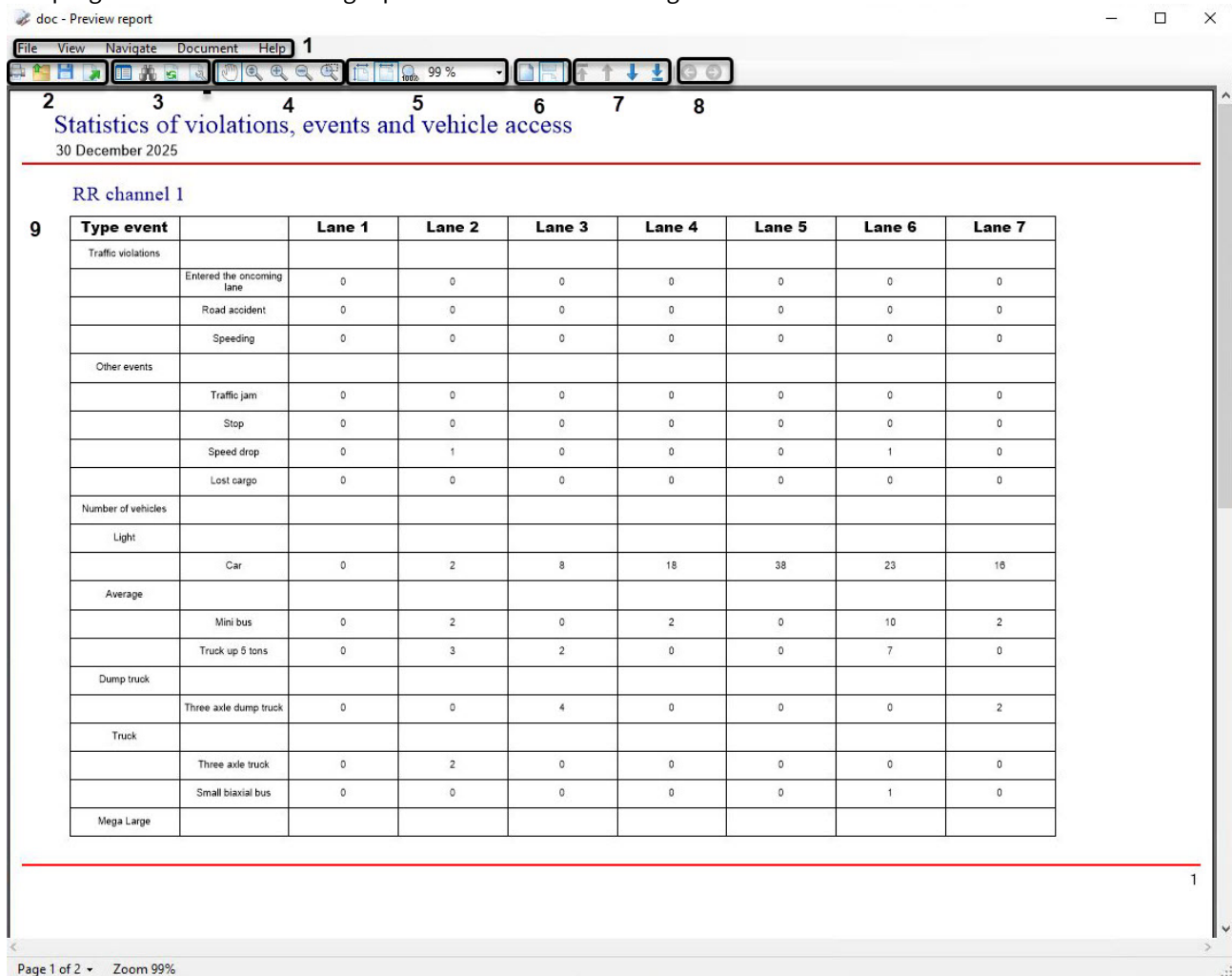
Type event	Event	Lane 1	Lane 2	Lane 3	Lane 4	Lane 5	Lane 6	Lane 7
	Lost cargo	0	0	0	0	0	0	0
- Number of vehicles								
Average								
	Mini bus	0	1	0	1	0	6	1
	Truck up 5 tons	0	2	1	0	0	4	0
Dump truck								
	Three axle dump truck	0	0	2	0	0	0	1
Light								
	Car	0	1	4	8	19	11	8
Mega Large								
	Mega large bus	0	0	0	0	0	1	0
Truck								
	Three axle truck	0	1	0	0	0	0	0

Description of the interface elements.

