MIRASYS
DEEP VISION DATA COMPANY

Spotter Guide V8

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1. Spotter Guide V8

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1.1. Introduction

Mirasys Spotter is a modern, easy-to-use application for viewing live and recorded video and exporting video clips. Mirasys Spotter can be used to create multi-monitor configurations with multiple independently operating device tabs and windows. A spotter can also be used to connect to multiple different VMS Servers simultaneously.

Spotter supports camera tours, alarms, audio, and I/O feeds, text channels, the opening of video archives and clips, as well as layouts for storing and accessing desired configurations.

A spotter is expandable with various plug-ins like Agile Virtual Matrix (AVM) video matrix option (add-on). This feature's availability depends on the VMS type you have purchased (Base, Pro or Enterprise). Only the Enterprise version contains all features.

1.2. Installing Spotter

A spotter is installed with other applications when the standard VMS installer is used. If a user wants to install only the Spotter client, he can use the dedicated Spotter-only installer.

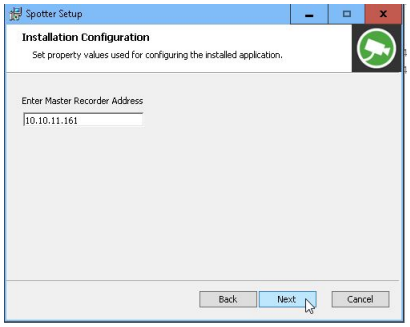
A spotter is also available as a standalone executable file (SpotterPlayer.exe), which does not require installation. This version of Spotter can be used to review video clips, Storyboard clips and video archives.

1.2.1. Installing Spotter With Spotter-Only Installer

The Spotter-only installer installs only the Spotter application.

The first component to be installed is SlimDX. When the SlimDX installing is finished, press "Next".

The installer will ask where it should place the installed files. If you do not want to change the default location, press "Next".



Next, the installer will ask for the Master Server's IP address (if you only have one VMS server, it is that VMS server's IP address). Enter it in the dialogue and press "Next". After this, press "Install" to install Spotter.

After the installation is finished, press "Finish" to exit the installer.

1.2.2. Installing Spotter With VMS Installer package

The spotter can also be installed as part of the standard VMS installation package.

This process is very similar to the one described in the Spotter-only installer; the main difference is that you have a selection screen where you can select if you install the Recorder service or not.

If you are only installing the clients and not the Recorder service, you do not need a license. In this case, deselect the "Recorder" option and proceed with the installation.

By default, the installer will install Spotter on all VMS Server installations. With the VMS installer, it is also possible to choose the option that Spotter is started automatically.

See the Mirasys VMS Installation Guide for more details.

1.2.3. Using Spotter From Outside A Firewall

The recommended way to use Spotter from external networks or through a public Internet connection is to establish a VPN connection to the company intranet.

This way, the Spotter application outside the firewall can use the intranet IP address of the Master Server and video recording VMS Servers (nodes, slaves).

It is also possible to use the VMS system without a VPN. In this case, the user should connect to the Master Server with the outside IP address and port combination.

Please refer to your system administrator for more information.

1.3. Starting Spotter and Logging In

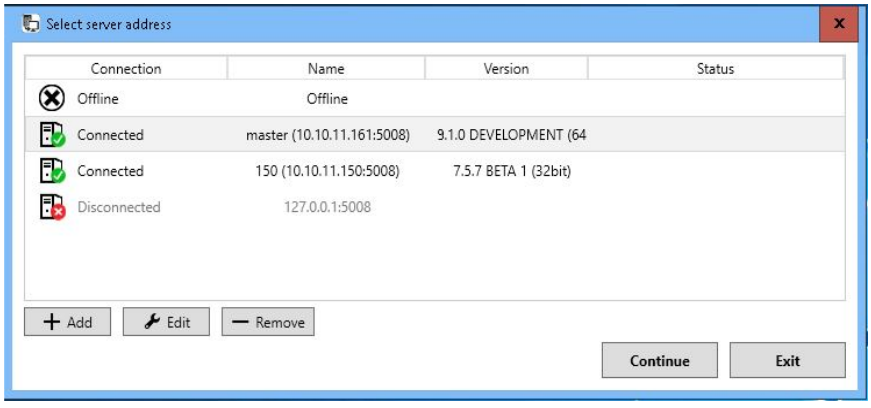
A spotter is started by double-clicking the Spotter icon on the desktop. It is also possible to start Spotter automatically when the computer boots up. See Installing Spotter With VMS Installer.

It is possible to create shortcuts that control to which Master Server Spotter connects.

The application launcher dialogue for site selection can be accessed by pressing the "Delete" button on the initial dialogue when the spotter is launched as administrator.

The site selection list contains the list of all the master servers that have been configured. More servers can be added or the details of existing servers edited with the add and edit options.

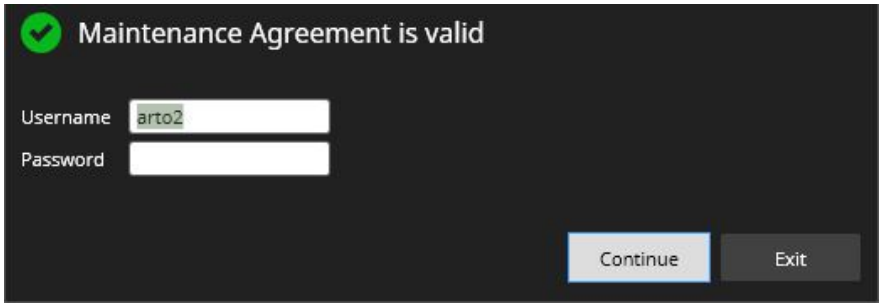
Users can choose a server and press "Continue" to log in to that server.



If the site selection screen is not accessed during Spotter startup, the system will log in to the last server used. It is possible to log in to different versions and servers that are 32-bit or 64-bit versions.

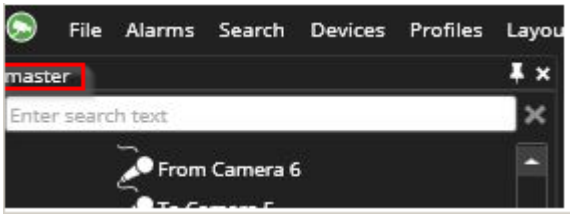
The settings and other site-specific information and resources for different servers are stored separately.

After choosing a server and continuing, the login screen is shown (unless the user has selected automatic login for this server).



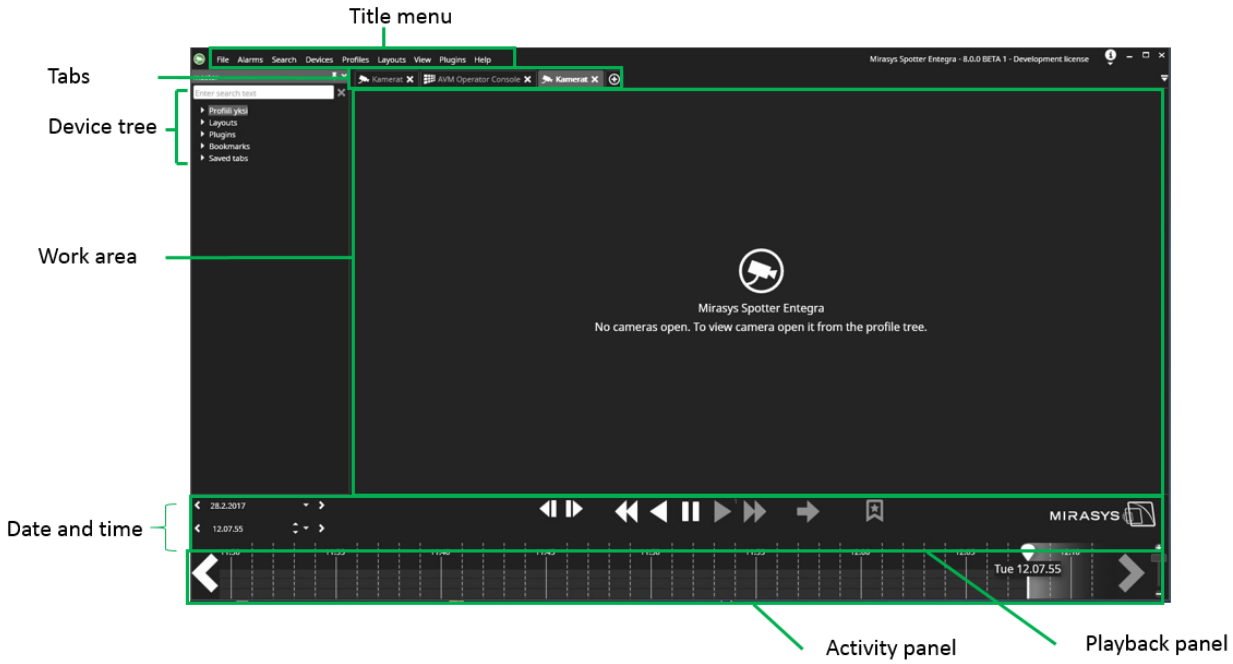
The user can enter here his/her username and password and then press "Continue" to log in.

It is possible to have multiple Spotter windows logged in to different servers simultaneously. After logging in to one server, the user can re-start Spotter from the desktop icon, enter the site selection dialogue and select another site. All site-specific operations such as layout saving only affect the Spotter settings to which the user is logged. The site name is displayed in the device tree title (red highlight).

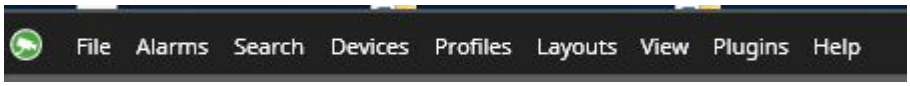


1.4. Spotter User Interface Components

Here you can see an overview of the different Spotter user interface components.



1.5. Title Menu



Various functions can be accessed from the title menu.

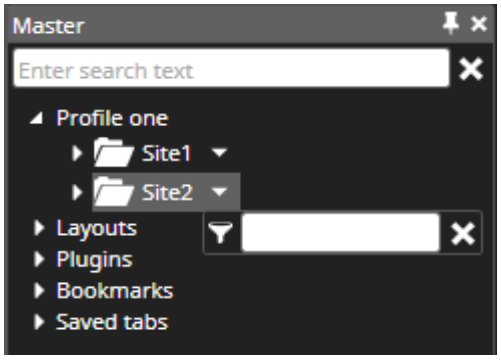
- File menu: New window and tab, creating archives and opening media, lock, log off and exit.
- Alarms menu: Opening alarm popup and alarm view tabs.
- Search: All available search methods.
- Devices: Joystick and device numbering configuration.
- Profiles: View and change to other profiles.
- Layouts: Control the layouts.
- View: Control the mode and visibility of the application window components.
- Plugins: Additional features, Spotter extensions.
- Help: About and Help

1.6. Device Tree

The Device tree title shows the name of the Master Server that Spotter is connected to.

Below is a search field that can be used to filter the tree contents. Any text entered in the area can be removed with the "X" control or by pressing the Esc-key.

This also clears all profile folder searches.



The Device tree contains five different types of content that can be opened to the work area. The currently selected profile, which includes the cameras and other devices, is the first item.

The shape can be changed from the title menu. Each profile folder can be searched independently using profile folder search.

The next option is layouts, which contain all the available layouts for the current user if configured. Plugins, Bookmarks and Saved tabs can also be used and managed via the device tree.

A device such as a camera is opened by drag and drop or by double-clicking on the device. Dragging or double-clicking a sub-folder will open all the active elements of the folder to the work area. Selecting many devices is possible by pressing the Shift or Ctrl keys.

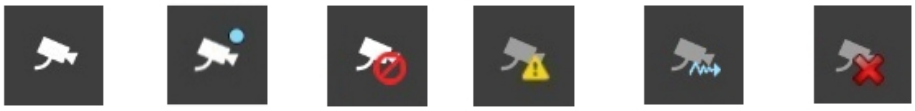
Layouts, plugins and bookmarks can be opened with a double-click. Plugins can be additionally opened by dragging them to a specific camera grid cell.

Cameras, audio devices and text channels are opening by default in real-time view, if not specified otherwise in the System Manager application's profile settings.

Digital input and output (I/O) is opening in a closed state. Digital output states can be changed from the device tree and pressing the button in the device tree.

In addition to showing the device symbol, also device state is visible in the device tree. A device is indicated with a white icon if it's in a normal state.

When the device is in another state, for example, no signal, connecting, and connection, there is an icon on top of the device symbol.



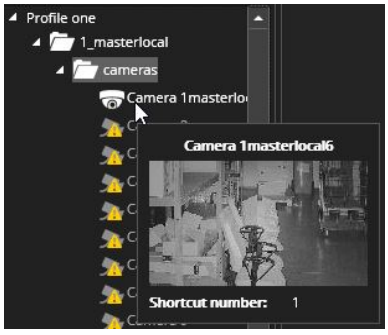
Normal | Recording | No signal | Not in use | Connecting | Offline

If a device is used as a trigger or an alarm action in an active alarm, it has a yellow highlight colour.

The colours for active and ended alarms can be adjusted in Settings. Alarms can also be assigned a custom colour that can be specified for each alarm separately.

The user can change the device name in the System Manager application and enter a description.

The name and description are visible in the device tooltip—unique icons for the System Manager Profile Settings devices.



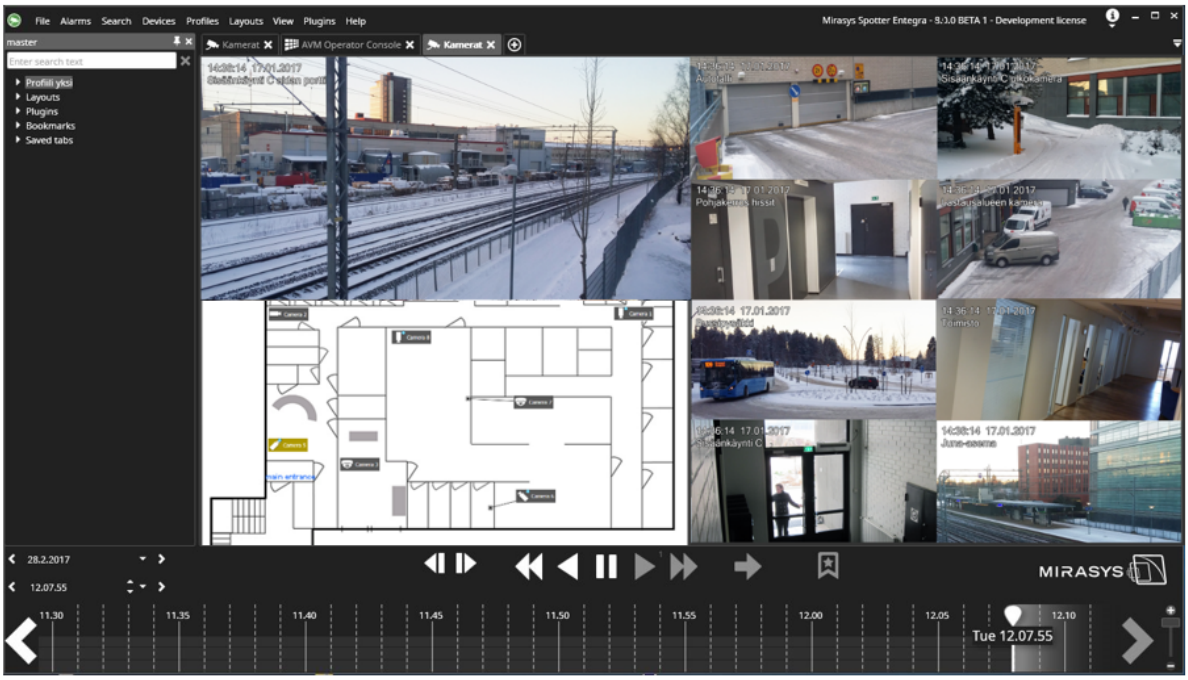
Frequently Used Keyboard Shortcuts:

Shortcut	Description
Ctrl+Alt+D	Cycle between the different device tree view modes

1.7. Work Area

The work area is the region of the Spotter window where the content of the devices can be viewed.

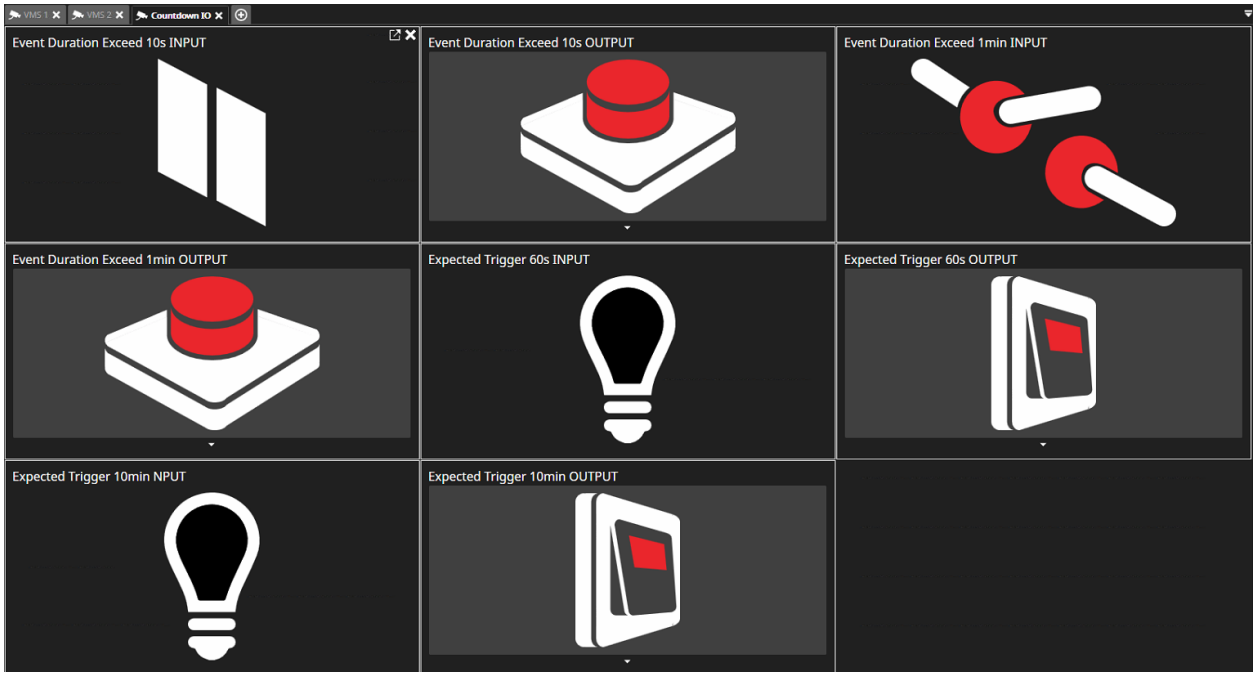
When cameras and other devices are added to the work area, they automatically open the stream to the playback position or the live position of the work area.

