TRASSIR

OPERATOR'S GUIDE

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Introduction

This is TRASSIR software user guide. This guide is intended for video surveillance system operators.
The purpose of the document:

- give the background information on the software capabilities provided to the operators;
- help the operators perform the functions of video surveillance provided in the software in accordance with their needs;
- provide a quick search for information to solve the software operation related issues.

Type Codes

Information blocks used in the document:

Warning about the features of the function, requiring mandatory reading and/or execution.

Important information, which should be noted when working with the described function.

Note to the text, which is indicative and/or recommendatory.

References to other sections of the documentation related to the section described.

Interface

This section describes the software first launch and how to sign in to the main control panel. It also describes the structure and purpose of the main areas and interface elements.
In this section:

- *Software start and sign in to the system*
- *Main control panel*
- *Video monitor*

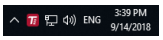
Software start and sign in to the system

An operator can sign in to the system using:

- The server app, provided that the user with the indicated username and password has permission to sign in to the server locally. In order to launch the app, a Guardant USB-key with a license file must be connected.
- A free client application. Launching the client application does not require a USB key with license. After signing in to the Client app, you can connect any video surveillance server, provided that the user with the indicated username and password has permission to sign in to the server over the network.

To sign in to the system:

1. Open t1server-vc142.exe/t1client-vc142.exe file from the software folder or the shortcut, created during the installation in ***Start*** menu.

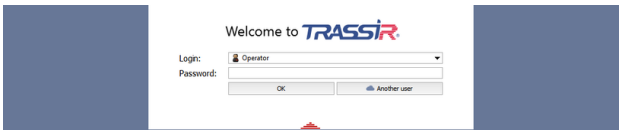
   

   If the program launched successfully, the main control panel icon will be displayed in the top part of the screen and the icon will appear in the taskbar.

2. Bring up the main control panel by clicking on the icon at the top of the screen. You can also bring up the main control panel by moving the cursor to the top edge of the screen while holding down the CTRL button. To hide the main control panel, click the icon or move the cursor to a lower part of the screen.

3. In the window with the user list, select the user with your username. If your username isn't in the list, please contact your administrator.

4. In the ***Password*** field, enter the password the administrator gave you. When entering your password be aware of the active keyboard language and be sure CapsLock isn't on.

5. Click ***OK***.

If invalid credentials are entered, the following icon will appear next to the ***Password*** field . If the sign in succeeded, the *main control panel* will open.

- *Main control panel*
- *Video monitor*

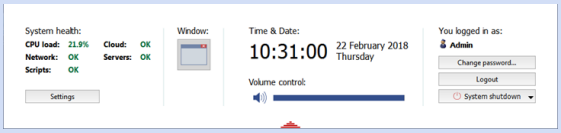
Main control panel

After signing in, the main control panel is grouped as follows:

1. ***System Health*** shows the parameters of the server's operation, allowing to identify quickly the presence of critical errors. You can read more about system health in the *relevant subsection* of the manual.
   The ***Settings*** button opens the settings window. If your account has access to the ***Settings...*** button, please see the Administrator's Guide; it contains detailed information about the administrative functions. This guide only describes the functions of the video surveillance system's operator.

2. The ***Monitors*** group - the button to show / hide the operator interface. If several monitors are connected to the computer system unit, then there will be several icons for hiding / showing the interface (each monitor has its own interface).
   By default, the video monitor interface is hidden after the installation. Click the image to display the monitor. Click a second time to hide the video monitor interface. You can read more about working with the monitor interface in the Operator's Guide.

   When the window display of the video monitor on the client is used, the main control panel looks as follows:

   Read about this display mode in the "Administrator's Guide" (*???*).

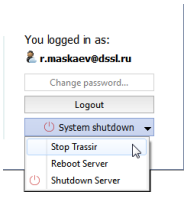
3.

   The ***Background tasks*** group shows a list of tasks the execution of which has been postponed, i.e. delayed archive export.
   Left-click on a task to view its status. A popup window with the information will appear. You can cancel the task in this window by clicking the appropriate button.
   The icon next to the task changes depending on its current status:
   - • - indicates a task waiting in the queue to be executed;
   - ✓ - indicates a completed task.

   The ***Clear*** button removes all completed tasks from the list.

   This group will only appear on the main control panel if there are background tasks currently scheduled in the system.

4. The ***Time & Date*** group displays the server's system date and time.
   Use the ***Volume control*** to adjust the overall volume level.

5. 

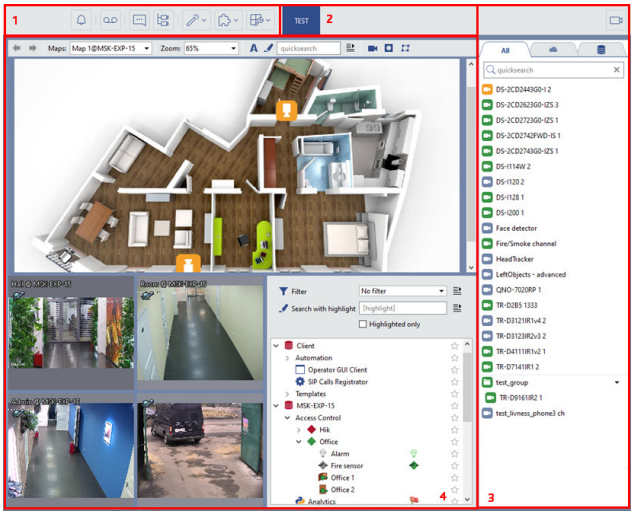
The ***Signed in as*** group displays the username for the person who is currently signed in.
The ***Change password...*** button allows users to change their own passwords.
The ***Sign out*** button lets the system's current user sign out.
The ***System shutdown*** button brings up the following dropdown menu:

- ***Stop TRASSIR*** - shuts down the software.
- ***Reboot Server*** - restarts the server the operator is using.
- ***Shutdown Server*** - shuts down the server the operator is using.

If the server was started in "no restart after failure" mode, then when the ***System shutdown*** button is clicked, the dropdown menu will not be shown. Instead, the software will be closed.

- *Software start and sign in to the system*
- *Video monitor*

Video monitor



The main interface elements are:

1. ***Menu*** - A set of buttons for controlling the video monitor interface:

   switching the video monitor to the *TRASSIR Cloud* incident management mode and back.

   > This mode is available only on the client.

   Switches the video monitor back and forth from the *Archive Mode* mode.

   Shows/hides the *event log*.

   Shows/hides the *object tree*.

   Extension Panel. Opens the *map*, *screenshot manager*, the *ActivePOS expert mode* or executes a user function (activates a rule or script).

   switching the video monitor to the connected modules operation mode (i.e. *Access Control reports*).

   Template editor.

   Shows/hides the *channel list*.

2. ***Template menu*** – The set of saved templates.

3. ***Channel list*** – The area which is used to monitor the state of cameras (and groups of cameras) and, if required, to display video from a particular camera on the entire screen.

4. ***Main output area*** – The area which is used for video surveillance directly. It is organized using the template editor.

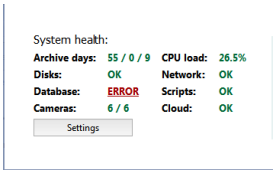
- *Video monitor interface settings*
- *Software start and sign in to the system*
- *Main control panel*

Operation in TRASSIR

This section describes the following video surveillance functions:

- *System health* – A description of system health and their possible states.
- *Video monitor interface settings* – Instructions on how to configure the video monitor interface and save a configuration as a bookmark to quickly switch between prepared templates of the screen.
- *Operation with the object tree* – instructions on how to use the features of objects for video surveillance.
- *Working with a map* – Instructions on how to monitor video surveillance maps, use map objects, and switch between maps.
- *Working with cameras* – A description of buttons which are used to work with cameras, an explanation of camera's context menu; how to work with the camera list.
- *PTZ camera control* – A description of the primary techniques to control PTZ cameras; a brief description of the menu items that let you position a camera using presets or patrol mode.
- *Working with an archive* – Instructions on how to search for and view desired video segments in an archive; how to add bookmarks to segments, save screenshots, and export archive segments to file.
- *Working with an event log* – A description of information display modes, filtering the system's current video surveillance events, and how to search for archived events in the database.
- *Working with incidents* — A description of incident display modes, alarms filter and processing methods, and how to search and analyze archived incidents.
- *ActivePOS* - A description of a system for monitoring point-of-sale operations in order to detect cashiers' violations and resolve disputes. A description of the ways to view, filter, and highlight cash register events, and search for archived events in the database.
- *License plate recognition* – Instructions on how to recognition license plate numbers and monitor entering/exiting vehicles, filter the currently recognized license plate numbers, and search for recognized license plate numbers in the database; a description of how to maintain internal lists of license plate numbers.
- *Working with heat maps* - A description of how to use heat maps to detect motion that took place in the previous 30 seconds.

System health



One of the interface groups on the main control panel is the system health group.
System health - shows server performance measurements for rapid detection of critical server errors:

- **Archive days** – The current depth of the archive's main stream / privileged channels / auxiliary stream on this server (in days).
- **Disks** – Indicates if there have been disk errors on the server.
- **Database** – Indicates if there have been errors when connecting to the server's database.
- **Cameras** – Indicates the number of properly-functioning cameras and the total number of cameras.
- **CPU load** – The current load (%) on the server's central processing unit.
- **Network** – Indicates if there have been network errors when connecting to other servers.
- **Scripts** – Indicates if there have been errors while executing scripts on the server.
- **Cloud** -Indicates if there have been errors when connecting to TRASSIR Cloud service.
- **Modules** - errors in modules operation.
- **Servers** – Indicates the number of properly-functioning servers connected to the network and the total number of servers connected to the network.

> If even one of the network server's system health indicates an error, then the "Servers" metric will become red, and the server will be considered to be functioning improperly. This parameter is only displayed if the client software is used.

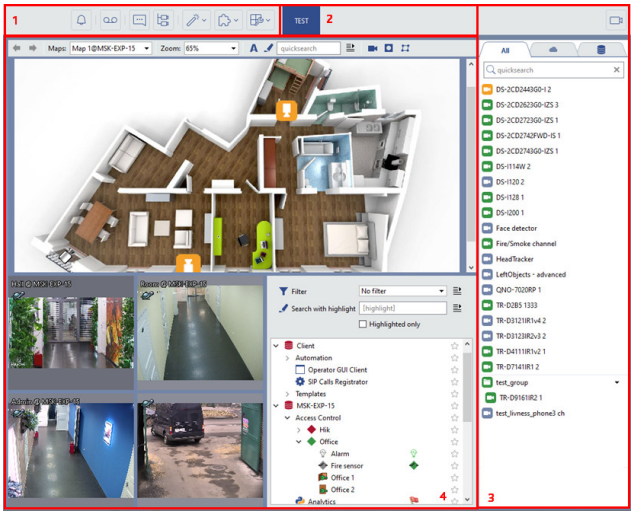
- **Users** - users blocked due to invalid password entry.

If there are no errors, each metric will be highlighted in green. If an error occurs, then the corresponding line will change to red. There will also be a link to navigate to the appropriate section of the settings. If the system health represents an error but you don't have the necessary permissions to change the server settings, contact the administrator.

> In its collapsed state, the control panel looks like this . If even one of the system health indicators represents an error, the icon will attract the operator's attention by pulsing in size, alternately growing larger then smaller.

- *Main control panel*
- *Operation in TRASSIR*

Video monitor interface settings



For our purposes, the interface can be divided into several areas

1. ***Menu buttons*** – A set of icons located at the top of the screen that lets you control the video monitor interface's modes:

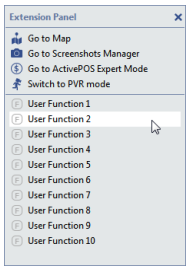
Enable/disable *Alarms Mode*.
In Alarms Mode, all incoming alarms are displayed as cards with general information about them. When the mode is activated, the user sees the list of current incidents and can filter and view them in detail. The Alarms Mode is available upon the Cloud user login.

Enable/disable *Archive mode*.
In the Archive mode, all cameras in the template are switched to the archive playback mode. In case the event log is turned on, graphic bars corresponding to the presence of a channel record for a specific period of time will be displayed in the log panel. The absence of bars means that there is no data for the specified channels in the archive.

Show/hide event log.
The event log is an area with a timescale in which the recorded events are shown. When you turn on the event log display, it is docked to the left of the currently displayed template or map. More information about the event log operation can be found in the *Event log operation* subsection.

Show/hide the object tree.
The object tree is the area containing all objects and their current status. The object tree, like the event log, is displayed on the left side of the screen. Using the menu buttons, you can display either an event log or an object tree. The object tree can also be installed in the template. See description of the use of this area in the *object tree operation* subsection.

Open the extension panel



- ***Go to Map*** – Shows/hides the *map* display area. When this button is clicked, the center of the video monitor interface will display a map area instead of the template. Just as with an the object tree, a map can be added to a template.

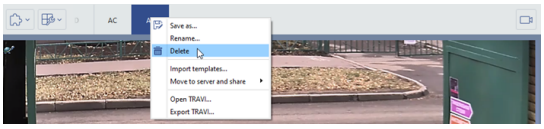
- ***Go to Screenshots Manager*** – Shows/hides the area for *Screenshots* manager. When this button is clicked, the center of the video monitor interface will display a screenshots manager area instead of the template. Just as with the object tree and a map, this area can be added to a template.
- ***Go to ActivePOS Expert Mode*** - Shows/hides the *ActivePOS Expert Mode* area. When this button is clicked, the center of the video monitor interface will display the ActivePOS Expert Mode area instead of the template. Just as with an object tree and a map, this area can be added to a template.
- ***Switch to PVR mode***- Shows/hides the area to manage *personal video recorders*. When this button is clicked, the PVR control area appears instead of the template in the central part of the video monitor.
- ***User functions 1-10*** – Activates a previously created rule or script. You can read more about working with rules and scripts in the Administrator's Guide.

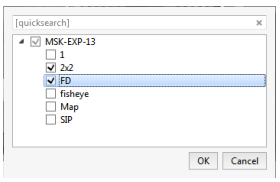
Open template editor menu.
You can create new templates, modify the existing ones, or delete them. Switching between templates lets you quickly access pre-configured sets of cameras, maps, lists of objects, etc. on one monitor. See the description of the procedure for setting up and managing templates in *Working with templates* subsection.

Shows / hides *Channel list*.

You can hide the menu. To do this, press "~" or "Backspace" button. To turn the menu back on, you must press the specified buttons again or press ESC button.

2. ***Template editor***. The main element of the video monitor interface is a template. The list of the created templates is displayed in the top area of the screen.
   Right click on the list of templates will open a menu that lets you save a template under another name, rename, or delete a template.



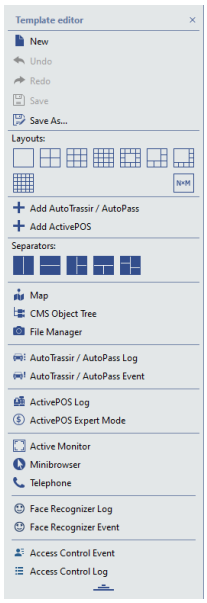


   Besides, if you are connected to another server, you can import templates that were created on it. In this case, the ***Import templates*** menu item will be enabled. Click it and select one or more templates that you want to import from the list.
   The ***Export TRAVI...*** and ***Open TRAVI...*** entries let save the template with the channels archive to a file and open a previously saved one. Read more about these features in *Export the archive template to a file*.
   The active template is displayed in the central part of the video monitor and fills the main screen area. The templates let you divide the screen into the desired number of zones; and video signals from the camera, object tree, map, AutoTRASSIR and ActivePOS modules panels and the "Active monitor" area can be displayed in each zone. For more information on template creation and configuration, see *Creating a new template* section.

In order to edit templates, the user account with which the operator signed into the system must have the appropriate permissions.

3. ***Channel list*** – The area used to monitor the state of cameras (and groups of cameras) and, if desired, to display the video from a particular camera on the entire screen. A description of how to work with channels, possible states, and the meaning of channel icons is given in *Channel list*.

Creating a new template



Clicking the button will display the ***Template editor*** menu, which can be used to configure the appearance of the video monitor interface.
By default, the ***template editor*** menu is displayed in a compact view. Click to display the full menu.
The main upper section contains menu items to manage templates:

Create a new design template
If any design was configured on the screen and it was not saved, then the settings would be lost. When you create new design, a new window appears, filling all free space in the center of which there will be the inscription: "`Drop GUI Elements here`". All customization actions are performed by selected items drag-and-drop. The drag-and-drop zone will be highlighted blue.

Undo the last action with the template
Does the same as CTRL + Z in Windows.

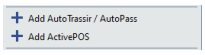
Redo the canceled action with the template

Save current template

Save the template under a new name

Below you will find structural elements that will help you create a template of any complexity and configuration.

- **Layouts** – A selection of preset arrangements of camera signals (displayed in a separate section). The layout's icon corresponds to how the zone's available space will be allocated. The NxM layout lets you manually specify the number of cameras to be displayed (15 x 15 = 225 maximal). To apply a layout, select and drag it on the desired place on the screen.

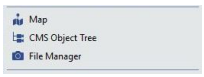


- **Add AutoTRASSIR/AutoPass**. Shows *AutoTRASSIR/AutoPass module* info. When pressed, two areas will be displayed: ***AutoTRASSIR/AutoPass log*** (a list of all recognized license plate numbers) and ***AutoTRASSIR/AutoPass Event*** (detailed information about the license plate number). The specified areas are docked to the existing template on the left and below, preserving the original screen structure. Clicking the menu item again hides the information from AutoTRASSIR/AutoPass module.
- **Add ActivePOS**. Shows *ActivePOS module* info. When pressed, ***ActivePOS Log*** area (the list of checks for cash management) will be displayed. The area is docked to the existing template on the right, preserving the original screen structure. Clicking the menu item again hides information from the ActivePOS module.

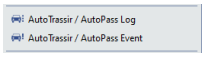
- **Separators** are the basic structural units of the template. They allow you to split the work area into any number of sections with absolutely any combination of options.

In order to split a new template into several areas, just drag and drop the desired type of separator on it. The separator icon shows how the screen space will be divided into zones. The resulting areas can be further split into smaller ones, placing new separators on them. Thus, using separators, you can build a template of any complexity. And in the resulting areas, you can place any template items.

- **Map**. Displays *map* in the selected zone. Please note that the maps will only be displayed if they have been previously created by the Administrator.



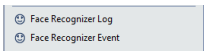
- **CMS Object Tree** – Lets you place the *object tree* in any available zone. You can use the object tree to display various devices and view their state in a compact form.
- **File Manager** – Lets you place the *screenshot manager* area in any available zone. You can use the screenshot manager area to view, copy, and delete screenshots either from local or network server.
- **AutoTRASSIR/AutoPass Log**. Displays the list of all recognized license plate numbers from *AutoTRASSIR/AutoPass module* in random area.



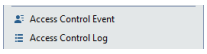
- **AutoTRASSIR/AutoPass Event**. Displays detailed information about the recognized license plate number from *AutoTRASSIR/AutoPass module* in random area.
- **ActivePOS Log**. Displays list of receipts for cash management from *ActivePOS module* in random area.

- **ActivePOS Expert Mode**. Displays *ActivePOS expert mode* window in random area.
- **Active monitor** – An area for current object video display. To add an active monitor to a template, drag-and-drop the menu item onto the desired zone.
  This area can display video either for cameras (direct signal sources) or for other objects (for example, Orion ACS devices). If a video from a specific camera is bound to an Orion ACS device, it will be displayed in the active monitor area, as well.

- **Minibrowser**. This is an essential tool for displaying any text or graphic info received from the server analytical modules. The information is displayed using automation rules and scripts. To learn more about using scripts, see the "Administrator's Guide" (*???*).
  For example, a script that calculates the average speed of traffic along a section of road displays a list of cars that have violated the speed limit and those that passed without any violation.
- **Phone**. Allows displaying *SIP-telephone panel* in random area.
- **Face Recognizer log**. Display a list of people detected by the *Face Recognizer* module on a random area.



- **Face Recognizer event**. Display a detailed info on a person detected by the *Face Recognizer module* to a random area.
- **Access Control Event**. Display a detailed info about the person identified by *TRASSIR ACS* to the random area.

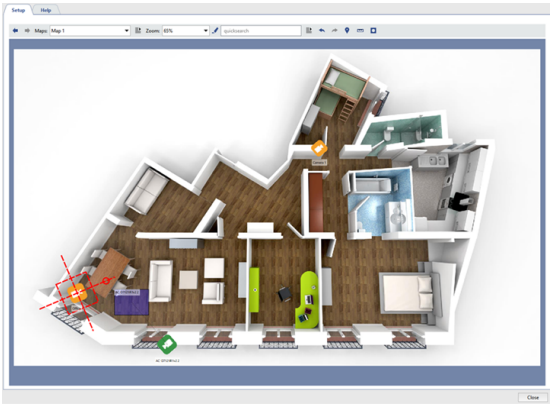


- **Access Control log**. Display a list of people identified by *TRASSIR ACS* to the random area.

Note that the elements described above can only be placed in empty areas or areas with layouts. If you make a mistake when creating a template and want to swap one element for another, use

Don't forget to save the new template with

Map



The map is a special graphic plan displaying the video surveillance objects (cameras, access control devices etc.). To show the map output area press the button in the options menu Go to Map. You can also put a map in any free *area of a template*.
The following interface items are used to work with maps:

1. Map control pane:

   - **Maps** - switching between maps. If the list of the maps is empty, it means that the administrator has not created any map.
   - **Zoom** – The map's scale. The zoom can be changed by entering a new value manually or by using the mouse wheel.
   - **Filter** - objects color highlighting on the map according to some indication (for example, "disconnected cameras"). The order of the filter configuration is similar to *Working with the object tree*tree. Filtered objects are highlighted in red.
   - **Show video** – Shows video from cameras.
     Video display is disabled by default. Pressing the button once enables video display; pressing it again disables it.

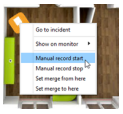
     Note that a camera's video will only be displayed if the administrator has appropriately configured the camera's settings. Moreover, for some cameras the settings can be configured so that the video will only be displayed if the zoom level is 150% or more.

   - **Dim Map Background** – This option makes the map objects more crisp and clear, helping to keep them from blending into the map background. The dim is disabled by default. Pressing the button once enables background blurring; pressing it again disables it.
   - **Show people** - this button will show people markers.
   - **Show analytics** - this button opens heatmap settings panel. Read more about this mode in the *Movements of people on the map*.

     The **Show people** and **Show analytics** buttons are available on those map where the Deep people detector is set up. Read more about Deep people detector settings in the *Administrator's Guide*.

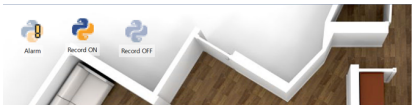
2. The map may include the following server objects:

   - **Cameras** - are the objects which *change their color depending on their state*.



You can start and stop the camera recording directly from the map. To do this, right-click to bring up the camera's context menu and select the corresponding action. Note that these actions will only have effect if the server administrator has enabled manual starting and stopping of recording.
When using Cloud cameras and upon incident appearance, select ***Go to incident*** item in the right-click menu to display the alarm from the chosen source in the Alarms Mode (see *Working with incidents*).
If the administrator provides video display on demand, it will be displayed on the map after double clicking the channel icon. Click the cross icon or double-click the channel icon to close the video.

- You can use the **automation buttons**, added to the map, to monitor the current state of the "Automation" module elements (scripts, rules, and schedules), as well as quickly enable and disable them.



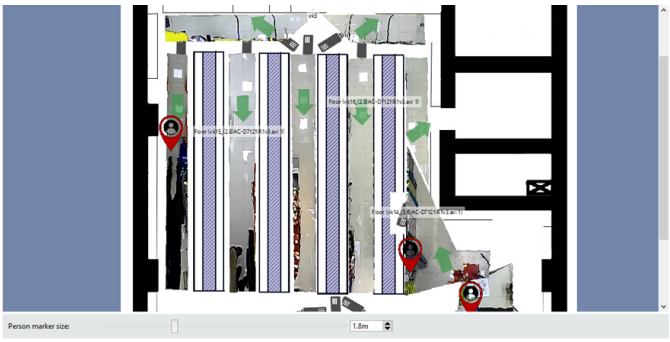
- **Teleports** – are special objects for switching between maps. Teleports are identified on the map by this icon . To switch to a different map using a teleport, double-click on it.

- **Other objects** – Other server objects, i.e. **TRASSIR ACS** devices. You can also bring up the context menu for each object. This will allow you to use the objects on the map to perform various actions. The set of actions available depends on the object as well as the permissions associated with your account.

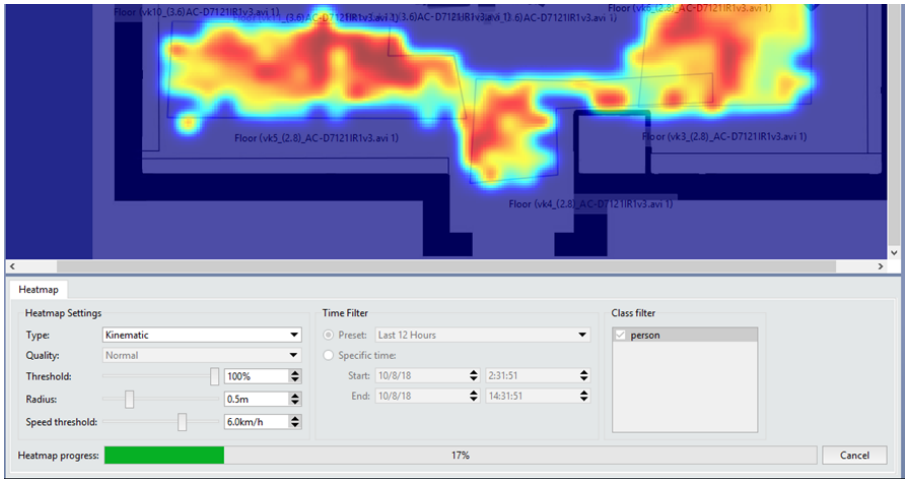
Movements of people on the map

The **Neuro detector** plugin must be configured on server in order to use this feature. Read more about the configuration of this plugin in the *Administrator's guide*.

To activate people detection on the map, click and all detected persons will be marked on the map with a special symbol. To deactivate the mode, click the button once again.



The server saves all people movements and this data allows building the heatmap. To activate the control panel, click .

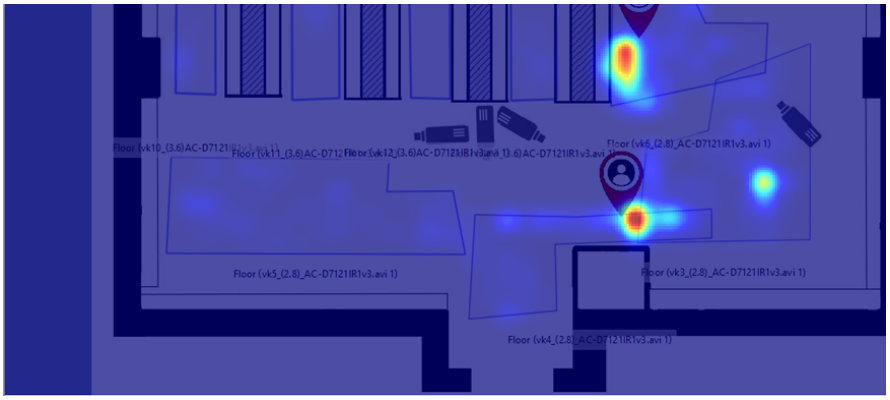


The settings that are described below, let you configure the heatmap view.

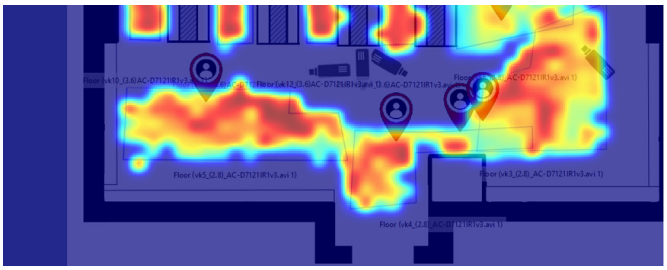
Heatmap Settings

- ***Type*** - this parameter lets you specify the type of the heatmap to display. You can build heatmaps of the following types:

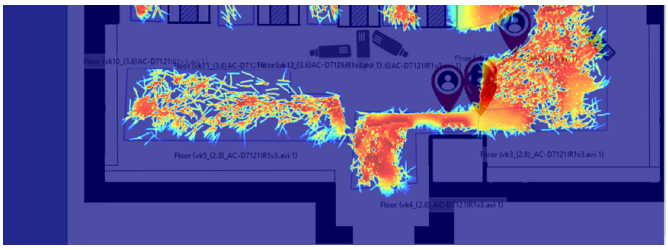
  Stationary - it shows the places where people stayed longest. The brighter the color is, the more people there were at this place.



  Kinematic - shows places of movement of the largest number of people. The brighter the color is, the more people stayed or walked through that point.



Tracks - shows people movement directions.



- The ***Quality*** parameter specifies the amount of data required to build a heatmap. The higher is the quality the more data is being used and the longer the heatmap is being built.
- ***Threshold*** - is a degree of data confidence which is used to build the heatmap. For example, if you're building a stationary heatmap with 100% threshold, the brightest area will be where all detected people stopped.
- ***Radius*** - this option defines the size of the heat spot on the map.
- The ***Speed threshold*** option lets set the person maximum speed value, which will be considered during the heatmap building. For example, to display the movement of slowly moving people on the map, set the value of speed threshold of 1 km/h.

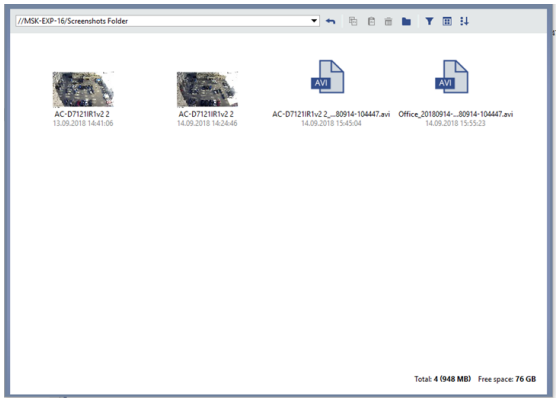
Time filter lets you set the time interval which will be used for the heatmap building.
In the **Class filter** field you can uncheck certain classes of people, in order to exclude the movements of these people from the data used for the heatmap building. Read more about building classes in the *Administrator's Guide*.
The **Build heatmap button** starts the building process.
Click ***Save*** in the **Heatmap** group of settings to save the heatmap as an image. Click ***Clear*** to remove the created heatmap.