Number of the element	Element	Description of the element
1	The Period from and to fields	The beginning and ending of the period of the data receiving, the values of which are set using the arrows and a calendar
2	The Filters button	Opens the window for selecting filters by the detector, by an event, or by the vehicle of this detector
3	The Refresh button	Refreshes the list of events
4	The data source	RR channels from which the statistic data is displayed
5	Detected events	The table of events detected by cameras
6	The Monitoring button	Switches to the event monitoring mode
7	The Clear button	Deletes detected events by the camera from the table
8	The Print button	Prints a report about the selected Report on event (see Viewing and printing the event information in the traffic analysis monitor window)

4.1.2 The program for viewing reports of the traffic analysis monitor

The program window for viewing reports contains the following interface elements:



Description of the program interface elements for viewing reports.

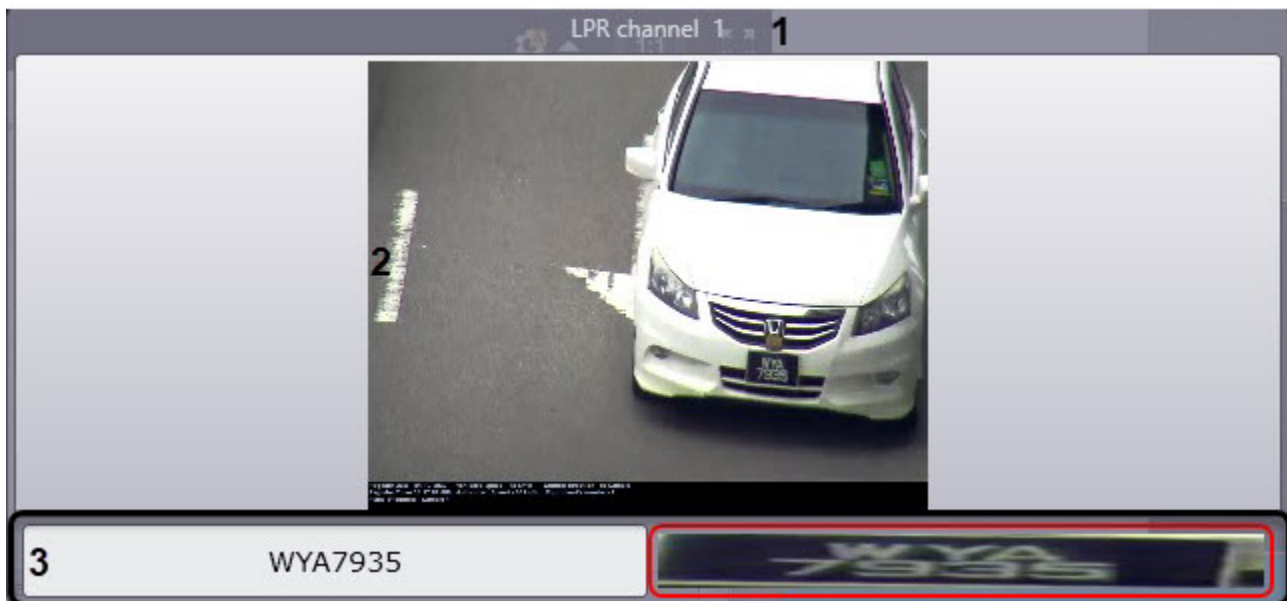
Number of the element	Description of the element
1	The main program menu for viewing reports (file operations, viewing operations and report navigation, working with report, viewing the information about program)
2	The block of elements for operations with the report file (printing, opening, saving, exporting a file)
3	The block of elements for operations with a report (displaying a content, searching, refreshing, editing)

Number of the element	Description of the element
4	Selects the scale mode and the scale of the report display
5	Zooms in and out a report
6	Selects the report display mode (displaying pages one by one, continuous page-by-page display)
7	The block of elements for navigating through a report
8	Cancel the last action or switches to the previous one
9	The field for displaying the created report

4.2 Interface description of the Vehicle Tracer object

4.2.1 The Events monitor

The **Events monitor** contains the following interface elements.