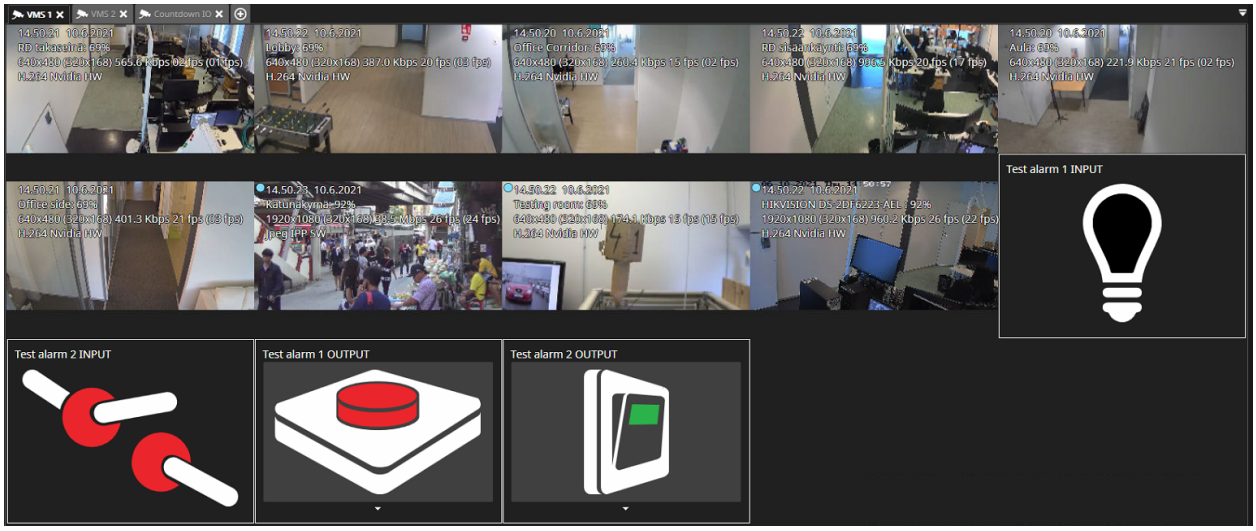


1.8. Digital I/O

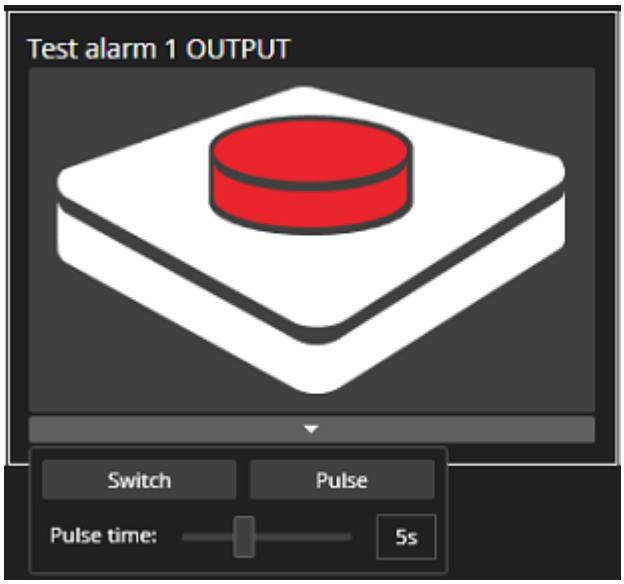
The component panel width can be adjusted, and it can also be collapsed only to show the I/O control.

When the I/O devices are added to the camera grid cell, they take over the entire grid cell.





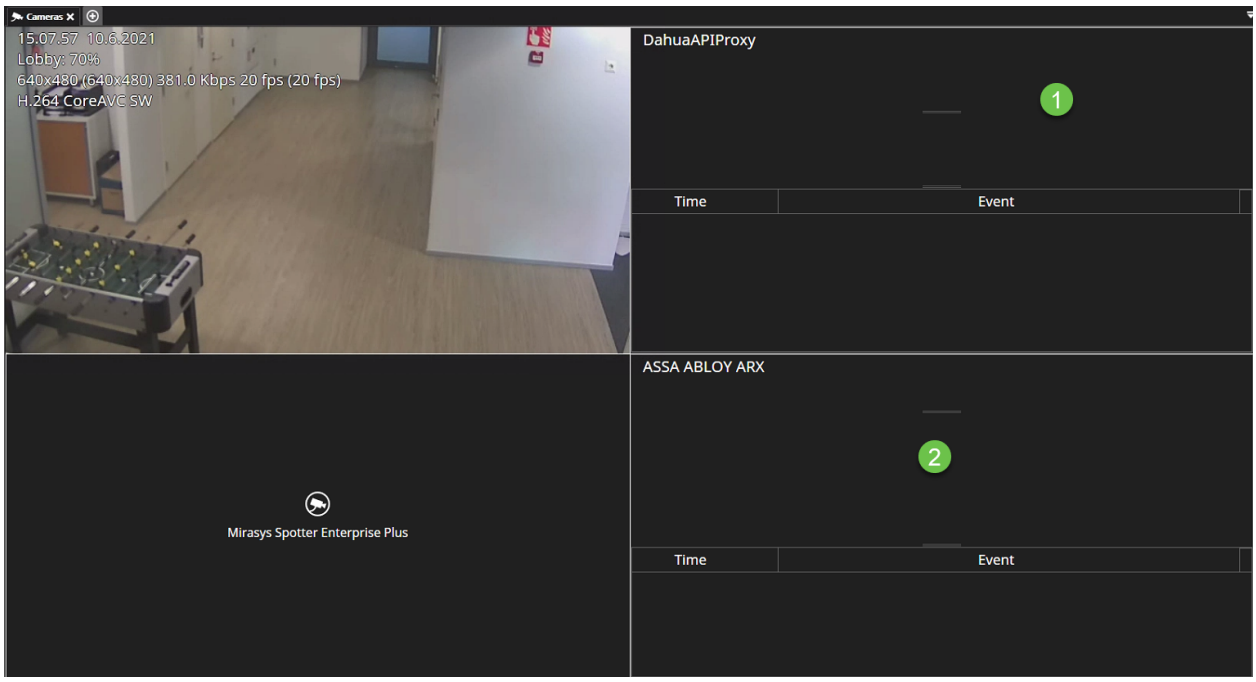
Outputs have a small pull-down menu that allows control of state switch, pulse and pulse duration.



Please note that output states can also be toggled from the device tree by clicking on the output control.

The default action of the outputs is defined in the System Manager – Profiles section.

1.9. Text channels



1.10. Audio channels

Audio channels have a little blue note symbol indicating that the channel is open. The channel opens automatically if it is added to the component panel.

Audio channels have a similar pull-down control as outputs to control mute, unmute and volume.

All component panel components, inputs, outputs and audios can be closed from the individual component close controls.

The whole component panel can be closed from the component panel close control. When the devices are on the grid cell, they can be closed via the usual way with the top right corner "X" control.

1.11. Device Tabs

Only streams of cameras that are on the open tab are sent to the Spotter.

Cameras on the "hidden" tabs are not using network bandwidth to the Spotter but will resume instantly when the tab is activated.

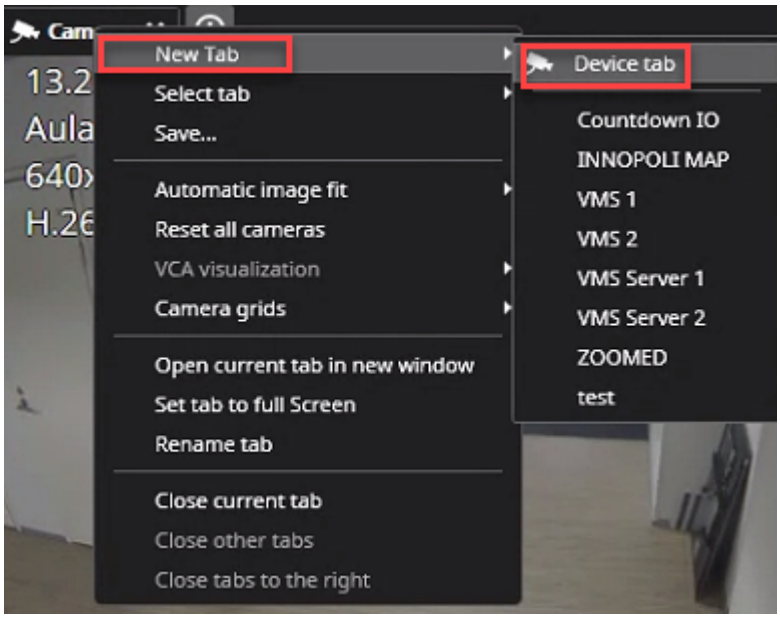
Tabs can be reordered by dragging them to a different position.

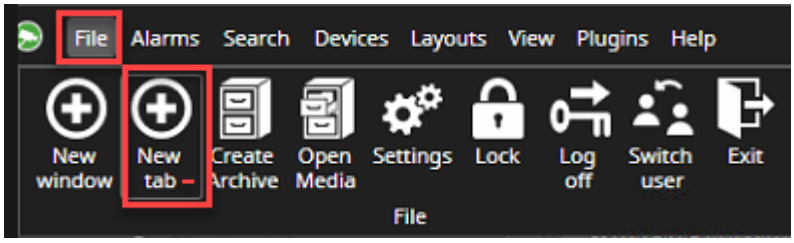
They can also be dragged outside the Spotter window to move the content to a new, automatically created window.

If the Ctrl key is pressed when dragging, a copy is made instead of moving.

Adding new device tab

The work area can have multiple device tabs. New tabs are created by clicking the "New tab" control or from the File menu.

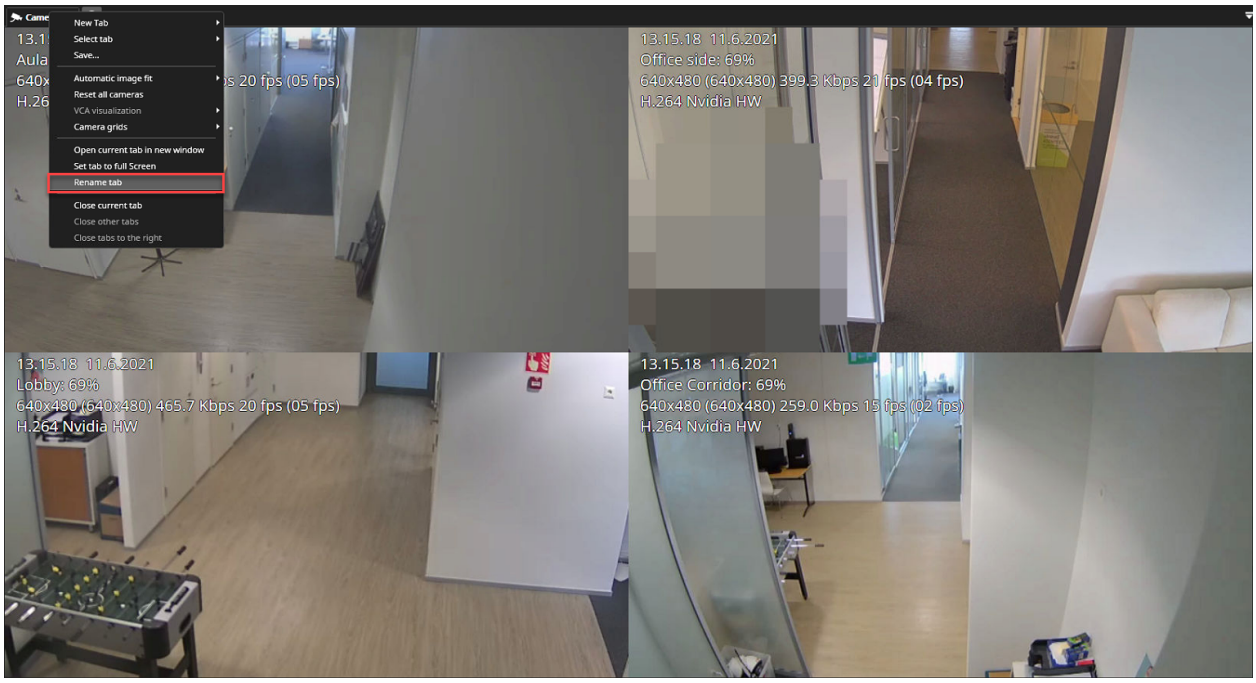




Renaming the device tab

The tab menu can be accessed with right-click

1. Right-click top of the device tab name
2. Select **Rename tab**



Enter the name of the tab and press enter

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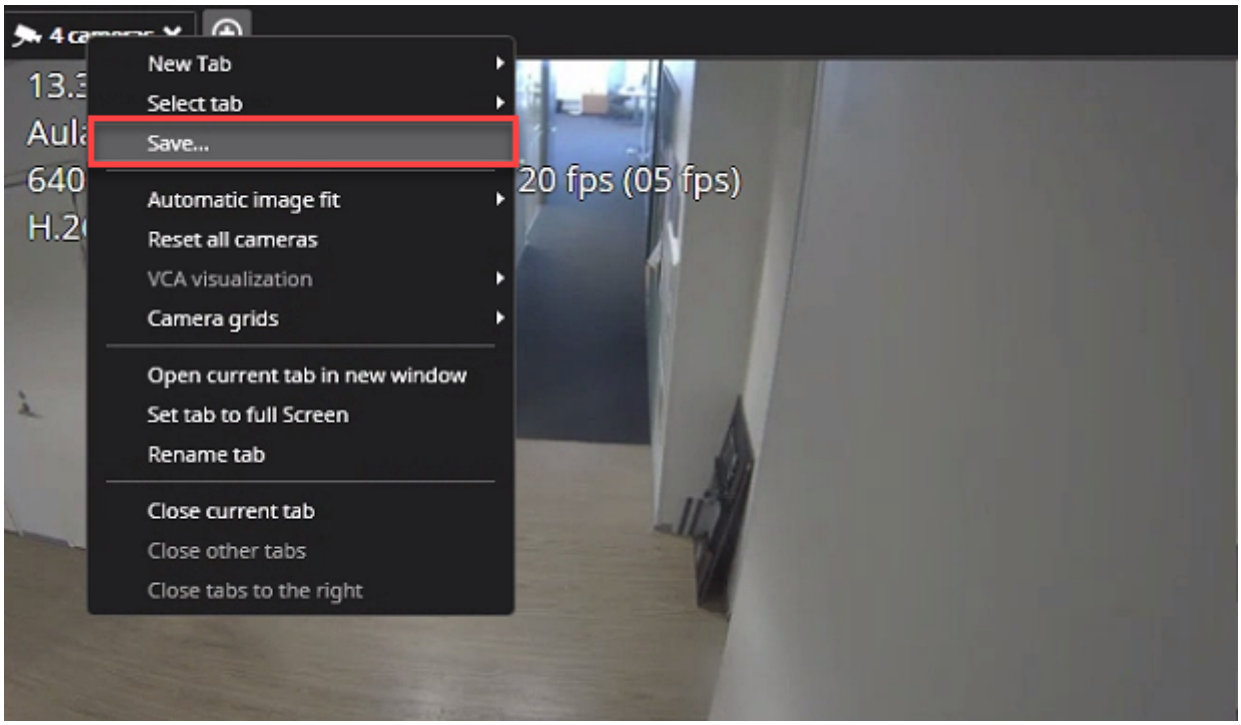
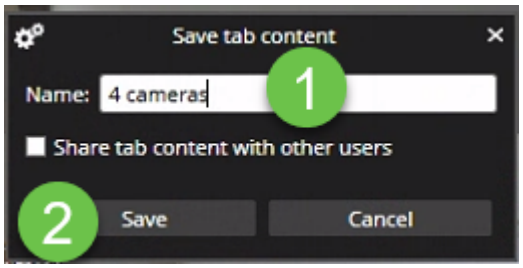
Saving the device tab

1. Right-click top of the device tab name
2. Select **Save...**



1. Enter the name of the save tab
2. Click **Save**

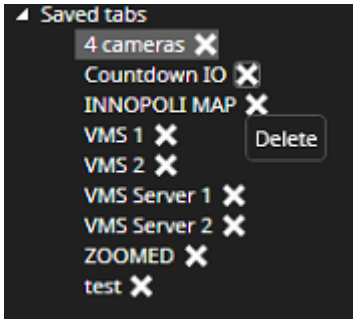


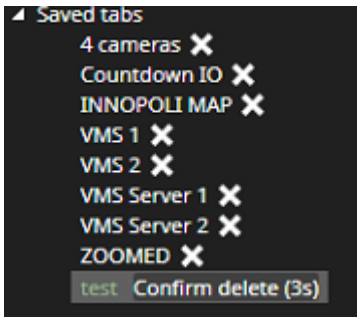
Opening the saved device tab

1. Open the **Saved tabs** from the device tree
2. Double-click correct saved tab name

Deleting the saved device tab

1. Open the **Saved tabs** from the device tree
2. Click **X** from that saved tab, which is needed to delete
3. Confirm delete





Saved tabs can be accessed also with keyboard shortcut numbers using the "option.