Screenshots manager

The software lets you save the frames (screenshots) during the live video viewing as well as while working with the archive records. There are plenty of ways to take a screenshot: the operator can manually send a digital command, the frame can be saved by setting various automatic responses to certain events in the system (motion detector, actuation of ACS sensor, alarm zone crossing detection etc.). The software has the feature of taking the screenshot on schedule, or you can send the digital command from the outside via the SDK etc.
A special module has been designed for operation with screenshots. To display it, you need to:

1. Press the ***Extension panel*** button ,in the buttons menu *of the video monitor interface*.

2. Select ***Go to Screenshots Manager***. The contents of the screenshots folder will be displayed on the screen.



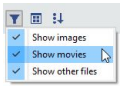
Also, the screenshot manager area can be placed to the template freely. Use the corresponding buttons of the*templates editor*.
For our purpose, the screenshot manager window can be divided into 3 parts:

- ***Control panel*** is located at the top of the screen and contains controls.
- ***Working area*** is the main area which is located in the centre and contains icons.
- ***Statistics*** is located in the lower right corner. Displays the total size and number of the files in the folder, as well as the size and number of the selected files.

Button panel items:

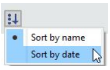
A drop down list that allows you to view the selected folder. The screenshots folder of the local server is displayed by default. For example, you can select a removable device or a folder of screenshots connected to the server over a network. You can use this folder like a local. The back button brings you to the next level, if it is possible.

Copy, paste, delete and create a folder.

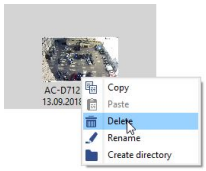


Filters permitting to select the types of files to display.

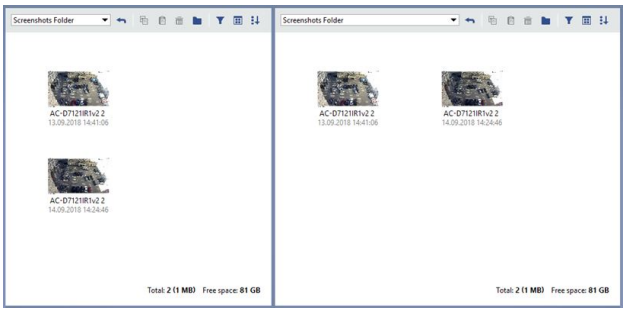
Select the appearance of the file icons.



Select the type of file sorting.



A list of files is displayed in the middle of the window. Double click the screenshot icon unfolds it to the full screen. Double click to go back to the list of files, in a similar fashion.
By right clicking on the file, the context menu will be displayed. Menu items duplicate the copy, paste and delete buttons.
The template editor lets you add several screenshot manager windows to the same template at once. It also lets you work with the files the same way as in Windows Explorer. You can select files with the mouse, move files simply by dragging between windows, etc.



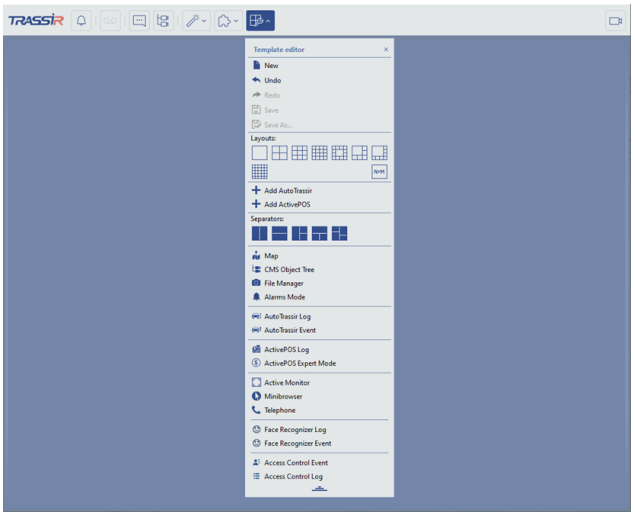
It is more convenient to use several windows when working with several servers connected over a network, and also when copying files to removable devices. Note that you can copy the files of the exported video, but you may view the video using external players only.

Sample view

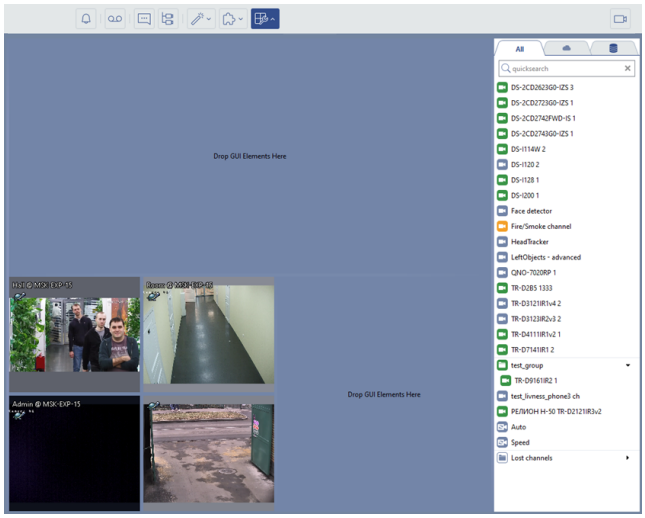
As an example, we will now create a template containing the following zones:

- a zone for displaying signals from 4 cameras,
- an object tree with a filter to display only "dysfunctional" devices, e.g. devices that aren't connected,
- and a map.

To create a template containing these items:

1. 

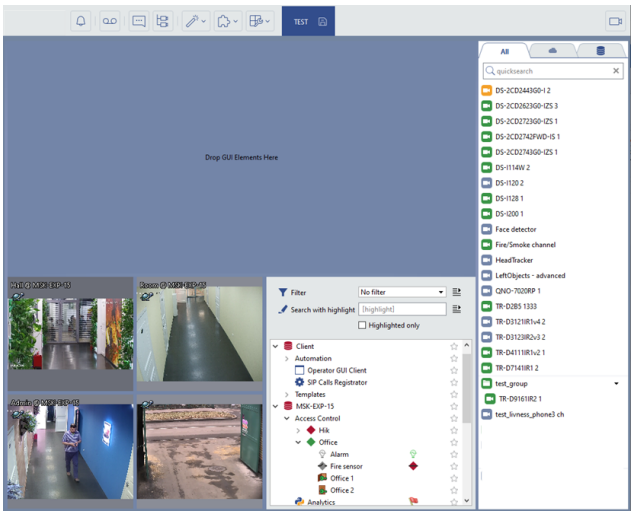
   Click the template settings button at the top of the screen.

2. In the opened window, click the button to see additional menu items.
3. Select the separator that looks like by left click. This will split the template into three zones, according to the separator's icon.
4. 

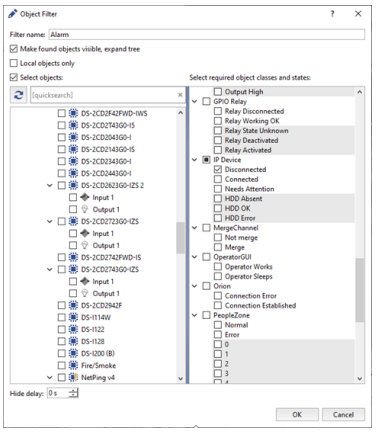
   Arrange the signals from 4 cameras. To do this:

   - Select the layout that looks like and drag it onto the left lower zone. The zone will be highlighted in light blue.
   - Release the left mouse button once the layout's location has been fixed.
   - Drag the signals from 4 cameras onto the newly created layout. The list of cameras is located on the right; if it is hidden, expand it using this button).

5.



Place the object tree and set up a filter to display "dysfunctional" devices only. To do this:

- Click the template editor button.
- Select ***Object tree (CMS)*** and drag it onto the upper right zone.
- Release the left mouse button after fixing the object tree's position.
- 

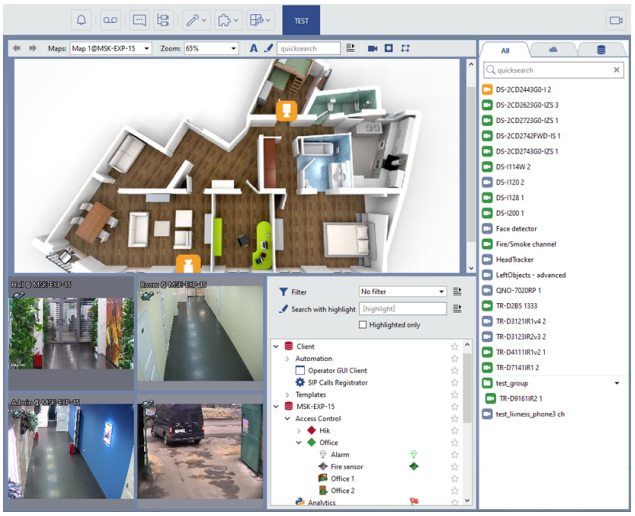
  In the newly added area, expand the ***Object filter*** dropdown menu and select ***Add***.

- Name the filter and set the checkboxes to define which objects the filter should display:
  - In the ***Channel*** group, select "No signal" checkbox.
  - In the ***IP device*** group, select the "Disconnected" checkbox.
  - In the ***Server*** group, select the "Health Problem" checkbox.

After the new filter has been added, the tree should only include trouble objects: channels with no signal; IP devices with no connection; and the servers with the health troubles.

6. Place the map in the bottom zone. To do this:
   - Select ***Map*** from the menu and drag it to the bottom zone.
   - Release the left mouse button once the map location has been set.
   - Select the map that will be displayed in this zone from the ***Maps*** dropdown list.

The list of maps will be empty if the administrator hasn't added any maps to the system.

7. 

   Change the sizes of the zones, if desired. To change the sizes of the zones:

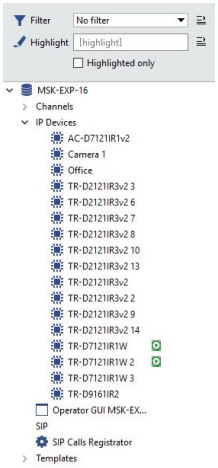
   - Point the cursor at a zone border. It will change into ÷ or ⇹.
   - Left-click and, without releasing, change the aspect ratio of the zones.
   - Release the left mouse button once the new zone sizes have been set.

8. In the main menu, click Save to save the template.

9. Name the template and press ***OK***.

Working with the object tree

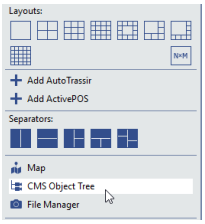
Everything an operator works with, is implemented as an object, i.e. compression cards, Orion ACS devices. Furthermore, each object has its own type and properties and is involved in various system events.



The **object tree** is a hierarchical object structure used for various video surveillance tasks. For example, the object tree displays various devices and their states in a compact form on the screen. But if you create a filter based on object state, then you can reduce the list to display, for example only "problem" objects, (no connection with the device, no free space on the hard disk, no signal, etc.). You can view the objects for the local server as well as all servers you are connected to.

To display the object tree on the screen:

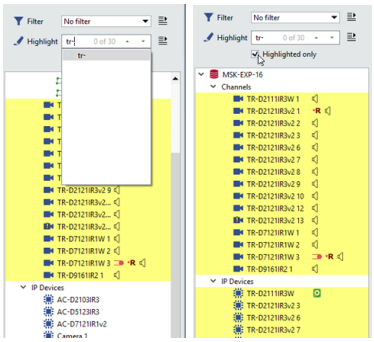
1. Prepare an area to display the object tree in the video monitor interface.
2. Press the menu button that looks like and expand the list of available video monitor interface elements.
3. Select ***Object tree (CMS)*** with the left mouse button and, without releasing it, drag the object tree to the prepared area.



4. Release the left mouse button after putting the object tree into place.

All the server objects will be displayed by default. For your convenience, you can shrink the list of displayed objects using one or both of the following methods:

- Using *a system of filters related to different types and / or states of objects*;
- Enter part of the object name in the ***Highlight*** field and set ***Highlighted only*** flag.

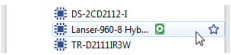


Highlight field displays the sequence number and the total number of the selected objects. The selected object will be highlighted with orange. Use the button for transition between the objects and .

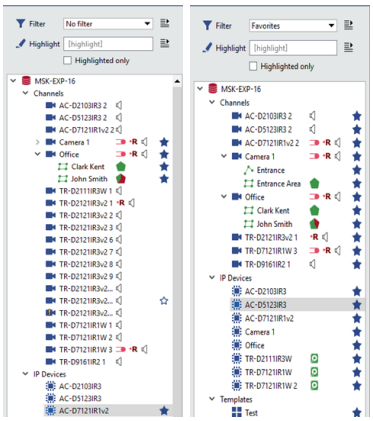
- *Favorite objects*
- *Grouping objects*
- *Object filtering*

Favorite objects

You can show only favorite objects in the object tree. Any object can be marked as favorite. To do this, point the cursor and click ☆.



To display any favorite objects, select the ***Favorite*** filter.

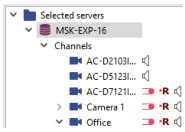


- *Working with the object tree*
- *Grouping objects*
- *Object filtering*

Grouping objects

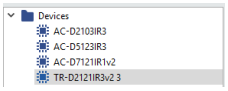
For your convenience, you can create your own folders in the object tree. You can put any objects into these folders. Folders can also be united or contain subfolders.

- To create a folder: right-click on an object or object group, select ***Folder...*** in the context menu, and enter a name for the new folder.
- To move an object to a different folder, right-click on an object or object group and select ***Folder...*** in the context menu. By changing the name of the folder, you can move the object to a different folder.
- To create a folder within a folder: right-click on an object or object group, select ***Folder...*** in the context menu, and use a '/' to append the name of the subfolder to the existing object path.
  For example, you have a folder named "Selected servers" that contains servers and connected devices.



Let's say you need to move the devices to a subfolder called "Devices". Right click on the required object group and select ***Folder...*** in the context menu. The ***Assign folder*** window will open with the value "Selected servers". Append '/' and the name of the subfolder "Devices".

The picture below illustrates the result.



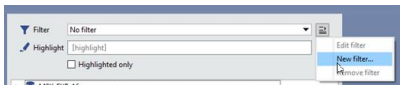
To select several objects, press and hold CTRL or SHIFT and select the objects (similar to file selection in Windows).

- *Working with the object tree*
- *Favorite objects*
- *Object filtering*

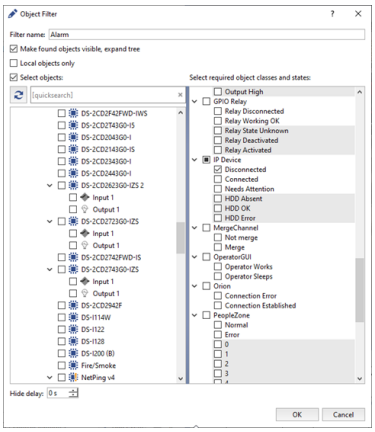
Object filtering

Video surveillance usually involves displaying a list of objects which have been filtered according to several rules. After creating a filter, you can see the type of the objects being displayed and their current state. To create a new filter:

1. Select ***New filter...*** in the ***Object filter*** dropdown list.



2. Name the filter and select the checkboxes to define which objects the filter should display.



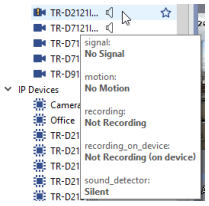
   If the ***Local objects only*** checkbox is set, the filter will only display objects for the server the operator is directly working on. Objects for network servers will be hidden.
   The object list is a tree; the operator can expand and collapse the individual branches. The system stores the collapse/expand state of branches for each filter separately. The state of objects can change while working with a server. The ***Make matching objects visible; expand the tree*** option forces branches to expand if an object's state matches the selected filter.
   The ***Hide delay*** parameter changes the time period in which an object is displayed in the list before its status mismatches the selected filter.

3. Click ***OK***.

As an example to illustrate the filter's work let's create a new filter for the following "dysfunctional" objects:

- Channels that have lost their signal (object state = "no signal"). In the ***Channel*** group, select "No signal" checkbox.
- Devices that have lost their connection (object state = "no connection"). In the ***IP device*** group, select "No connection" checkbox.
- Servers experiencing failures. In the ***Server*** group, select "Health Problem" checkbox.
- Set the ***Hide delay*** parameter to 10 seconds.

After selecting this filter, only dysfunctional objects will be displayed in the tree. The object tree will be empty when everything is functioning properly.
If one of the cameras loses its video, the camera will appear in the object tree.



The icon indicates that the channel is experiencing a problem. The server icon indicates a state of alarm due to a dysfunctioning camera.
After the camera gets back up and running, it will remain in the list for 10 seconds. This is the value that we've set for the ***Hide delay*** parameter.

- *Working with the object tree*
- *Favorite objects*
- *Grouping objects*

Object tree state

The state of all objects in the object tree may change, depending on the situation and settings. And the operator can take appropriate actions based on the current state of an object. All the various object states are presented in the table below:

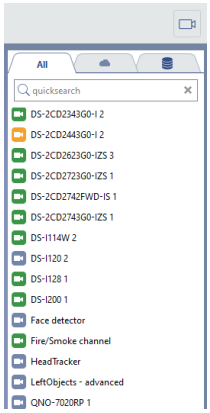
State	Description
Channels	
	There is a signal. There is motion. No archive recording.
	There is a signal. There is motion. Archive recording.
	Audio / No audio.
SIMT motion detector	
	Intersection of a border
	No objects within a zone / Objects detected in a zone / Alarm in a zone
Empty Shelf Detector and Deep People Detector	
	The detector's state changes according to the observed area's level of depletion (Empty-Shelf Detector) or admission (Deep People Detector)
Alarm inputs / outputs	
	Alarm input opened / closed
	Alarm output opened

- *Working with the object tree*
- *Favorite objects*
- *Grouping objects*
- *Object filtering*

Working with cameras

Channel list
Camera window
Camera window interface settings
Working with PTZ cameras

Channel list



Channel list is displayed on the right part of the screen. Channels are displayed in alphabetical order, but you can change the order by dragging the channel to the requested place.
Left click on the channel to spread the video to the entire main area.

The channel list can be hidden or displayed with the button . To see the name of the channel change the list width. Click again on the list view button or drag the list with the mouse.
The channel list displays:

- **Local channels** - channels of the devices connected to this server directly.
- **Network channels** -channels of the devices connected to another server via the network.
- **Cloud channels** - channels connected to TRASSIR Cloud.
- **Archived channels** - channels that transfer video data through the archive merge.

Switching the tabs you can display the channels connected to the server, all of them or cloud channels only. Besides, to find the name of the channel, enter it to the ***quick search*** field. Those satisfying the search conditions will remain in the list.
If too many channels exist, you can group them to save the space and make it easy to use. To do this:

1. Press CTRL or SHIFT and without releasing, select the required channels.
2. In the context menu select ***Assign group***.
3. Enter the name of the group and press ***OK***.

You can place all the lost channels into one group, select ***Group lost channels.***

To access the channels in the group left click the group icon.
To cancel the group, select the channel in this group and without releasing the mouse button, drag it to the required place in the channels list.

Each channel or group of channels in the list is characterized by one of the following icons:

Local and network channels	Cloud channels	Archived channels	Group of channels	Description
				Signal on. **No motion**
		Motion detection is performed in the source server.		**Signal on.** **Motion detected.**

Local and network channels	Cloud channels	Archived channels	Group of channels	Description
				To detect a motion a motion detector should be configured on the channel.
	Archived is saved to the cloud.			**Signal on.** Archive is not saved.
				No video signal.
				Lost channels. There is a archive, but no video recording equipment.

- *Camera window*
- *Camera window interface settings*
- *Working with PTZ cameras*

Camera window

There are various icons for working with the camera in the video display area. The number of buttons and their appearance can vary depending on the camera's capabilities, the display window's size and mode, the signed-in user's permissions, and the video analysis modules being used. By default, all the buttons are hidden. To show the buttons, put the cursor over the desired window, or make the window active by left-clicking on it.

The exception to this rule is the archive recording indicator. It is shown on all channels where recording has been enabled by the operator or continuous recording is enabled.

Play video

Stop video

Archive recording is disabled
Clicking this button enables permanent archive recording.

Archive recording on detector is on
Clicking this button enables permanent archive recording.

Permanent archive recording is on
Clicking this button will stop or switch the recording to the "on detector" mode, depending on the archive recording settings.

Make screenshot of an entire frame *of video* or *an archive*

Make area screenshot *of an archive*

Main video stream is displayed
Clicking this button will switch to substream.

Substream is displayed
Clicking this button will switch to the mainstream.

Enable/ disable *Digital zoom*

Open *Archive*
Right click the button to open the context menu that lets you select the archive to work with.

Open *archive on the device*

Open the archive calendar
It will switch you to the *Archive Review* mode

Two-direction sound is off

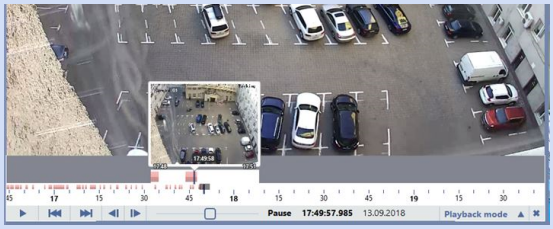
Click this button to switch two-direction sound on.

Two-direction sound is on
Click this button to switch two-direction sound off.

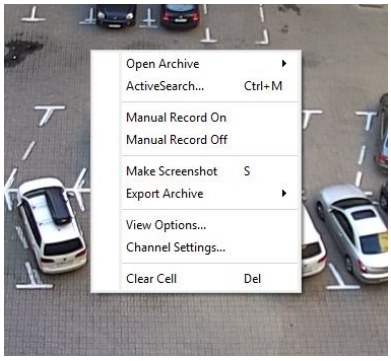
Enable/ disable *PTZ control* mode

Enable/ disable *ActiveDome* control
This button is displayed in the overview camera window if this camera is added to ActiveDome scene.

Hover to the bottom of the video to see the ***Archive Timeline***. Click any place on it to switch to the camera archive.



The instant archive preview option works only if ***OpenGL*** value is selected in ***Video acceleration*** setting. Read more about video acceleration settings in *Local server settings* and *Client settings*.



You can also perform several actions using a context menu by right clicking on the frame.

- ***Open archive*** - Switches the channel to *archive viewing* mode. These menu items are analogous to the context menu brought up by right clicking on an archive's icon.
- ***ActiveSearch... (Ctrl+M)*** - Opens the *Find motion in archive* window.
- ***PTZ Control*** - Used to select the *PTZ camera control mode*. This menu item is only available for PTZ cameras.
- ***Manual Record On*** - Begins a recording with the camera.
- ***Manual Record Off*** - Stops a camera recording which was previously manually started.
- ***Make screenshot (S)*** - save the entire frame*of video* or *an archive* to an image.
- ***Make area screenshot (Ctrl+S)*** - save an area of an *archive* frame to an image.
- ***Export archive*** - Opens window for *exporting archive to video file*.
- ***View options...*** - Opens the *camera window interface settings* window.
- ***Channel settings...*** - Opens the channel settings window (see the Administrator's Guide for a detailed description of the settings).
- ***Clear Cell*** - Deletes the camera's frame from the selected cell. Once a cell has been cleared, a different camera's frame can be placed in it.

The commands to start and stop the manual recording will only work if the administrator has specified Manual" or "On Detector" recording mode in the camera's recording settings. Otherwise, these commands will be ignored.
The ***Make area screenshot*** command is available only in the archive preview mode.

The menu's appearance and the presence of certain buttons depends on the type of device and the signed-in user's permissions.
For a description of each item's settings, see the corresponding sections of the guide.

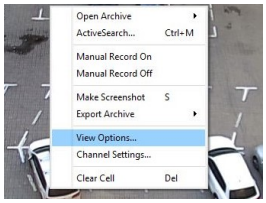
In addition to buttons, the upper right corner displays the camera name and some other information: codec, resolution, frames per second, and the current bit rate. The appearance and volume of information displayed is adjusted in the *View options...* menu.

You can hide all the control elements and supplementary information displayed over the frame. Do this by pressing BACKSPACE. Pressing the button again will return to the regular display mode.

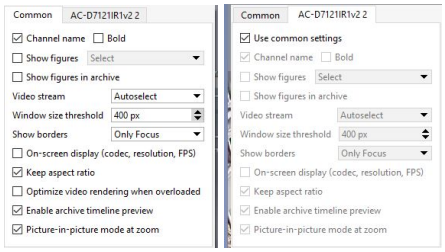
- *Channel list*
- *Camera window interface settings*
- *Working with PTZ cameras*

Camera window interface settings

To configure the camera window layout select ***View options...*** in the context menu.



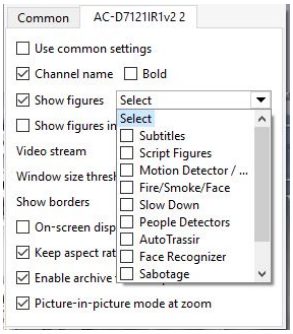
In the opened window you can select from two tabs of the view parameters.



- ***Common*** - the selected parameters will be implemented to all cameras.
- ***[Camera Name]*** - the selected settings will be implemented to the specific camera.

On common settings change it must be borne in mind that they will be implemented to those cameras, that have ***Use common settings*** box checked. This box is checked in all cameras' settings by default.

- ***Channel name*** - click this checkbox to enable displaying of the camera name in the window.
- ***Bold*** - this checkbox makes the camera name display in bold type.
- ***Show figures*** - click this checkbox to enable the display of the selected from the dropdown list figures in the camera window. Select one or several required figures:



  - ***Subtitles*** - displays the subtitles from *ActivePOS* modules on the camera image.
  - ***Script figures*** - displays script figures, made by the scripts.
  - ***Motion detectors/ SIMT*** - displays hardware/ software motion detectors zones (if they were set up for the given camera).
  - ***Fire/Smoke/Face*** - displays fire/smoke and face detector data on the camera image.
  - ***Slow Down*** -displays slow down detector data.
  - ***People Detectors*** - displays data from people detectors.
  - ***AutoTRASSIR*** - displays figures from *AutoTRASSIR* module.
  - ***Face Recognizer*** - displays figures from *Face Recognizer* module.

- ***Dynamic Heat Map*** -enables dynamic image of the *Motion Heat Map*.

The following figures can't be displayed at the same time:

- ***Motion Detectors / SIMT*** and any other variant if the channels uses ***Hardware Motion Detector*** in the settings.
- ***Dynamic Heat Map*** and any other variant.

Selecting ***Dynamic Heat Map*** disables all other figures.

- ***Show figures in archive*** - click this checkbox to enable the display of the subtitles (if there any) during archive playback.
- ***Show watermark*** is the flag that will display watermark on video.

The access to change the flag state is managed by settings and user rights. For more details, see section *???*.

- ***Video stream*** - select the stream on the screen:
  - ***Autoselect*** - the displayed stream will be selected automatically, depending on ***Window size threshold*** parameter value. If the camera window width is lower than the preset value (400 px by default), the substream (additional video stream of lower resolution) will be used. This value will be ignored if the given camera does not support substream video transfer or it is disabled in the settings.
  - ***Prefer mainstream*** - always show the main video stream.
  - ***Substream*** - always show the substream.
- ***Show borders*** - click this checkbox to add borders over the camera window, that change their color on event. The following options can be selected:
  - ***Only Focus*** - the borders will be switched off and the active window will be highlighted by white angle brackets.
  - ***Focus and motion*** - in addition to the focus highlighting, the channel will be highlighted by yellow border upon motion detection.
  - ***All borders*** - all available borders will be shown. They change their color on situation:
    - ***Green*** - there is no motion.
    - ***Yellow*** - motion detected in the frame.
    - ***Red*** - channel record is blocked.
    - ***Blue*** - *Archive review* is enabled on the channel.
- ***On screen display (codec, resolution, FPS)*** - click this checkbox to enable the display of the applied codec, resolution, bitrate, and FPS in the camera window.
- ***Keep aspect ratio*** - this checkbox defines the video scale mode upon the camera window resizing. If this box is checked, the original aspect ratio will be saved. Otherwise, the video will be expanded to all window space (by smaller side).
- ***Optimize video rendering when overloaded***. The system monitors constantly the load capacity of the server mainframe. If the server CPU load is more than 70% for several days, the server automatically will switch to substream on all channels (except for the channel in focus). In case substream is not supported, the video rendering will be optimized.

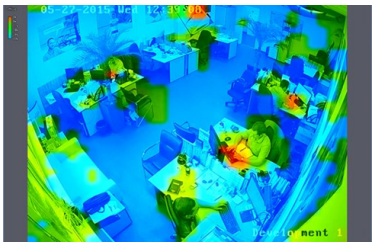
- ***Enable archive timeline preview*** enables the display of the *Archive Timeline*.

The instant archive preview option works only if ***OpenGL*** value is selected in ***Video acceleration*** setting. Read more about video acceleration settings in *Local server settings* and *Client settings*.

- ***Picture-in-picture mode at zoom*** - enables the *zoomed area* display.

- *Channel list*
- *Camera window*
- *Working with PTZ cameras*

Dynamic heat map



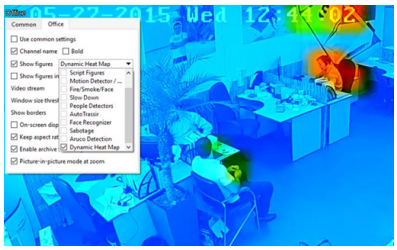
Dynamic heat map mode is used to draw the operator's attention to motion within the frame.

Heat maps are useful on those channels where any activation of the motion detector is an alarm event. This display mode is especially helpful when the video surveillance operator is simultaneously monitoring several cameras. The heat map helps to focus his or her attention on the relevant area of the screen.

Dynamic heat wake remains on the screen for 30 seconds. It lets the operator notice that there was motion in the frame, even after the object has left the surveillance zone.

The heat color is determined by the time elapsed since the motion occurred in the frame. The less time has passed, the warmer is the color of the area where the motion was detected.

To display a heat map, open the context menu by right-clicking on a channel and select ***View options...***. In the window that opens, set the ***Show figures*** checkbox and select ***Dynamic Heat Map***.



Motion heat maps can only be used on channels with ActiveSearch enabled.

Not only can you can use this display mode in real-time, but also to build a heat map for a specific period of time, i.e. an hour or a day. Learn more in *ActiveSearch - motion search in the archive*.