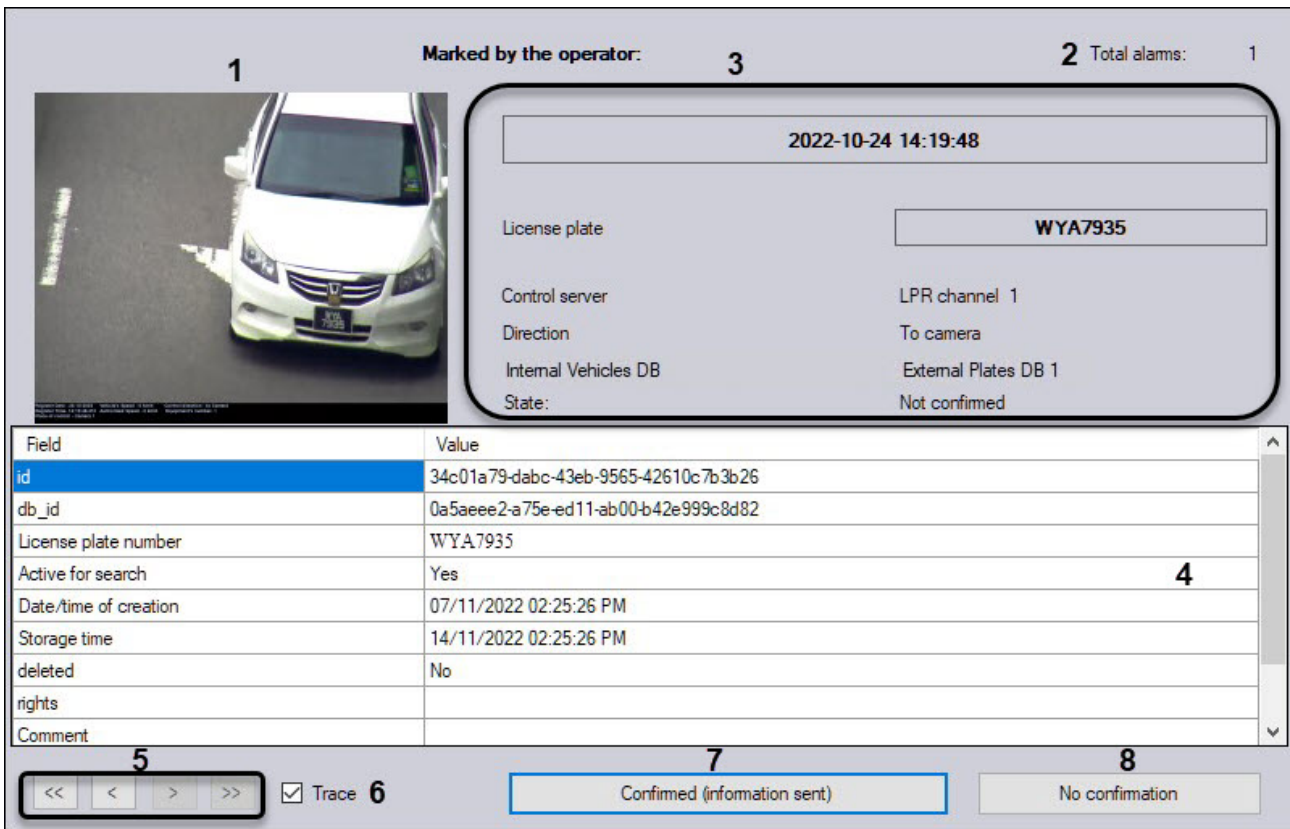
Description of the interface elements of the **Events monitor** window.

Element number	Description
1	Detector of the LP of the passing vehicle

Element number	Description
2	A frame with a passing vehicle and a caption
3	Recognized LP number and a LP image

4.2.2 The Alarm window

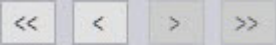




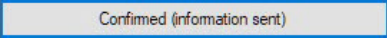

The **Alarm window** contains the following interface elements.



Description of the interface elements of the **Alarm window**.