Frequently Used Keyboard Shortcuts:

Shortcut	Description
Ctrl+Shift+T	Open tab menu.
Ctrl+Shift+W	Close current tab.

Ctrl+Tab	Select the next tab. If the currently selected tab is the last, select the first tab in the window. The addition (+) tab is not selected.
Ctrl+Shift+Tab	Select the previous tab. If the currently selected tab is the first tab, select the last tab in the window. The addition (+) tab is not selected.
Ctrl+Alt+V	Hide/show tab controls.

1.11.1. Automatic image fit

Auto crop, Virtual Zoom And Quick Zoom

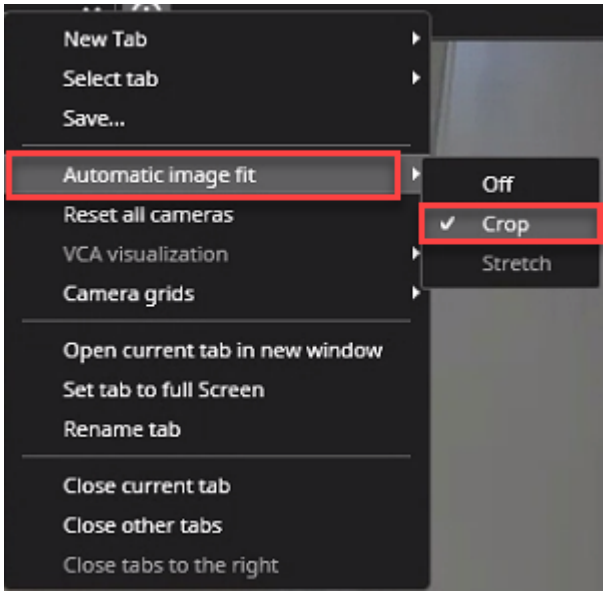
The default image fit setting can be adjusted in the tab menu and **Automatic image fit**.

The default option for new device tabs is "**Crop**".

The setting can be changed to "**Off**" or "**Stretch**".

The **Stretch** option is not available for the automatic grid.

Automatic image fit: Crop



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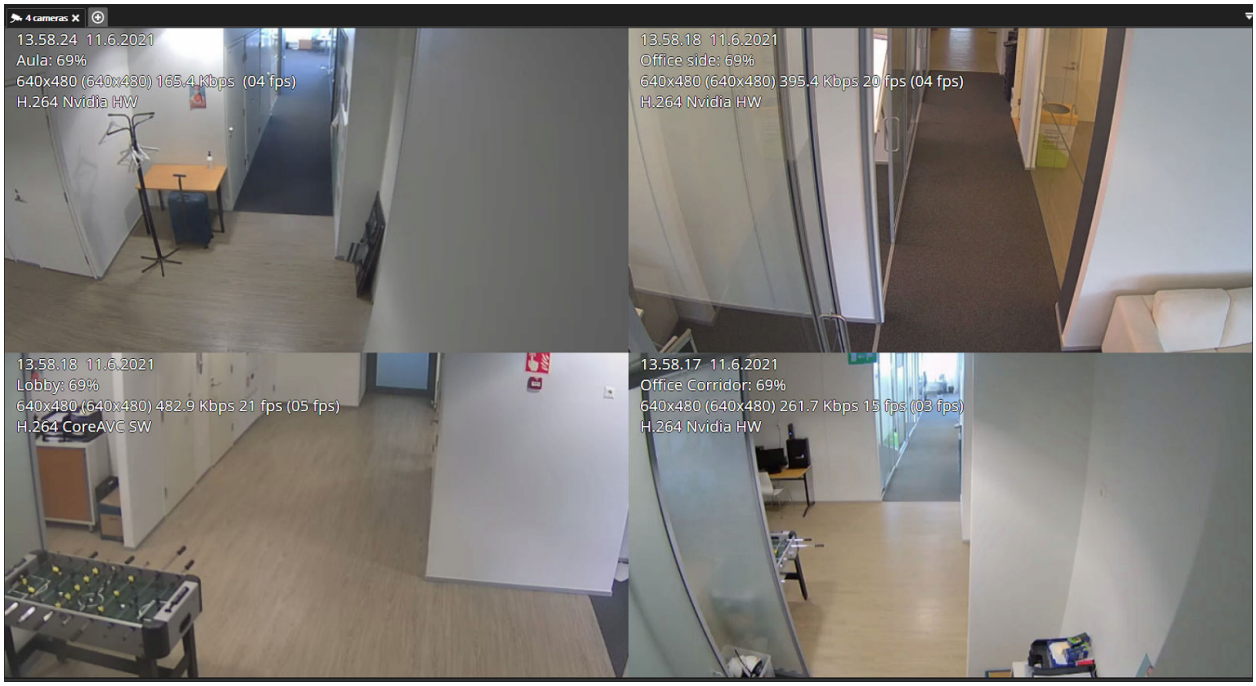
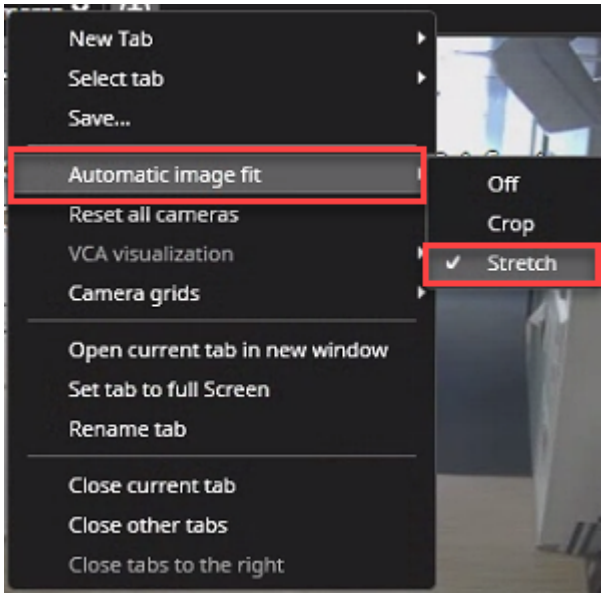


The automatic image fit: Stretch:



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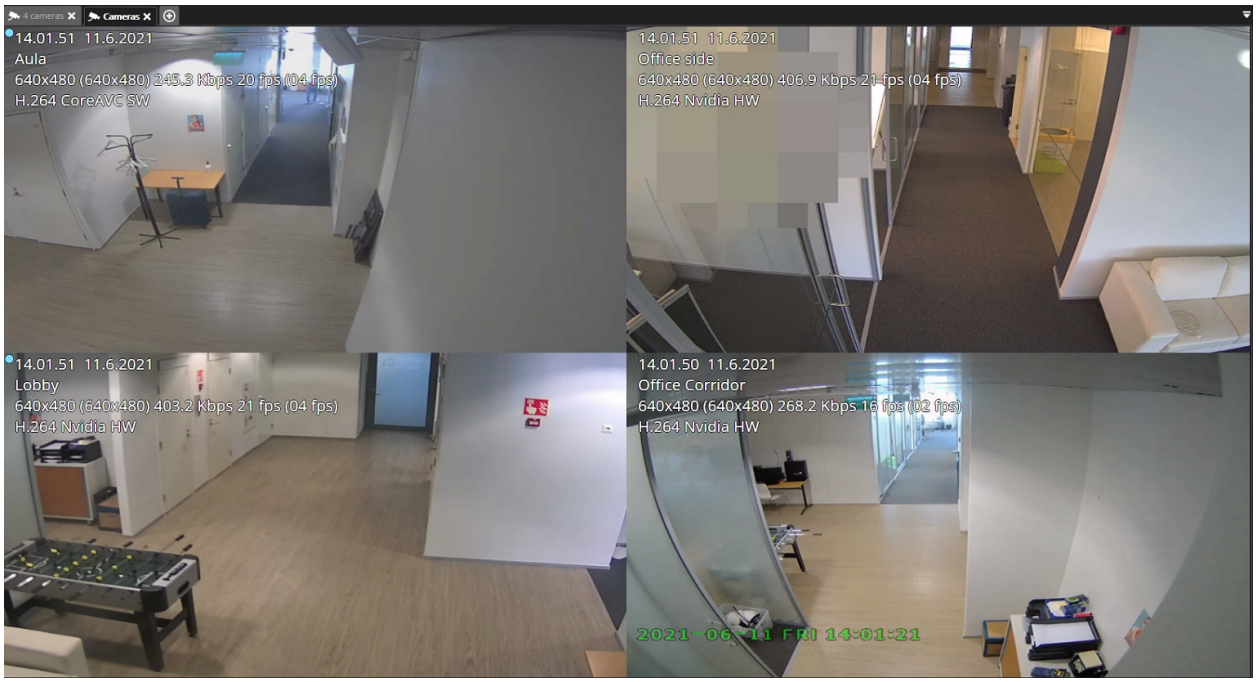
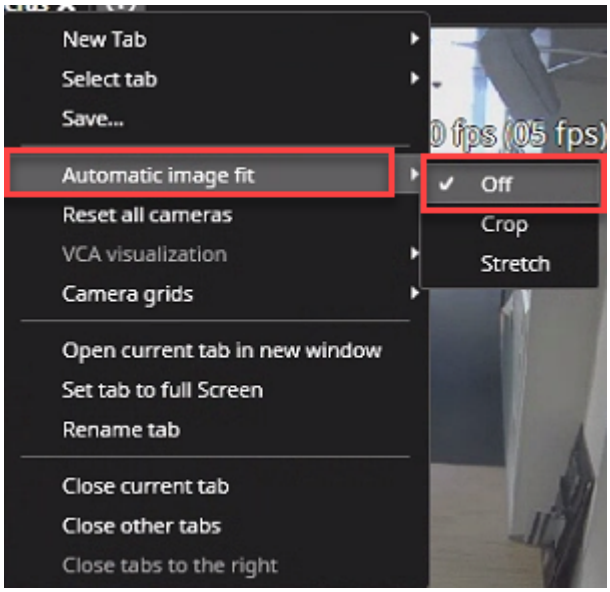
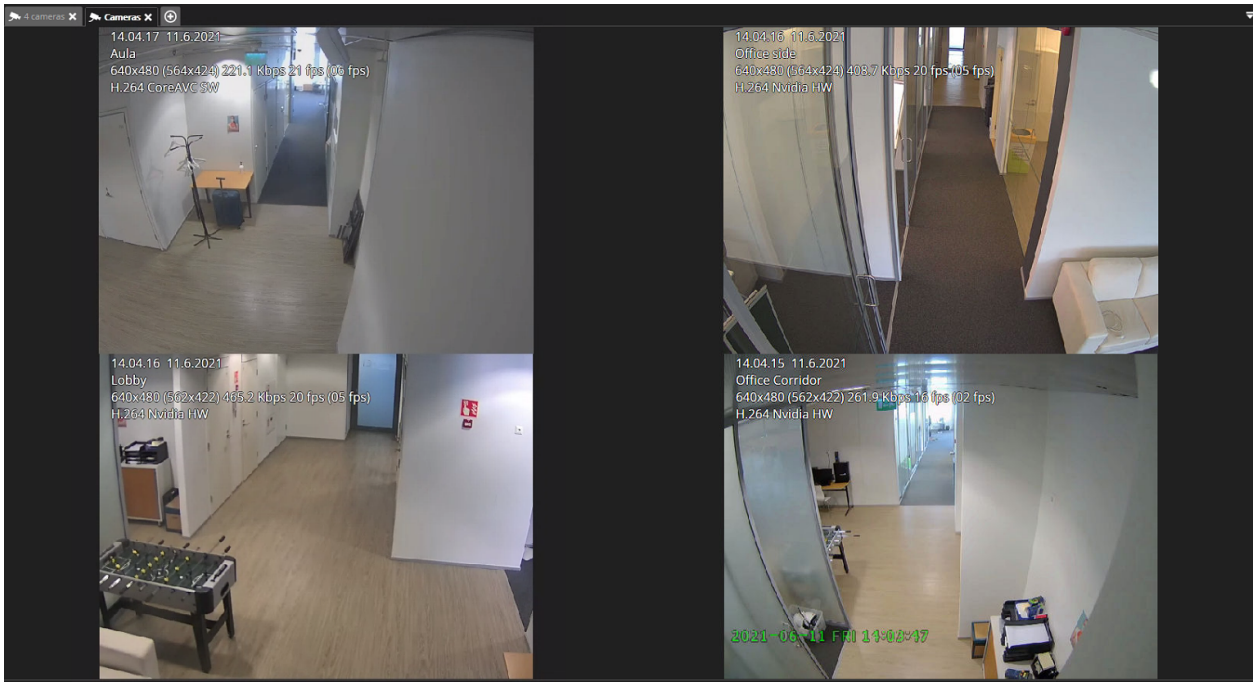


The automatic image fit: OFF





Automatic cropping will crop the image to fit the current aspect ratio of the work area. This works best in automatic view mode if there are 4 or 9 cameras on the screen.

In static grid mode, the auto-cropping makes cameras fit the aspect ratio of the fixed grid cell.

This option is only available for fixed or custom grids.

Frequently Used Keyboard Shortcuts:

Shortcut	Description
Ctrl+Shift+S	Sets the auto stretch on and off for the current tab.
Ctrl+Shift+C	Sets the auto crop on and off for the current tab.

1.11.2. Camera Grids

The default view mode of the work area is automatic.

Cameras appear all using the same size in this mode, and the position and size change automatically as more cameras are added.

There are also fixed grids available, where some cameras can be more significant than others, and cameras stick to the fixed view mode grid and do not move around like in automatic mode.

The fixed grids are available from the tab menu

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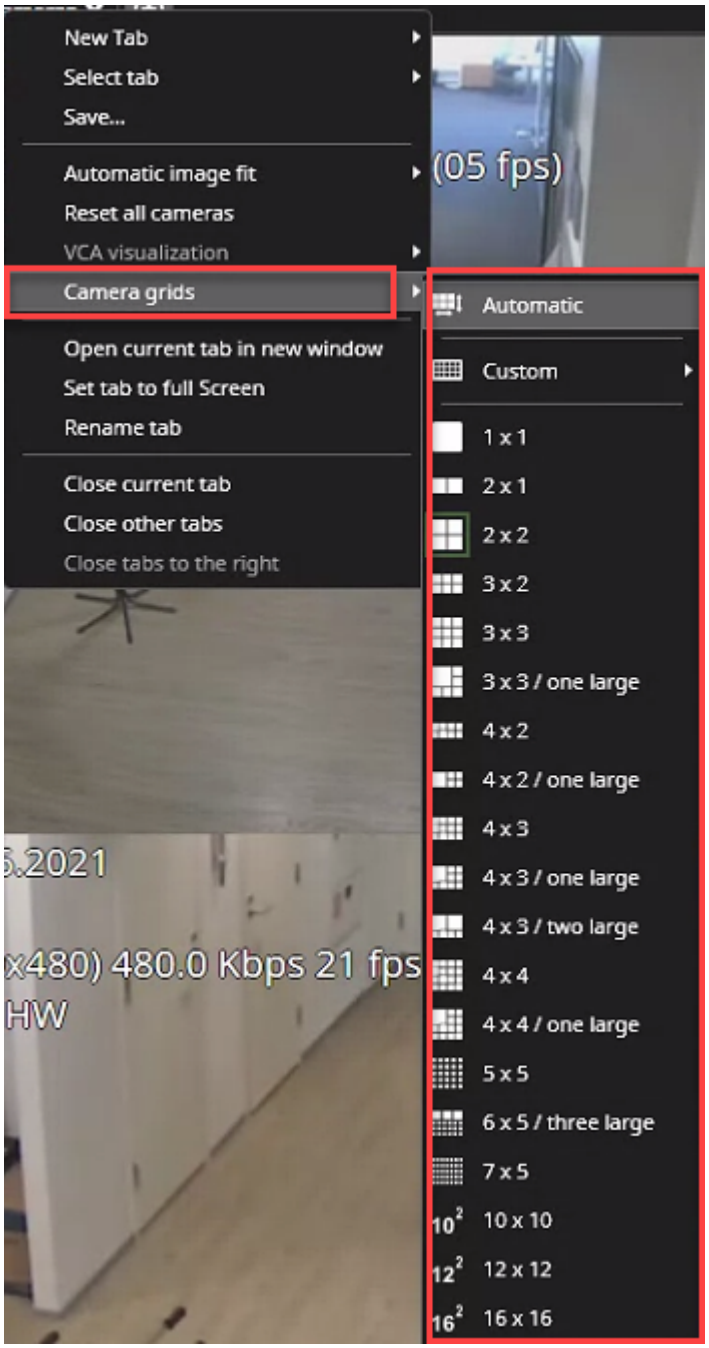
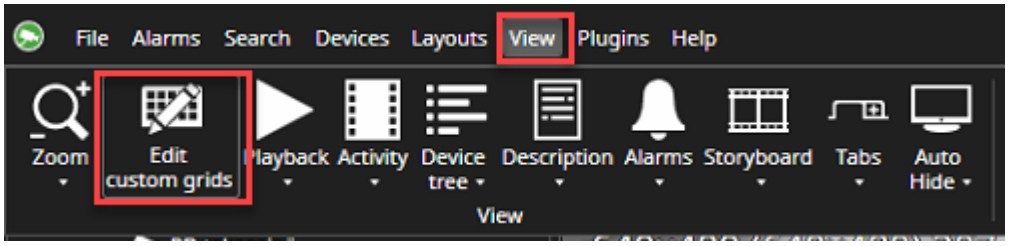