- *Camera window interface settings*

Zoom image

With the help of zoom, an operator can scale the image and review distant objects.

The button enable/disables zoom mode.
You can scroll the mousewheel to change the zoom level or use single mouse clicks -left (to zoom in) or right (to zoom out). Left click to move the zoomed area on the image.
If ***Picture-in-picture mode at zoom*** is selected in the *view options*, you'll see the camera image in the right upper corner and the zoomed zone will be highlighted with a red rectangle. You can move the zoomed area on the image by moving the red rectangle.

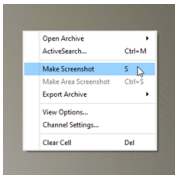
Zoom can also be activated by pressing ***CTRL*** and deactivated by releasing it.

- *Channel list*
- *Camera window interface settings*
- *Working with PTZ cameras*

Video screenshot

You can save the current image to a picture at any time. To do this, you can use one of the suggested ways:

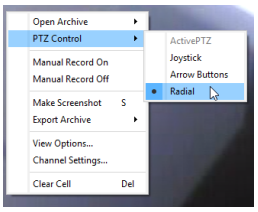
- press in the menu;
- press ***S*** on keyboard;
- open the context menu and select ***Make screenshot***.



The destination folder for all screenshots is defined in the client or server settings. For more details, see the corresponding sections of the Administrator's Guide (see sections *???* or *???*).

- *Camera window*

Working with PTZ cameras



If the camera's viewing window has this icon , then you can operate the camera's PTZ control.
A PTZ camera can be controlled in the following modes:

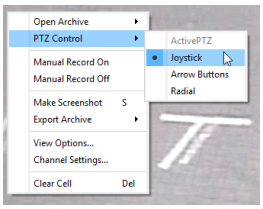
- ***ActivePTZ*** - Manual control in which the operator highlights a rectangular area of the screen for the camera to show. If this menu item is disabled, please contact your administrator. The PTZ camera might not support this mode, or the camera's optics might not have been calibrated.
- ***Joystick*** - Manual control in which the operator positions the camera by using the mouse to indicate its direction and rotation speed.
- **Arrow Buttons** - Manual control in which the operator positions the camera using a virtual joystick's buttons.
- ***Radial*** control. The operator sets the camera indicating only the direction of rotation.

You can also select the PTZ camera's control mode from the context menu by right-clicking on the image.

Additionally, a PTZ camera can be included in an *ActiveDome* scene. In this case, the PTZ camera's positioned when the operator selects points or areas in the overview camera's window.

- *ActiveDome scenes*

ActivePTZ mode



To control a PTZ camera in ActivePTZ mode:

1. Right-click and select ***PTZ-control*** -> ***ActivePTZ*** item in the opened context menu. Note that this mode will be available only if the camera was calibrated (it means that the optics have been analyzed in the server settings).

2. Press the button to activate the PTZ-control mode.

3. Select the rectangular area on the screen.

After releasing the left mouse button the selected area will be displayed full-screen.

Click on the image and the camera will move to the specified point keeping the zoom level. Use the mouse wheel to zoom in or out the image.

Also, in the camera control window you can use a special panel:

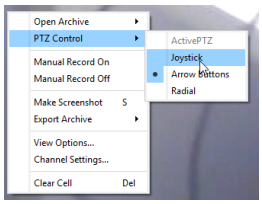
- ***1***, ***2***, ..., ***9*** – presets buttons. A preset is a saved camera position. A total of 9 presets can be created for a camera. Presets are created using the camera control menu.

- ***Patrol*** – enables a mode in which the camera position changes in sequence according to a previously prepared schedule. Each patrol point is defined by a preset (camera position), how long the camera position should be maintained, and the speed with which the camera should be moved to the next point. Patrol points are defined in the camera control menu.

The patrol mode will remain in effect until the operator manually changes the camera's position or selects a preset.

- *Working with PTZ cameras*
- *ActiveDome scenes*

Joystick mode



To control a PTZ camera in joystick mode:

1. Right click and in the opened context menu select ***PTZ Control*** -> ***Joystick***.
2. Click to activate PTS control mode.
3. Adjust the camera position with one of the following ways:

Change camera position	Zoom in/out
Left click and without releasing the mouse button, set the PTZ direction. The arrow on the screen will show the direction and the angle of the PTZ. Release the button to complete the action.	Left click to zoom in, right click to zoom out. You can also change the zoom level with the mouse wheel.

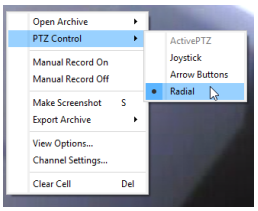
Furthermore, you can make use of a special panel in the camera control view window:

- ***1***, ***2***, ..., ***9*** – presets buttons. A preset is a saved camera position. A total of 9 presets can be created for a camera. Presets are created using the camera control menu.
- ***Patrol*** – enables a mode in which the camera position changes in sequence according to a previously prepared schedule. Each patrol point is defined by a preset (camera position), how long the camera position should be maintained, and the speed with which the camera should be moved to the next point. Patrol points are defined in the camera control menu.

The patrol mode will remain in effect until the operator manually changes the camera's position or selects a preset.

- *Working with PTZ cameras*
- *ActiveDome scenes*

Radial mode



PTZ control in the radial mode:

1. Right click and in the opened context menu select ***PTZ Control*** -> ***Radial***
2. Click to activate the PTZ control mode.
3. You'll see a crossline in the center in the window. The arrow cursor defines the PTZ direction.

Click any space on the image and the camera will turn in the arrow direction. Move the arrow to change the direction. The rotation speed depends on the distance between the centre of the window and the arrow. The longer the distance is, the faster the camera follows the intended direction.

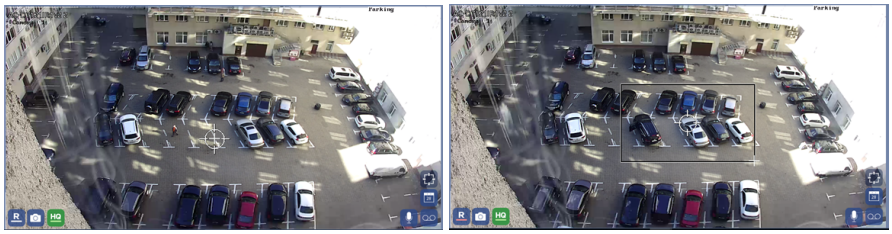
- *Working with PTZ cameras*
- *ActiveDome scenes*

ActiveDome scenes

A PTZ camera can be included in an ActiveDome scene. ActiveDome is a module for automated control of PTZ cameras. You can use it to rapidly position a PTZ camera. The number of cameras in a scene may vary, but an ActiveDome scene always has at least one overview camera and one PTZ camera. The basic idea behind the module is to use information from objects in the overview camera's frames to control the PTZ camera, regardless of their relative orientation.

To control the PTZ camera in an ActiveDome scene:

1. Go to the window for an overview camera in the ActiveDome scene (these cameras are indicated with a).
2. Activate the ActiveDome scene by clicking on the . In this case it will change the color.
3. Change the PTZ camera's position in one of the following two ways:
   - simply click with the mouse in the overview camera's window. The selected location will be displayed at the desired scale in the PTZ camera's window;
   - or highlight a rectangular area of the overview camera's window. The selected area will fill the PTZ camera's entire screen.



- *Working with PTZ cameras*
- *ActivePTZ mode*
- *Joystick mode*

Working with the archive

You can work with a device's video archive, regardless of where the archive is physically stored. From the device channel window, you can view, export, and save snapshots from the archive while you are located directly in front of a video surveillance server's monitor or while connected to a remote server over a LAN, the Internet, or a chain of other servers. The archive may also be stored:

- Directly on the server to which the camera or recorder is connected.
- On a backup server that records the archive using the network channel recording function.
- On an IP camera's internal flash drive or the HDD/SSD of an NVR or DVR.

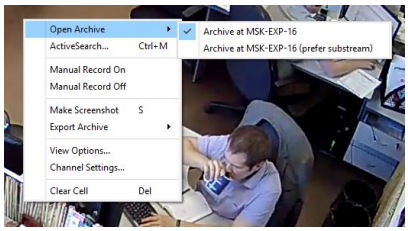
In an archive, you can:

- *view* desired archive segments;
- using ActiveSearch find *moving objects* or *people* in the archive;
- *set bookmarks on desired segments*;
- make *screenshots* and save *archive fragments* or *archive templates* to a file.

Archive review

You can go to an archive in several ways:

- Click in the menu;
- Click in the camera window;
- open context menu on the channel image and select ***Open archive***;



- press TAB to open an archive of the selected channel or CTRL+TAB to open an archive for all the channels in the template.

The server can save 2 streams from the connected devices to the archive: mainstream and substream. Thus, when you open an archive, you decide which stream you need to review.
To determine the required archive, select it from the context menu by right click on the image or the archive icon:

- ***Archive on*** `[server_name]` - the archive stored on the specified channel will be opened. Mainstream or substream will be selected automatically, in accordance with the *camera window view settings*. This is the default mode.
- ***Archive on*** `[server_name] (prefer substream)` - the substream of the archive, stored on the specified channel, will be opened. This feature lets save the traffic and reduce the CPU load on operator's workplace.
- ***Archive on the device*** - the archive from the device's storage drive (Flash-drive or HDD\SDD disk) will be opened.

Archive controls are given below:

- **Timeline** - represents video record availability in the archive. The color of the timeline lets discover the archive recording method: permanent or on detector. If on detector method is used, the density of the timeline coloring represents the presence of detected motion and its intensity. The more red coloring it has, the more motion has been detected in the picture.

  The timeline can change its coloring only on those channels which have ActiveSearch activated.

- **Player control panel** - it is a set of buttons to control archive review. The number of buttons depends on the archive view window width.

The timeline lets you:

- Move the blue playback tag to any archive fragment by clicking on the required timeline place.
- To move the scale back or forth hover the timeline to see the icon ⇔, left click and without releasing start moving the timeline back and forth.
- Use the mousewheel to scale the timeline. You can also change the scale using left (to scale in) or right (to scale out) mouse buttons. To do this, hover the timeline (but not the red line!) and press the corresponding button.
- When you move the cursor through the archive scale, you'll see the archive thumbnails which will help you to identify the start of the playback.

  If the timeline was scaled out to a great extent, you can hold the cursor over it for one second, while searching for the required fragment, and you'll see the timeline of larger scale.

- The blue coloring of the timeline determines the permanent archive recording.

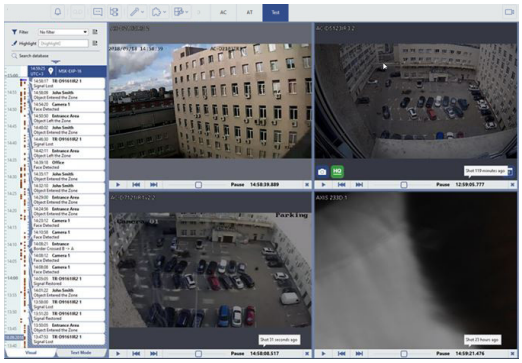
Player control panel lets you:

	Play an archive fragment.
	Stop the fragment playback (Pause).
	Go to the previous or next archive fragment.
	Go to the previous or next frame step. To select a frame step right click on the button. Moreover, you can move frame by frame through the archive by dragging the cursor and using mousewheel. Thus scrolling up let you smoothly move through the archive forward. Whilst scrolling down will let you move through the archive back.
	Change the fragment playback speed. You can set the maximum limit of the playback speed in the *User rights settings*.
	Select the playback mode featuring Multisearch, which overlaps archive fragments. You can read more about the playback mode in *ActiveSearch - motion search in the archive*.
	Close the archive.

- *ActiveSearch - motion search in the archive*
- *Export archive to a video*
- *Adding bookmarks*

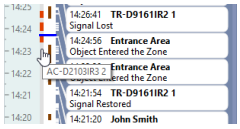
Archive review and event log

During the archive review a timeline of all opened archives will be displayed on the left, as well as the event log.



On a single timeline of the event log you can see the information about the availability of the archive for several cameras at once. The timeline contains the information about all cameras in the archive review mode. The dark red bar indicates the availability of the archive of a particular camera.

Upon the left click on the dark red bar the archive player for all cameras will automatically go to the specified frame. The current position of the playback marker is indicated by a blue bar.



In addition, using the mouse you can move the timeline up or down. Move the mouse over the scale until the icon appears ↕, left click and without releasing the mouse button drag the timeline up or down.

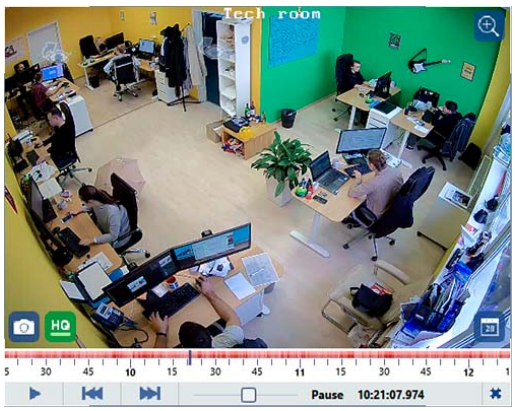
Use the mousewheel to scale the timeline. You can also change the scale using left (to scale in) or right (to scale out) mouse buttons. To do this, hover the timeline (but not the red line!) and press the corresponding button.

Archive review
Using teleports while reviewing an archive
ActiveSearch - motion search in the archive
Export archive to a video
Adding bookmarks

Using teleports while reviewing an archive

An operator, reviewing an archive, can switch from one camera's archive to another with the help of the customized teleports. This feature can be helpful when tracking a subject moving through a hall with many rooms. In this case, you don't need to remember the name of the camera installed in the room the object enters. You just click the teleport on the room's door:

and the archive from this camera will be displayed in the current window:



You can read more about teleports configuration in the Administrator's Guide.

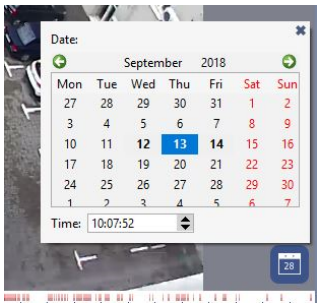
Archive review
Archive review and event log
ActiveSearch - motion search in the archive
Export archive to a video
Adding bookmarks

Date and time selection during archive review

To review an archive for a specific date, do the following:

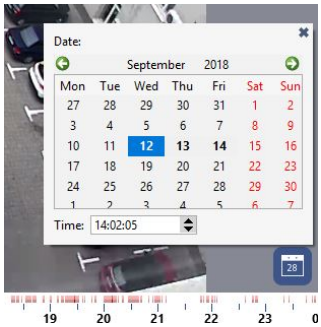
1. Click on the channel screen.

2. In the opened window you'll see the calendar.



> The highlighted dates are the dates when the archive was recorded from this camera.

3. Select the required date and time on the calendar. While doing this, you'll see the channel displaying the archive for the selected period.



4. Close the calendar upon completion.

ActiveSearch - motion search in the archive

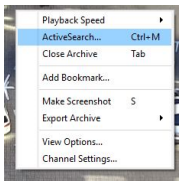
ActiveSearch is an intelligent motion-finding technology that greatly simplifies the work of an operator. At locations with round-the-clock recording, the entire video archive must be reviewed in order to find a particular event. ActiveSearch only requires you to highlight the area of interest and choose a time interval for the search. In just a few seconds, the server will produce a list of video segments in which there was some motion in the specified area.

ActiveSearch extracts events from data coming in from software-based detectors and a number of hardware-based detectors (including detectors integrated on hardware compression cards; the detector on IP cameras made by Hikvision, and Axis; and the Beward BD series of cameras).

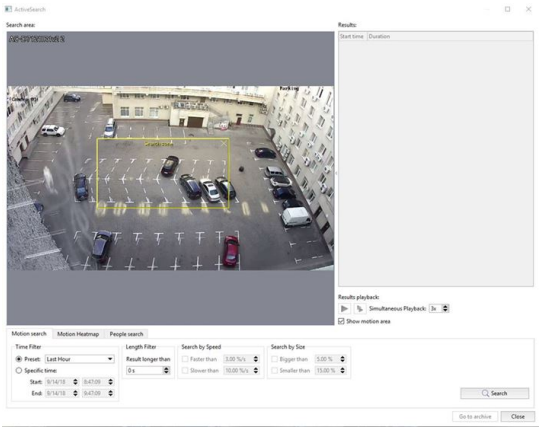
Not all hardware-based motion detectors support searching an archive.

To find motion in a channel's archive, do the following:

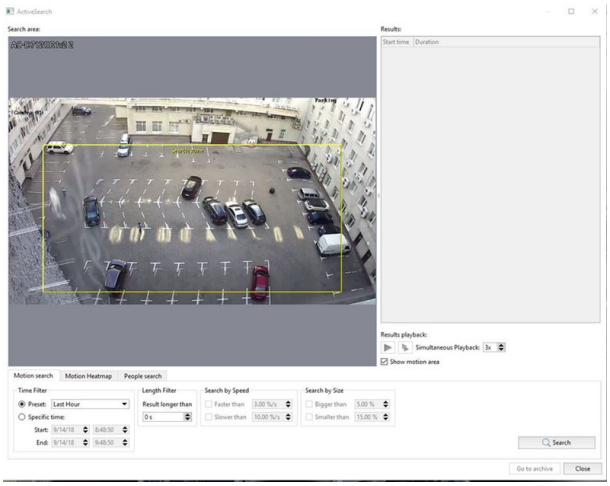
1. In the context menu, select ***ActiveSearch...*** or press CTRL + M.



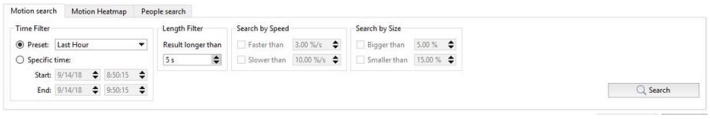
This will open the a window for finding motion in an archive:



2. In the search area, define the motion search zone by adjusting the boundaries of the yellow rectangle.



3. In the opened window, in the ***Time filter*** settings group, specify the time range to search by choosing one of the set time periods in the ***Preset*** option or by indicating a specific date and time in the ***Specific time*** option.

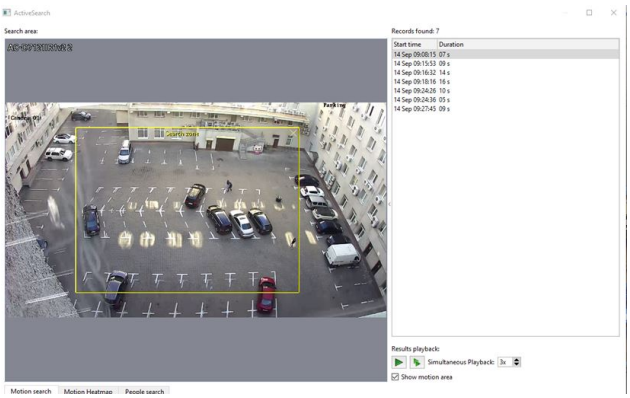


Set the filter conditions, if required:

- By the duration of an object's presence in the search area. Enter the minimum duration in seconds in the ***Results longer than*** field.
- By the size of the moving object. Set the ***Bigger than*** and ***Smaller than*** checkboxes to specify the minimum and maximum object size, respectively (as percentages of the image size).
- By the speed of the moving object. Set the ***Faster than*** and ***Slower than*** checkboxes to specify the minimum and maximum object speed, respectively (as percentages of the image size, per second).

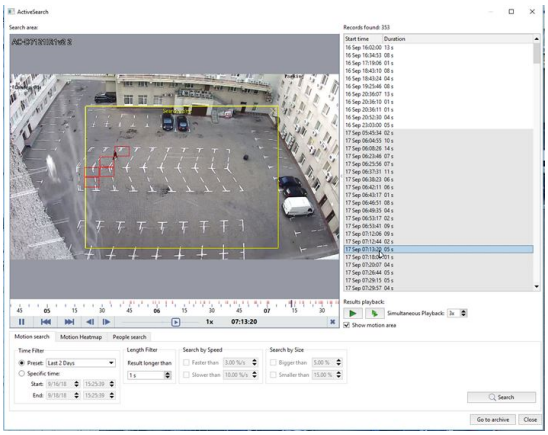
Note that the option to filter by an object's speed and size is only available when using a software-based ***SIMT*** motion detector.
You can use the green oval on the image to estimate the approximate size of an object and its speed.

4. Click the ***Search*** button. After a while, the search results will appear in the ***Results*** list.

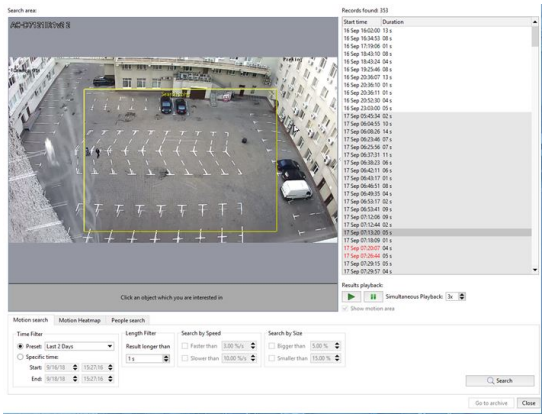


5. Use one of the options for viewing the search results:

- Select an archive segment from the list and click ▶, or double-click the desired segment. When it is played, the playback controls will be automatically displayed, just like during ordinary *viewing of an archive*. Set the ***Show motion area*** to display on the screen the regions where motion was detected.



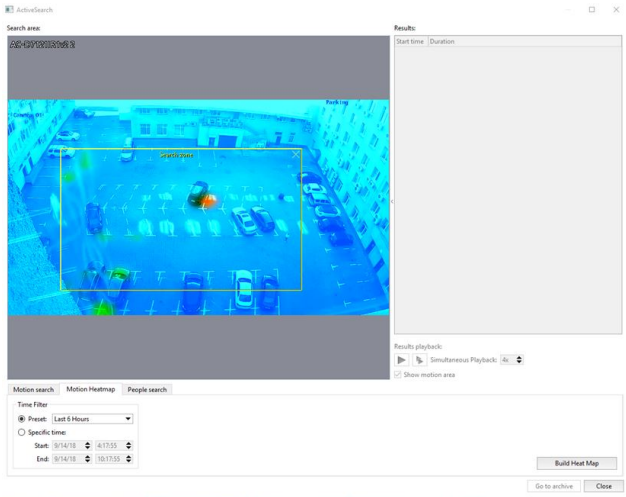
- Select an archive fragment and click . This will use the MultiSearch function, which lets you view several of the archive's segments simultaneously. The moving objects will be superimposed on the frame, making it possible to further reduce time spent searching an archive. The maximum number of simultaneously viewable segments is limited to 7 and is set in the ***Simultaneous Playback*** field.



In the operator is interested in the behavior of a particular object, he or she can quickly switch to playback of a single segment by left-clicking the object on the screen.

6. Click the ***Go to archive*** button to open the channel's archive in the *video monitor* view.

You can also display a motion heat map. To do this, on the ***Heat map*** tab, in the ***Time filter*** settings group, select the time interval for which the heat map is to be created and click the ***Build Heat Map*** button. This will superimpose a motion heat map on the frame. Areas of the frame with the most intense motion will be assigned a warmer color, while areas without motion will be assigned a blue (cold) color.



You can set up parameters for the people search in the archive in the ***People Search*** tab. Read more about in the *ActiveSearch - search for objects in the archive*.

- *Archive review*
- *Export archive to a video*
- *Adding bookmarks*

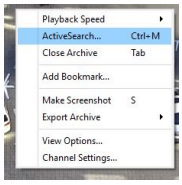
ActiveSearch - search for objects in the archive

Besides searching for motion in the archive, **ActiveSearch** can find various objects (persons, bicycles, cars) shot by the camera.

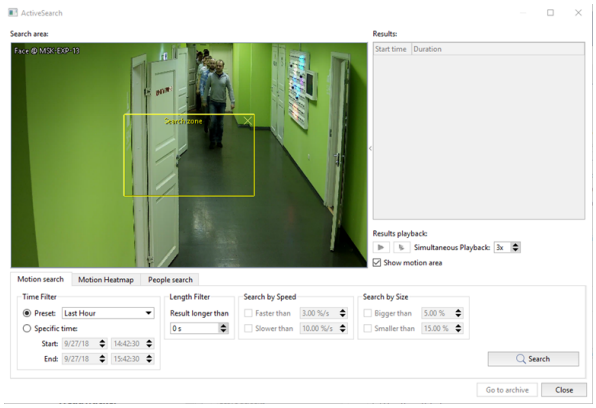
The event source for ActiveSearch, used for objects search, is the neuro detector data. You can read more about the detector settings in the *Administrator's Guide*.

To find objects in the archive:

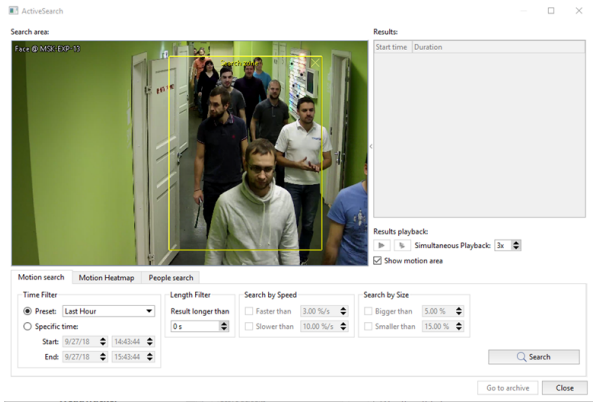
1. Select ***ActiveSearch...*** in the context menu or press CTRL+M.



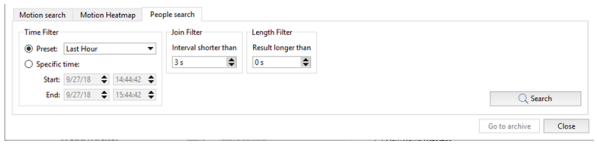
Go to the ***Objects search*** tab in the opened window.



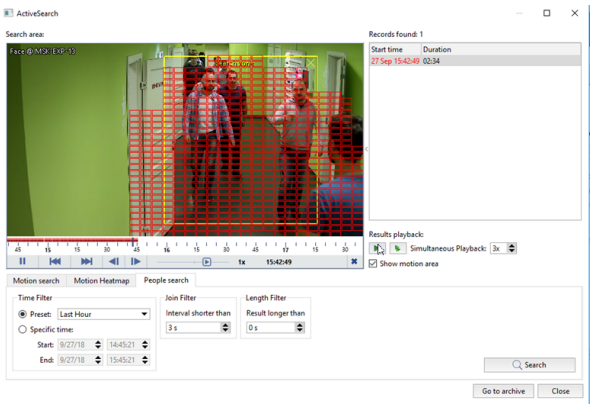
2. Set the boundaries of the yellow rectangle in the search area to set the search zone.



3. In the ***Time Filter*** group of settings select the search time interval. Choose either ***Preset*** or enter exact date and time in the ***Specific time*** settings option.
   The server captures all objects movements, including the slightest ones, as video fragments. Using ***Join filter*** you can unite several movements into one. To do this, set the interval maximum length. All movements, shorter than the specified intervals, will be united into one video fragment.
   The ***Length filter*** lets you define the time of the object staying the search zone. Set the value in the ***Result longer than*** area in seconds.



4. Click ***Search*** and you'll see the search results in the ***Results*** list.



5. You can view an archive fragment the same way as in *motion search*. Select the required fragment from the list or use MultiSearch option to view several fragments at once.

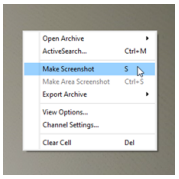
6. Click ***Go to archive*** to open the archive of the channel in the *videomonitor* template.

- *Archive review*
- *Export archive to a video*
- *Adding bookmarks*

Archive screenshot

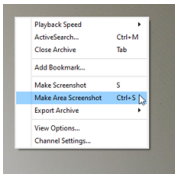
You can save an image of the archive to a picture at any time. To do this, you can use one of the suggested ways:

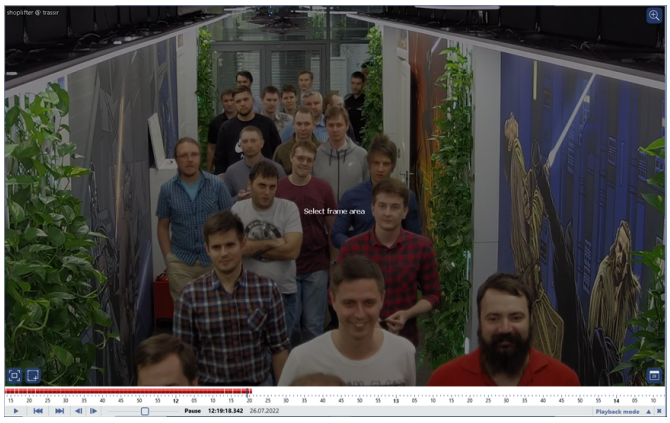
- press in the menu;
- press ***S*** on keyboard;
- open the context menu and select ***Make screenshot***.



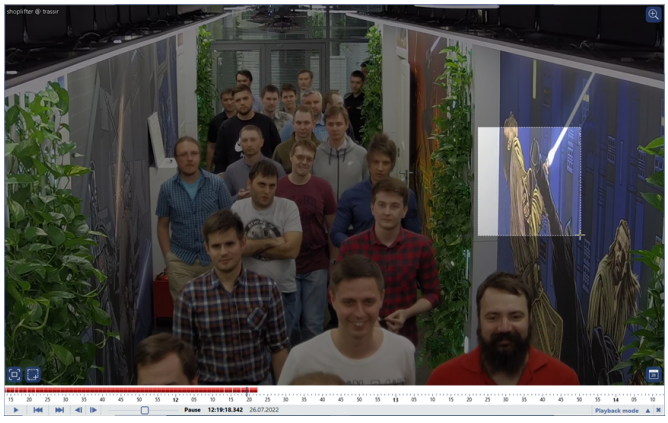
If you need to save only a part of a frame, there are the following ways to do it:

- press in the menu;
- press ***CTRL + S*** on keyboard;
- open the context menu and select ***Make Area Screenshot***.





After that, select the area of the frame you want to save. You can use the *Digital Zoom* feature to zoom in the desired area of the frame.



The destination folder for all screenshots is defined in the client or server settings. For more details, see the corresponding sections of the Administrator's Guide (see sections *???* or *???*).