Element number	Element	Description
1	Frame area with a caption	Signed video frame with a moving vehicle
2	Total alarms	Number of unprocessed alarm events

Element number	Element	Description
3	Information area about the captured event	
	Date/time	Date and time when an alarm event was recorded
	License plate	Vehicle license plate number
	Control server	Recognition channel that captured an alarm
	Direction	Direction of vehicle movement relative to camera
	Internal Vehicles DB	External database of vehicle license plates <i>Note. The Internal Vehicles DB field isn't displayed if an alarm event was initiated manually</i>
	State	Current state of an alarm event There can be the following states of an alarm event: <ul style="list-style-type: none"> • Not confirmed—a new event that has not yet been confirmed; • Processing...—an alarm event is confirmed, but the information has not yet been recorded to the database; • Confirmed—an alarm is confirmed and recorded to the database (you may not notice this state since the event is deleted from the Alarm window after a successful confirmation); • Error—confirmation isn't recorded to the database due to the heavy load on the Server. It is necessary to confirm the event again
4	Table with a description from Internal Vehicles DB	Description from Internal vehicles database <i>Note. The table with description from Internal vehicles database isn't displayed if an alarm event was initiated manually</i>

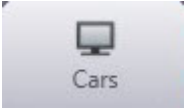

Element number	Element	Description
5	Buttons to move through alarm events in the list 	Go to the first alarm event in the list  ; go to the previous alarm event in the list  ; go to the next alarm event in the list  ; go to the last alarm event in the list 
6	Trace <input checked="" type="checkbox"/> Trace	If the checkbox is set, when an alarm is confirmed, it disappears from all alarm windows in the distributed configuration; when an alarm isn't confirmed, it disappears only from the current alarm window. If the checkbox isn't set, when an alarm is confirmed or isn't confirmed, it disappears only from the current alarm window
7	Confirmed (Information sent) 	Confirmation of the alarm status of an event. If you click this button, an alarm is marked as accepted in the Online monitor window. A window offering to print the alarm event card is also displayed
8	No confirmation 	Close the alarm window. If you click this button, the status of an alarm event isn't changed in the Online monitor window. Alarm disappears from the Alarm window



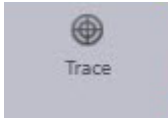


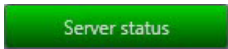
4.2.3 The Online monitor







The **Online monitor** contains the following interface elements.



Description of the interface elements of the **Online monitor**.

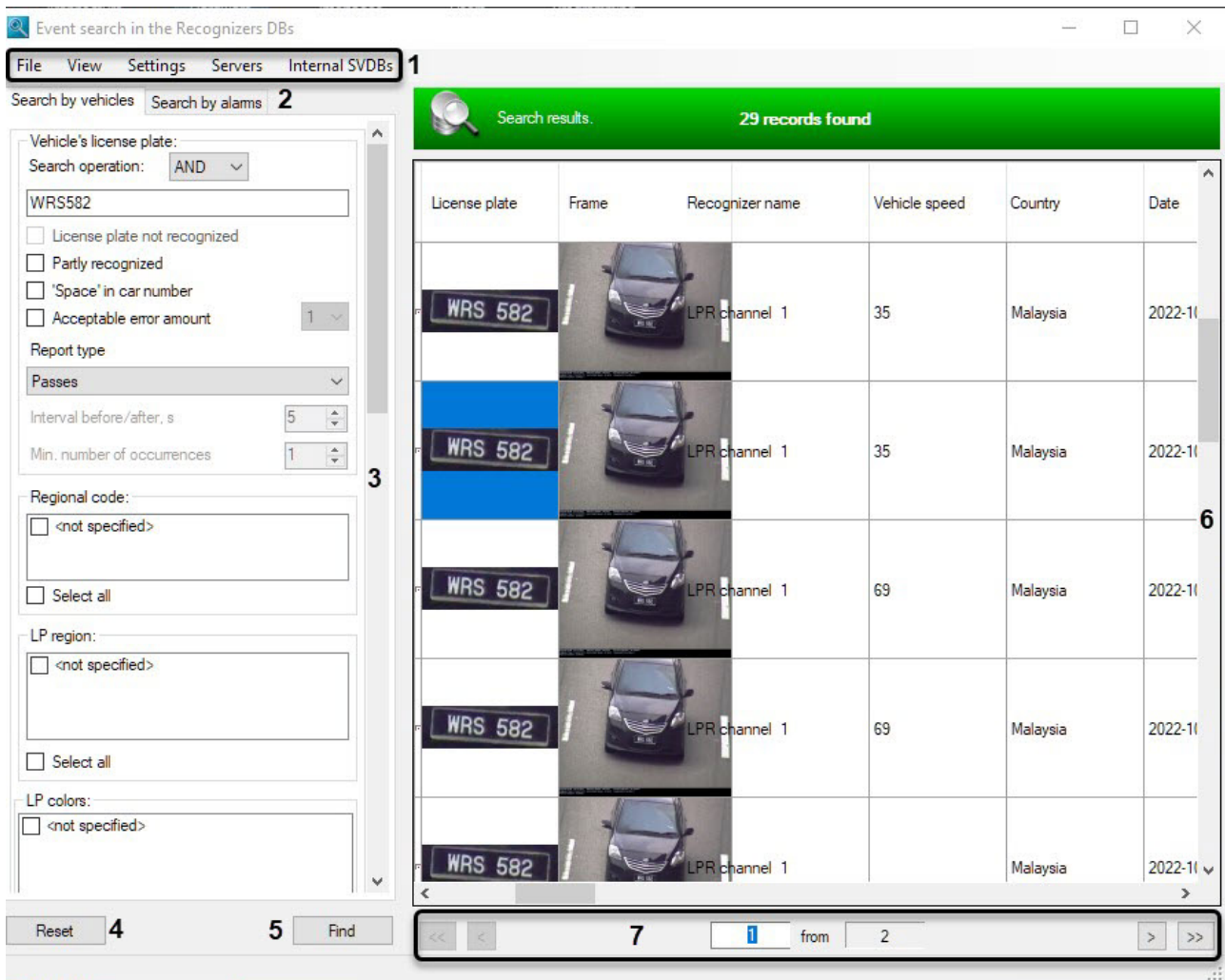
Element number	Element	Description
1	Area	Information about the last passed vehicle or about an event, selected in the identified vehicles protocol or in the alarms protocol
2	Cars 	Access to the identified vehicles protocol
3	Alarms protocol 	When an alarm event occur, you can go to the Alarms protocol tab. This tab displays the video frame and the number of the most recent alarm event