1.11.2.1. Custom Camera Grids

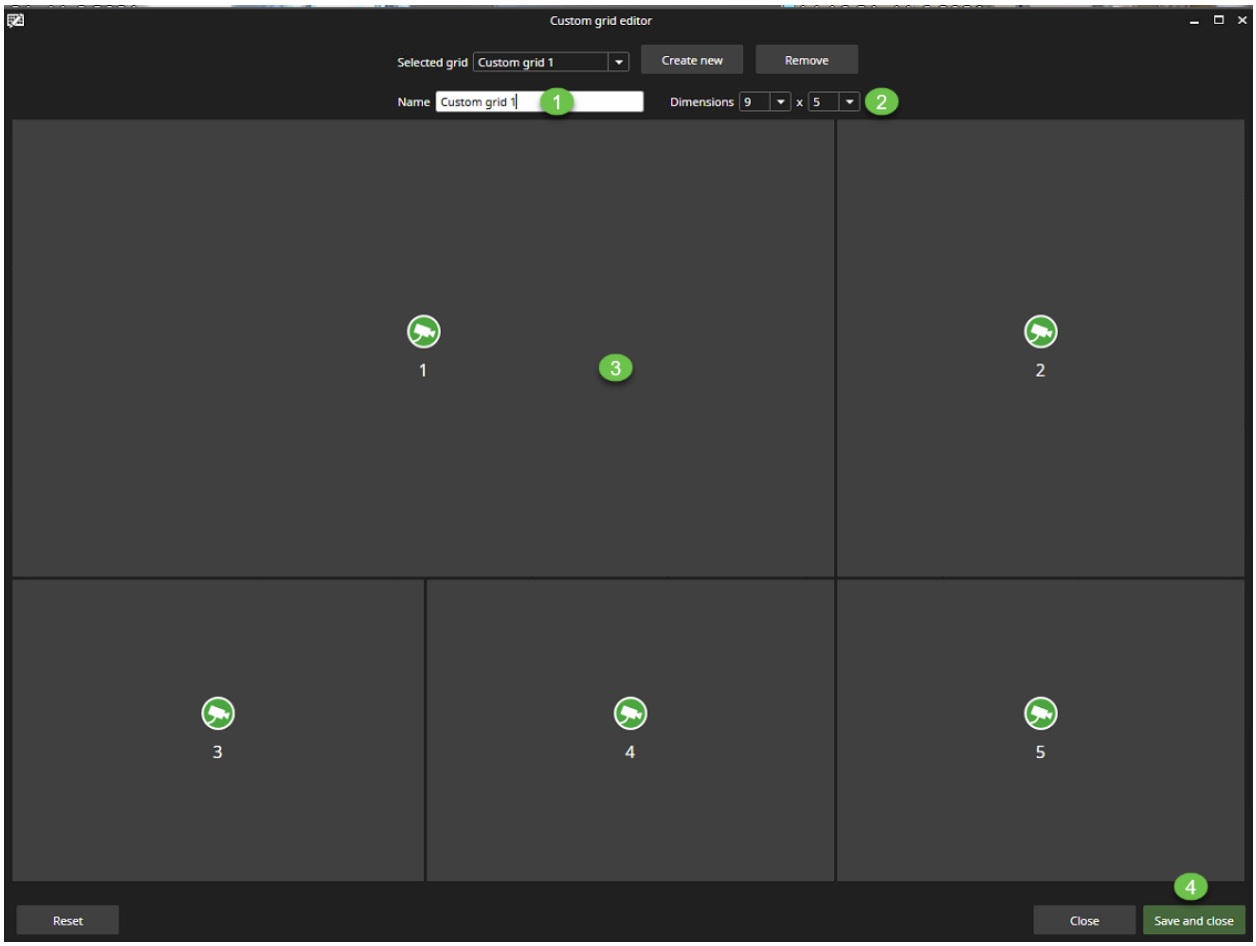
In addition to the pre-formatted fixed grids, it is also possible for the user to create and manage custom camera grids with the grid editor.

The editor can be opened from the View menu.

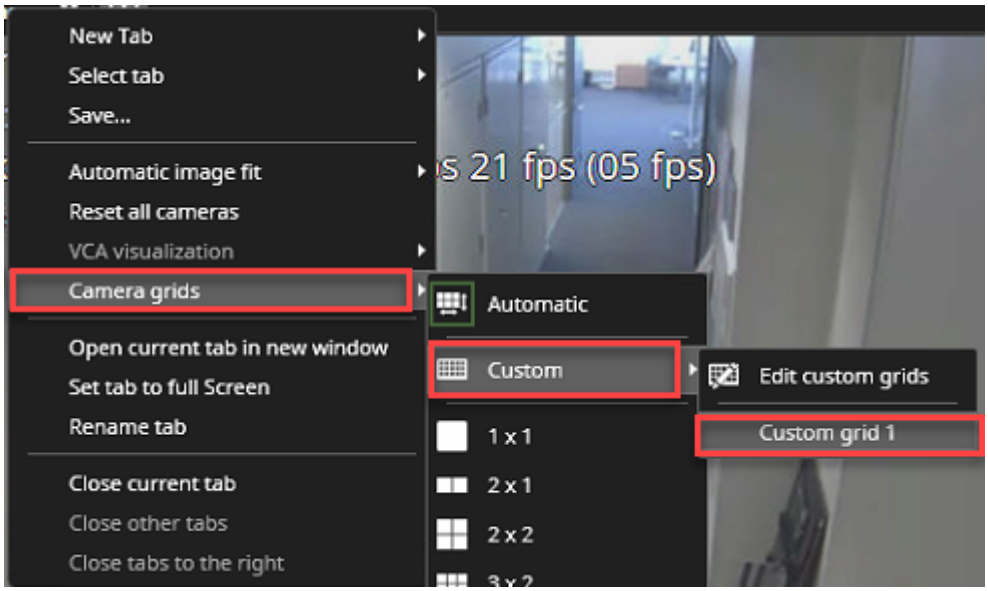


Creating a custom grid

1. Set name to the grid
2. Select the dimensions
3. Adjust cell by dragging the mouse, then the individual cells can be merged to make new, more giant cells.
4. Click **Save and close**



The grid can be then accessed from the tab menu.



Already existing grids can be loaded to the editor using the pull-down control.

They can then be reset or deleted.

Custom grids are user-specific, and they cannot be shared as such.

However, creating a layout or a saved tab using the custom grids and sharing the layout is possible.

Other users can then access the shared layout and use it.

1.12. Realtime view actions

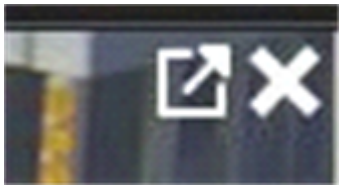
1.12.1. Opening single camera or device

- Double click camera from device tree
- Drag camera from device tree to the work area

1.12.2. Opening device group

- Double click device group from device tree
- Drag device group from device tree to the work area

When the mouse cursor is placed on top of a camera in the work area, the camera toolbar, maximize and close buttons become visible.



Cameras can be closed from the close button or maximized to fill the whole work area from the maximize button.

When a camera is in the work area, it can also be maximized by double-clicking it.

Double-clicking a maximized camera will make its size normal again.

The camera name and timestamp are shown on the top left corner of the camera.

The visibility and colour of the name and the timestamp can be controlled from **Spotter\File\Settings\Display** or the **Camera toolbar\Settings\Display**

The camera recording indicator is a small blue dot next to the timestamp.

It is displayed when the camera is recording.

Cameras can be dragged to different work areas simply by drag and drop with the mouse left button depressed.

Similarly, a camera can be dragged to another tab or another Spotter window by dragging it on top of the other tab and releasing the mouse button.

Further, a camera can be dragged outside the Spotter window and releasing the mouse button will open a new Spotter window.

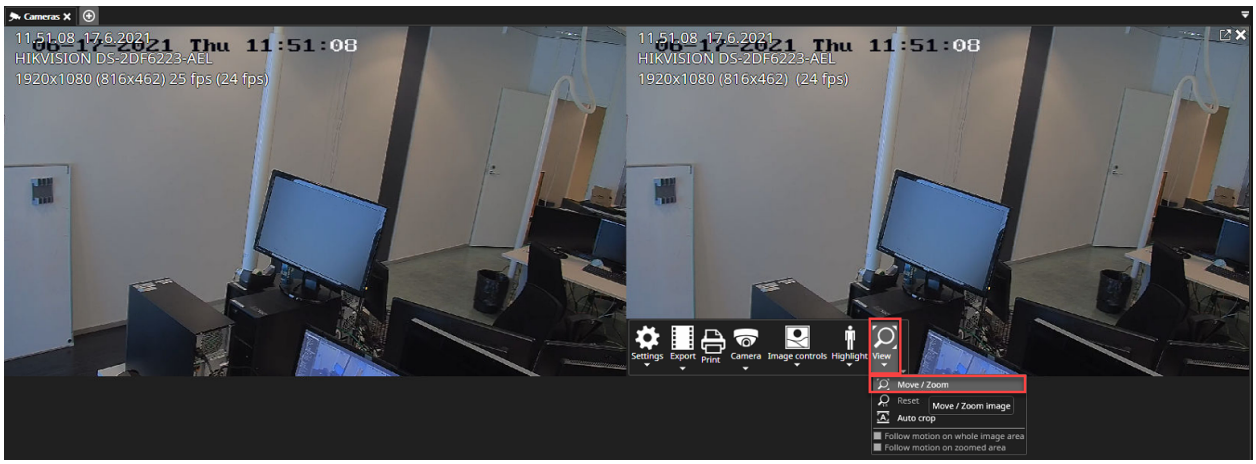
Again, holding Ctrl while dragging will create a copy instead of moving the item.

It is better to depress the Ctrl key only after the user has started to drag the object because if Ctrl is pressed first, the Mixed Playback Mode activates.

1.12.3. Virtual Cameras

1. Open camera to the real-time view
2. Open camera toolbar
3. Select **Duplicate**
4. Click **Move/Zoom**

1. Open **View**
2. Select **Move/Zoom**



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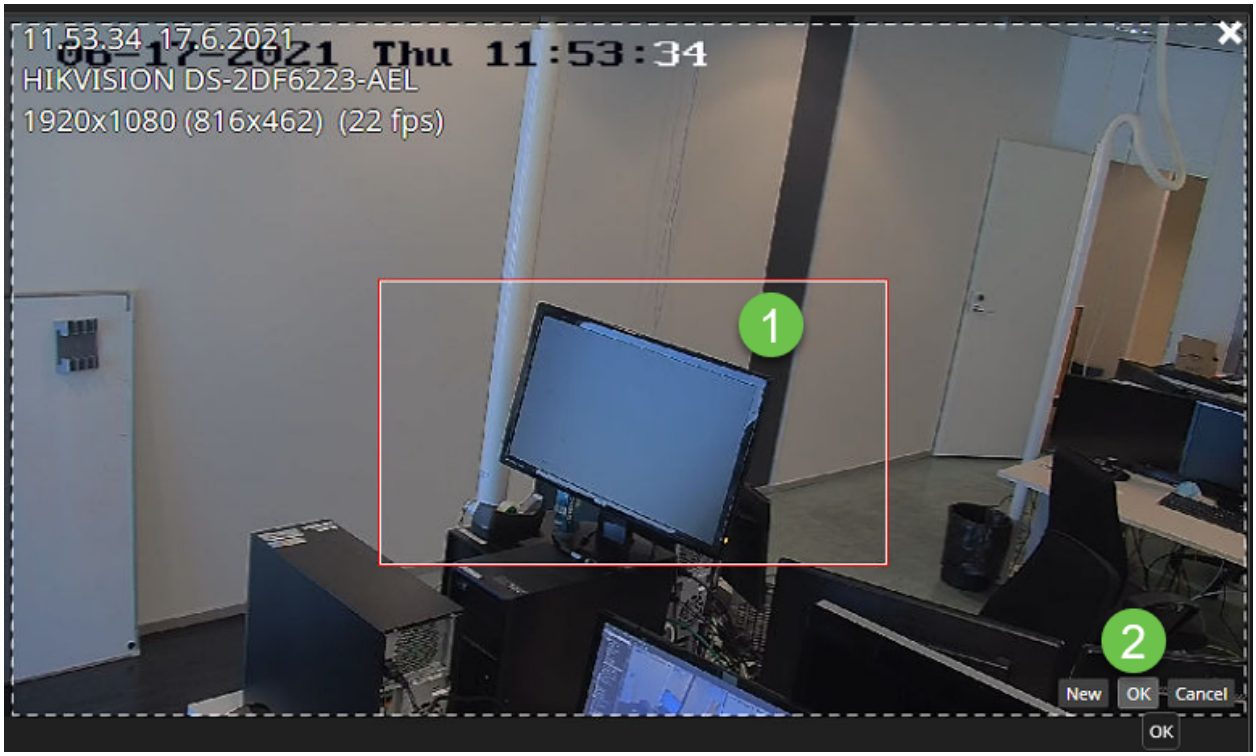
Mouse wheel movements will make the virtual camera rectangle larger or smaller. The size can also be adjusted by dragging the edge of the rectangle with mouse and left-click.
The size will also change from the keyboard "page up" and "page down" buttons.

1. Draw zoomed area
2. Click **OK**



Create more virtual cameras, if needed

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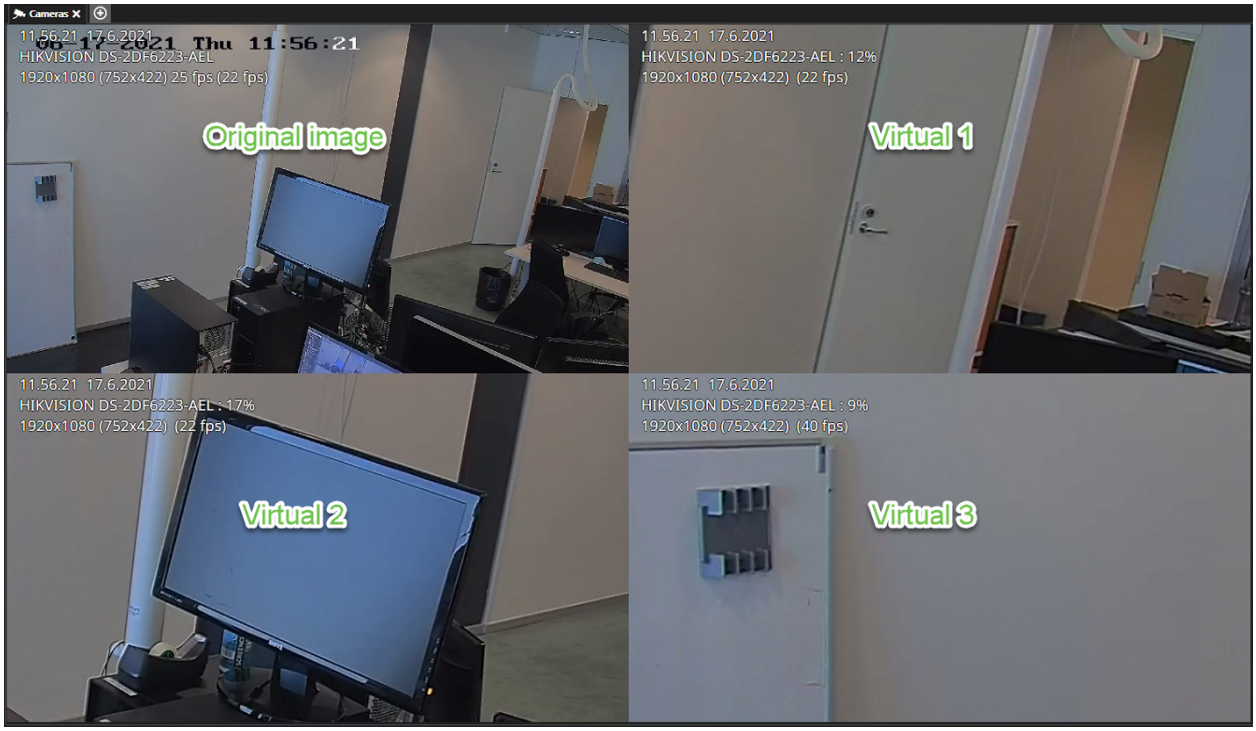


Frequently Used Keyboard Shortcuts:

NOTE: Only when in virtual camera editing mode.

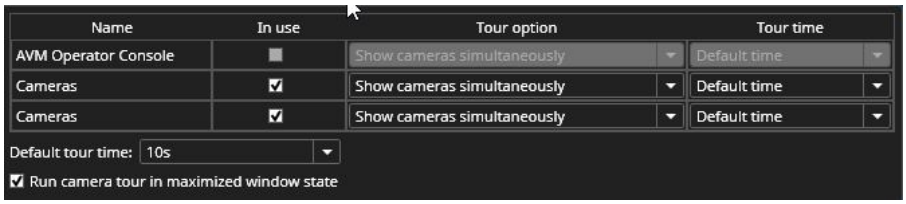
Shortcut	Description
Arrow left	Moves the red box to the left.
Arrow right	Moves the red box to the right.
Arrow up	Moves the red box up.
Arrow down	Moves the red box down.
Page Up	It makes the box more significant (zoom out).
Page Down	It makes the box smaller (zoom in).