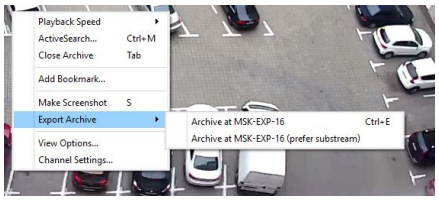
- *Camera window*

Export archive to a video

To export one or more archive fragments into a video file:

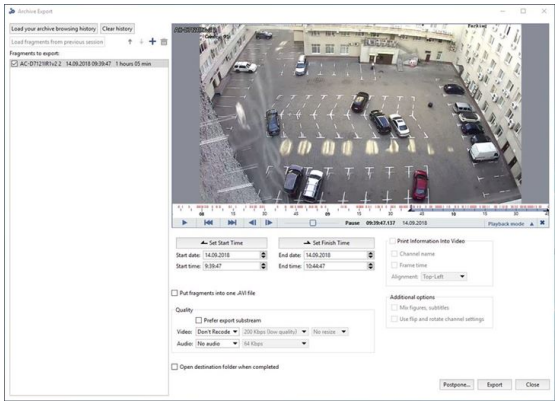
1. Select the channel the archive fragment of which should be exported.

2. In the context menu, select ***Export archive...*** and select the archive option you would like to export:



You can find a description of all archive export options in the section *Working with the archive*.

The archive export settings window will open:



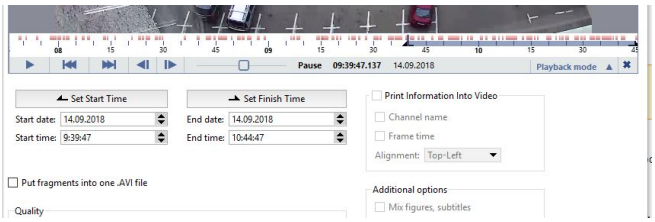
The left part of the window contains settings for creating a list of channels from which you want to export fragments. Moreover, the created ***Fragments to export*** list will let you export one or more archive fragments. You can use the following buttons to create the list:

- Click the ***Load your archive browsing history*** to add channels to the list, from archives that were viewed before archive export.
- The ***Clear history*** button clears the archive playback history.
- Click the ***Load fragments from the previous session*** button to add segments to the list that were used in the previous export operation.
- Using the and you can move the selected fragment in the list in order to determine its position in the exported file.
- To add or remove a channel from the list, respectively click and .

3. The right part of the window contains settings for the selected archive fragment. Move the mouse cursor along the timescale to determine the fragment's start. If necessary, adjust the values in the ***Start date*** and ***Start time*** fields. In order to record the selected time as the starting point for the exported fragment, click the ***Set start*** button.

   Set the end time for the exported object in the same way.

   Note that thecurrent fragment to export is indicated by the line with black arrows ⟷.



When exporting archive from the cloud cameras, the duration of a fragment depends on the TRASSIR Cloud camera tariff.

4. If needed, specify additional export settings:

   - Set the ***Put fragments into one .AVI file*** checkbox if you want all selected archive fragments to be combined into a single file. In doing so, all settings described below will be applied immediately to all archive fragments.

   - In the ***Quality*** settings group, set the ***Prefer export substream*** checkbox if only the substream data needs to be exported.

     In the ***Video*** and ***Audio*** dropdown lists, select the desired video and audio encoding formats and indicate the encoding quality (number of kilobits per second).

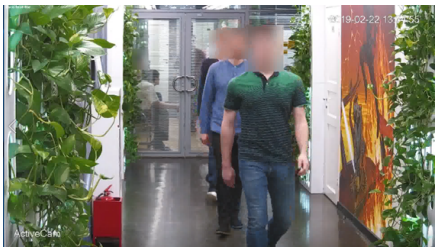
   - Set the ***Print Information Into Video*** checkbox; select the text and its position in the exported video.

   - In ***Additional options*** settings group:

     Set the ***Mix figures, subtitles*** flag in order to save figures and subtitles on the exported video.

     Set the ***Use flip and rotate channel settings*** checkbox to apply the selected channel settings to the exported video.

     Set the ***Blurring faces*** flag to conceal recognized people's faces on exported video.

     The **Blurring faces** option is available only on TRASSIR OS and with the corresponding license.

   - In the ***Watermark*** settings group, you can uncheck the ***Export video with watermark*** flag so that it does not appear on the exported video.

     The access to change the flag state is managed by settings and user rights. For more details, see section ???.

   - Set the ***Open destination folder when completed*** checkbox if, after the export process is complete, you want to immediately go to where the file was saved.

5. Select the type of export you want by clicking one of the following buttons:

   - ***Postpone...*** - the export will be postponed (the export date and time will be specified in a popup window).

   - ***Export*** - the export will begin as soon as you press the button.

- *Archive review*
- *Export the archive template to a file*
- *Adding bookmarks*

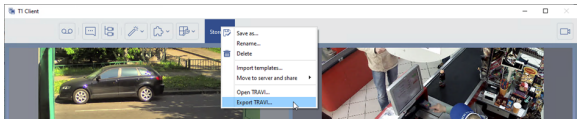
Export the archive template to a file

In order to analyze complicated situations, sometimes an archive fragment, recorded from different cameras at the same time, is required for further review. It can be realized by *exporting archive* from each channel. In this case you'll watch all saved video files in series, while reviewing the archive.

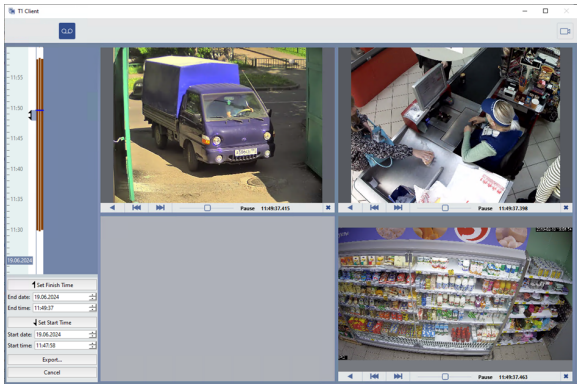
You can save a template, containing the archive of the channels added to a file. After that, this file can be opened and watched on any device that has the software installed.

To **export an archive template**:

1. Place the channels to export into the template.
2. Select ***Export TRAVI...*** in the ***Template menu***.



3. Press the button, to open all channels archive.
4. At the left, set the start and end time of the archive fragment to save, using timescale or settings.

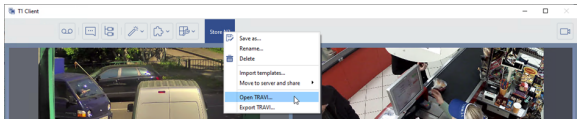


5. Click ***Export...*** to start.
   Enter the file name and select the file destination. The export will start immediately after the ***Save*** button pressing.
   The export process will be displayed on the ***Main control panel***.

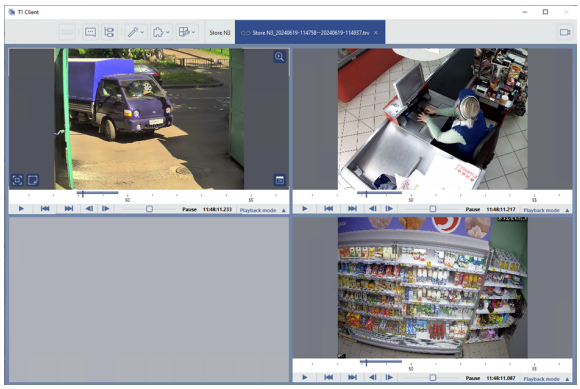
   The archive with the template will be saved into the ***.trv** file.

To **open the archive template**:

1. Select ***Open TRAVI...*** in the ***Template menu***.



2. Select the ***.trv** file and press ***Open***.
   The template containing all saved channels archive will open in the operator's interface.



3. Use player controls to watch the archive (read more in *Archive review*).

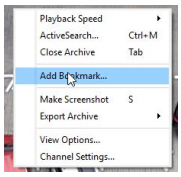
Adding bookmarks

Archive bookmarks are special markers used to quickly navigate to different parts of the archive. In addition to the timestamp set by the operator on the desired frame, each bookmark is characterized by the following properties:

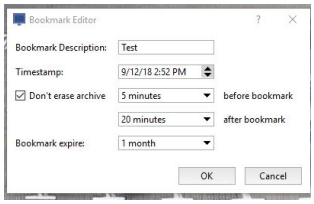
- Don't erase the archive before and after bookmarking - you can assign a time interval in the archive to each bookmark. This will ensure that the video associated with the bookmark is reliably saved.
- Bookmark expire - This is the period of time after which the bookmark will be deleted from the archive. The maximum value is 6 months.

To add a bookmark:

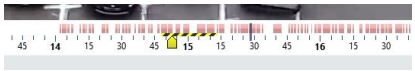
1. Choose the required channel and open its archive.
2. In the context menu, select ***Add bookmark***.



3. In the window that opens, specify the bookmark's properties:
   - ***Bookmark description*** - Freeform text describing the bookmark.
   - ***Timestamp*** - The time where the bookmark is to be placed. The default value is the current position of the archive marker.
   - ***Don't erase archive*** - This checkbox determines if the segment of the archive associated with the bookmark should be preserved. Since old recordings are eventually overwritten, the archive could be deleted along with the bookmark. In order to prevent this from happening, check this checkbox and specify the duration of the video segment that will be preserved when the archive's other recordings are deleted.



4. Click ***OK***. The new bookmark and its associated archive segment will be indicated on the timeline.



- *Archive review*
- *ActiveSearch - motion search in the archive*
- *Export archive to a video*

Working with the event log

The event log is displayed on the left part of the screen. The following events may be displayed it in this area:

1. Video surveillance system events, board and IP device events.
2. Channel events – For example, a camera's motion detection events: "Motion detected" and "Motion stopped".
3. Events from Orion ACS (Access Control System) devices.

By default, the filter shows all current events for all device types. The maximum number of current events that can be displayed on the screen is 1000. The events can be displayed in two modes:

- **Visual** - events are displayed on the interactive timeline. Scroll to navigate the timeline. You can scale the timeline in several ways:
  - By pressing CTRL and scrolling the mouse wheel;
  - By clicking on the timeline with the mouse (left click – increases the scale; right click – decreases the scale).

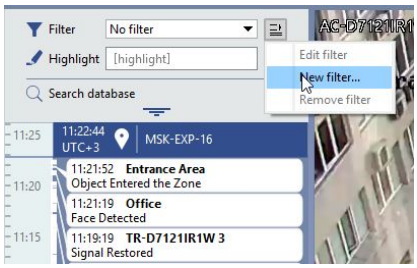
  There is a line on a timeline, showing the current time. If you move this line out of the timeline borders, you'll see the option to filter time up to the current.
  When you change the scale of the timeline or it has a significant number of events within the time range, you'll see the link ***Search events here***. Click this link to see event within the time range, set by the current filter scale.
- **Text Mode** - the events are presented sequentially, as they occur.

- *Event filtering*
- *Event highlight*
- *Database search*

Event filtering

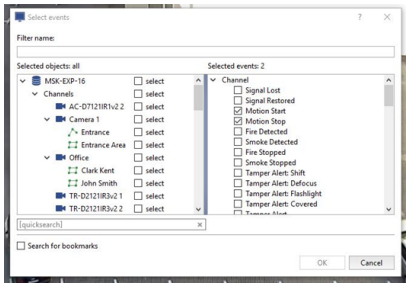
The amount of the detected events can be huge, so there might be a need to reduce it. Suppose out of all event stream you need only the events where the motion has been detected (and the motion is marked as an alarmed event). In this case you should create a filter which will show the motion start for this camera.
A set of such filters helps to identify the situations that require the operator's attention.
To create a filter in the event log, do the following:

1. In the ***Filter*** dropdown list select ***New filter...***.



2. In the ***Select event*** window that opens:

   - At the left part of the screen, select the objects the events of which should be displayed.
   - At the right part check the events to display.



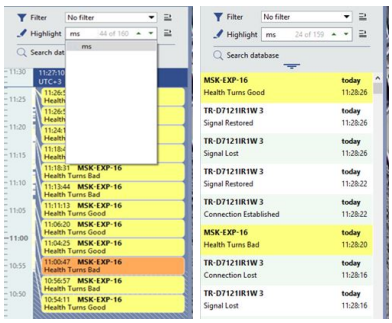
3. Type in the name of the filter and press ***OK***.

- *Event highlight*
- *Database search*

Event highlight

In addition to filtering, you can apply color highlighting to desired events in the list. There are two ways to highlight:

- **context highlighting** - those events contain a line are highlighted in this mode.
- **filter highlighting** – This mode highlights events based on previously created filters. This is convenient if the event list has already been filtered but you need to highlight certain events based on some criteria. In this case, select the desired filters from the ***Filter*** and ***Highlight*** dropdown lists.



If the highlighting yielded several matches, you can navigate between them using ▲ and ▼. The current match number and the total number of matches are indicated to the right of the ***Search*** field.

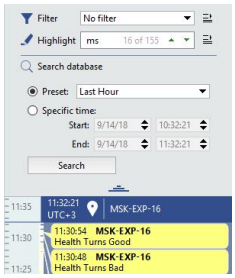
You can use either way to highlight events, but you can't use them both at the same time.

- *Event filtering*
- *Database search*

Database search

In addition to filtering current events, an operator can search for events in the database archive based on a specific time interval. The maximum number of archived events that can be displayed on the screen is 10,000. Note that regardless of the event display mode and filter settings, all events are saved to the database.
To search for events based on time:

1. Press the ***Event log*** button.
2. Choose one of the time-based filter options:
   - ***Preset*** - Uses predetermined time intervals. For example, to show events that have happened since the beginning of the day, select "Today"; To show events that have happened in the last 24 hours, select "Day".
   - ***Specific time*** - Uses a manually-entered time interval.
3. Press ***Database search***.



Right click in the list of matching results, to bring up the context menu, which will let you:

- ***Export [N] events to CSV...*** - Exports the filtered event list to an external CSV (comma-separated values) file;
- ***Open archive: [channel name]*** - Opens the archive associated with the channel's event. This menu item will only be present for events associated with channels (cameras). If the given channel's archive is already open, then the menu item will be labeled "Jump to [HH:MM:SS]". It will navigate to the archive segment associated with the given event.

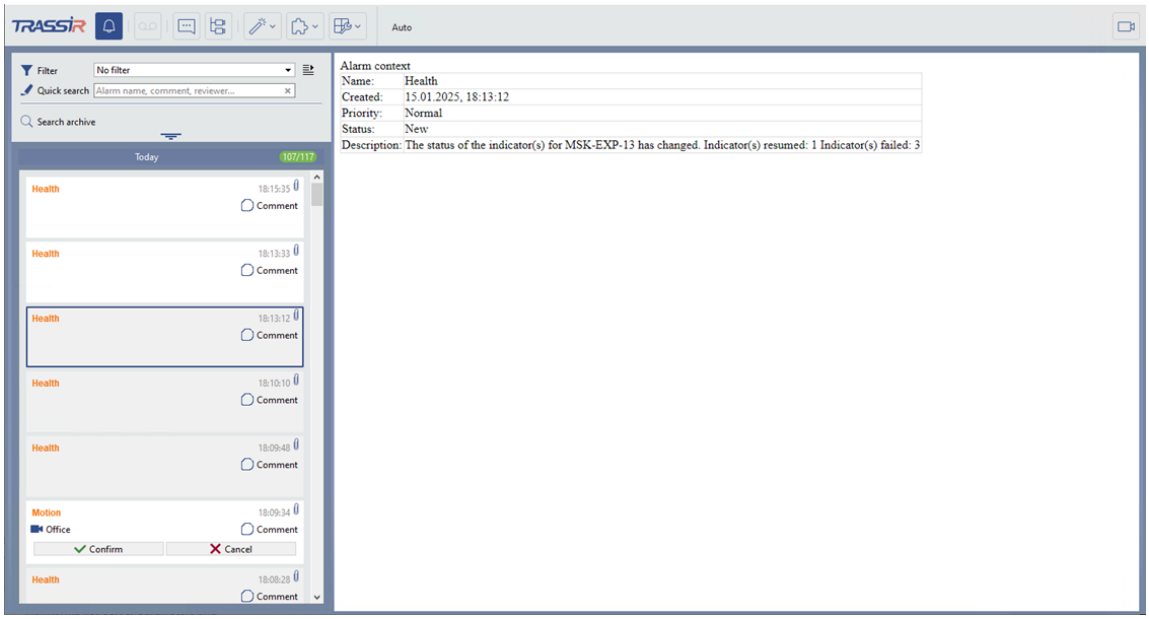
- *Event filtering*
- *Event highlight*

Working with incidents

An **incident** is an event or an event sequence captured by the surveillance system and requiring attention and possible response from the operator of the system.

The incidents are displayed in the operator interface only upon connection to the TRASSIR Cloud and Cloud user login. Both servers and Cloud cameras, as well as the Cloud, can be the source of incidents. See detailed connection of servers and cameras to the Cloud in the TRASSIR Cloud manual (see *???*).

To enter the Alarms Mode and work with the incidents, click in the upper button menu.
Cloud devices connected to the TRASSIR Cloud support several types of alarms: motion or sound detection, the device health alteration, and others.
Apart from that, the incidents occur in response to the activation of various detectors (Motion, Loss of Signal, Camera Sabotage) and are displayed as alarms in the operator interface. Each incident contains the event information sufficient for its analysis.



The incident contains the following:

- General information: the alarm name and time of creation.
- Alarm context: static and dynamic information for the event analysis:
  - Static information: images, text description or links to the archive. Displayed immediately after the incident is received without any user actions.
  - Dynamic information: video recordings, preview from the Cloud or links to the archive events. Requires connection to the server or Cloud for display.
- Incidents can include their processing status and user comments and notes on the actions performed.
- Depending on the incident type, additional information can also be included, such as detector parameters, analytics results, links to external resources or details on linked events.

The alarm context and additional information depend on the incident source and type, as well as on the system settings and processing scenarios.

- *Filter Alarms*
- *Database search*

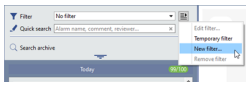
Filter Alarms

The list of incidents can be very long. Therefore, it is more convenient to limit their number on the screen as much as possible. For example, leave only messages about motion from one particular camera. Use corresponding filters to do that.
A set of filters allows flexible management of the list of incidents and prompt detection of situations that need to be viewed by the surveillance system operator.
You can use two types of filters with the incidents: temporary and permanent.

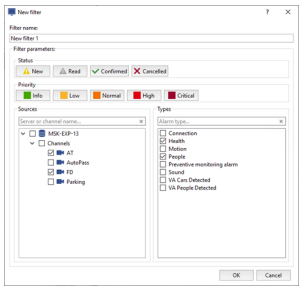
- ***Temporary filter*** is used to filter incidents in the short term following the set criteria. It is configured exactly as the permanent filter but its settings are not saved after the end of the session or the interface update.
- ***Permanent filter*** saves its settings and allows to switch quickly between preset filter parameters. It is convenient for regular review of incidents under the definite parameters.

To create a filter in the event log:

1. In the ***Filter*** drop-down list, select ***New filter…*** or ***Temporary filter***.



2. In the ***New filter*** window that opens:
   - On the left side, select the sources to show incidents from.
   - On the right side, select the incidents to display.



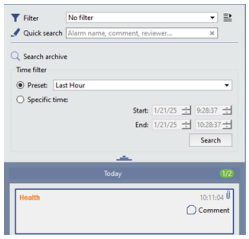
3. Select ***Status*** and ***Priority*** of the displayed incidents.
4. To create a permanent filter, enter its name and press ***OK***.
   A temporary filter doesn't require a name.

- *Working with incidents*
- *Database search*

Database search

In addition to filtering current alarms, the operator can search for incidents in the archive based on a specific time interval. Regardless of the alarm display mode and filter settings, all incidents are saved to the database.
To search for incidents based on time:

1. Press ***Search archive*** next to the lens icon.
2. Choose one of the time-based filter options:
   - ***Preset***: search within preset time intervals. For example, to show incidents that have happened since the beginning of the day, select "Today"; To show incidents that have happened in the last 24 hours, select "Last 1 Day".
   - ***Specific time***: enter a time interval manually.
3. Press the ***Search*** button.



- *Working with incidents*
- *Filter Alarms*

ActivePOS monitoring system

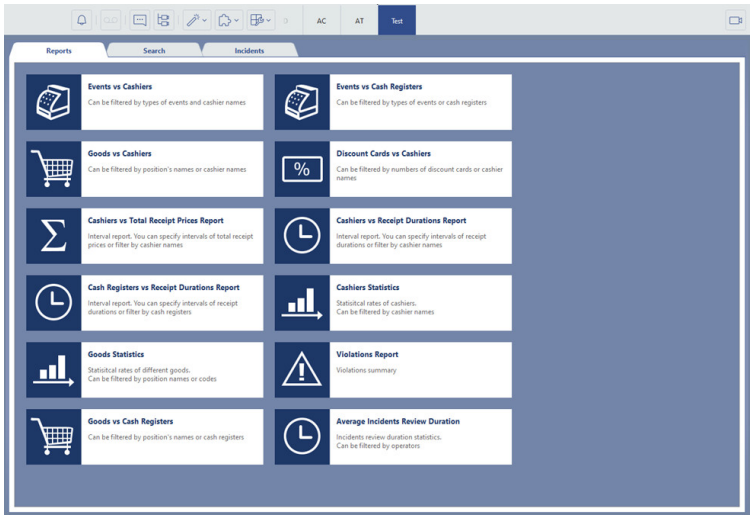
ActivePOS is a system for point-of-sale operations monitoring. It is designed to monitor violations that occur during a cashier's shift and to resolve and prevent incidents that may harm the retail outlet as well as its customers.
To display the point-of-sale operations monitoring system on the operator's screen, open the extension panel and select ***Go to ActivePOS Expert mode*** or add ***ActivePOS expert mode*** to a template in the *Template editor*.
The point-of-sale operations monitoring system offers the following basic tools:

- *ActivePOS reports* - a set of reports based on data received from point-of-sale terminals.
- *ActivePOS search* - search for events and associated video data,ad well as receipts using flexible *event and receipt filtering*.
- *ActivePOS incidents* - summarized report on events that require analysis.

Moreover, you can *monitor point-of-sale operations in real-time* by using receipt event highlighting in conjunction with filtering.
Read more about each of the system monitoring tools in the corresponding section of the document.

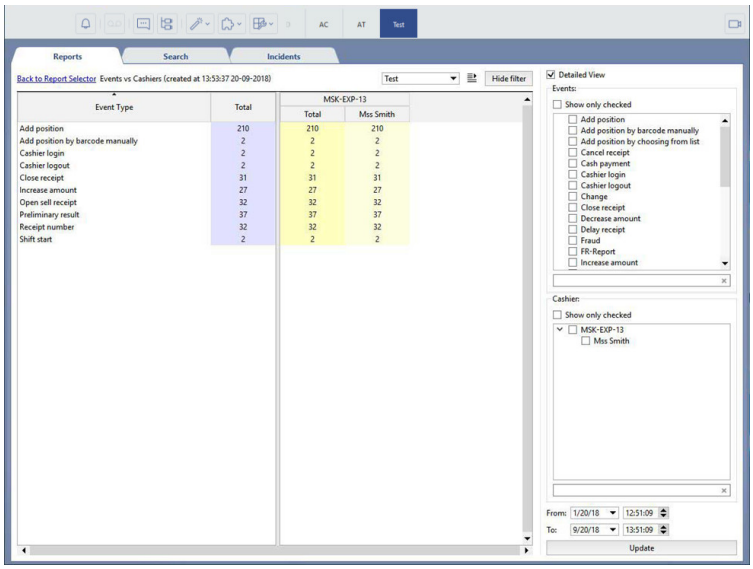
ActivePOS reports

All cash desks, connected to the server, transfer data to the database. This tab shows the reports, the analysis of which will help you enhance the cashiers' workflow or the operation of the entire enterprise with the required modifications.



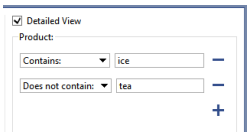
- ***Events vs Operators*** - ActivePOS event report on each cashier.
- ***Events vs Devices*** - ActivePOS event reports on each cash desk.
- ***Good vs Cashiers*** - report on all goods registered on each cashier.
- ***Discount Cards vs Cashiers*** - report on all implemented discount cards on each cashier.
- ***Cashiers vs Total Receipt Prices Report*** - report on the receipts sum on each cashier.
- ***Cashiers vs Receipt Durations Report*** - report on the sale registration time, from the receipt opening till closure, on each cashier.
- ***Terminals vs Receipt Durations Report*** - report on the sale registration time, from the receipt opening till closure, on each cash desk.
- ***Cashiers Statistics*** - summarized report on each cashier.
- ***Goods Statistics*** - summarized report on each good.
- ***Violations Report*** - summarized report on violations.
- ***Goods vs Terminals*** - reports on all registered goods on each cash desk.
- ***Average Incidents Review Duration*** - summarized report on the workflow of the operators, processing the incidents.

To open the selected report, click the corresponding button.

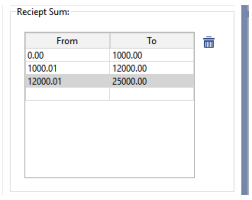


To the right of the report you'll seed filters and settings that let you display the report data in a most comprehensive way, to facilitate the data analysis. Each report type has a peculiar settings set:

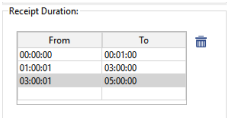
- ***Detailed view***. Check this box to see details on each report item (cashier or cash desk). Otherwise, the data on each connected server will be displayed.
- ***Event type***- filters event data. Check the corresponding boxes to display the required events in the report.
- ***Cashier*** - filters cashier report data. Check the corresponding boxes to display the selected cashier data in the report.
- ***Cash Register*** - filters cash desk report data. Check the corresponding boxes to display data on the selected cash registers in the report.
- ***Product*** - filters product reports data. Configure this filter to display data on the selected goods in the report.



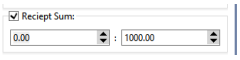
- ***Receipt Sum*** - filters report data on the receipt sum. Set the receipt sum intervals to display data on the selected intervals in the report.



- ***Receipt Duration*** - filters report data on the receipt formation time. Set the time periods to display data on the selected intervals in the report.



- ***Receipt Sum*** - this filter displays receipts , in which the receipt sum corresponds the specified interval limits.

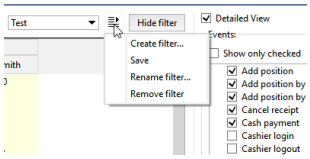


- ***Positions in Receipt*** - this filter displays the receipts, in which the number of positions corresponds the specified interval limits.

- ***Servers*** - filters the report data of the connected servers. Check the corresponding boxes to display data on the selected servers in the report.
- ***From*** and ***To*** fields let you set the time period of the data selected for the report building.

Press ***Update*** to build the configured report or update the report after the change in the settings and filters.
You can use various filters while working with the reports. You can create several different filters and switch between them, to prevent regular alterations of the filter settings. To do this:

1. Configure a filter.
2. Select ***New filter...*** at the top right side.

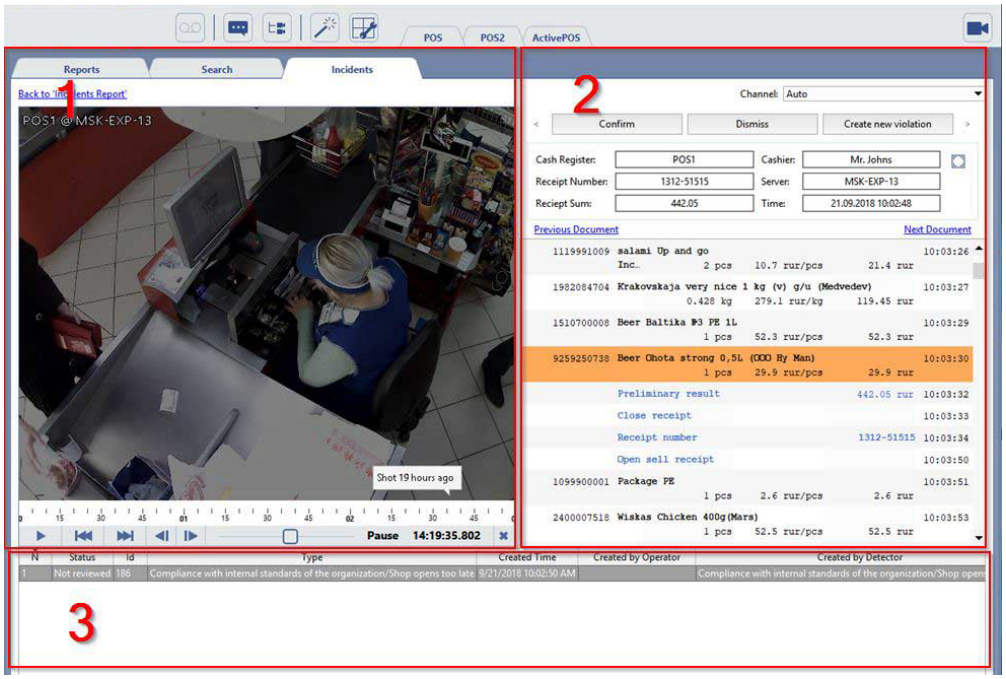


3. Type in the filter name and press ***Save***.

- *ActivePOS search*
- *Filtering check events*
- *ActivePOS incidents*

ActivePOS search

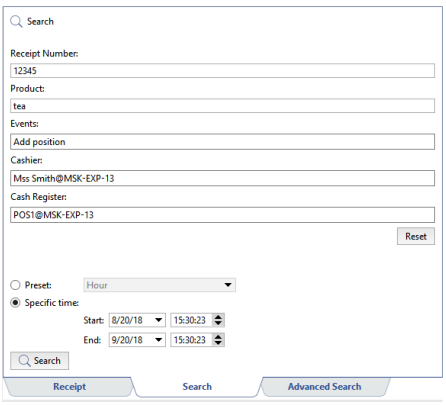
Generally, all of the available data must be analyzed when examining a violation or dispute. This tab is designed for searching for a specific event in order to analyze all the data associated with the event.
The search results are displayed in the corresponding areas of the interface, each of which can be used to navigate the following events:



1. The video archive recorded at the time of the event is displayed in the **video area**. You can use the timeline or player butters to switch between events.

2. The **cash register area** contains information about the operations performed at the terminal at the time. Click on a receipt position to switch to the desired event.