Element number	Element	Description
4	Processed Hide 	Hide the processed events in the protocols
5	Show All 	Enable/disable the pre-configured filters
6	Trace 	Resume the online update of the displayed vehicle protocol
7	Alarm 	Alarm initiated by the operator
8	Accept 	Alarm acceptance
9	Server status 	Go to the list of errors occurred in the <i>Vehicle Tracer</i> module
10	Database	Display of the information from the external database
11	Event table	Identified vehicles protocol or the alarms protocol depending on the activated tabs— Cars tab or Alarms protocol tab


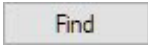






Element number	Element	Description
12	Collapse/expand button 	Collapse/expand the panel with comments and external database
13	Comment	Display of the comment to the selected event
14	Print 	Create the report with data about the selected event
15	Search 	Open the window for searching in the databases of license plate recognizers
16	Video archive 	Go to the video archive of identified vehicles
17	Filter 	Go to the filter settings used in protocols
18	Comment 	Comment to the selected event with specified date and time of the comment creation

4.2.4 The Event search in the Recognizers DBs window

The **Event search in the Recognizers DBs** window contains the following interface elements.

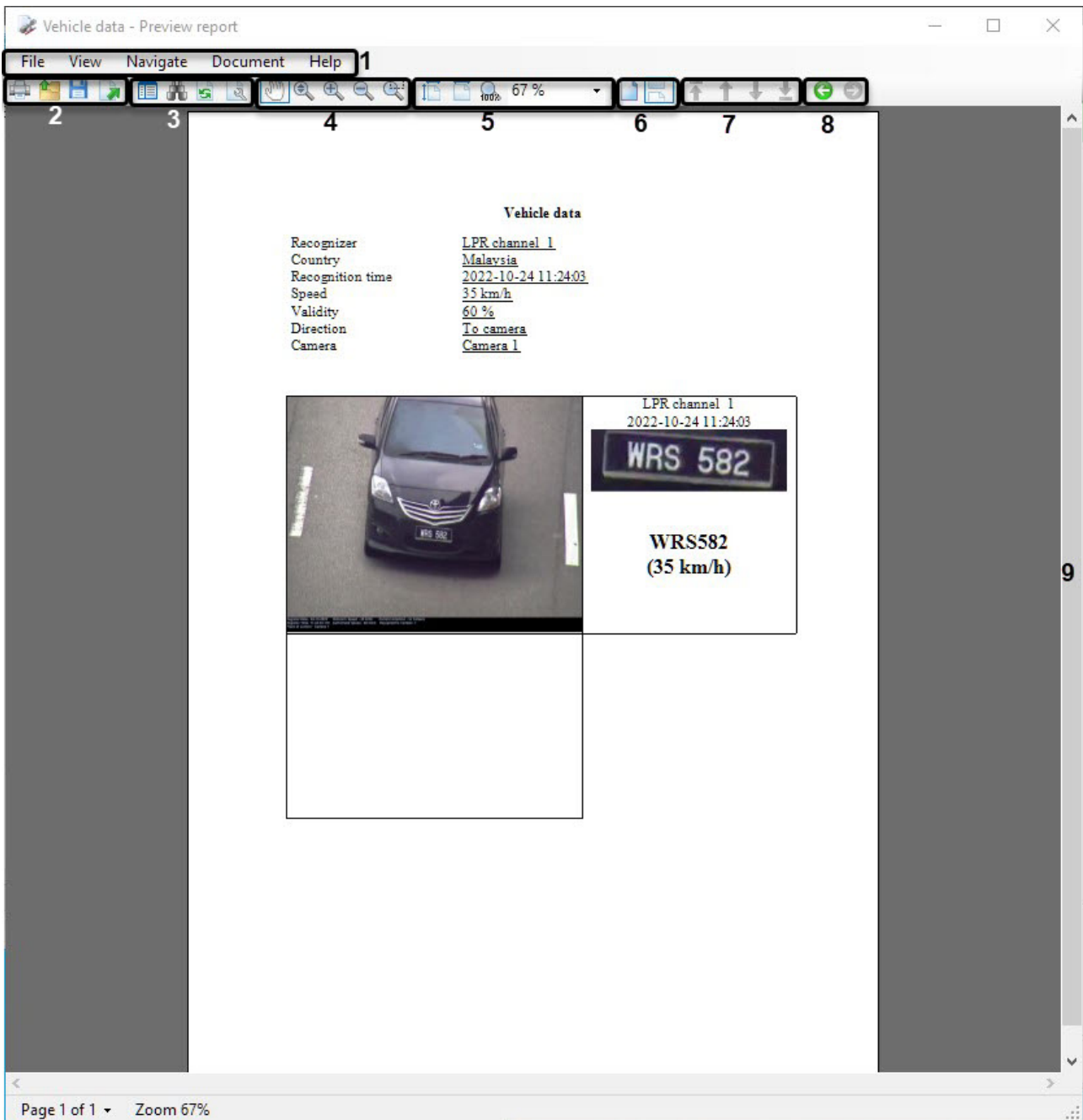


Description of the interface elements of the **Event search in the Recognizers DBs** window.

Element number	Element	Description
1	Main menu	The main menu, which you can use to perform the following operations: <ol style="list-style-type: none"> 1. The File command: <ol style="list-style-type: none"> a. Print the event search results. b. Close the Event search in the Recognizers DBs window. 2. The View command: <ol style="list-style-type: none"> a. Configure the display of remote servers and databases. 