1.12.4. Camera Tour Controls

Camera tour controls can be configured to be seen in both standard and large view mode playback panels.

Control is enabled when there is more than one tab open in Spotter.

Settings are opened from the "Cogwheel" icon. There is a row for each tab. Particular tabs like plugin tabs have disabled functionalities and are by default disabled.



After each tab, there is an option to enable or disable the tab. All tabs can be added to a tour if desired. There are two options for the Tour.

The user can either show cameras simultaneously or show cameras one by one. If devices are shown one by one, it is possible to have a tour with just one tab.

The tour time can be selected at the last row individually, or the user can set a default time and define it at the lower-left corner.

There is also an option to run the camera tour in maximized window state on the lower-left corner. This checkbox is selected by default.

When the tour is running, it is indicated with a rotating orange arrow. The Camera borders are also highlighted in orange.

There is also a counter underneath the controls that counts the time set for each tour step. The user can also select the forward and backward arrows to move between tour steps. The tour is stopped if the user selects another operation in Spotter. For example, the image or clip export stops the tour.

Note: A camera tour can also be operated in the Agile Video Matrix (AVM) with the AVM Operator Console. In AVM, the counter is not displayed.

Frequently Used Keyboard Shortcuts:

Shortcut	Description
F12	The toggle camera tour starts and pauses state.
Ctrl + F12	Steps to next camera tour view.

1.12.5. Full-Screen Mode

A single-camera can be maximized to cover the whole work area with the maximize control or double-clicking it.

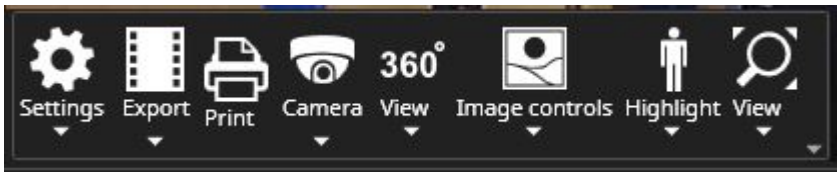
The whole work area of a Spotter window can be made to be full screen by pressing the F11 key or double-clicking the tab control.

The second press of the F11 key (or the Esc key or mouse right double click) will return to the original window size.

Frequently Used Keyboard Shortcuts:

Shortcut	Description
F11	Maximize the current tab to full-screen size.
F11 or Esc	Restore maximized tab to average size (when no camera is selected).

1.13. Camera Toolbar



The camera toolbar is displayed when the mouse is moved over a camera or if a camera is selected with other means.

If the mouse is not moved for some time, the camera toolbar disappears automatically.

The camera toolbar can contain the following items:

- Settings
- Export
- Print
- Camera
    - Dome control, duplicate modes
- 360 camera de-warping
- Two-way audio
- Image controls
- Highlight
- View or virtual zoom

1.13.1. Camera Settings

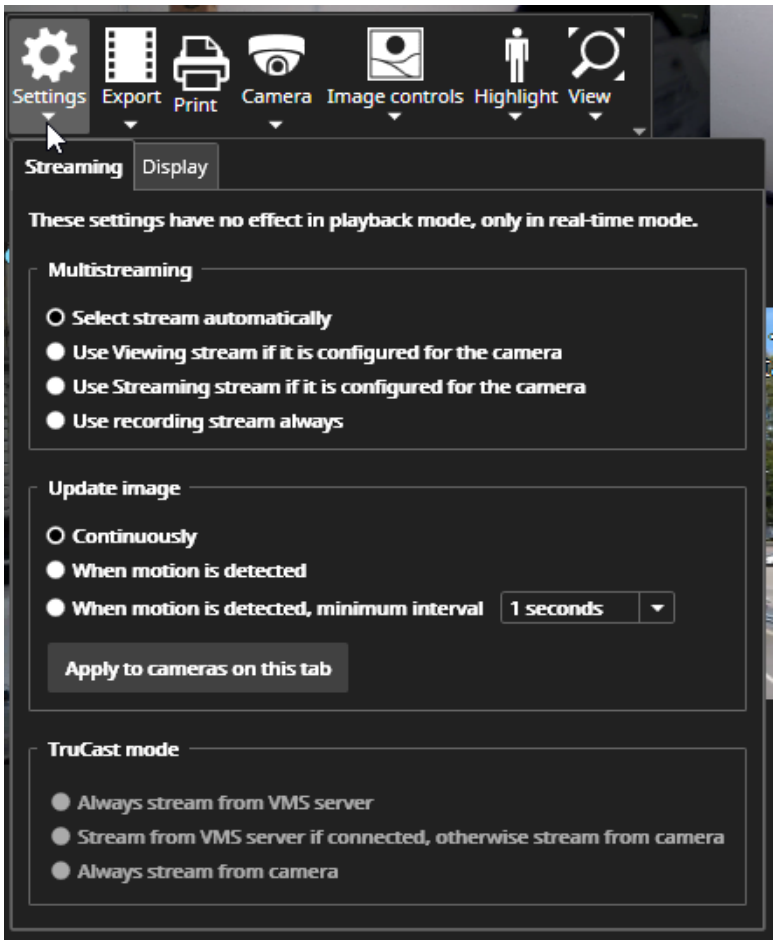
All the camera-specific settings are saved to layouts when a user saves a layout.

This way, it is easy to create specific settings for different use scenarios.

See the Layouts section of this guide for further information.

The camera settings contain the camera-specific settings for:

- Streaming mode
  - Multistreaming
  - Update image
  - ThruCast mode
- Display
  - Camera name and timestamp settings



The defaults for the settings are controlled from **Spotter\File\Settings\Streaming**. If the user wants to change a setting to be different from the default, he can use these camera-specific settings.

Multistreaming settings control that which stream Spotter is using

- Spotter chooses the recording stream automatically (default)
- Use Viewing stream if it is configured for the camera
- Use Streaming stream if it is configured for the camera
- Use recording streams always

Update image settings control when camera image is updated:

- Continuously, which draws all images from the camera even when there is no motion detected
- When motion is detected(image is updated only when VMS has detected motion)
- When motion is detected, minimum interval(min. 1 second and max 60 seconds).

Below the image update settings is a button to update the current image update settings for all cameras on this tab.

When a new camera is opened to the work area, the image update settings default to the setting defined in **Spotter\File\Settings\Streaming**.

The TruCast settings control whether the stream is coming from

Always from the VMS server

Stream fromVMS server if connected, otherwise stream from the camera

Continuously stream from the camera,

The TruCast settings are remembered for the camera, so even if the camera is closed, the next time it is opened, it will be using the same TruCast settings last time.

The display settings control if the name and timestamp are shown on top of the camera and the colour used for the text and the text outline.

If the user finds a nice colour that he prefers, he can set a new global default for all cameras.

1.13.2. Exporting And Printing

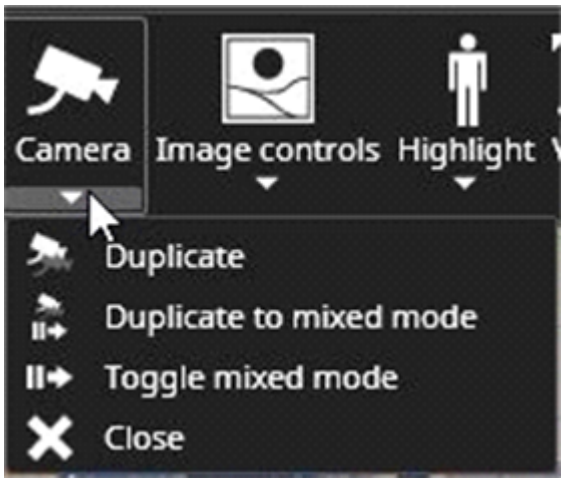
Read more about **Export an image** from here

Read more about **Add to video export** from here

Read more about **Add to the storyboard** from here

Read more about **Print** from here

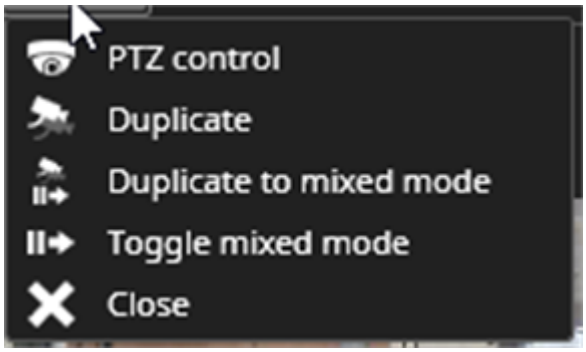
1.13.3. Camera control



In non-PTZ cameras, the camera control can only duplicate the camera and close it.

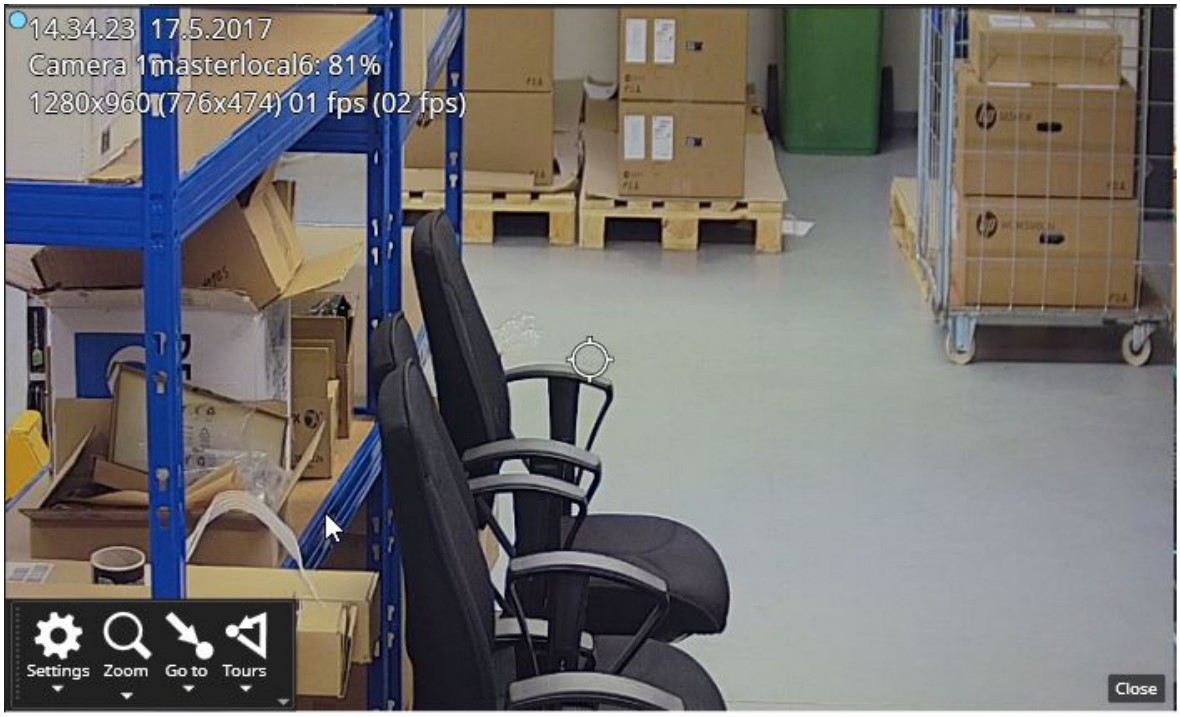
- Duplicate
- Duplicate to mixed mode
- Toggle mixed mode

1.13.4. PTZ Control



In the case of a PTZ (dome) camera, the main toolbar button changes to a "Dome" camera icon, and pressing this button assumes the PTZ control.

The close button in the bottom right corner closes the PTZ control, although it will also close automatically after a time that can be defined using the System Manager application.



In PTZ control mode, the PTZ camera can be turned with keyboard arrow keys, the mouse and a DirectX compatible joystick.

Some PTZ cameras support pointing to a specific point or area of the screen to control the camera turning and zoom.

For these cameras, the mouse pointer changes to an "aiming point".

Cameras that do not support the above can be turned by grabbing the centre control with the mouse and moving the arrow off-centre.

The size of the centre control icon can be edited from the configuration file. Please ask for instructions from Support.

NOTE: The Pelco keyboard joystick is not supported in Spotter.

1.13.5. PTZ Control View

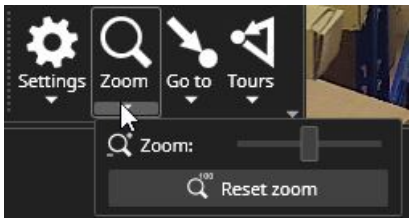
In PTZ control mode, the toolbar changes to show:

- Settings
- Zoom
- Preset settings (Go to)
- PTZ camera tour settings (Tour)

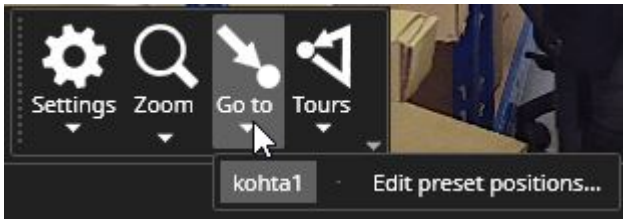
The PTZ settings menu contains iris and focuses slider controls and editing the camera home position.

The home position can be selected from the currently saved presets or tours.

It is also possible to define how long the camera takes until it returns to the home position and if the switch to the home position is made only if it is not in some other tour or preset position.



The zoom settings menu allows controlling the camera zoom. The camera zoom can also be controlled from the keyboard or the mouse wheel.



The preset or "Go to" menu allows to use and manage presets.

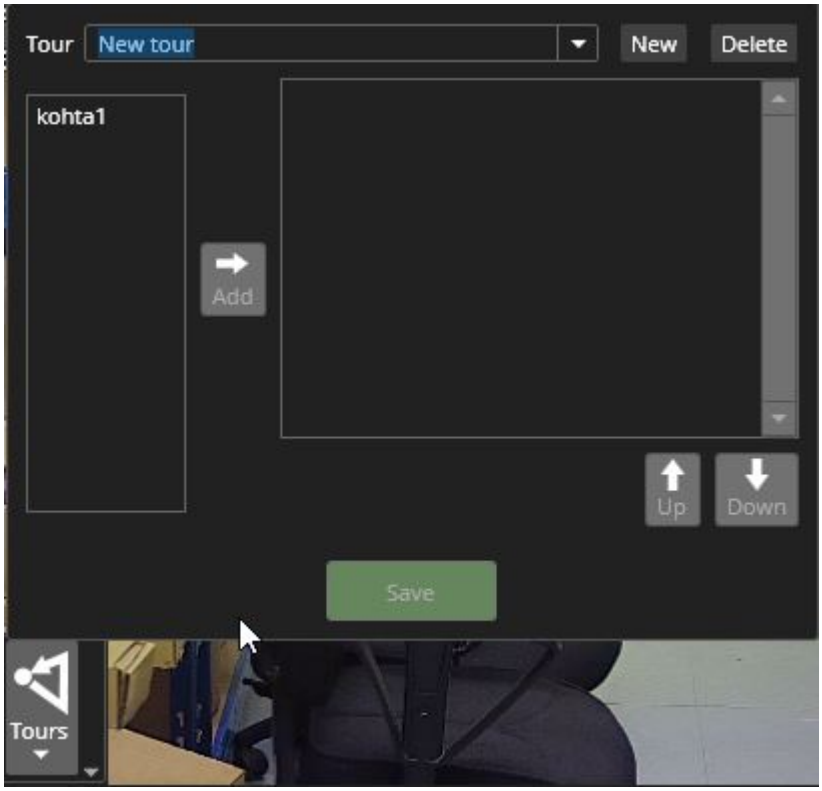
Selecting the "Edit preset position" will make it possible to save the current camera position as a preset. If the camera is already in an existing preset position, it is possible to rename the position.

Please note that the current preset position name is displayed in the top right corner of the camera view when the PTZ control is active.

Selecting any preset position from the list will turn the camera to that preset position. The same applies to the PTZ camera tour editing mode.

When a user is editing or creating a new PTZ tour, the camera will switch to show the preset position when added to the new tour.

Deleting a preset is possible from the edit preset position menu.



The PTZ camera tour menu has a list of currently available PTZ camera tours. It is possible to stop the current tour by selecting the stop PTZ camera tour.

PTZ camera tours can be edited from the edit camera tours option.

In the camera tour editing view, the tour to be edited can be selected from the pull-down control at the top of the view.

The name of the tour can be changed by clicking the tour name and writing a new name. A new tour can be made by clicking the "New" button. Tours can be deleted from the "Delete" button.

To add a new preset to the tour, select the preset from the left and then press the arrow to add it to the tour. Adjust the position of the preset in the tour with the up and down arrows.

The speed of movement to the next position and the duration in the position can be adjusted from the controls.

It is possible to "pause" the PTZ camera tour by adding a longer stay duration to one of the preset positions. The preset stay duration can be up to 60 minutes long.

The PTZ control settings can be adjusted from the System Manager application. Please see the System Administrator guide for this.

1.13.6. Two-Way Audio

If the camera has two-way audio configured, the menu item becomes active.

Two-way audio can be in three different modes.

In the closed mode, the audio channels are not open.

In the listening mode, the user will hear audio from the camera and any potential audio going to the camera from any other VMS client.

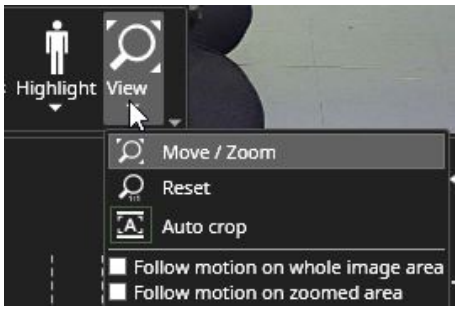
The audio channel from the current user is not open.