3. The **data area** displays the information saved in the database at the time of the event: Time, Terminal, Cashier Name, Quantity, Amount, etc. Click on a line to switch to the corresponding event.

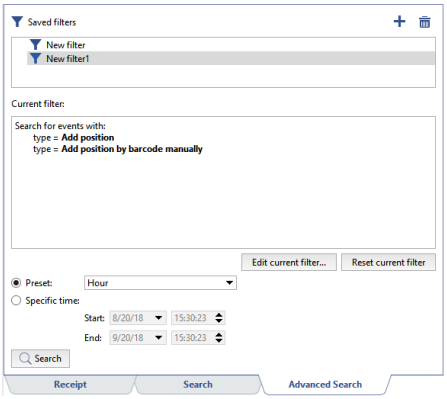


To reduce the size of the list of events displayed in the data area or find a specific event, you can use one of the search options located on the ***Search*** and ***Advanced Search*** tabs
A simple search can be used to quickly find events when creating a filter is not necessary, filtering all events, or when the basic search parameters for finding a receipt or event are known. The search uses the following parameters:

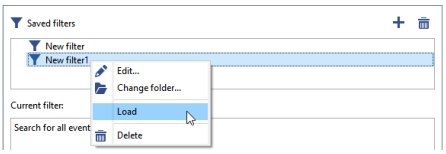
- ***Receipt Number*** - Search based on receipt number;
- ***Product*** - Search based on barcode, stock number, or a product name;
- ***Events*** - Search based on event type;

- ***Cashier*** - Search based on the cash register operator.
- ***Cash Register*** - Search based on cash register;
- The time period over which the search is performed is selected from preset options or specified in the ***Start*** and ***End*** fields.

Click the ***Search*** button to begin the event search. When the search is complete, the ***Receipt*** tab will open and all the events that match the search criteria will be displayed in the data area.
If the simple search parameters are insufficient, then you can use the advanced search, which uses *event and receipt filters*.



All previously created filters are displayed in the ***Saved filters*** field. To use one, select the desired filter and select ***Load*** in the context menu or double-click on the filter. The search logic will be shown in the ***Current filter*** area.

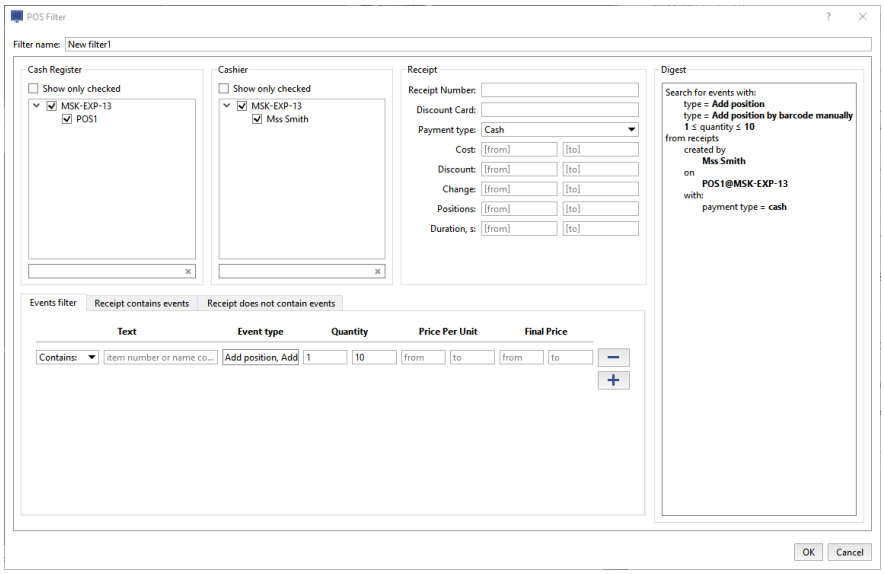


Then, just as with simple search, specify the time period and click ***Search***. When the search is complete, the ***Receipt*** tab will open and all the events that match the filter's settings will be displayed in the data area.
If the existing filters are not suitable, you can edit the loaded filter by clicking the ***Edit...*** button or click + to create a new one. Learn more about creating filters in *Filtering check events*.

- *Filtering check events*
- *ActivePOS reports*
- *ActivePOS incidents*

Filtering check events

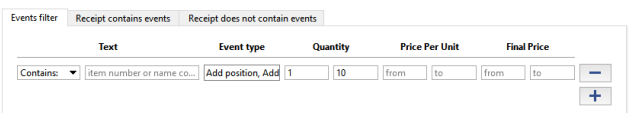
The event filter creation window consists of a set of parameters that let the operator fully define the properties of the event or group of events that need to be found:



- ***Filter name*** – The filter's display name in the system. You can create an arbitrary number of filters and then refer to them by name.
- ***Cash Register*** - This settings group lets you filter events based on the cash registers on which they were recorded.
- ***Cashier*** - This settings group lets you filter events based on the selected cashiers.
- The ***Receipt*** settings group has filter parameters that apply to the entire receipt:
  - ***Receipt number*** – A field for entering the receipt identification number (each document in the list has a unique number).
  - ***Discount card*** – A field for entering a discount card number.
  - ***Payment type*** - This is the type of payment ("Any", "Cash", and "Credit card") used when the receipt was created.
  - ***Cost*** - Filter by receipt amount.
  - ***Discount*** - Filter by the amount of discount applied to a receipt.
  - ***Change*** - Filter by the amount of change issued for a receipt.
  - ***Positions*** - Filter by the number of positions on a receipt.
  - ***Duration, s*** - Filter by the duration of time taken to create the receipt, in seconds.

You can enter part of a receipt number or discount card number. In this case, receipts containing the entered digits will be displayed.
When defining the range in the ***from*** and ***to*** fields, you can specify only one value. In this case, the range will be interpreted as "less than ..." or "greater than ...".

- The group of settings on the tabs below let you refine your receipt event filter:



- The ***Events filter*** tab shows required event settings.
- The settings on the ***Receipt contains events*** and ***Receipt does not contain events*** tabs make it possible to reduce the size of the list of events found using the settings on the ***Events filter*** tab and display only those events contained or not contained in the given receipts. For example, if you need to find all events where a position named "Milk" was added to receipts with more than 10 positions.

The event names depend on the protocol selected in the settings. For more details see "Administrator's guide" (*???*).

Each tab has the same set of filter settings:

- ***Text*** - the product stock number or name. You can enter only part of a stock number or product name; doing so will display all receipts whose positions include the specified string.
- ***Event type*** - One or more events from the dropdown list. If event types are specified, then receipts with positions with the specified event types will be displayed.
- ***Quantity*** - Two fields (***from*** and ***to***) for filtering based on the number of positions on the receipt.
- ***Price Per Unit*** - Two fields (***From*** and ***To***) for filtering based on the price per unit of the positions on the receipt.
- ***Final Price*** – two fields (***From*** and ***To***) for filtering based on the price of the positions on the receipt.

All / ***Any*** - A switch that determines the search logic when multiple events have been entered. For example, if three products are specified and the ***All*** option is selected, then only receipts with all three of the specified products will be displayed. If the ***Any*** option is selected, then only receipts with at least one of the three specified products will be displayed.

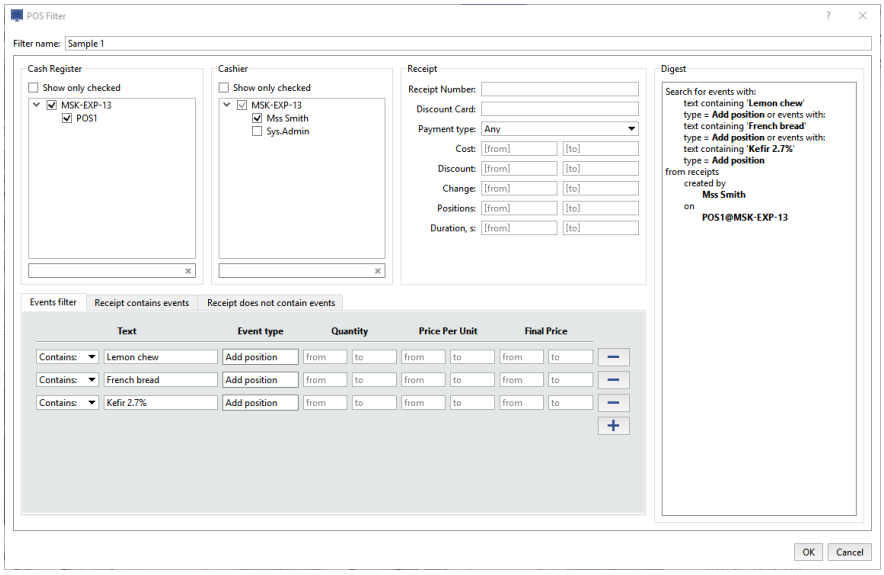
Any change to the filter settings is displayed on the right in the ***Digest*** section in the form of a logical construct, which you can look at to verify the accuracy of the specified settings and make corrections, if needed.

You can fill out any combination of parameters in this group. If any fields are left blank, they won't be used by the filter.

To save the filter settings, click ***OK***.

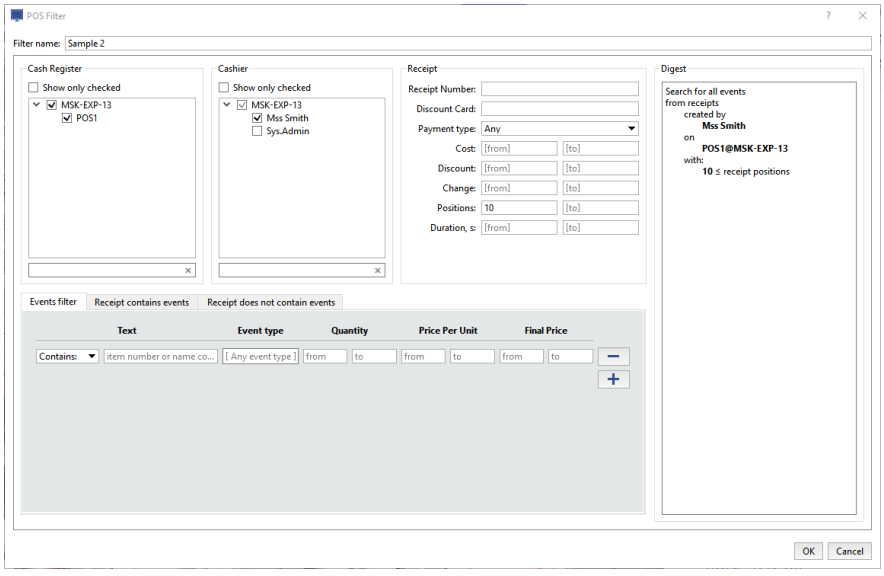
Then you will find several examples of the events filters.

Checks of a certain cashier having at least one of the following goods: "Lemonn Caramel ", "Long Loaf" and "Kefir 2.7%"



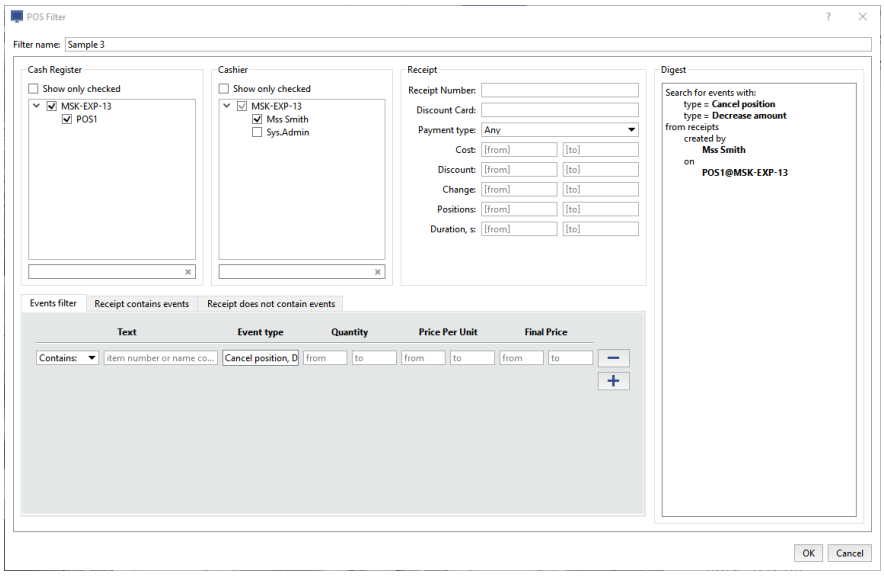
- In the ***Cashier*** settings group, set the checkbox next to the name of the cashier whose receipts you want to filter.
- On the ***Receipt contains events*** tab:
  - In the ***Text*** column, select "Contains" and in the adjacent field enter the name of the item or its product stock number;
  - Select the ***Any*** radio button at the bottom.

Receipts having more than 10 positions and a discount



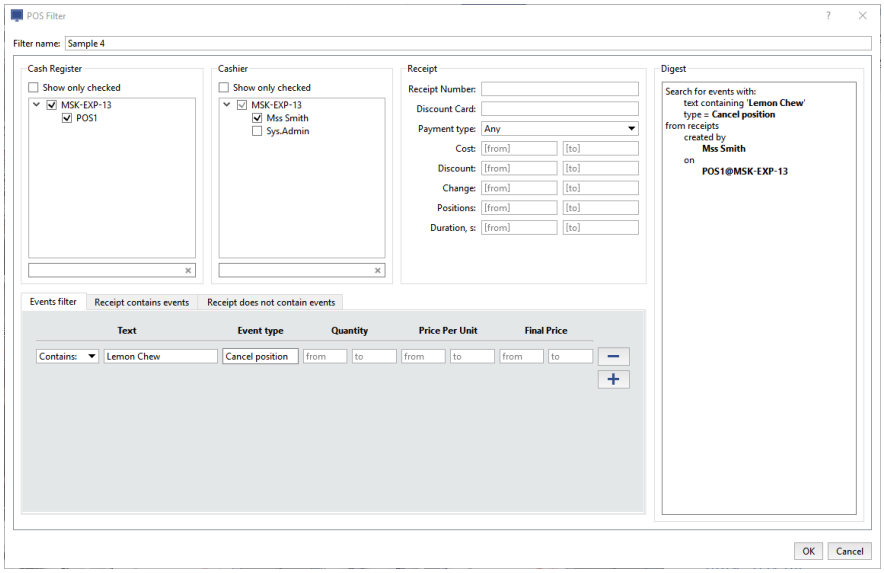
- In the ***Receipt*** settings group:
  - In the ***Discount*** field on the left, enter "0.00" (filter for receipts with a non-zero discount);
  - In the ***Positions*** text field on the left, enter "10" (filter for receipts with more than 10 positions).

Find the events "Cancellation of goods" and "Reduction of goods quantity" for all cashdesks where payment was made by cash



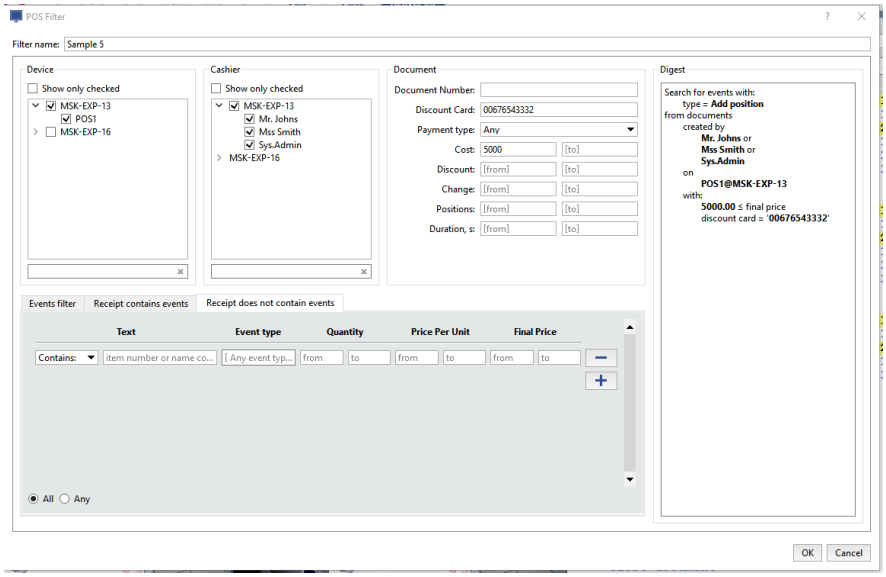
- In the ***Receipt*** settings group, select "Cash" for the ***Payment type***.
- On the ***Events filter*** tab, in the ***Event type*** column, select the ***Cancel position*** and ***Decrease amount*** events in the list of available events (filter receipts that contain at least one of the specified events).

Event "Cancel position" for "Lemon chew" on the selected cash register



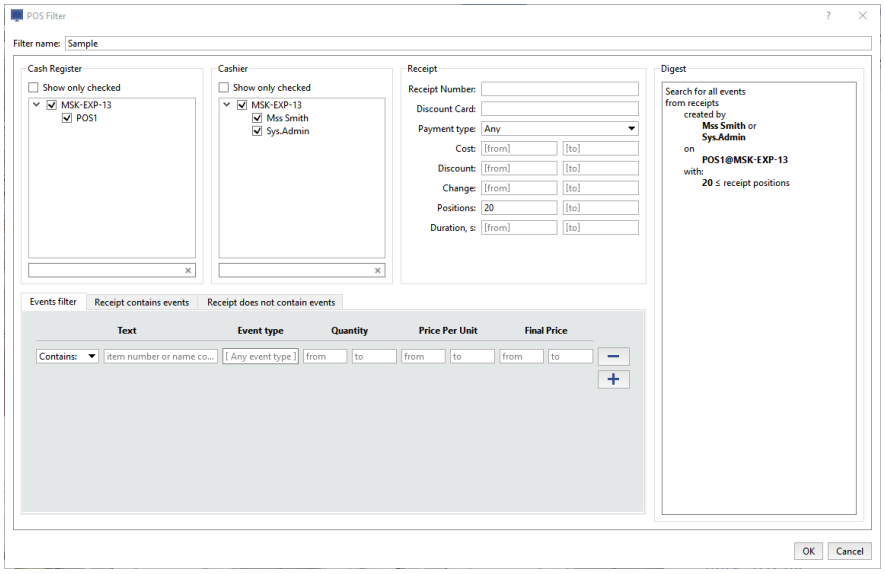
- In the ***Cash Register*** settings group, in the list of available cash registers set the checkbox for those cash registers the receipts of which you want to filter.
- On the ***Events filter*** tab:
  - In the ***Text*** column, select "Contains" and in the adjacent field enter the name of the item or its product stock number;
  - In the ***Event type*** column, select "Cancel position".

Receipts for which the discount card with the required number has been applied and the receipt sum is more than 5000$



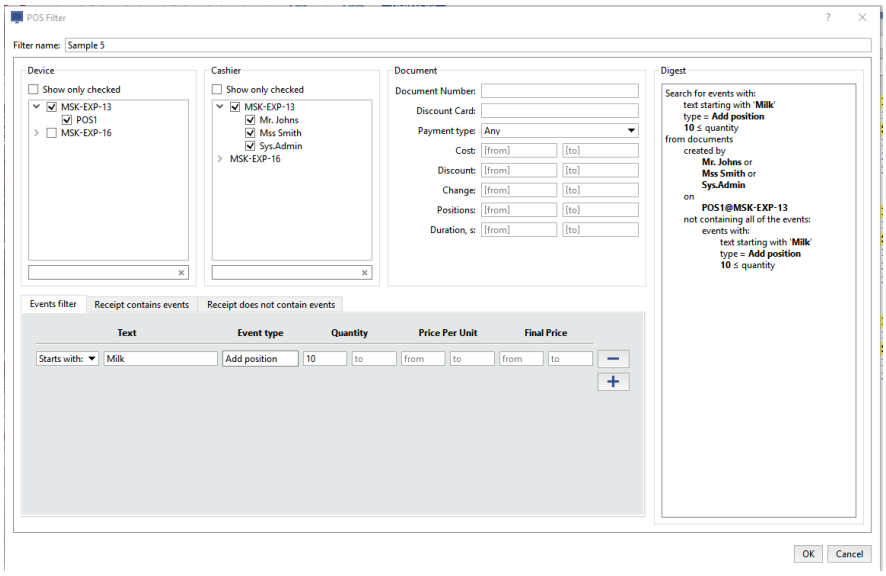
- In the ***Receipt*** settings group:
  - In the ***Cost*** text field on the left, enter "5000.00";
  - In the ***Discount Card*** text field on the left, enter the full discount card number. If you enter only part of the number, the receipt list will include receipts where discount cards that match that part of the number were used.

Receipts of a certain cashier having more than 20 positions



- In the ***Cashier*** settings group, set checkboxes next to the names of the cashiers whose receipts you want to filter.
- In the ***Receipt*** settings group, in the ***Positions*** text field on the left, enter "20".

The events "Add an item to the receipt" for the good which name begins with the phrase "Milk", among the receipts having more than 10 positions which were registered at a particular cash desk by one of the particular cashier

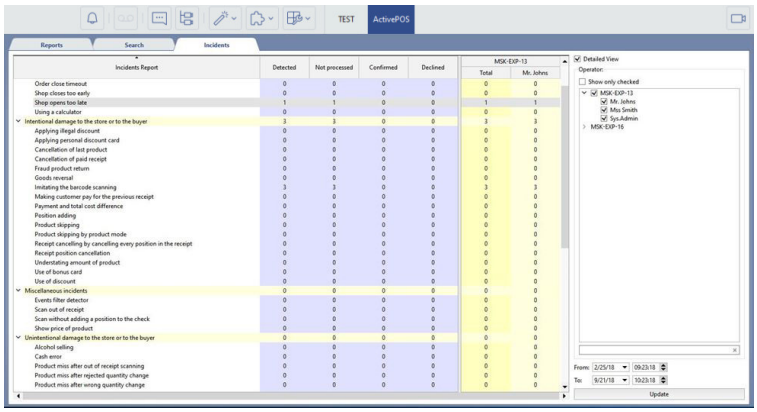


- In the ***Cash Register*** settings group, in the list of available cash registers set the checkbox for those cash registers the receipts of which you want to filter.
- In the ***Cashier*** settings group, set checkboxes next to the names of the cashiers whose receipts you want to filter.
- On the ***Events filter*** tab:
  - In the ***Text*** column, select "Starts with" and enter the name of the items or their product stock numbers;
  - In the ***Event type*** column, select "Add position".
- On the ***Receipt contains*** tab:
  - in the ***Quantity*** column, enter "10" in the "from" field.

- *ActivePOS reports*
- *ActivePOS search*
- *ActivePOS incidents*

ActivePOS incidents

This tab shows a report of all of the incidents that took place in a selected period, which require expert examination for subsequent analysis of a situation.



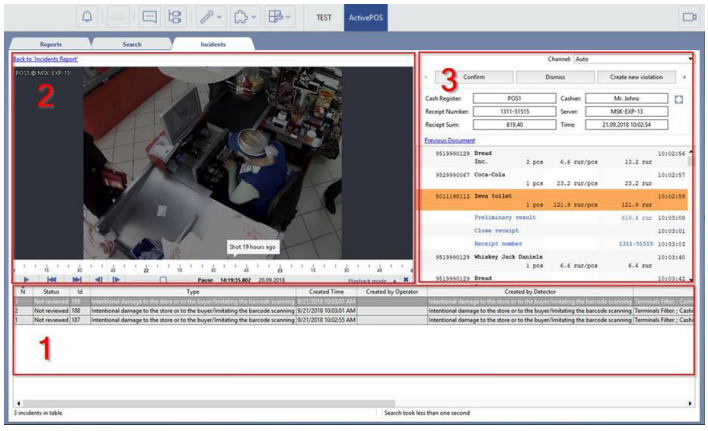
To the right of the report there is a group of settings that will help you refine your report filtering:

- A report is displayed for each item when the ***Detailed View*** checkbox is set. Otherwise the data is summarized for each connected server.
- In the ***Cashiers*** group, you can select the names of the cashiers to be included in the list.
- You can indicate the report's date range in the ***From*** and ***To*** fields.

The incident report includes all of a cashier's or retail outlet's violations, which were detected using the sensors configured by the administrator. When an incident or a violation is detected, it is assigned with "Not viewed" status. Only after analyzing the available data can an expert or operator assign the status of "Confirmed" or "Dismissed" to an incident, thereby either confirming or dismissing the violation.

A red number of incidents indicates that this cashier had the most violations of that type.

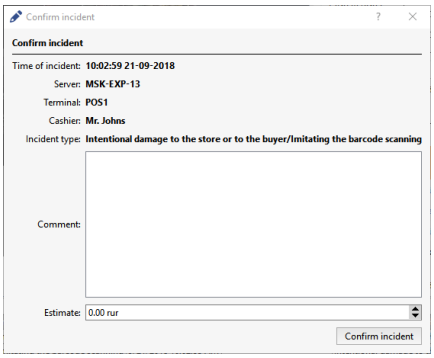
To analyze incidents or view previously analyzed incidents, select the line with the desired incident type and the column with the desired status or cashier name. To display the incident list, double-click the cell. The incident analysis window will open. It has the following functional zones:



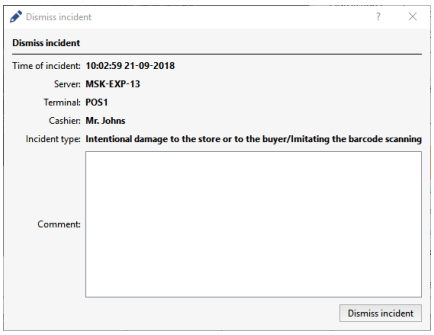
1. A list of all incidents of the selected type, status, and cashier.
2. Archive window, which displays a video frame recorded at the time the incident took place.
3. A window for the data obtained from the POS terminal at the time of the incident.

Now you can select an incident from the list and double-click on the incident's line to begin analyzing it. The video archive and data obtained from the POS terminal will help you make a final decision about the selected incident. You can decide on one of three options:

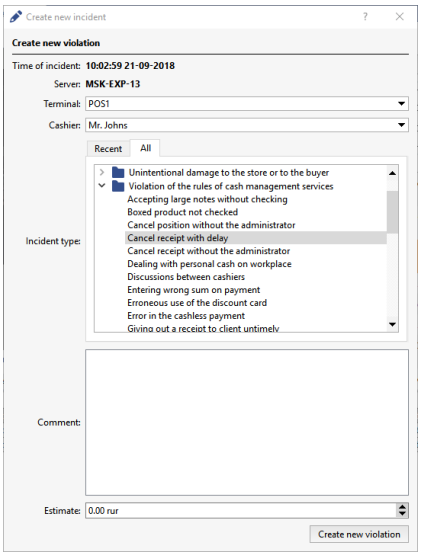
- ***Confirm***. This option changes the status to "Confirmed" and comments and the amount of damages that may be charged to the violator are entered as supplementary information.



- ***Dismiss***. This option changes the status to "Dismissed" and you can indicate the reason for dismissing the incident as a comment.

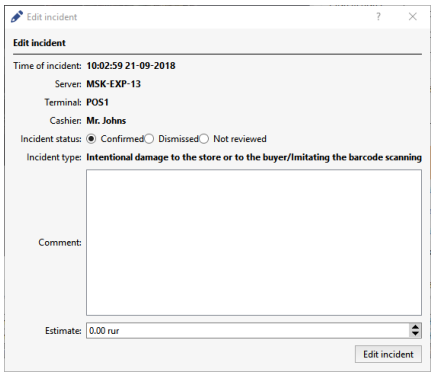


- ***Create new violation*** - This is an advanced version of confirming the incident. It lets you change the incident type, cashier name, and incident location. Just as during incident confirmation, you can enter comments and an amount of damages.



A list of frequently used incident types is automatically generated as this feature is actively used.

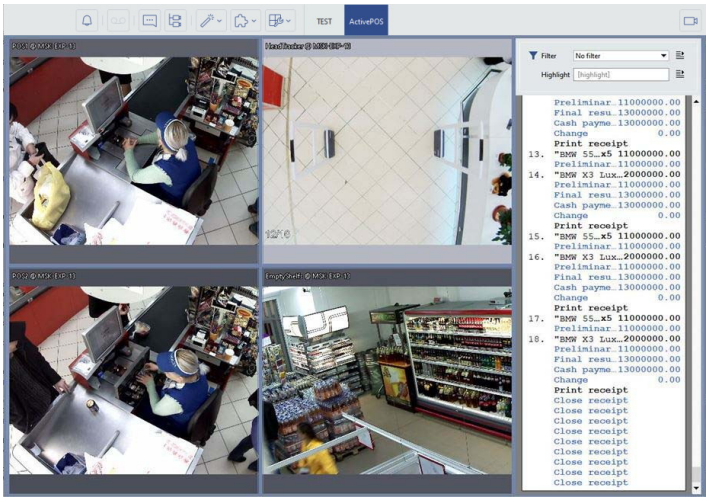
You can always change the status of a confirmed or dismissed incident by selecting it in the list and clicking the ***Edit*** button.



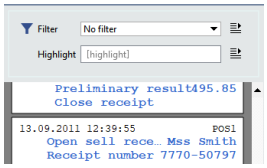
- *ActivePOS reports*
- *ActivePOS search*
- *Filtering check events*

ActivePOS real-time monitoring

Point-of-sale operations are monitored in real-time using the ActivePOS module. To display the ActivePOS area, you must *configure the video monitor view*. The ActivePOS area contains the receipt list and associated events.



All receipts from all point-of-sale terminals are displayed in the list by default. The figure below shows an example of the receipt list's appearance:

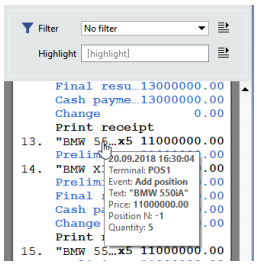


A "torn" upper edge on a receipt means that the receipt information is incomplete (the receipt's beginning operations are missing). This usually happens when the connection with the server is lost and then restored. A "torn" bottom edge on a receipt means that the receipt is not yet closed and operations are still being added to it (or the connection with the server has been lost).

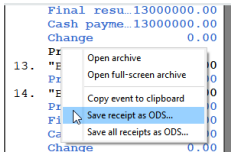
Each receipt in the list includes the following information:

- Date and time at which the receipt was closed.
- Name of the cash register.
- Unique receipt number (identifier).
- Cashier's full name.
- List of receipt positions. In general, each position is characterized by a cash register event type (for example, "position added", "subtotal", "receipt" quote), some text, the quantity, and the price.