3. The Settings command: <ol style="list-style-type: none"> a. Configure the display of event search results. b. Connect the recognizers databases. 4. The Servers command: <ol style="list-style-type: none"> a. Select the servers for searching the events. 5. The Internal SVDBs command: <ol style="list-style-type: none"> a. Edit the user "Active tracking" database
2	Search type tabs	Select the search type: by vehicles or by alarms
3	List of fields for search query	Form the search query of the selected search type
4	Reset 	Clear the search form from the specified search criteria
5	Find 	Start the processing of the search query
6	Search results table	Display of the event search results in the form of a table
7	Navigation panel through search results table	Go to the first page of the search results  ; go to the previous page of the search results  ; go to the next page of the search results  ; go to the last page of the search results  , number of the displayed page from the total number of search result pages  from 

4.2.5 The preview report

The preview report program window contains the following interface elements.



The preview report interface description is presented in the following table.

Element number	Description
1	Main menu for viewing the reports (operations with a file, operations of previewing and navigating the report, operation with a report, viewing the information about program).

Element number	Description
2	Group of elements for operations with a report file (printing, opening, saving, exporting).
3	Group of elements for operations with a report (displaying, content, search, update, edit).
4	Selecting the scaling mode and the scale of displaying the report.
5	Zooming the report.
6	Selecting the mode of displaying the report (page-by-page, nonstop page-by-page).
7	Group of elements for navigation in the report.
8	Undo or redo the last action.
9	Field for displaying the formed report.