In the talk mode, the user can hear the audio from the camera, and the audio channel from the current user is open, so the audio is broadcasted to the camera.

The toolbar icon has red (to camera) and green (from camera) volume indicators, which show if there is audio going to or coming from the camera.

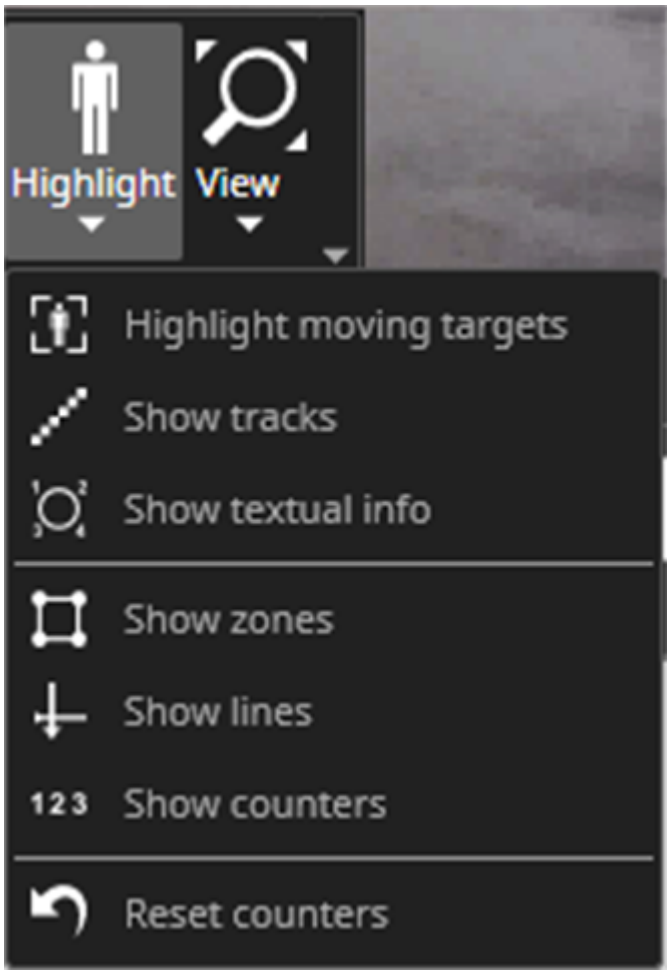
The channel volumes can be adjusted from the sliders.

1.13.7. View Menu



Read more about **Move / Zoom** from Virtual Cameras

1.13.8. VCA Highlights

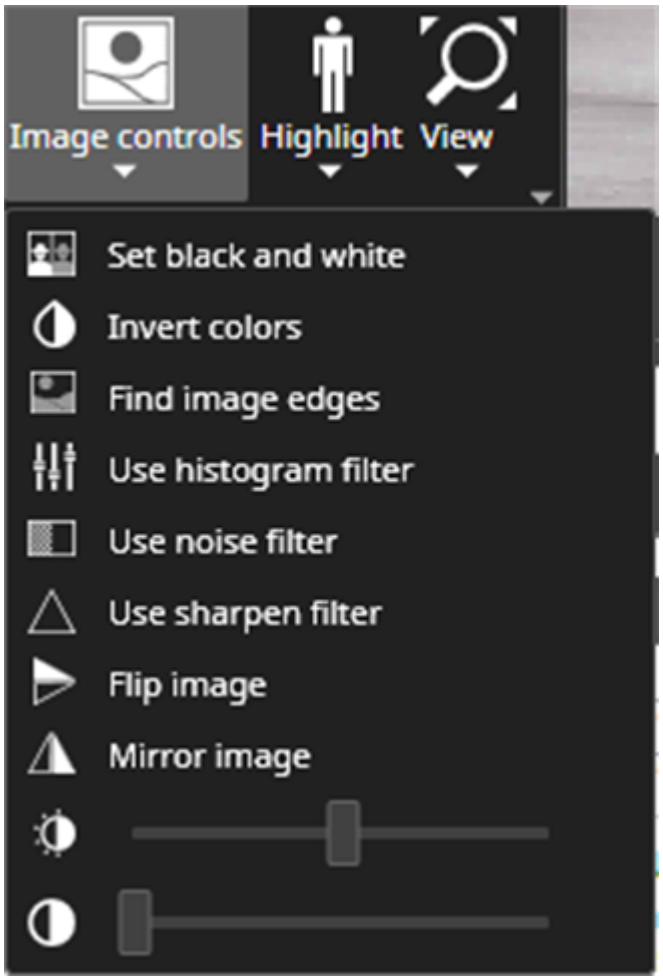


The VCA highlight menu is enabled if the VMS license has VCA channels, and the VCA is enabled for this camera in System Manager. The menu offers the possibility to:

- Highlight moving objects such as cars and walking persons
- Show the track that the object has taken on the camera screen
- Show textual info shows textual info related to the tracked object
- Show VCA zones and lines after they have been configured using the VCA configurator
- Show a client-only VCA event counter
- Reset all counters on a camera screen

The client-only VCA counters are local to the Spotter application and not integrated into the Mirasys Reporting+ application. They are meant for short term reporting and can be reset by clicking on the counter on the camera screen.

1.13.9. Image Control Plugin



The Image Control plugin has various options to adjust the camera image:

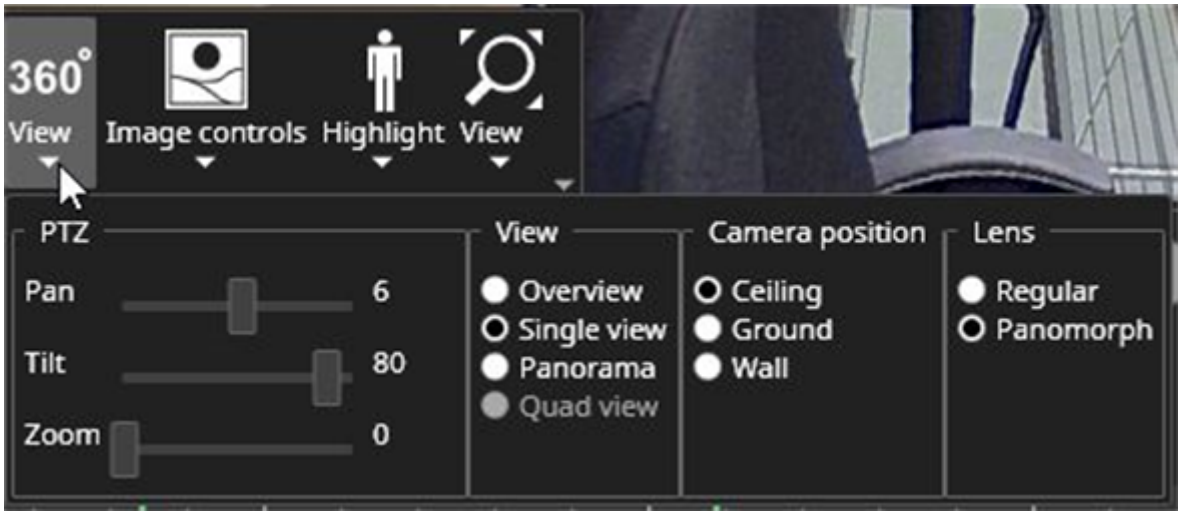
- Option to turn the image into a black and white image
- Invert colours filter
- Edge highlight filter
- Histogram filter (a form of contrast optimization filter)
- Noise reduction filter
- Image sharpening filter
- De-interlace filter
- Image flip (flips the image along the horizontal axis)
- Image mirror (mirrors the image along the vertical axis)
- Brightness adjustment slider
- Contrast adjustment slider

1.13.10. 360 De-Warping Plugin

The 360 View toolbar control allows defining how a 360-camera image is de-warped (straightened) by the Spotter client.

The Plugin has controls to:

- Pan, Tilt and Zoom the de-warped image (available only for some de-warped modes and cameras)
- Select the de-warping mode
- Non-de-warped
- Single view
- Panorama (typically a double panorama, but some cameras only offer a single panorama view)
- Quad view (4 individual de-warped cameras that can be adjusted separately
- Camera mounting position control
- Lens selector



The de-warping plugin will attempt to choose the correct lens automatically. In case this fails for any reason, the lens selector control can be used.

The plugin will show a text notification if it notices that the lens is not supported.

The 360-toolbar option is shown after the "360 camera" option has been selected in the System Manager application.

The 360 de-warping plugins can also be used with the SpotterPlayer.

1.13.11. Direct Control of 360 Cameras

When 360 de-warping is in use, it is possible to click on top of the image and then move the mouse and use the mouse wheel to zoom.

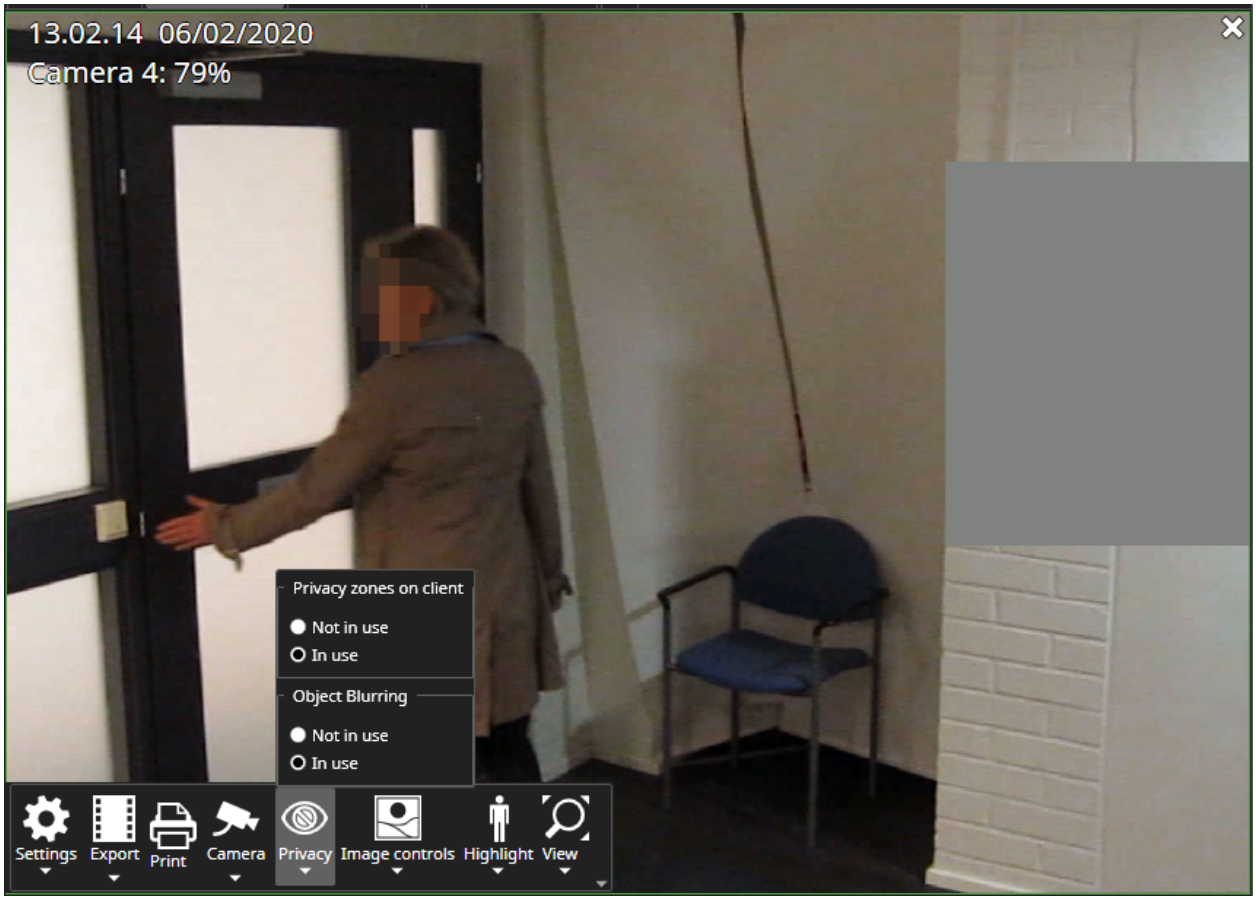
This will act as an ultra-fast virtual PTZ. When clicking again with the mouse, the control is released and the changes saved. The de-warp mode switches automatically to a single view when the camera is clicked.

Sample view of a panorama de-warped camera:

1.13.12. Privacy

If you have been assigned sufficient permissions, you will also access the "Privacy" menu.

In here, you may be given access to turn on/off the privacy zones (if you have sufficient permissions to do this and the functionality has been enabled for the specific cameras).

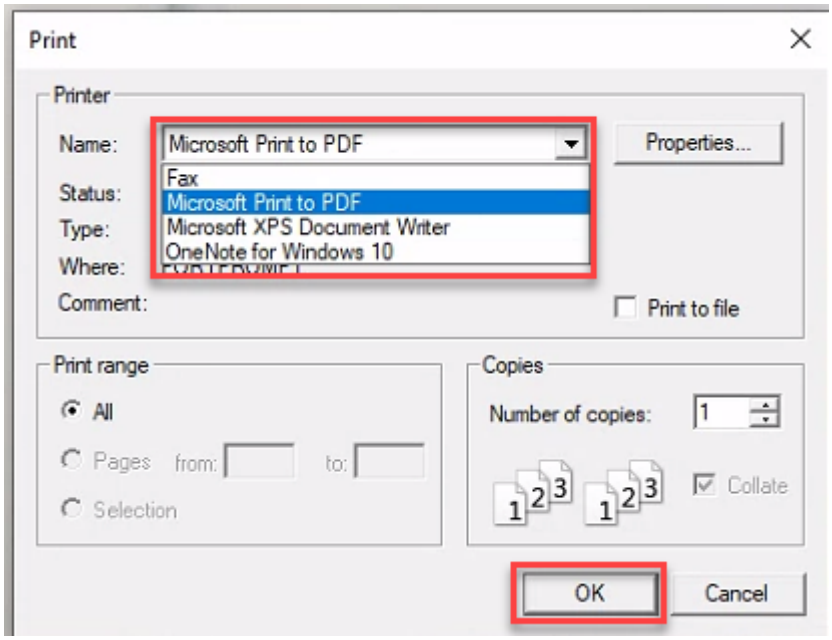


Examples of facial blurring- and privacy masks that could be disabled from the privacy menu.

1.13.13. Print

1. Open camera toolbar
2. Click **Print**

1. Select the printer
2. Click OK



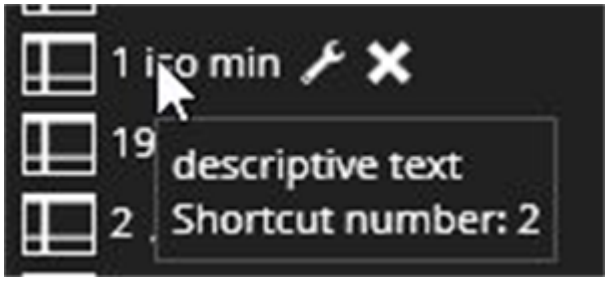
1.14. Layouts

Layouts contain all content settings of Spotter and are helpful when the user has perfected a monitoring view and wants to save it for future use.

Layouts contain, for example, the following:

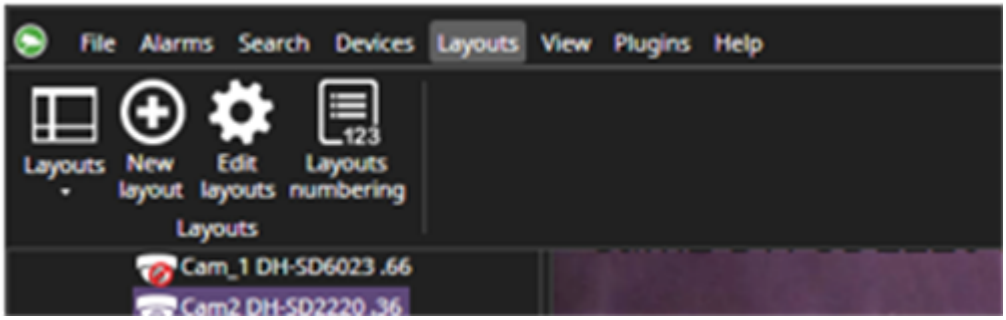
- Spotter window location and size (full-screen or regular)
- View component visibility settings
- Virtual camera settings
- Toolbar option settings such as image showing, 360 camera settings, VCA visualization settings and image control settings
- Camera tour settings
- Playback position, i.e., date and time
- Tab names and order
- Plugin specific settings, for example, Agile Virtual Matrix (AVM) settings and content

Loading a layout is as simple as selecting it from the device tree.



If the user positions the mouse on top of the layout, the tooltip will show the layout description.

New layouts can be saved with the keyboard shortcut Ctrl+M or from the layout menu.



Layouts can be managed and edited by accessing the" Edit layouts" option or pressing the edit button from the device tree.

In the manage layouts view, the user can create layout folders and layouts. Pressing the layout folder button will create a folder, and the new layout button will create a new layout. Pressing the button multiple times will create multiple folders and layouts. It is also possible to duplicate a layout to ease the editing of layouts.

If the user chooses an existing layout, the delete option and the "Replace with current "-option are highlighted. Choosing to replace will overwrite the stored layout with the current settings that the user has configured in Spotter.

The user can enter a name and description for the new layout in the boxes on the left. Below these boxes, there are the options to share the layout with other users and specify the layout loading schedule. The scheduled layout loading requires that the current user log in to Spotter when the layout loading should happen.

Sharing of layouts allows other users to use the same layout or create their versions of it. When the "Shared" check box is selected, other users who have access to the currently active profile will see the layout in their "shared layouts" list.