The receipt information may be wider than the area's allotted width. If you need to view the full text, you can increase the area's width by dragging the area's border with the left mouse button. You can also view the full text of a specific position on a receipt by pointing the cursor at it; doing so will cause a pop-up window to appear.

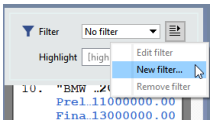


Right click to bring up the context menu for each receipt. The context menu contains the following functions:

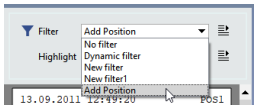


- ***Open archive*** – Shows the archive video associated with the selected receipt position. If the screen has a camera grid dividing it, the archive window will be displayed in one of the cells.
- ***Open fullscreen-archive*** – Shows the archive video associated with the selected receipt position, in fullscreen mode. If there was a camera grid on the screen before the command was invoked, it will be replaced by the video from a single camera.
- ***Copy event to clipboard*** – Copies information about the selected receipt position to the clipboard. The information copied to the clipboard is the same information displayed in the pop-up window for a receipt position.
- ***Save receipt as ODS...*** and ***Save all receipts as ODS...*** - Saves the selected receipt or all receipts in OpenOffice.org Calc format.

If there is a large number of terminals, the operator's job can become very difficult. You can use one or more filters to reduce the number of receipts displayed. These filters make it possible to display only the receipts that require the operator's attention. Creating a set of these filters makes it possible to quickly react to cashiers' common violations and theft schemes, and to quickly resolve disputes.
To create a filter, expand the ***Filter*** dropdown list and select ***New filter...***.



The filter creation process is described in detail in *Filtering check events*.



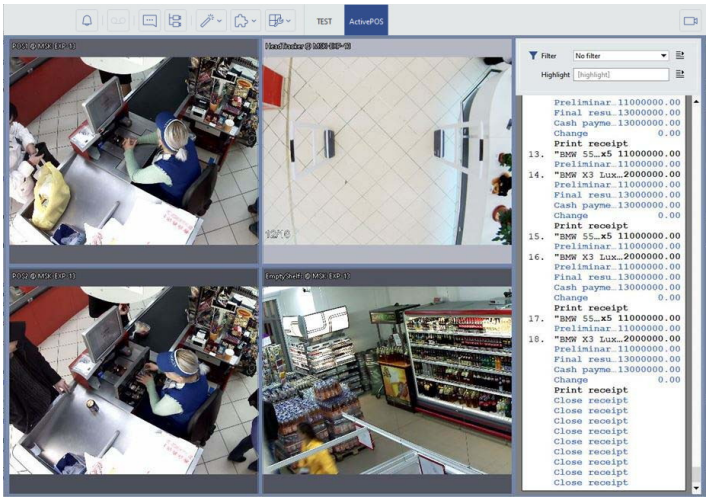
To select an existing filter, expand the ***Filter*** dropdown list and select the desired filter from the list. Verify that the events being displayed correspond to the filter criteria.
You can also use the dynamic filter to display a specific terminal's receipts. This filter only displays receipts from the cash register whose video is currently being displayed in the view window. If you switch to a different cash register's camera, the receipt list will automatically change to only display the new terminal's receipts. To apply the dynamic filter, expand the ***Filter*** dropdown list and choose ***Dynamic filter***.

- *Event and receipt highlight*

Example of ActivePOS template

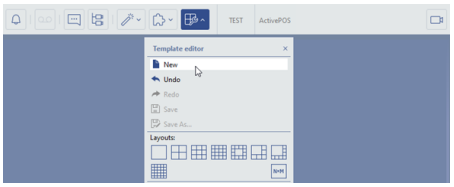
To work with ActivePOS plugin, a template with the following information is required:

- videos from the cameras, pointed at the cashiers' desks;
- event log of the cashiers' operations.

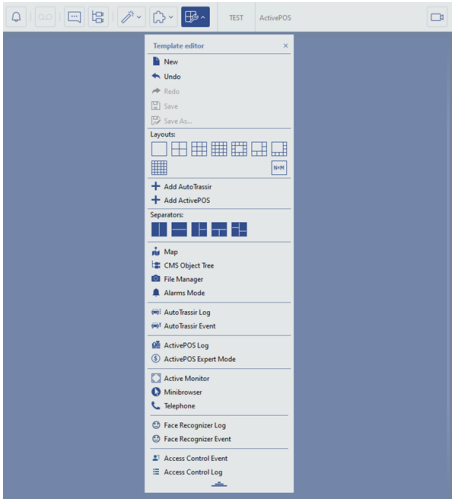


Start creating the template:

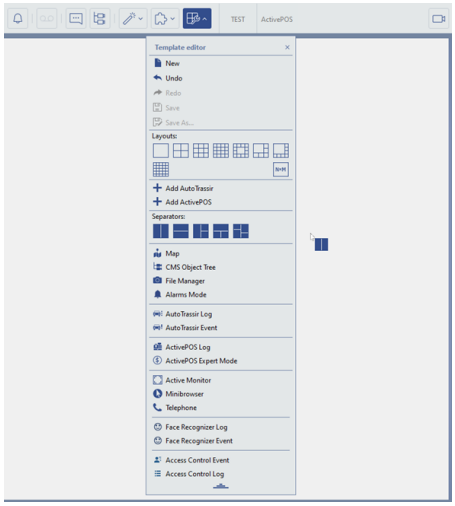
1. Click ***Template Editor*** and select ***New***.



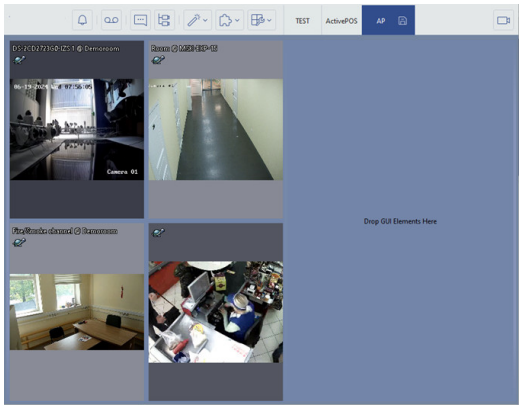
2. Click to open the editor's panel.



3. In the ***Template Editor*** in the ***Separators*** select and drag it onto the template's space. It will divide the template into two equal parts.

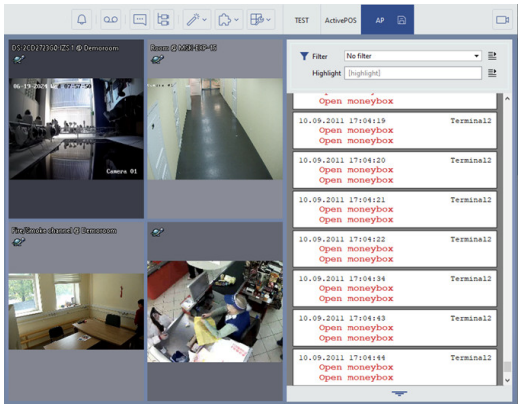


4. Video channels will be on the left. In the ***Template Editor***, in the ***Layouts***, select ⊞ and drag it onto the left area.

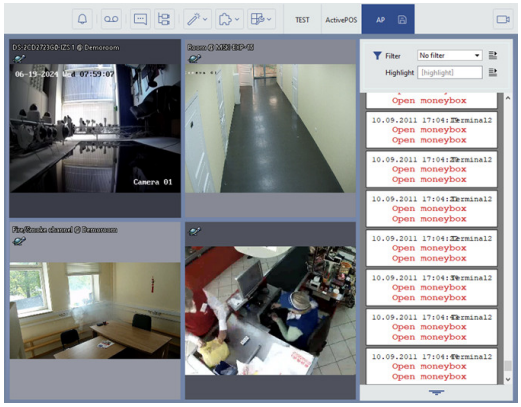


The layout will show the first 4 cameras' video channels, by default. Change these channels to the required ones, if needed.

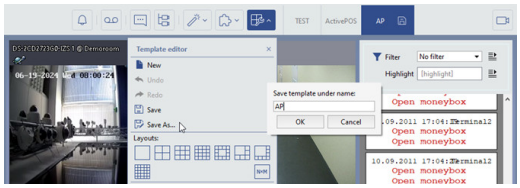
5. Event log will be on the right. Select ***ActivePOS log*** in the ***Template Editor*** and drag it onto the right template area.



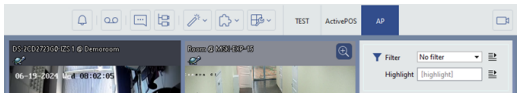
6. To adjust the width of the left and right working areas, point the cursor to the areas' border. Left click on it and drag it to the left.



7. Save the output template. Open the ***Template Editor*** and select ***Save as...***.



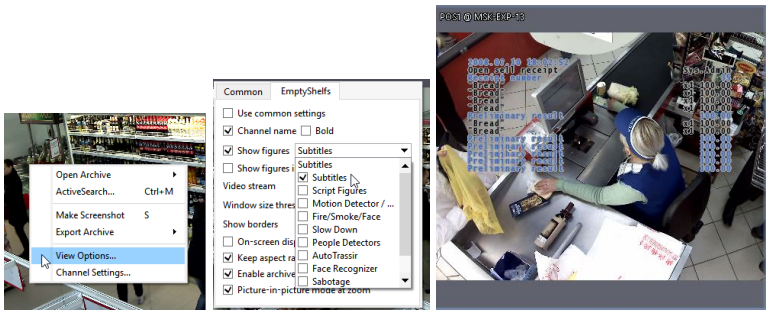
Name the template and press ***Ok***. As a result, you'll see the template in the ***Template menu***.



Display the cashier's operations on the video

To display cashier's operations on video, do the following:

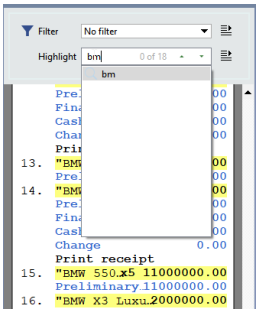
1. Hover the channel and then right click. Select the ***View options...***.
2. In the view options menu check the ***Show figures*** box and select ***Subtitles***.
3. Click on any screen space to save the settings and close the menu.
4. As a result, you'll see the cashier's operations on the screen:



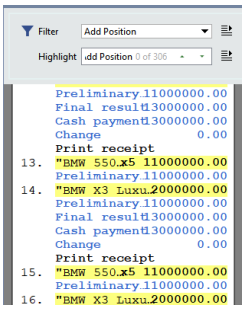
Event and receipt highlight

In addition to filtering, you can use color highlight of desired events or the entire receipt. There are two ways to highlight:

- Context highlight – This mode highlights receipt positions containing the string in the ***Type to search*** field.



- Filter-based highlight – A previously created filter is used for highlighting in this mode. This is convenient if the receipt list has already been filtered but you need to highlight the positions in them that were used to filter the receipts. To do this, select the same filter in the ***Filter*** and ***Highlight*** dropdown lists. Arbitrary use of filter-based highlighting is supported – you can generate a list of receipts using one filter and highlight them using a different filter.



If the highlight yielded several matches, you can navigate between them using ▲ and ▼. The current match number and the total number of matches are indicated to the right of the ***Quick search*** field.

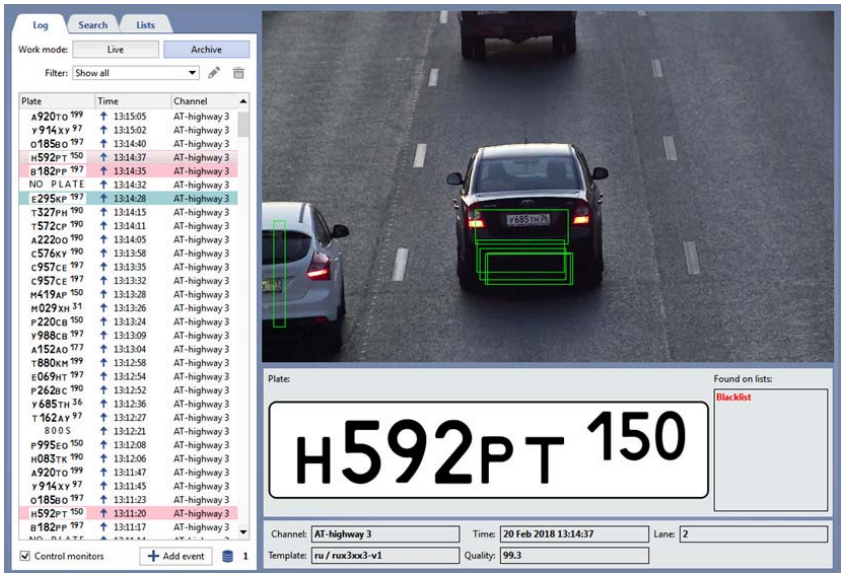
You can use either way to highlight events, but you can't use them both at the same time.

License plate recognition

If your system includes the AutoTRASSIR/AutoPass module, then on one screen you can view:

- Video from cameras recording vehicles entering and exiting;
- the license plate number recognition results and special messages in the event that a recognized number is in the AutoTRASSIR/AutoPass list, e.g. the blacklist;
- The log of recognized license plate numbers.

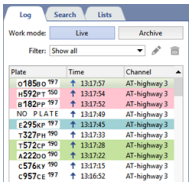
To display the AutoTRASSIR/AutoPass area, you must *configure the video monitor template*.



Vehicle type and ***Special vehicles*** columns are shown in the log only for HSC AutoPass module.

All license plate numbers recognized by the AutoTRASSIR/AutoPass module are key events that can be used to perform the following actions:

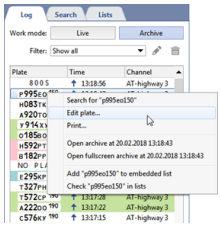
- *Search for* the number in the database or *internal license plate number lists*;
- *edit* an unrecognized or partially recognized license plate number;
- *print a confirmation document*;
- *open the archive* to the moment at which the license plate number was recognized (in the current window or in fullscreen mode);



If the recognized license plate number is detected on one of the three lists, then it will be highlighted as follows in the AutoTRASSIR/AutoPass log:

- ***green*** - the license plate number is on the whitelist;
- ***red*** - the license plate number is on the blacklist;
- ***blue*** - the license plate number is on the informational list.

To bring up the action selection menu, point the cursor at the AutoTRASSIR/AutoPass log at an entry with a license plate number and select the desired action in the context menu:



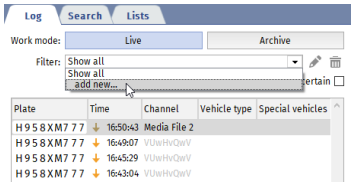
Filtering current license plates

A large number of passing vehicles can make it substantially more difficult to monitor traffic. If there is no need to react to every passing vehicle, then you can use a filter to reduce the number of entries going into the log. For example, you can create a filter to only log vehicles from a blacklist or whitelist.

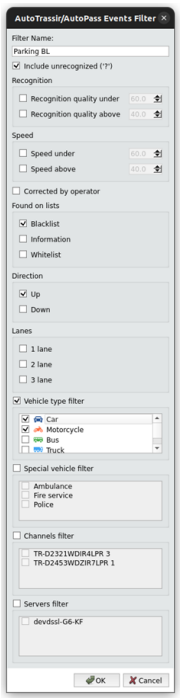
The license plates can be filtered by the ***Vehicle type*** and ***Special vehicles*** only for the HSC AutoPass module.

To create a new filter:

1. Select ***Add new...*** in the ***Filter*** dropdown menu by the list of license plate numbers on the ***Log*** tab.



2.

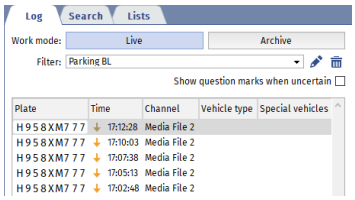


Set the filter's parameters in the window that opens:

- ***Filter name*** - The name to use when saving the filter in the system.
- ***Include unrecognized*** - If this checkbox is set, then license plate numbers that couldn't be recognized will be added to the list.
- ***Recognition*** - The quality range for license plate number recognition. The recognition of each license plate numbers characterized by a standard "Quality" measure, which reflects the level of confidence in the recognition results. An acceptable value is 70 or greater.
- ***Speed*** - The range of vehicle speeds. This parameter is meaningful only if a radar device has been connected and is being used to determine the speed of vehicle traffic.
- ***Corrected by operator*** - If this checkbox is set, then license plate numbers which it been corrected manually by the operator after recognition by the system will be added to the list.

- ***From lists*** - Set this checkbox if you want the list to only include license plate numbers from a whitelist, blacklist, or informational list. For more information about maintaining these lists, see the subsection entitled *Maintaining internal lists of license plate numbers*.
- ***Direction*** - This parameter determines the direction of traffic for vehicles that should be included in the list (up, down, or in both directions).
- ***Lanes of traffic*** - A filter that defines the lanes of vehicular traffic that should be included in the list (first, second, third, or all lanes).
- ***Vehicle type filter*** works only for HSC AutoPass module and defines the vehicle types to be included in the list (car, motorcycle, bus, etc.)
- ***Special vehicles filter*** works only for HSC AutoPass module and defines the special vehicle types to be included in the list (ambulance, fire department and police)
- ***Channel filter*** - If this checkbox isn't set, then license plate numbers from every channel will be included in the list. If the check boxes set, then you must indicate which channels should be included.

3. ***Channel filter*** - If this checkbox isn't set, then license plate numbers from every channel will be included in the list. If the check boxes set, then you must indicate which channels should be included.

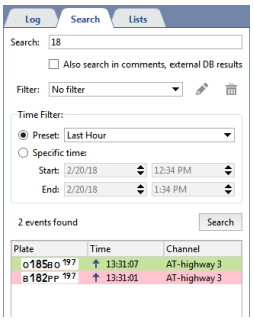


After saving a filter, you can use the following buttons:

- Edits the currently selected filter;
- Deletes the currently selected filter.

- *Search for license plate numbers in the database*
- *Adding events to the AutoTRASSIR/AutoPass log*

Search for license plate numbers in the database

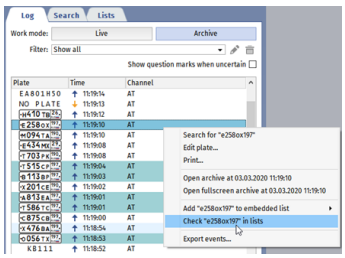


The license plate numbers of all vehicles are saved to the database regardless of the selected filter settings. You can always refer to the list of recognized license plate numbers to find out which vehicles passed by at any particular time. To search for license plate numbers in the database:

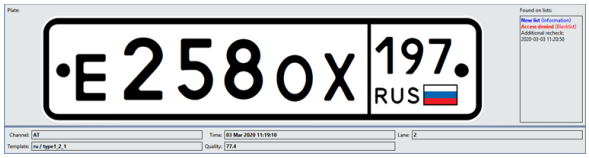
1. Select the ***Search*** tab in the license plate number lists area.
2. Provide the search string in the ***Search*** field. If you leave the search string empty, then the search will return license plate numbers correspond to the given search criteria (see item 3 below).
3. As needed:
   - Set the ***Also search in comments, external DB results*** if the search should include all of the fields in the database;
   - Select a previously created filter from the ***Filter*** dropdown list to reduce the number of license plate numbers displayed;
   - Specify a time range for the license plate number search in one of two ways:
     "Preset interval" – Choose one of the preset time intervals in the dropdown list.
     Specific time – Use a manually-entered time interval.
4. Press the ***Search*** button.

Searching a license plate number through the internal lists

In order to find a recognized number in internal lists, press the number on the ***Log*** tab and select ***Check in lists*** in the context menu:



If a number is added to one or several lists, all of them will be displayed near the recognized number in the operator's interface.

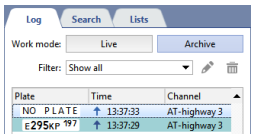


You can read about the process of the internal lists creating and editing in the Administator's Guide in the *???*.

- *Filtering current license plates*
- *Search for license plate numbers in the database*
- *Adding events to the AutoTRASSIR/AutoPass log*

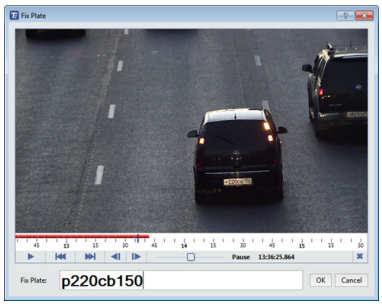
Adding events to the AutoTRASSIR/AutoPass log

In addition to recognized license plate numbers, the AutoTRASSIR/AutoPass log includes license plate numbers that were recognized with errors, as well as license plate numbers that could not be recognized for some reason. Unrecognized license plate numbers are denoted by ***NO PLATE*** in the AutoTRASSIR/AutoPass log.



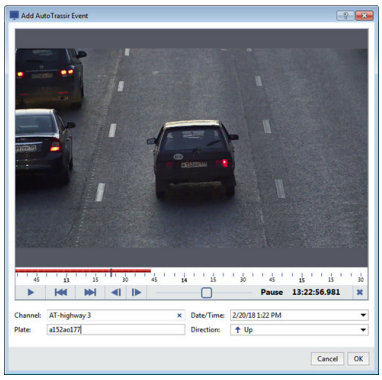
In this case, the operator may change the AutoTRASSIR/AutoPass log as follows:

1. Make a correction in the AutoTRASSIR/AutoPass log. To do this, point the cursor at a line with a license plate number that was not recognized in whole or in part, and select ***Fix Plate...*** in the context menu. A window will open with the archive segment that contains the passing vehicle.



In the ***Fix Plate*** field, enter the vehicle's visually recognized license plate number.

2. Add a new event to the AutoTRASSIR/AutoPass log. In this case, click the ***Add event*** button at the bottom of the log. An archive window will open:



Then do the following:

- In the ***Channel*** field, select the archive channel.
- If needed, in the ***Date/Time*** field, select the approximate time the vehicle appears in the frame.
- In the view window, find the moment in the video segment when the vehicle is captured most clearly.
- In the ***Plate*** field, enter the vehicle's visually recognized license plate number.
- If needed, in the ***Direction*** field, select the direction of the vehicle's motion.
- Click ***OK*** to save the event in the AutoTRASSIR/AutoPass LOG.

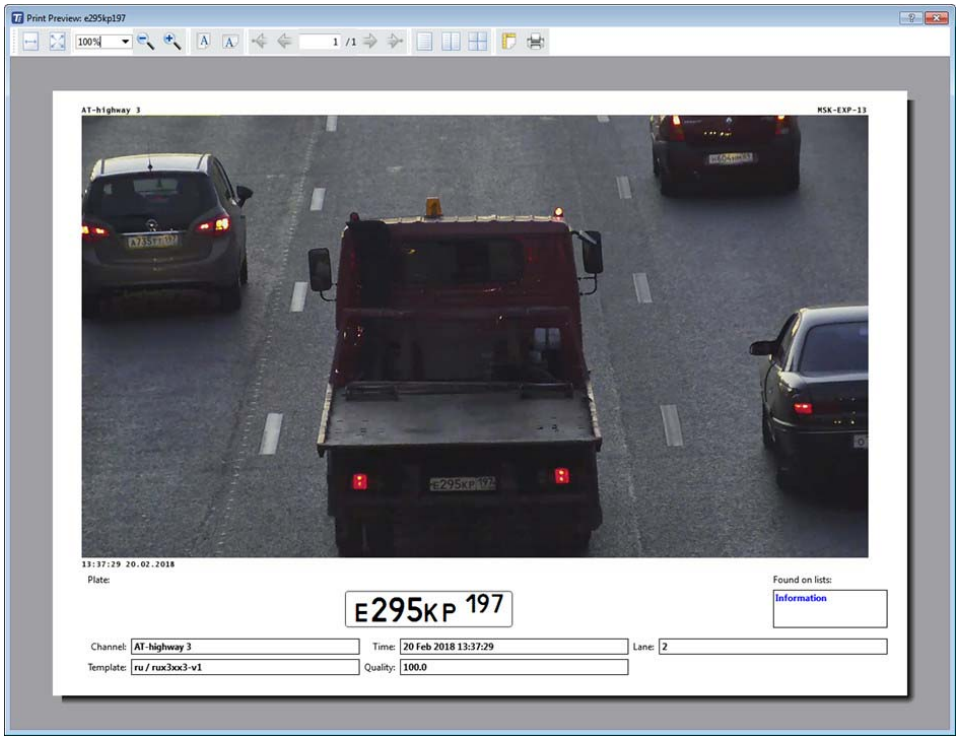
- *Search for license plate numbers in the database*
- *Filtering current license plates*

Printing a document

It may be necessary to print a document confirming the passage of a vehicle in the following cases:

- to record a violation of traffic rules;
- as a receipt of entry/exit from a parking lot;
- and many others.

To bring up the print menu, point the cursor at a line with a license plate number and select ***Print...*** in the context menu. A window will open with a print preview of the document.



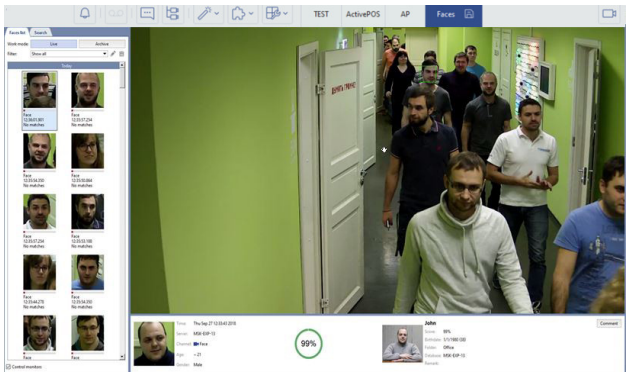
If needed, you can use the buttons at the top to customize the print settings.

Face recognition

If your system uses Face recognition module, you can view on one screen:

- video from cameras that perform face detection on video;
- a log of all recognized faces;
- results of recognition and comparison of faces with Faces database.

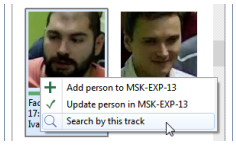
To display the module areas, you need to *configure video monitor interface template*.



All the faces recognized by the module are key events, using which you can:

- *add a person to the Faces database or update a photo of an existing person*;
- *open the archive at the time the face was recognized* (in the current window or full screen).
- *find all the appearances of the face in the archive*, including *search by face and photo*;
- *determine sex and age of the recognized person by the face*.

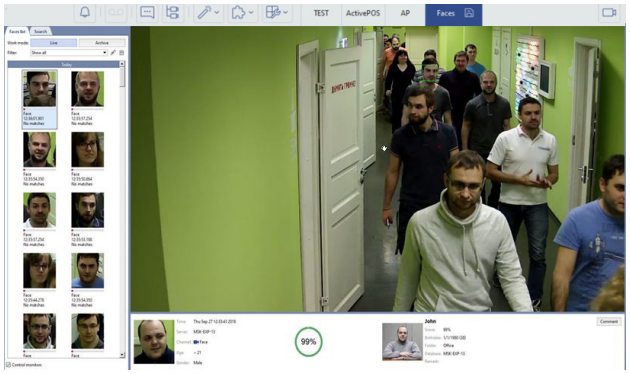
Some actions will be executed by the module on its own, and to call the rest, move the mouse cursor to the recognized face in the log and select the required action in the context menu:



Example of the face recognition template

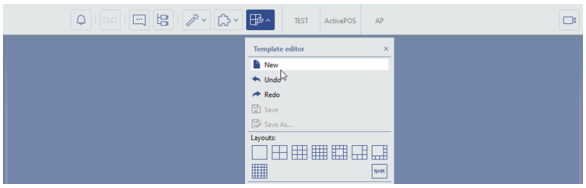
To work with the face recognition module, we need a template that displays the following information:

- video from the camera channel;
- *face recognizer log*;
- *panel with information on the comparison of a face with the faces database*.

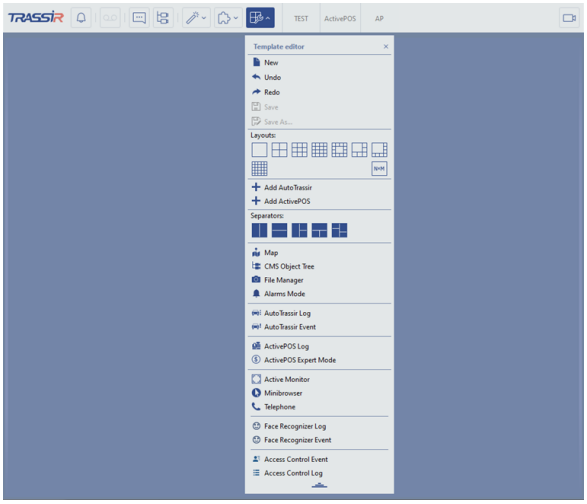


Let's create it:

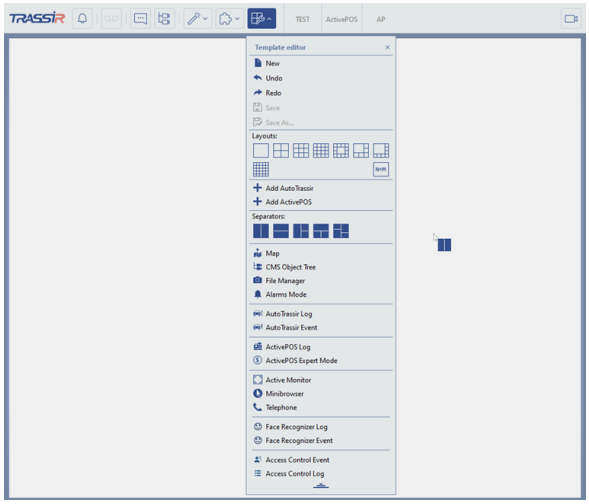
1. Click ***Template editor*** and select ***New***.



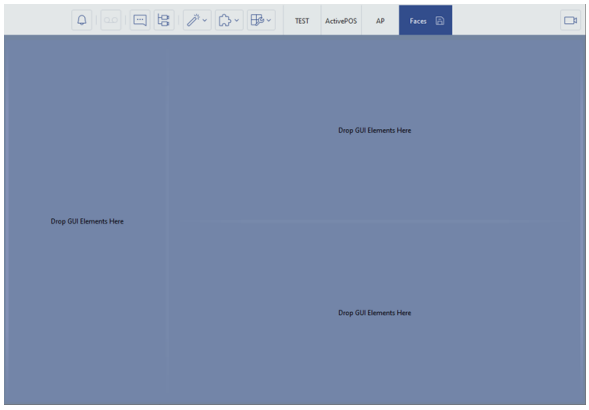
2. Click ▬ to open the editor panel.



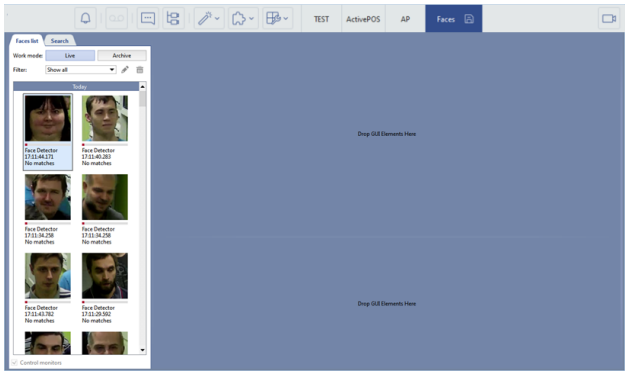
3. In ***Template editor*** in the ***Separators*** box click the icon ▮▮ and drag it to the empty place of the template. As a result, the template will be divided into two equal work areas.



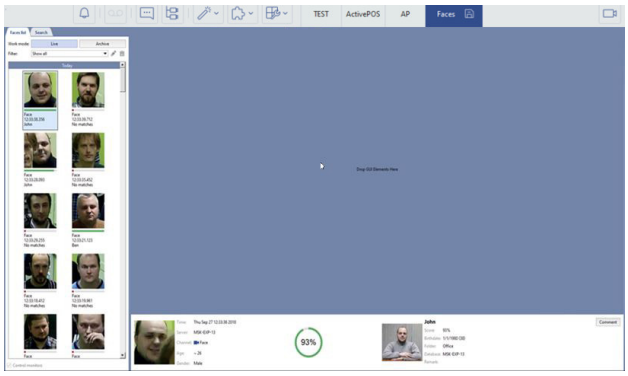
4. In ***Template editor*** in the ***Separators*** box click the icon and drag it to the right side of the template. Adjust the size of the working areas if necessary.



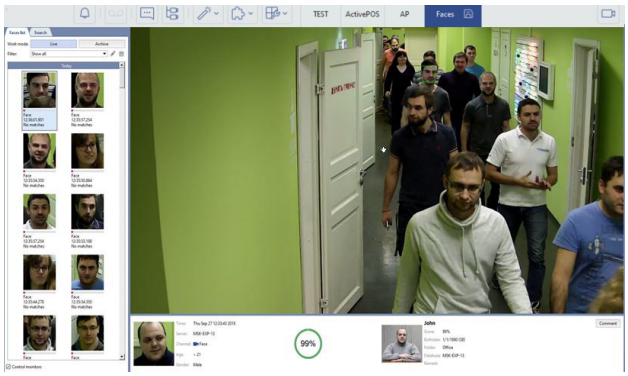
5. There will be a log with recognized faces on the left. Select ***Face Recognizer Log*** in ***Template editor*** and drag it to the left area of the template.



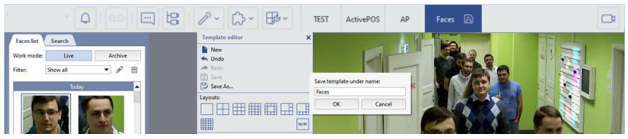
6. There will be a panel with information about the recognized face on the bottom right. Select ***Face Recognizer Event*** in ***Template editor*** and drag it to the right bottom area of the template.



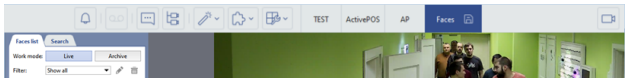
7. Video channel will be to the right. To open the channel list, click .
Drag the desired channel to the top right area.



8. Save the resulting template. Open ***Template editor*** and select ***Save as...***.

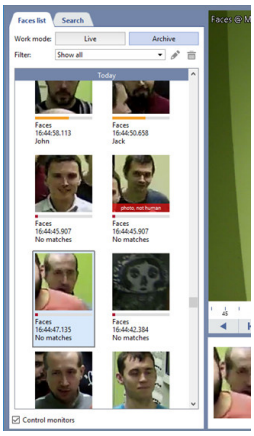


Type a name and click ***OK***. As a result, a tab with your template will appear in the ***Templates menu***.



Face recognizer log

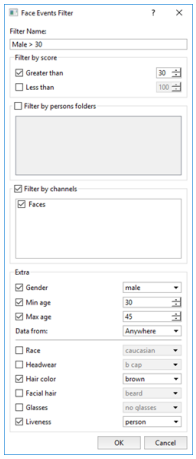
Displays all the faces detected on the video in the **Face Recognizer Log** on the ***List*** tab.



Face display is made in ***Live*** and ***Archive*** modes. The first displays the recognized faces in real time, and when you enable the second, the auto-update of the face recognition log is disabled. The log entry consists of:

- the most recognized face;
- indicator - the degree of coincidence of the recognized face with a person from the database;
- channel name;
- face detection time;
- person's name.

When selecting a face in the journal, the channel archive where this person got caught in the camera lens will open. To disable this feature, clear the ***Control monitors*** flag.
A large number of faces in the log can make the work of the operator more difficult. If there is no need to respond to all people appearing in the frame, then reduce the number of displayed faces by using a filter. For example, configure the filter so that the log will display only people whose faces are in the Faces database.

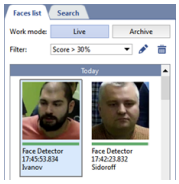


To create a new filter, you must:

1. On the ***Log*** tab in the ***Filter*** drop-down list, select ***add new...***.
2. Specify filter parameters in the window opened:
   - ***Filter Name*** - the name of the filter under which it will be saved in the system.
   - ***Filter by score*** - show faces of people ***Greater than*** and ***Less than*** similar to the people from Faces database.
   - ***Filter by persons folders*** - - show faces from a specific Persons folder.

- ***Filter by channels*** - show the faces found on a specific video channel.
- ***Extra*** - show faces of certain age of gender. You can also select which data source should be used by the filter to search for persons on certain age or gender in the ***Data from*** list.
  Moreover, you can specify the additional filter parameters, such as hair color or headwear. In the ***Liveness*** setting you can choose ***Human*** or ***Photo*** value in order to show or hide photo detection records. You can read more about ***Liveness*** parameter in the corresponding chapter of the *Administrator's Guide*.

3. Click ***OK***. Faces corresponding to the filtering criteria will remain in the log.



After saving the filter, use the following buttons:

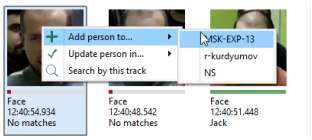
- - to edit the current filter;
- - to delete the current filter.

Adding persons to the Faces database

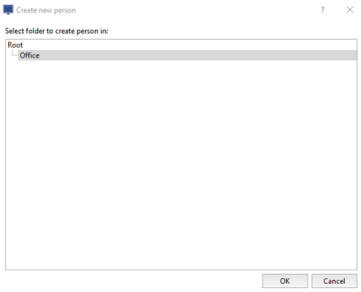
Any person whose face was recognized can be added to the Persons database. For this you can use any of two methods:

Add person to database - there is no person, but there is a recognized face.

1. In the ***Face Recognizer Log*** right-click on the face and select ***Add person to [server name]*** in the context menu.



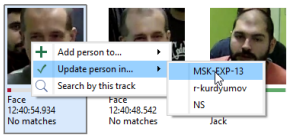
2. Select the name of the folder in which person will be created.



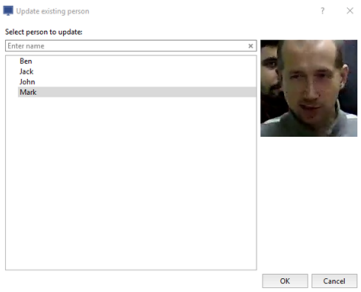
Further actions to create a person will be performed in the administrator's interface. For a detailed description, see the Administrator's manual in the section *???*.

Update person in the database - there is a person, but there is no photo or there is a poor quality photo.

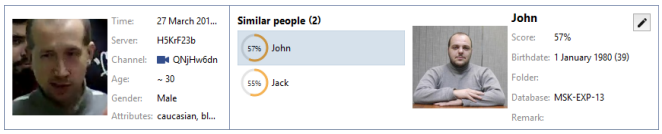
1. In the ***Face Recognizer Log*** right-click on the face and select ***Update person in [server name]*** in the context menu.



2. Select the person whose photo will be updated.



Face recognizer event



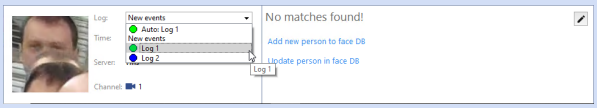
The ***Face Recognizer Event*** panel displays:

- **On the left** there is information about the recognized face: the time of recognition, the camera channel and the server name which it is connected to, approximate age and gender of a person, and the additional attributes.

  The gender, age, and additional attributes display is available if the corresponding feature is enabled in the plugin settings. Read more about it in the Administrator's Guide in the *???*.

- On the **right** side - information about person whose face is similar to the recognized one.
- In the **center** - the degree of similarity of the recognized face and the face from the Faces database.

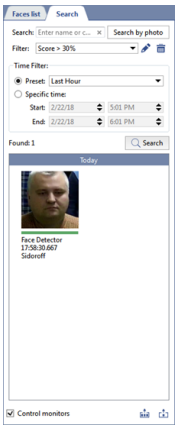
If the operator interface contains multiple logs, the ***Face Recognizer Event*** panel displays a list of available logs. The operator can select the log, the events of which will be displayed in the panel, if necessary.
When the ***New Events*** option is selected, the panel will display the last detected face.



If the recognized face is not similar to any from the Faces database, the following information is displayed on the panel:

By clicking the relevant links you will add or update the face in the Faces database.

Faces search



All recognized faces are stored in the database. To search the recognized faces, do the following:

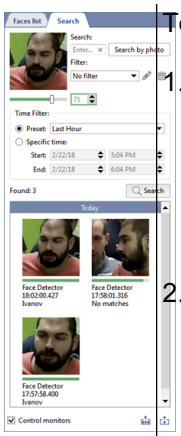
1. Open ***Search*** tab in the recognized faces log.
2. Enter the name of the person sought or comment stored in the database about the person sought in the ***Search*** field. Search is not case sensitive and searches for parts of words. If the line is left blank, the search will be performed according to the conditions described in the next paragraph.
3. If necessary:
   - select *one of the previously created filters* in the ***Filter*** field;
   - Set the time range of the search in ***Time filter*** settings group in any of two ways:
     Preset - select the preset range from the list.
     Specific time - enter the time range manually.
4. Click ***Search***.

If there is more than 500 faces found, they are displayed page by page, 500 faces per page. To save the faces found, click the corresponding button:

Save all faces found

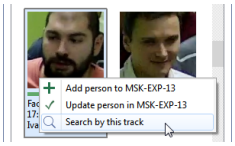
Save current page faces

You can perform **search by face** and **search by photo**. In the first case, the recognized face is used as one of the search parameters, and in the second one it is a photograph of the person's face. This function will be useful if you need to find all appearances of the same person.



To **search by face**:

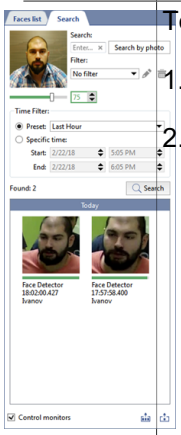
1. Right-click on the face and select ***Search by this track*** from the context menu.



2. If necessary, specify the search parameters in the tab opened:
   - enter name or comment;
   - select *one of the previously created filters* in the ***Filter*** field;
   - with the help of an indicator, set the similarity threshold determining the degree of similarity of the person's face to faces on the video;

- Set the time range of the search in ***Time filter*** settings group.

3. Click ***Search***.



To **search by photo**:

1. Click ***Search by photo*** and select the photo of the person you are searching for.
2. Specify the search parameters if necessary:
   - enter name or comment;
   - select *one of the previously created filters* in the ***Filter*** field;
   - with the help of an indicator, set the similarity threshold determining the degree of similarity of the person's face to faces on the video;
   - Set the time range of the search in ***Time filter*** settings group.
3. Click ***Search***.

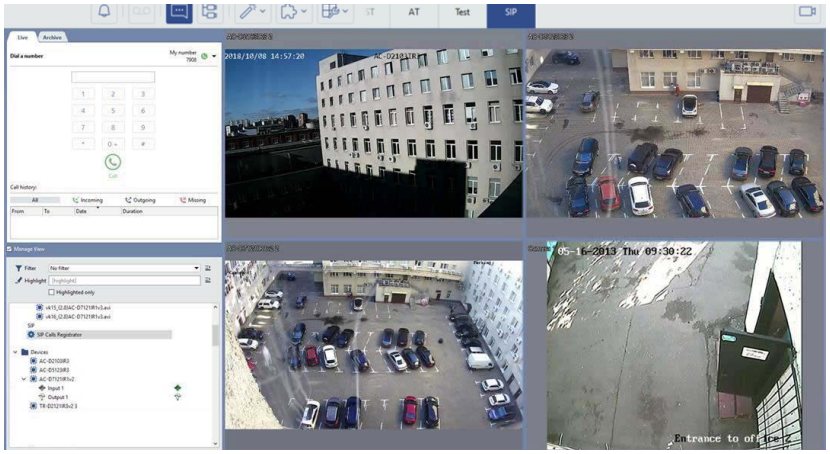
Search by face and photo is possible if the corresponding function is enabled in the module settings. For a detailed description of this function, see the Administrator's Manual in the section *???*.

SIP phone operation

If the SIP phone plugin is included into your system you can:

- Call SIP phones, connected to your system.
- Review the call log.
- Search for audio/video connections through the archive by the subcribers' numbers, data and time, call duration, outgoing, ingoing, and missed calls.
- Monitor the IP video door phone system devices state.

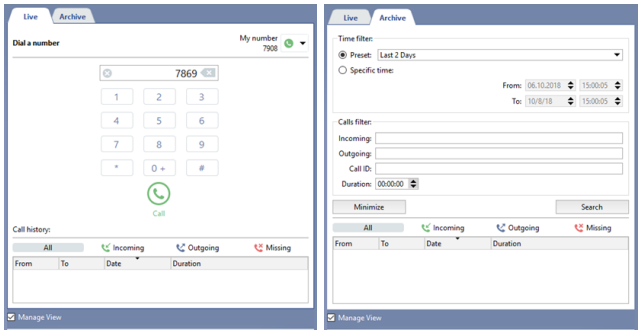
To display the SIP phone plugin, customize the *camera window template*.



SIP phone panel

There are two tabs on the SIP phone panel:

- ***Live*** - this tab lets you make calls via the built-in SIP phone and review the call log.
- ***Archive*** - this tab lets you search for calls in the IP ATS server archive.



Use can use the following filters to find the required call:

- ***Time filter*** - lets you set the search time interval.
- ***Calls filter*** - lets you find the call with the help the following parameters:
  - ***Incoming*** - the phone number from which the call has been made.
  - ***Outgoing*** - the phone number, to which the phone call has been made.
  - ***Call ID*** - a unique call identifier.
  - ***Duration*** - a call minimal duration value.

Select the found call from the list to listen to it. The audio data will be downloaded from the IP phone server. To listen to click ▶.
If the ***Manage view*** box is checked, you 'll be able to see the video archive of the channel, associated with this phone number, in the template.

You'll be able to search through the archive only after successful connection to the call archive server. You can read more about it the "Administrator's guide" (*???*).

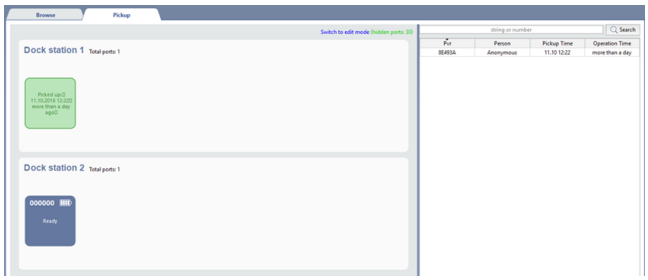
Personal video recorders

Personal video recorders (PVR) - are the devices that are attached to a person and fix everything that's going on around this person.
Characteristics of PVR operation:

- When a *PVR device is picked out*, a person that received it is specified. Thus you're always aware of who picked out a particular device.
- The server and PVR archive merge is conducted after the *PVR return*.
- The PVR archive, recorded from the moment of handing out till the acceptance, is attached to the person, mentioned during the PVR acceptance. Thus, in future, you'll view the archive, *recorded by a certain person*, but not the device with the certain ID.

The persons, specified by the PVR handing out or acceptance, come from the **persons database**. Read more about the creation of persons in the Administrator's Guide (*???*).

PVR pickup/turn in



The PVR's interface consists of two parts:

- **On the left side** there is a picture of PVR ports, connected to the server. Click ***Switch to edit mode*** to customize the picture to your convenience. Read more about Edit mode in *Edit mode of the PVR interface*.
  During PVR pickup/return, the following information will be displayed in the left part of the screen:

  Unassigned PVR ports.

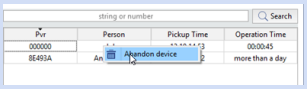
  PVR port is ready.

  PVR is picked up.

  PVR is returned and the archives are merging.
  Upon the merge completion, the PVR port will switch to the **Ready** mode.

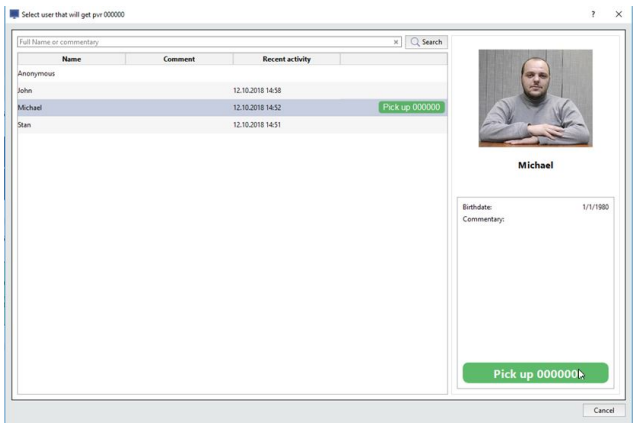
- The list of all picked up PVRs is situated on the **right side**. This list helps identify to whom and when a certain device has been issued.

If a PVR has been picked up by mistake, you can remove the pickup record. To do this, right click and then select ***Abandon device***.

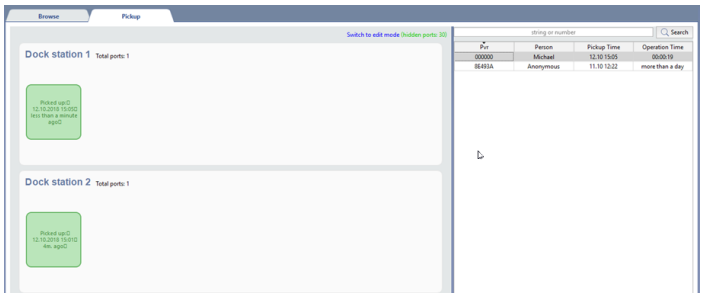


PVR pickup

To activate the PVR pickup, disconnect it from the dock station. In the opened window select the required employee and click ***Pick up***.



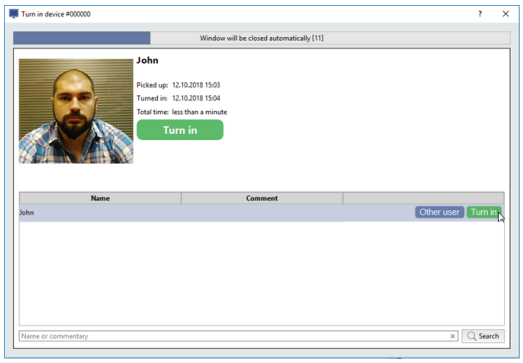
As a result, at the left part of the interface window, the PVR will change its status to **Picked up**, and at the right the information on the PVR pickup will appear.



If, during the PVR pickup, you're not able to assign an employee for any reason, you can select **Anonymous**.

PVR turn in

To activate the PVR return, connect it to the dock station. In the opened window click ***Turn In***.

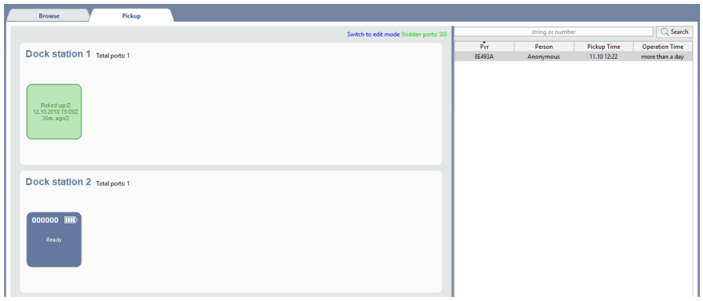


If you've selected wrong employee name or **Anonymous**, press ***Other user*** and select the proper employee.

After that, the server will merge the archive with PVR archive.

The PVR archive will be saved under the employee's name, selected by PVR turn in.
If you've selected **Anonymous** by PVR pickup and turn in, the archive will be save under the anonymous ID.

After downloading the archive, the server will clear the PVR's memory and change its status to **Ready**.

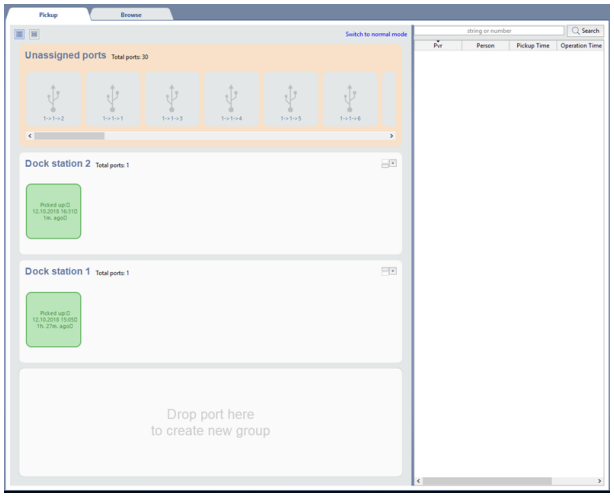


You can *Review PVR archive* in the ***Browse*** tab.

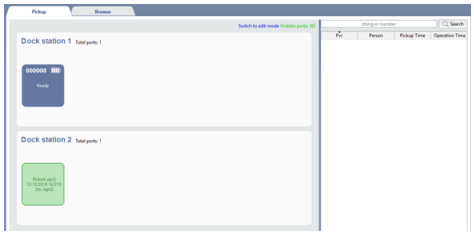
Edit mode of the PVR interface

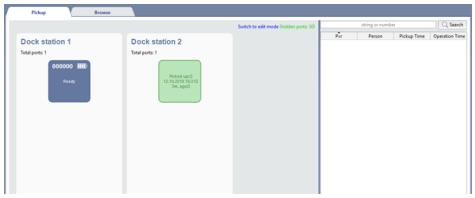
In the edit mode you can combine the port of the PVR in groups. For example, the ports of the same docking station. For creating such group you need to drag the port from the **tool bar with unassigned ports** to the existing bar. If you drag the port to an empty bar, a new group of ports will be created.
The name of the bar is indicated during its creation. Just click on the name twice to change it.

The panel with the **with unallocated ports** contains all the server ports.



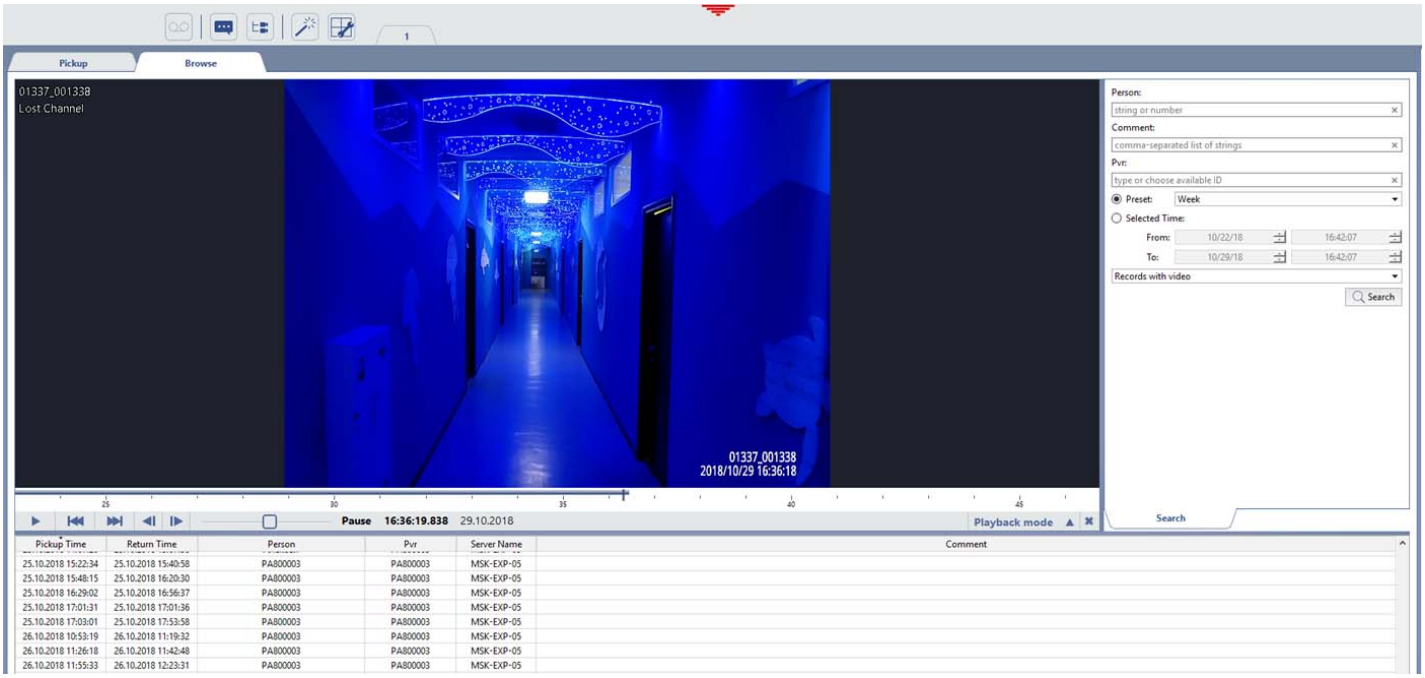
Panel ports can be placed vertically or horizontally. Click the corresponding button to change the position or .





Click ***Switch to normal mode*** to go back to *PVR pickup/turn in mode*.

PVR archive review



You can find and view video archive saved from all PVRs connected to the server on the ***Browse*** tab.
For video records search in the PVRs archive use the following options:

- ***Last, first and middle name*** -name of the employee who has returned the PVR.
- ***Comment*** - comment about the employee who has returned the PVR.
- ***Device ID*** - the identification number of the PVR.
- The time period, in which the employee held the PVR, is selected from the presets or sets in the ***From*** and ***To*** fields.
- All PVR pickup/return records are displayed in the list by default, including those when the PVR has been recording nothing. Select ***Records with video*** to leave only those PVR pickup/acceptance records, during which the device has been recording the video.

Activate the records search by clicking ***Search***. Upon the search completion all records, satisfying the search parameters, will be displayed. Click any record to start reviewing the PVR archive.

TRASSIR ACS

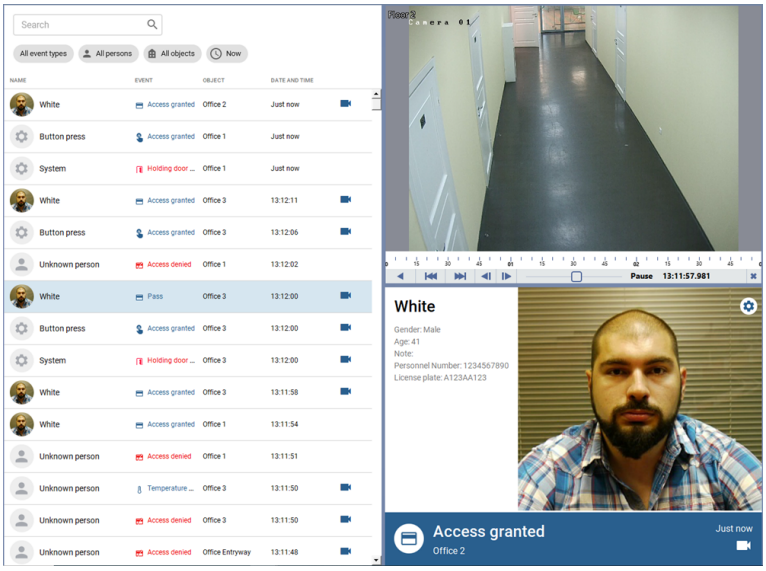
TRASSIR ACS is an access management system, built-in into the server, which allows you to:

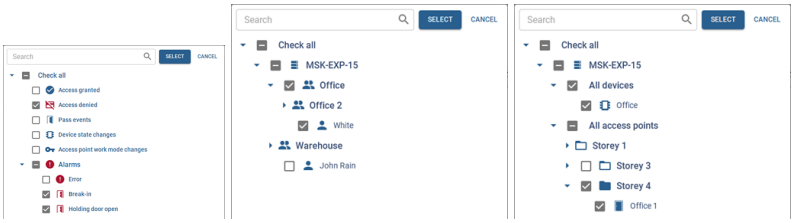
- check identification events in the *operator's interface*;
- set up TRASSIR ACS from a *web browser*;
- enable various TRASSIR ACS features from the *mobile application*;
- work with *temporary visit requests*;
- build various statistics *reports*.
- apply *manual* or automatic modes to allow or deny access to a person or vehicle to the protected area;
- register, including the video archive records, successful and unsuccessful entry events, as well as access control system break-ins in *event log*;

Template

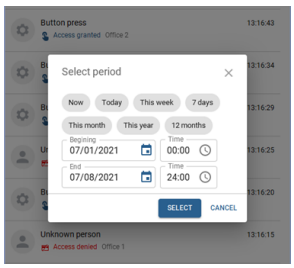
The TRASSIR ACS module handling in the operator interface can be simplified significantly if you use a template, which will display the following information:

- video from the channels of cameras installed in the passages;
- a list of people who have been identified;
- a detailed info on an identified person.





In order to display events for a specific time period in the log, click on the time filter and select the required range.



You can find a detailed description of the template editor and the example of the template creation in sections *Creating a new template* and *Sample view*.

Use ***Access Control log*** filters to choose the event types, persons and object, the information on which will be displayed in the log:

The events' storage time in the log is determined by the server database settings. All events older than ***The record retention period*** will be deleted. Read more about the database settings in the "Administrator's Guide" (see section *???*).