When the user shares a layout, the entire folder path is shared as well, so the other users see the layout and the folder path that leads to it.

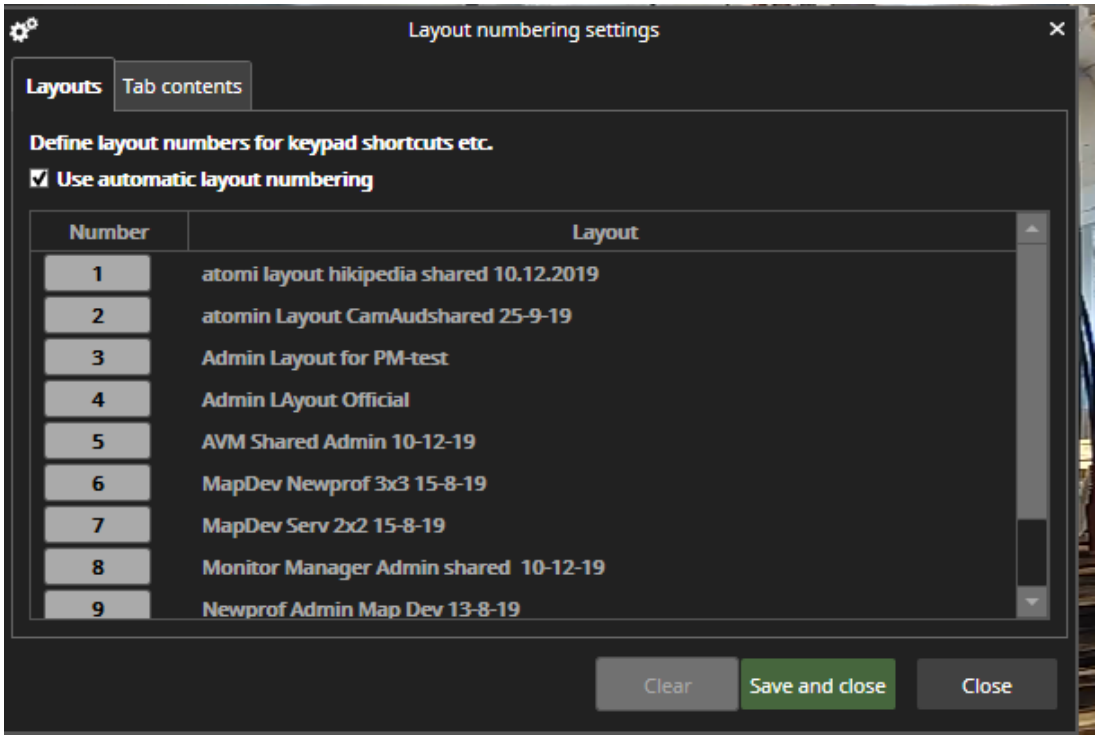
Loading the layout will change to the profile that was used when the layout was saved.

The folders and the layouts in the folders appear in alphabetical and numerical order; the user can't order them differently. If the user wants to control folders or layouts, we recommend naming them with a number prefix. This allows the user to control which order they are shown if the alphabetical ordering is not desirable.

Layouts can be dragged and dropped into different folders. This happens by pointing to a layout, pressing the left mouse button and then dragging the layout on top of a different folder name. Similarly, it is possible to drag and drop a folder inside a folder.

When using multiple Spotter windows logged in to multiple Master Servers simultaneously, the layouts only affect the windows logged into the same master. The layouts are always Master Server-specific.

The layout shortcuts are configured under "Layouts - Layouts numbering". This allows defining the shortcuts available for individual layouts – as well as the tabs.

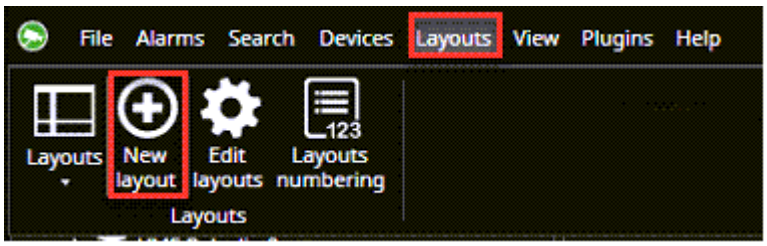


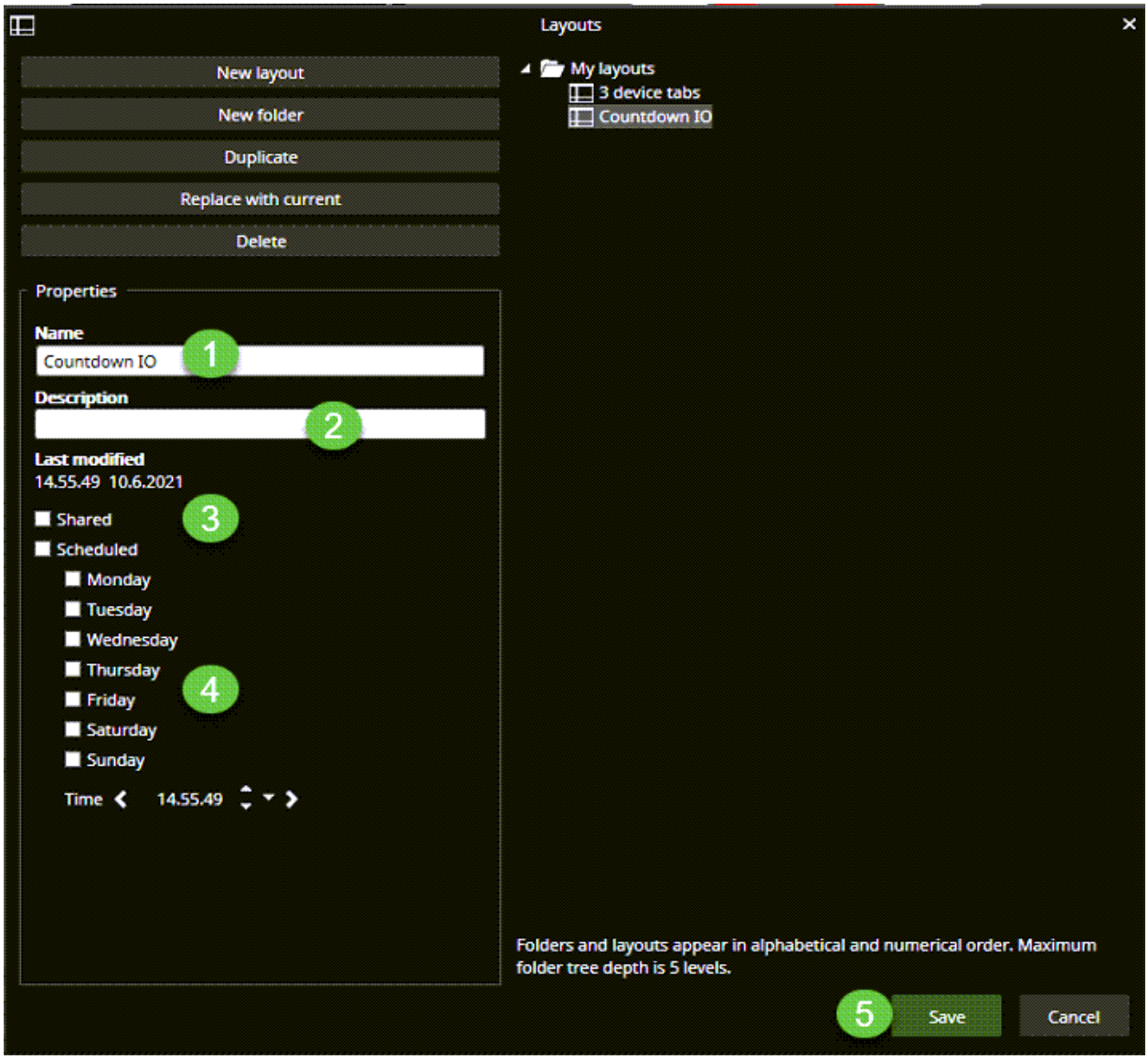
Frequently Used Keyboard Shortcuts:

Shortcut	Description
Ctrl+L	Open layout menu (layout name selection can be changed with arrow keys, Esc closes menu without selecting layout).
Ctrl+ M	Takes the user to new layout saving.

Ctrl+Up	Load previous layout (same order as in the layout menu).
Ctrl+Down	Load following layout (same order as in the layout menu).

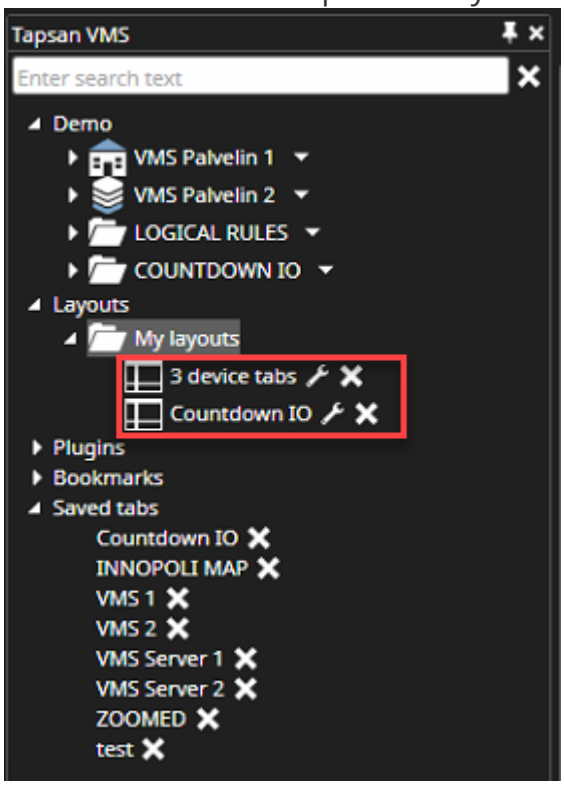
1.14.1. Saving the layout





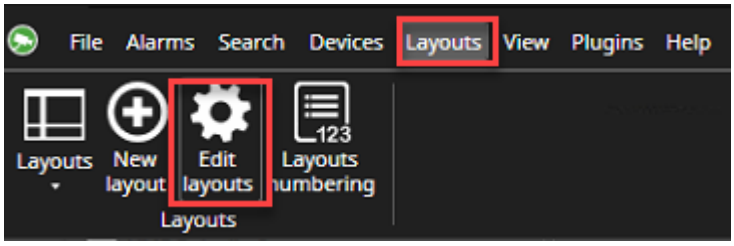
1.14.2. Opening the layout

1. Open Layouts from the device tree
2. Double-click top of the layout name



1.14.3. Editing the layout

1. Select needed devices into the Spotter working area
2. Go to the **Layouts**
3. Select **Edit layouts**



1. Select the layout from the list
2. Modify the name, if needed
3. Set schedule settings, if needed
4. Click **Replace with current**
5. Click **Save**

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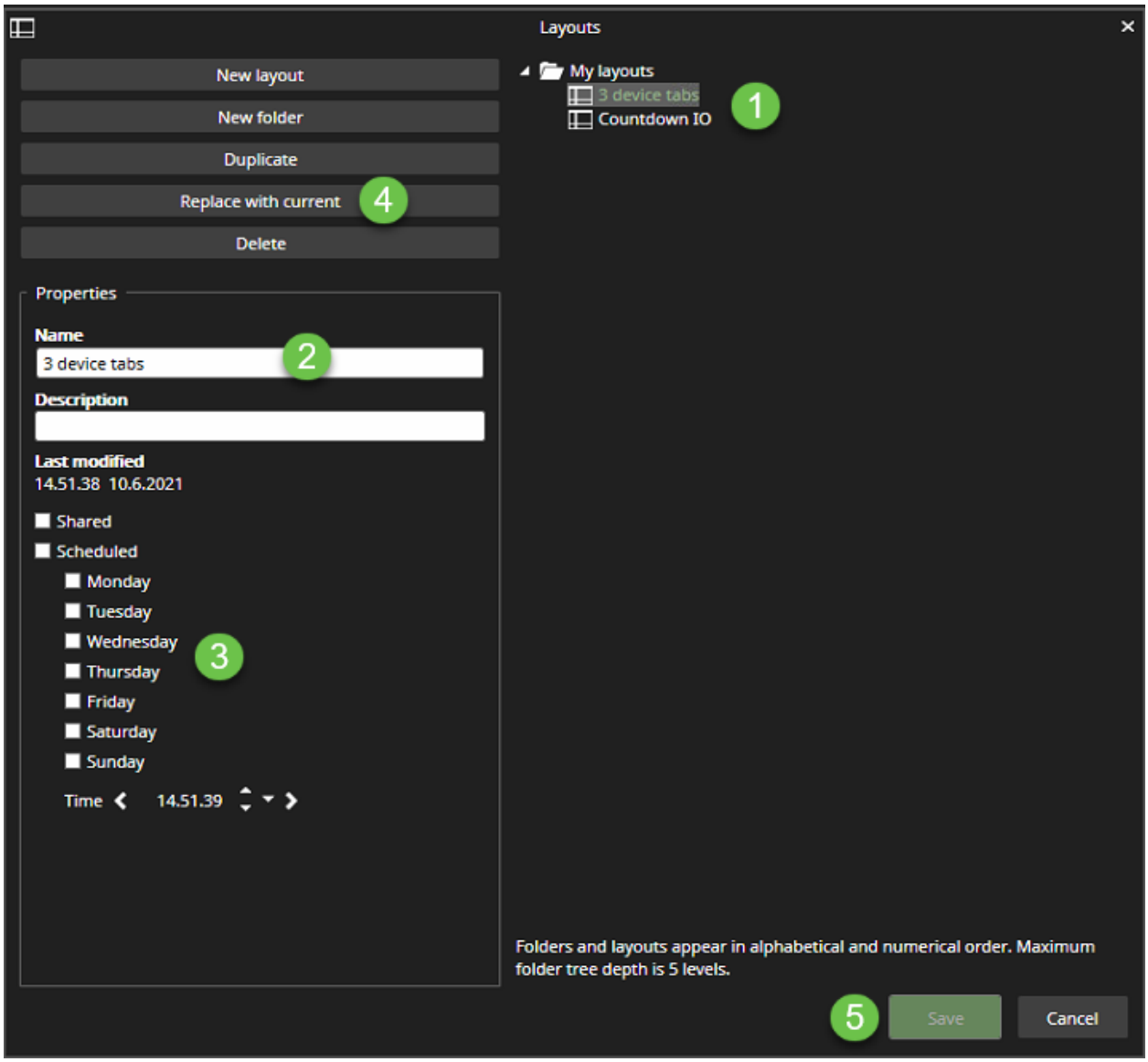

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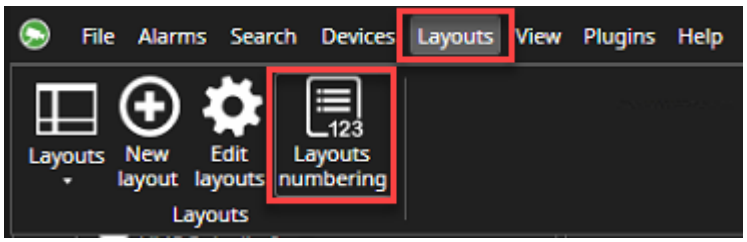
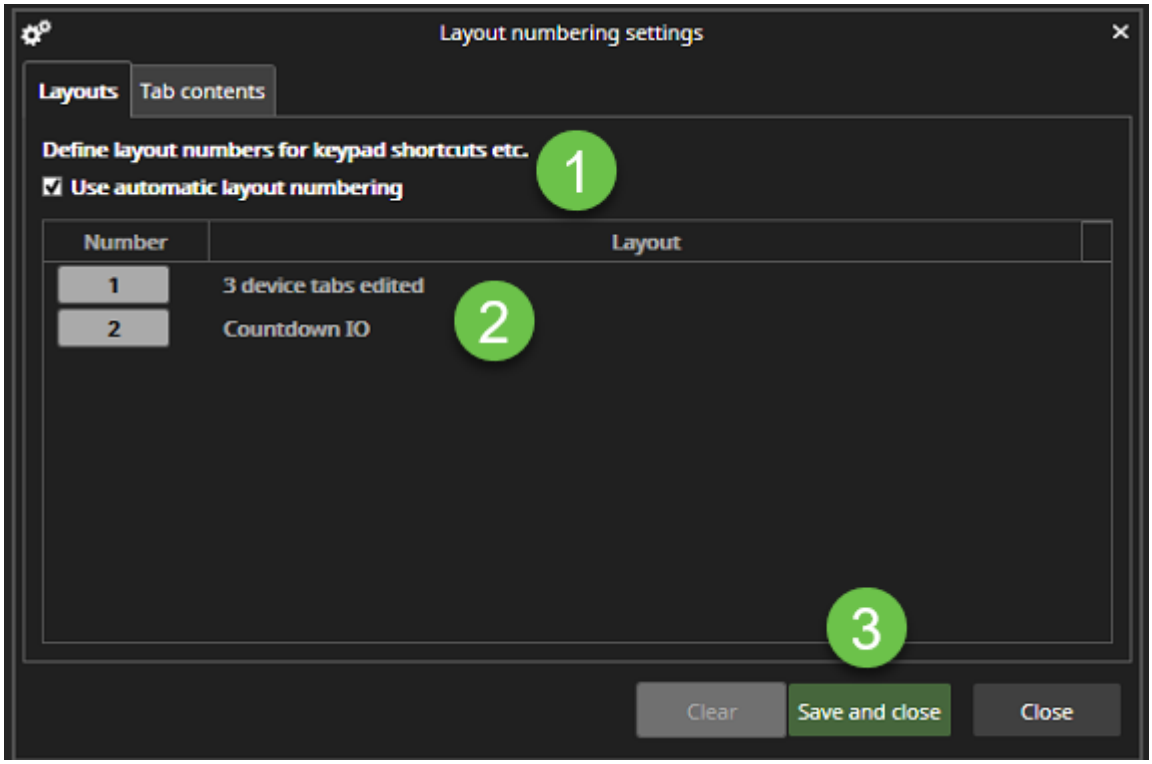
Tel +358 (0)9 2533 3300 - info@mirasys.com - www.mirasys.com

1.14.4. Layout numbering

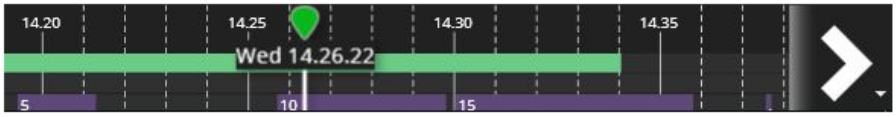




1.15. Playback view

Playback Controls and Activity Panel

The Spotter time slider is located at the bottom of the window. It can be visible in two view modes, standard or small, or a hidden state. In the Normal view mode, the camera activity, bookmarks and alarms are displayed in three separate layers.