The ***Access Control event*** panel displays the information on a person who has just passed one of the TRASSIR ACS access points. If in the *reader settings* its location is selected, the panel will also display the direction of passage (entrance or exit).

Clicking the on the ***Access Control event*** panel or on an event in the ***Access Control log***, the archive of the channel linked to the access point where the person has been identified at the time corresponding to this event, opens in the video preview window.

Press the button you can customize the following ***Access Control event*** panel parameters:

- Select the list of objects, the data from which will be displayed on the panel.

Set the ***Attach to Access Control Log*** flag to display detailed information on the event when you select it in the log.

- Select the information fields that will be displayed on the panel.

The list of fields that can be displayed on ***Access Control Event*** panel consists of main and additional person's fields. Read more in Administrator's Guide (see *???*).

In order to hide fields that contain no information, set the ***Hide empty fields*** flag.

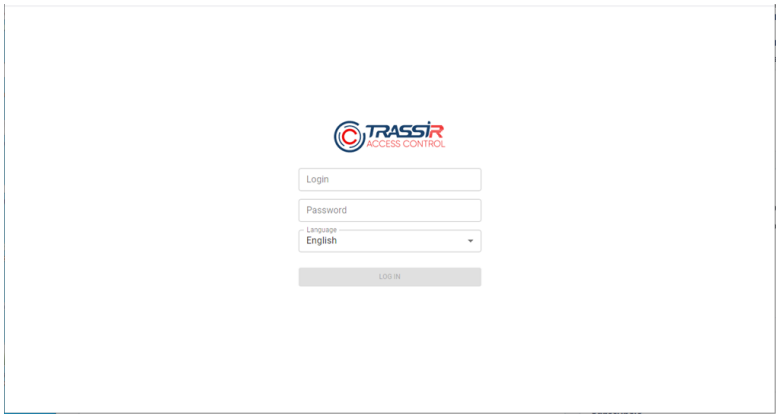
Access from browser

Features of TRASSIR ACS web interface access:

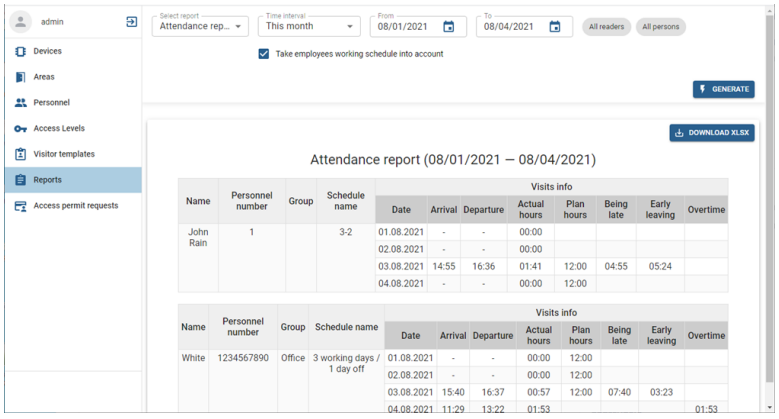
- The user account, which is used for authorization, should have the *Enable login from mobile/web* flag checked in the settings.
- By default, the ***8080*** port is used to connect to TRASSIR ACS web interface. You can change it in the *web-server settings*, if necessary.
  If a firewall is used, allow the connection to this port in its settings.

Perform the following actions to connect to TRASSIR ACS web interface:

1. Type the address of the following kind ***https://[ip-address]:[port]/s/pacs*** into your browser's address bar (for example: https://192.168.1.201:8080/s/pacs).
2. Specify the ***username*** and ***password*** in the authorization window. Select the web interface language, if necessary.



3. Upon successful authorization, TRASSIR ACS web interface will be available



All web interface features are identical to TRASSIR ACS features on server. It lets you:

- Connect controllers, set up access points and readers (see *???*).
- Customize usage areas (see *???*).
- Add new persons or modify the existing ones (see *???*).
- Set up and modify access level settings (see *???*).
- Create and edit visitor templates (see *???*).
- Build various TRASSIR ACS usage reports (see *Reports*).

- Create, review, and activate temporary pass requests (see *Handling access permit requests*).

The list of available features is determined by the authorized *user rights settings*.

Access from mobile app

Features of access to TRASSIR ACS mobile app:

- The mobile application should have a local or cloud connection established and configured to the server where the TRASSIR ACS module is running.
- Specify the connection to a local or cloud user (depending on the server connection method) in the settings of the person, managing Access Control, which is used to connect to TRASSIR ACS server.

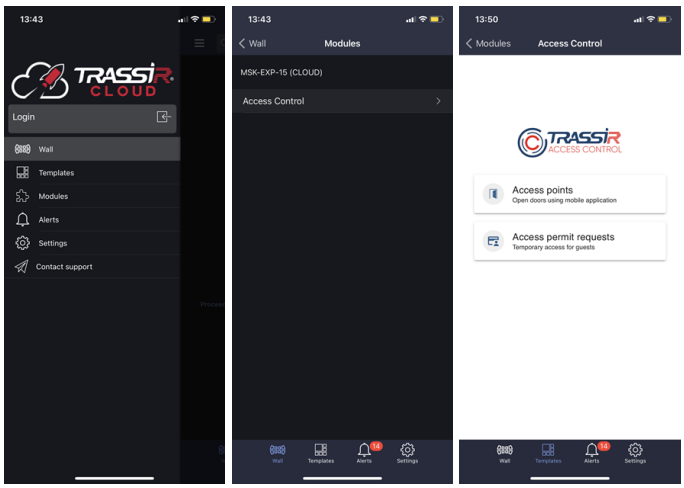
The mobile app supports the following TRASSIR ACS features:

- opening doors by command from the mobile app;
- creating and reviewing applications for visitors.

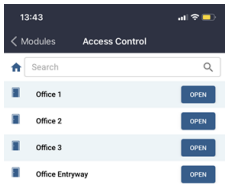
"Open door" feature

Follow the steps below to activate the ***Open door*** feature:

1. In the mobile app, open ***Modules*** -> ***Access Control*** and press ***Access points***.



2. In the list that opened, select the access point for which you'd like to open the door and click the ***Open*** button.



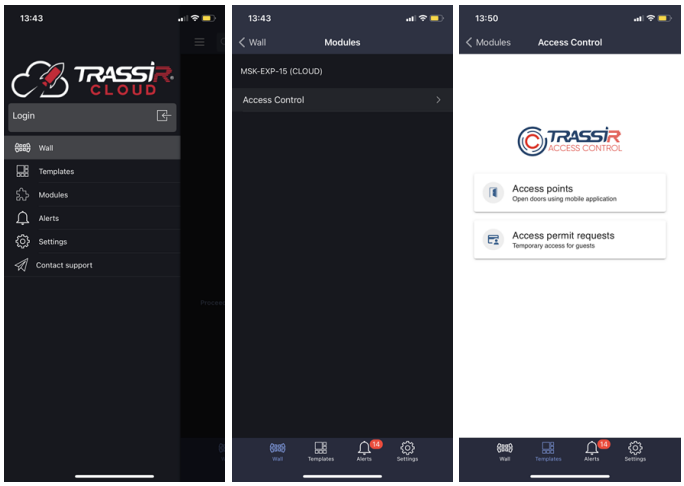
> The number of available access points depends on a person's access level.

3. Upon successful completion, the event of the door opening will be registered in the *Access Control log* as ***Unlocked once by command***.

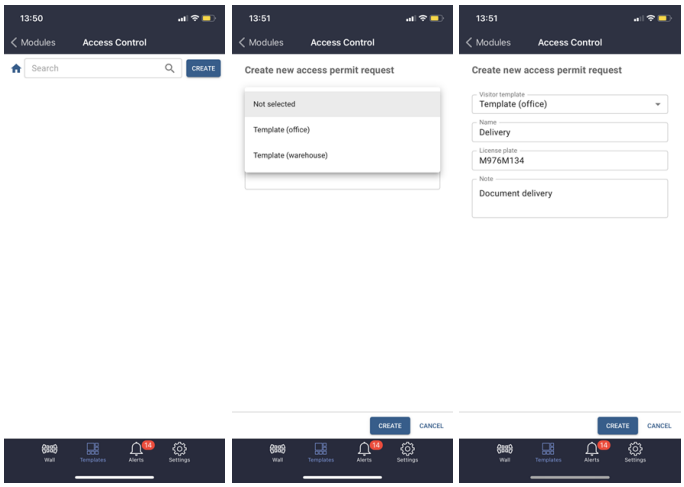
"Access permit request" feature

Follow the next steps to use the ***Access permit request*** feature:

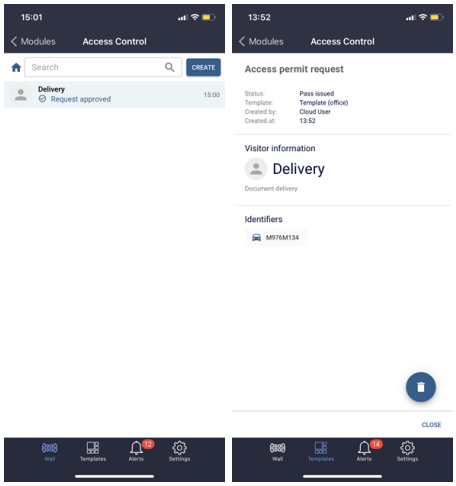
1. In the mobile application, open the ***Modules*** -> ***Access Control*** and press ***Access Permit Requests***.



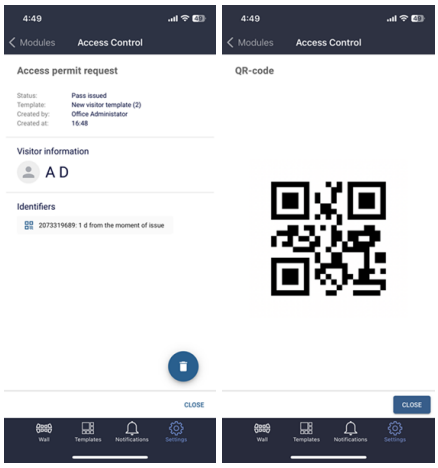
2. In order to create a pass request, press ***Create*** in the opened window, select ***Visitor template*** and fill in visitor data.



3. Once created, the request will appear in the list of access permit requests. Click on the request in the list to see.



If a QR code is used as the visitor ID, tap on it to display:

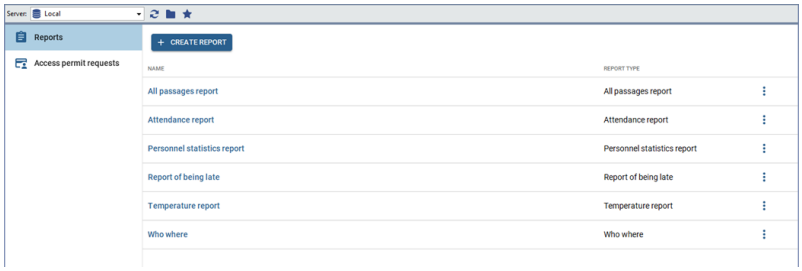


Depending on the visitor template's settings, the following statuses are assigned to the created requests:

- ***Pass issued*** - the pass is active and can be used by the visitor;
- ***Request approved*** - the pass request is created, the pass will be given to the visitor upon the activation at the guard post (see *Handling access permit requests*).

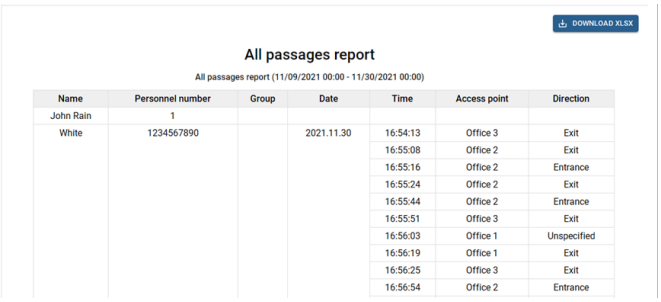
Reports

In order to switch to the report building mode, press and select ***Access Control***.



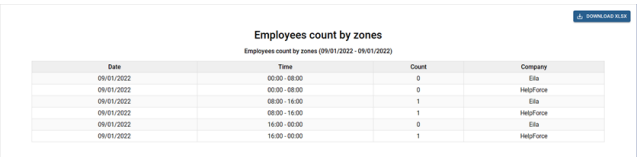
TRASSIR ACS lets you create the following report types:

- ***All passages report*** - a report on all persons passages for a specified period of time.



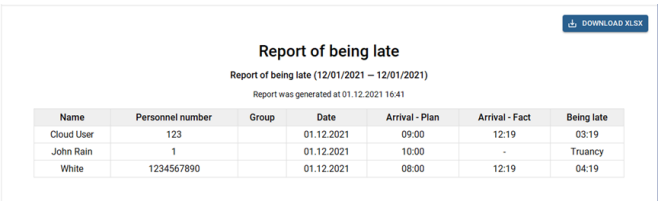
- ***Duration of visits*** - report on visitors and the duration of their stay at the facility.

- ***Employees count by zones*** - report on the location of people in zones, depending on the time of day.

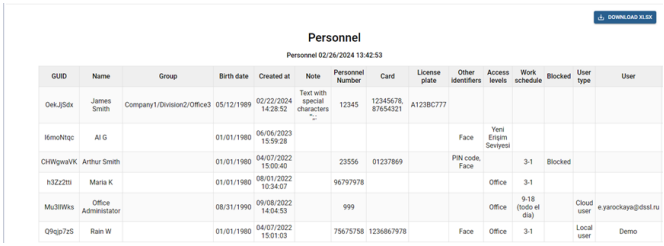


- ***Location*** - report on the location of the persons at any time, as well as the time of entering or leaving the access areas.

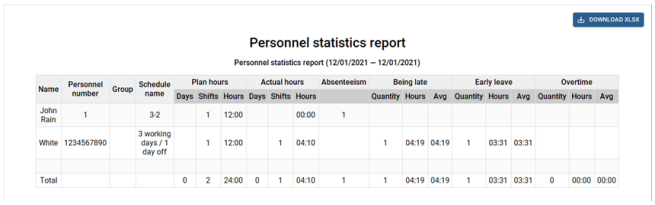
- ***Report of being late*** - a report on employees arriving later than the arrival time, specified in the work schedule.



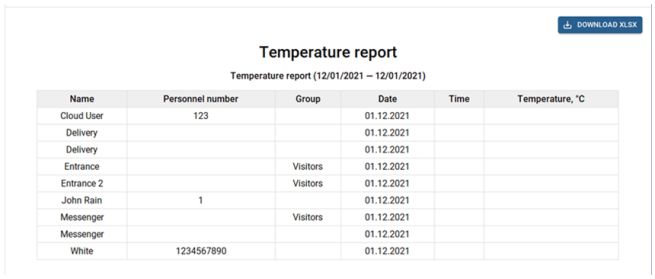
- ***Personnel*** - a summarized report on all employees.



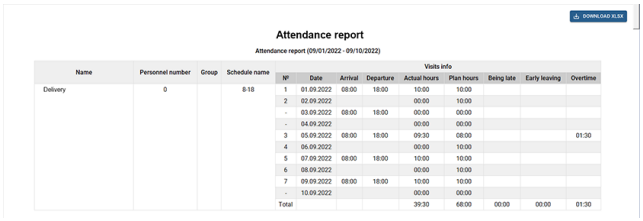
- ***Personnel statistics report*** - a summary report on the person's time at the workplace.



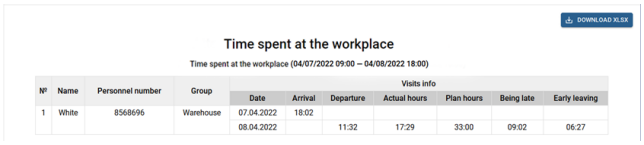
- ***Temperature report*** - a report on the maximum temperature of a person measured during the day.



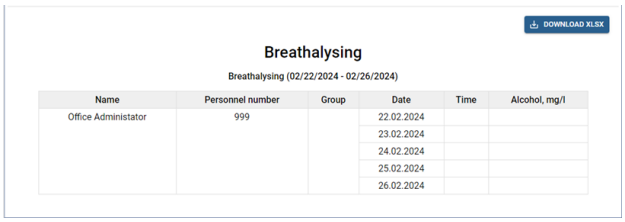
- ***Attendance report*** - a report of attendance, time of arrival/departure, overtime, as well as on late arrivals and early departures built on the working schedules with the selected settings of the persons.



- ***Time spent at the workplace*** - a report on attendance, time of arrival/departure, as well as the late arrivals and early departures built on a common work schedule selected in the report settings.



- ***Breathalysing*** - a report, containing information on persons' alcohol testing.



Press ***Create report*** and select report type in order to create a new report. Customize all required parameters and press ***Generate report***. You can save all report parameters, if necessary, by pressing ***Save options***.

You should take into account the following filter features when creating reports:

- If necessary, you can build any report for specific zones, readers or specific people. To do this, press ***All areas***, ***All readers***, ***All persons***, or ***All companies*** and select values to display in the report.

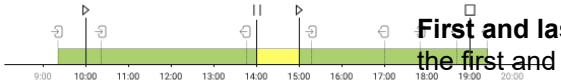
- The ***Event accounting*** field lets you select the event type, by which the person's arrival/leaving time will be determined and used for building report.

  Access granted is an event when a person is authenticated by any allowed type.

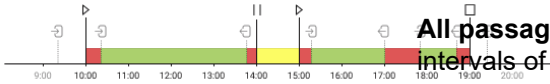
  The **Pass** event appears upon the door opening after the **Access granted** event.

- The ***Accounting type*** lets you choose the way to calculate the employee actual working time.

  Select ***Entrance readers*** and ***Exit readers***, the identification time of which will be used as every working interval start and end time, in order to build a report.



First and last pass. The actual working time will be equal to the time interval between the first and the last identification of the employee made during one working period.



All passages. The actual working time of the employee will be equal to the sum of the intervals of time that the employee spent inside the workplace during one working period.

> For both types of time tracking, the time of the first and last identification is determined depending on the working schedule of the employee:
>
> - For the calendar working schedule, the time of the first and last identification of the employee, which he performed within one day, will be used as the beginning and end of the work period.
> - For a shift working schedule, the identification closest to the beginning of the shift will be used as the beginning of the work period, and the identification closest to the end of the shift will be used as the end.

- Set the ***Take employees working schedule into account*** flag in order to calculate and display data on late arrivals, early leaves and overtime. The corresponding work schedule should be set in the *person's settings*.

  The ***Display skips***, ***Display delays***, ***Display early leaves***, and ***Display overtime*** flags will enable the corresponding columns in the report.

  Set the ***Hide blocked persons*** flag to ignore in the report the persons for whom identifiers and access levels are suspended (see *???*).

> Any absence of the employee during the work day, or being at the workplace outside the work schedule, will be counted according to the ***Variations*** settings (see *???*).

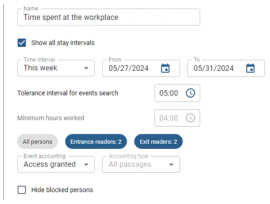
  When building ***All passages report***, you can set the ***Hide empty lines*** flag, in order to display only rows with people who have any events in the report.

- Set the ***Display timezone*** flag to display the time zone column, ensuring that the time of events is presented correctly depending on the time zone. This setting will be useful when working with different regions when the devices are configured with different time zones.

- When building a ***Personnel report, you can select the specific columns that contain employee key information, such as names, identifiers, access level, work schedules, and other required parameters*** (including ***Person extra fields***).

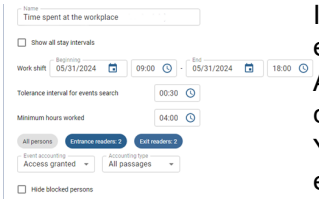
  You can also set ***Hide blocked persons*** flag to exclude them from the report.

- The ***Time spent at the workplace*** report parameters are customized depending on the ***Show all stay intervals*** checkbox:



If the ***Show all stay intervals*** is checked, the report will show all intervals (entries and exits by reader) for the selected ***Time interval***.
You can choose the length of the time intervals, within which the system will search for events (employee entries and exits) in the ***Tolerance interval for events search*** field.

> If only one event (i.e. entry or exit) within the ***Period*** is found, considering the ***Tolerance interval for events search***, it will be displayed as a blank line in the report.



If ***Show all stay intervals*** is unchecked, the report will show all intervals (entries and exits by reader) for the selected ***Work shift***.
Apart from that, the values ***Plan***, ***Delays*** and ***Early Leaves*** will become available to check or uncheck in ***Advanced Options*** to show or hide them in the report.
You can choose the length of the time intervals, within which the system will search for events (employee entries and exits) regarding the selected shift in the ***Tolerance interval for events search*** field.
The value set in the ***Minimum hours worked*** parameter will allow you to exclude the employees who have worked less than the set minimum time, from the report.

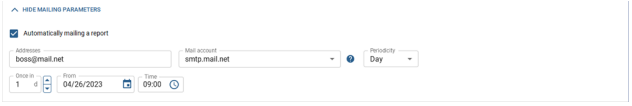
> If only one event (i.e. entry or exit) within the ***Work shift*** is found, considering the ***Tolerance interval for events search***, it will be displayed as a blank line in the report.

- In order to display the direction of the passage (entrance or exit), you should select its location in the *reader settings*.

> A report with a large amount of data will show only the first 300 lines. Click ***Download XLSX*** to download the full report with all the data.
> If ***Export XLSX file horizontally*** is checked in ***Advanced Options*** for ***Attendance report*** and ***Time spent at the workplace*** report, the dates in the exported report will be listed in a row and information for them in columns.

> All server users can view created reports.
> The access to create, edit and delete reports is available only to those users who have the checkbox ***Plugins*** -> ***Access Control*** -> ***Reports*** ->***Setup*** enabled in the user rights settings.
> Read more about user rights settings in the "Administrator's Guide" (*???*).

You can set up automatic sending of reports by e-mail, if necessary. To do this, set the ***Automatically mailing a report*** flag in the ***Mailing parameters*** dropdown list.

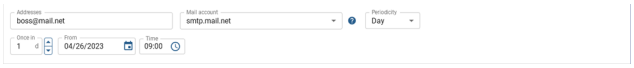


The ***Automatically mailing a report*** checkbox will not be available in the following cases:

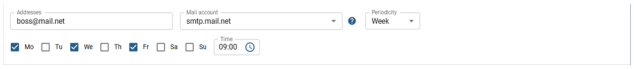
- The ***Time interval*** setting has the ***Custom interval*** value.
- The ***Show all stay intervals*** checkbox is unchecked in the ***Time spent at the workplace*** report settings.

Specify the mailing addresses in the ***Addresses*** field. Select the preconfigured email account in the ***Mail account*** field (see *???*).
Select the mailing frequency in the ***Periodicity*** field:

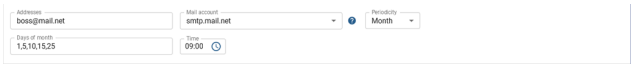
- ***Day*** - set the start date and also how often in how many days and at what time the report and mailing will be generated.



- ***Week*** - specify the days of the week, when the report will be generated and sent out.



- ***Month*** - specify, separated by commas, on which days of the month the report will be generated and sent out.

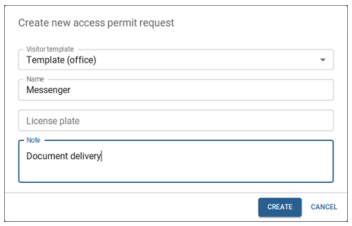


Handling access permit requests

In order to switch to the request handling mode, press and select ***Access Control***.

Creating access permit request

In order to create a pass request, press ***Create***, choose ***Visitor template*** and enter the visitor data.

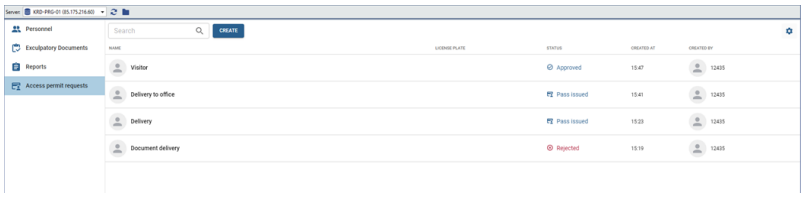


Request review

The operator screen displays:

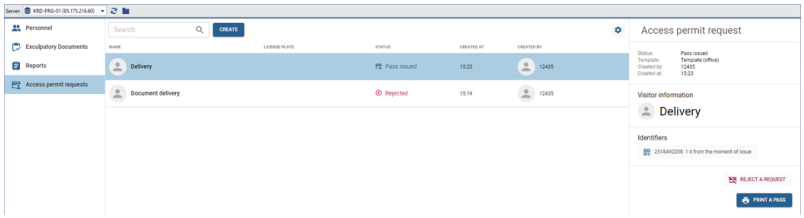
- all of your created requests;
- the pass requests created by other persons, if you are the person who approves the pass requests and issues them to visitors, or the request administrator.

Using the search, you can find requests by name or the name of the employee who created them.



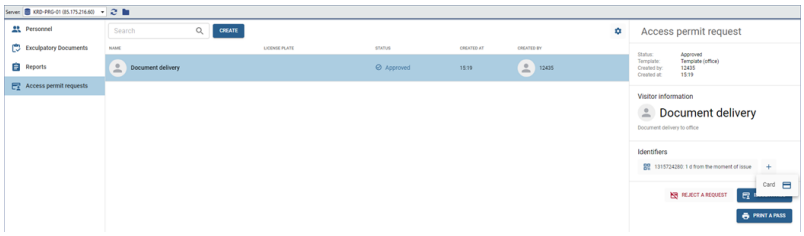
Pass issuing

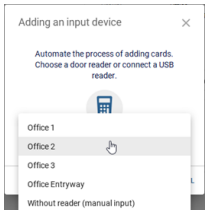
The requests with ***Pass issued*** status were confirmed earlier, or their confirmation was performed automatically.



The requests that have the ***Approved*** status should be confirmed. To do this, follow the steps below:

1. Click on the request. If the ***Identifier*** by which the visitor will be authenticated, is already added to the application, proceed to the next item. If it needs to be specified, press the button + and add it.





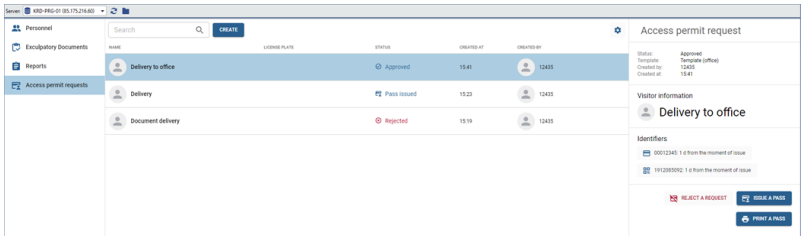
Select one of the ways of entering the ID card data:

- using USB reader connected to the client/server;
- using the reader installed at the access point;
- by entering the card data into the input field manually.

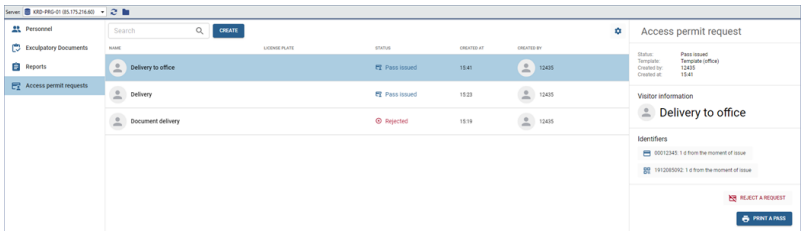
> Data input from an ID card using a USB reader is only supported in **Windows version**.

If a QR code is used as an ID, download or print it out and give it to the visitor.

2. Press ***Issue a pass*** to approve or ***Reject a request*** to cancel.



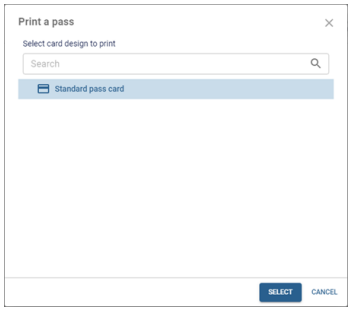
3. When the request changes the status to ***Pass issued***, the visitor can authenticate.



The request can be rejected by the **Request Administrator** at any time. Read more on adding the request administrator in the Administrator's Guide (see section *???*).

All passes have a certain validity period, which begins at the moment of pass issuing. Upon the time expiration, the pass proceeds to the archive and the status of the request changes to ***Request archived***. The pass validity time is configured in the visitor's template. For more details, see the Administrator's Guide (section *???*).
A request with the status ***Request rejected*** is archived within 24 hours after rejection.
In order to check all archived requests, press ⚙ and choose ***Show archived requests***.

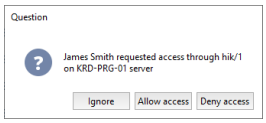
Click ***Print a pass*** to print a pass. In the window that opens, you can select the pass layout design option.



The ***Print passes*** feature is available only with the corresponding license.
The process of pass layout creation is described in *???*.

Passing with confirmation

If the Access Control settings include the mode when the visitor's or any other person's passage should be confirmed by the near located operator, then, in this case, the passage confirmation window will be displayed on the operator screen.



The operator can use the following options:

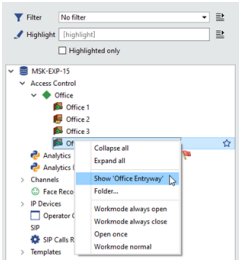
- **Ignore**. The operator can use this option to close the confirmation window.
- **Allow access** to grant passage.
- **Deny access** to forbid passage.

The Access Control settings set the time during which the operator can confirm the passage. After this time expires, the confirmation window will be closed, and to reopen it, the passing person will have to repeat the authentication procedure.

Read more on how to enable and configure the passing confirmation mode in ???.

Working in the object tree

TRASSIR ACS access points, which provide employees entry and exit to the protected area, are displayed in the *objects tree*.



Right-click on the access point and, in the opened context menu, you can:

- ***Show on monitor*** - display video from the channel associated with this access point on the operator's screen.
- ***Workmode always open*** - allow free entry at this access point.
- ***Workmode always close*** - forbid any entry to this access point, including via authentication means.
- ***Grant access once*** - allow a single free pass through the access point. After the pass, the ***Access Point Allows By Key*** mode will be activated on this access point.
- ***Access Point Allows By Key*** - set the mode specified in the *access point settings*.

Using *tree objects filters* you can configure to display certain access points or show malfunctioning devices.