The activity, bookmarks, and alarms are displayed in a single bar in a small state, with alarms on top of bookmarks and activity bars.

The user can cycle between the different view modes with the keyboard shortcut Ctrl+Alt+T.

The time slider is available in two states: real-time and playback. If the time is in real-time, the playback indicator balloon is white.

If the playback is not in real-time, the indicator is green. The exact time is visible in the box in the indicator.

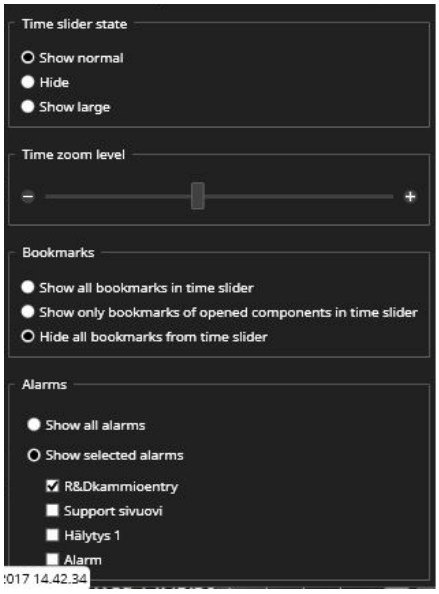
The real-time view can be enabled by clicking on the "Now" button or dragging the slider to the right (current time). It is also possible to go to the current time from the date/time selector.

In real-time mode, the right end of the time slider does not show an arrow, and the future time is shown in grey. In real-time mode, the forward play buttons are disabled.

When some cameras are open in the work area, the time slider shows a combined activity indication for the highlight colour cameras. Using this information, the user can see which times have stored material from the currently selected cameras.

The small arrow can be used to open a time slider configuration dialogue.

The dialogue can control the view mode, zoom level and the alarm and bookmark filtering settings. The time slider can be configured only to show specific alarms. The time slider zoom level can also be changed with the mouse wheel. The time slider can be moved by the right mouse clicking on top of it and dragging it to the right or left. Left-clicking on the time slider will move the playback position.



The user can change to playback mode by clicking on the time slider with the mouse. Other methods to move from real-time to playback are to use the play backwards button or change the playback position using the date or time controls.

There is an arrow at both ends of the time slider and indicates the colour for selectors, and frames around devices are green in playback mode. Playback buttons are also indicated with a green highlight.

1.15.1. Playback Controls

With the playback buttons, the user can choose the direction and speed of the playback. With each mouse click, the speed can be increased (left click) or decreased (right-click). The speed is indicated with a small number on the button.

Using the small arrow to the right of the playback panel, the user can configure which controls are displayed in the two available view modes for the playback panel.

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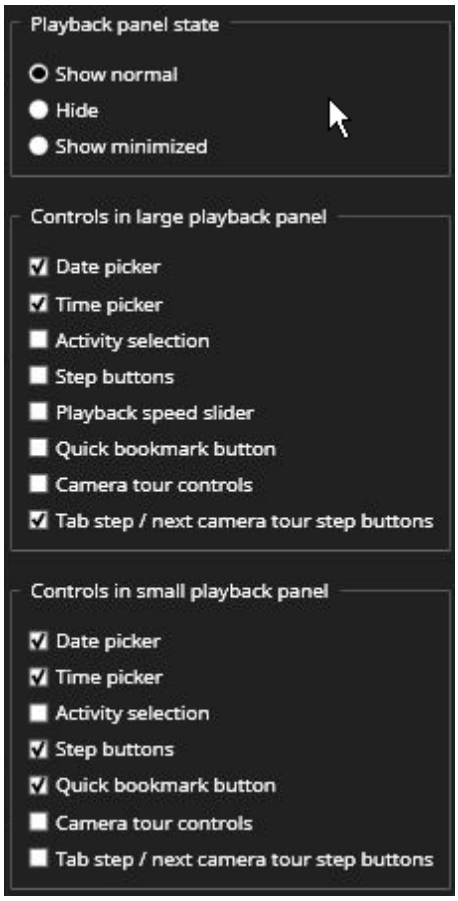

The user can cycle between different playback panel view modes with keyboard shortcut Ctrl+Alt+C. The only control that is not available in minor view mode is the Speed slider.

Very low speeds 1fps, 0.1x, 1/8x, 1/4x and 1/2x are accessible only with the slider or by clicking with mouse right button on the playback button to reduce the speed.

If the user wants to go to real-time mode, there is a "Go to current time" button.

Minor mode flattens the playback controls to occupy a minimal amount of display space.

Frequently Used Keyboard Shortcuts:

Shortcut	Description

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Ctrl+Right	Set playback time +30 seconds.
Ctrl+Left	Set playback time -30 seconds. If in real-time mode, switch to playback mode first, and set 1x speed.
Ctrl+Space	Pause playback.
Ctrl+Enter	Go to real-time.
Ctrl+Alt+C	Cycle between different view modes.

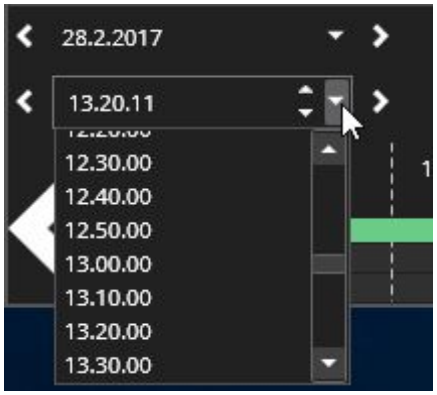
1.15.2. Date And Time Controls

The date and time controls show the selected date and time. The user can change the date by opening the calendar.

The buttons left and the date adds or subtracts one day from the currently shown day. It is also possible to click on the date box and enter the date manually.

The buttons left and right of the time add or subtract one hour. Like with the date selector, it is possible to click on the time box and manually enter the time box.

It is also possible to quickly set time with 10-minute accuracy using the pulldown menu.

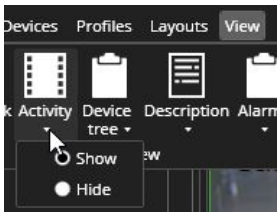


There is a third option called " Activity " in large playback controls mode; underneath the Date and Time selectors, there is a third option called "Activity". This option shows the detection of motion for the cameras that are open in the work area.

Activities before and after selected times are shown. If the user selects the arrow button on the left, then motion detection activities before the given time are shown. If the user selects the button on the right, then activities after the given time are shown. This way, the user can move between detected activities in the cameras in the work area.

Activities are shown for one or many cameras. The user can, for example, view activities for many cameras, and if one camera is double-clicked to full-screen, then only activities for that single-camera are displayed.

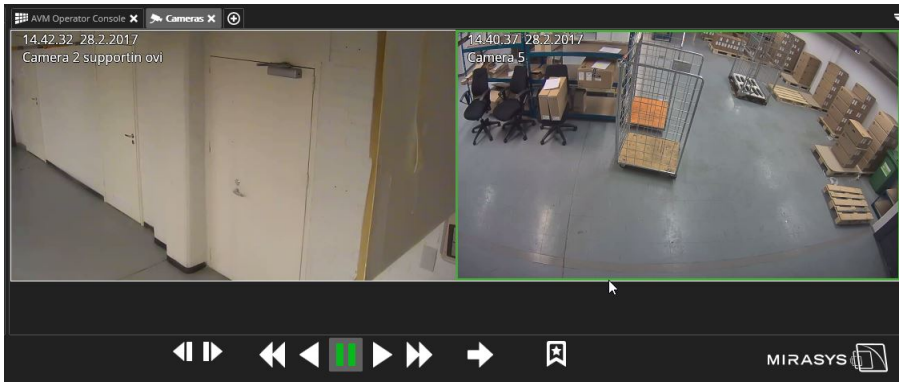
Activity panel visibility can be controlled from the view menu's "Activity" setting.



1.15.3. Mixed Playback Mode

The Mixed Playback Mode allows users to review playback on specific cameras while monitoring real-time situations in other cameras and doing this while staying in the same Spotter tab.

The mode is accessed by pressing the Ctrl key and then selecting cameras currently open on the Spotter screen with a mouse left-click. The selected cameras will then be highlighted with a thick green border. The user can select multiple cameras by keeping the Ctrl key pressed and continuing to select other cameras. The selection is cancelled by clicking somewhere without keeping the Ctrl key pressed.



When some number of cameras are highlighted like this, they are in mixed playback mode. Other cameras that are not selected are always in real-time. The cameras in mixed playback can now be controlled with the time slider balloon, the playback controls, or a joystick jog-wheel.

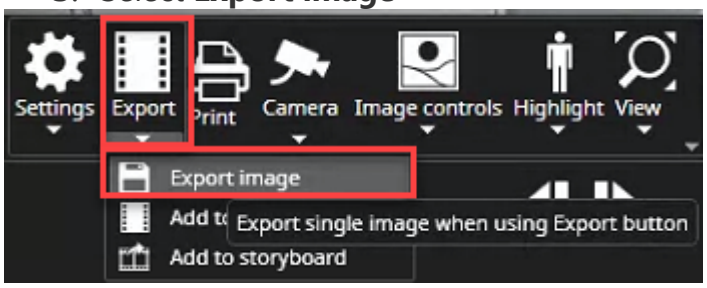
1.16. Export

Export

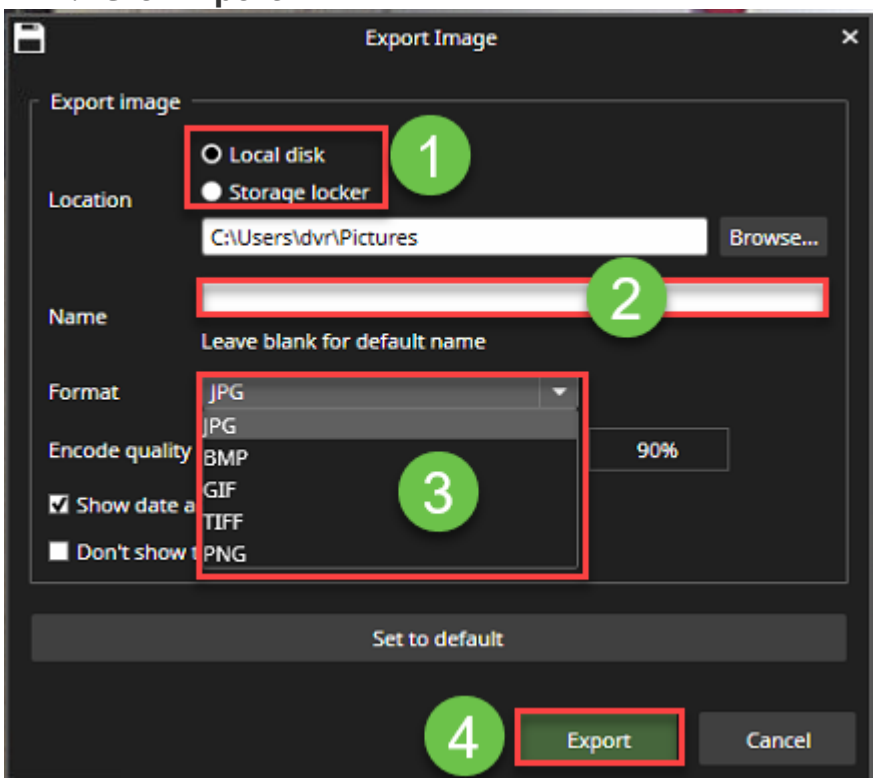
1.16.1. Export image

Export image

1. Move the mouse cursor top of the image
2. Click **Export**
3. Select **Export image**

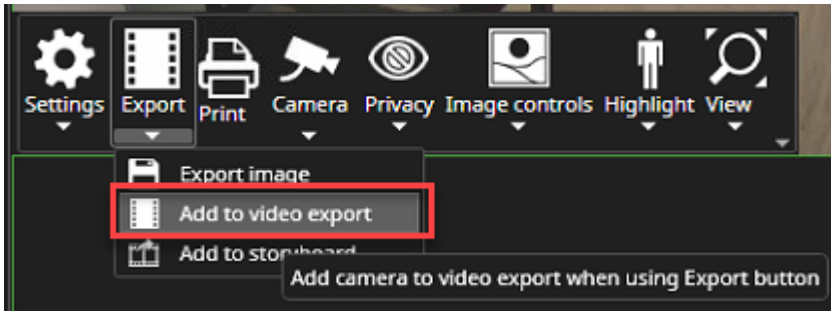


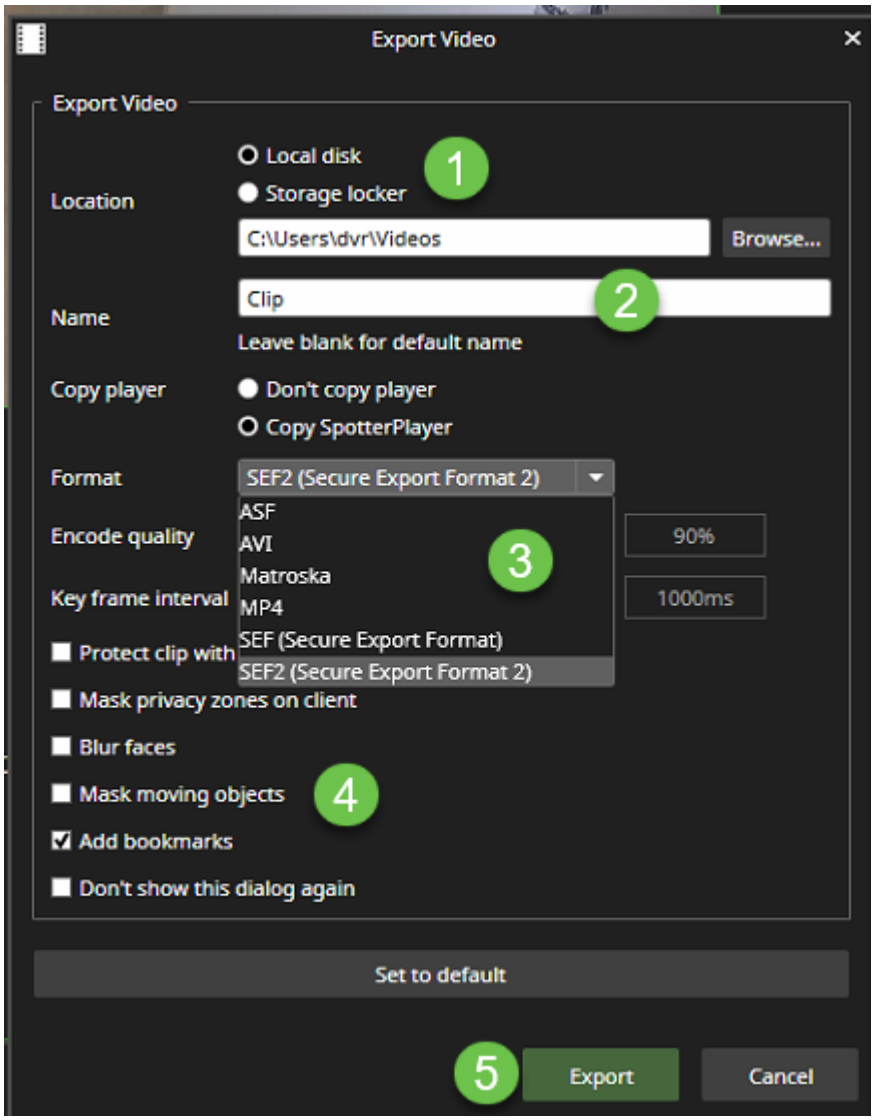
1. Select the location
2. Set name
3. Select the format
4. Click **Export**



1.16.2. Export to video

Export video





Spotter export is supporting below format:

- ASF
- AVI
- Matroska
- MP4
- SEF and SEF2

The fastest export file format is **SEF** (**Secure Export Format**). It can be viewed with **Spotter** or **SpotterPlayer**.

- SEF - video with subtitles audio, text data
- SEF2 - video with subtitles audio, text data
- ASF- video with subtitles audio, text data
- AVI - video, audio
- MP4 (uusi 9.x versiossa) - video, audio

Using the **SEF2** enables:

- protecting the video material with the password,
- software side privacy zones in the export,
- Blur faces(The blurring needs to be enabled for the camera to be included in the export.)
- Mask moving objects(The blurring needs to be enabled for the camera to be included in the export.)

The print button will open a standard printing dialogue window that can be used to print the current screenshot.

The printed image will be the one that was on the screen when the toolbar print button was pressed.

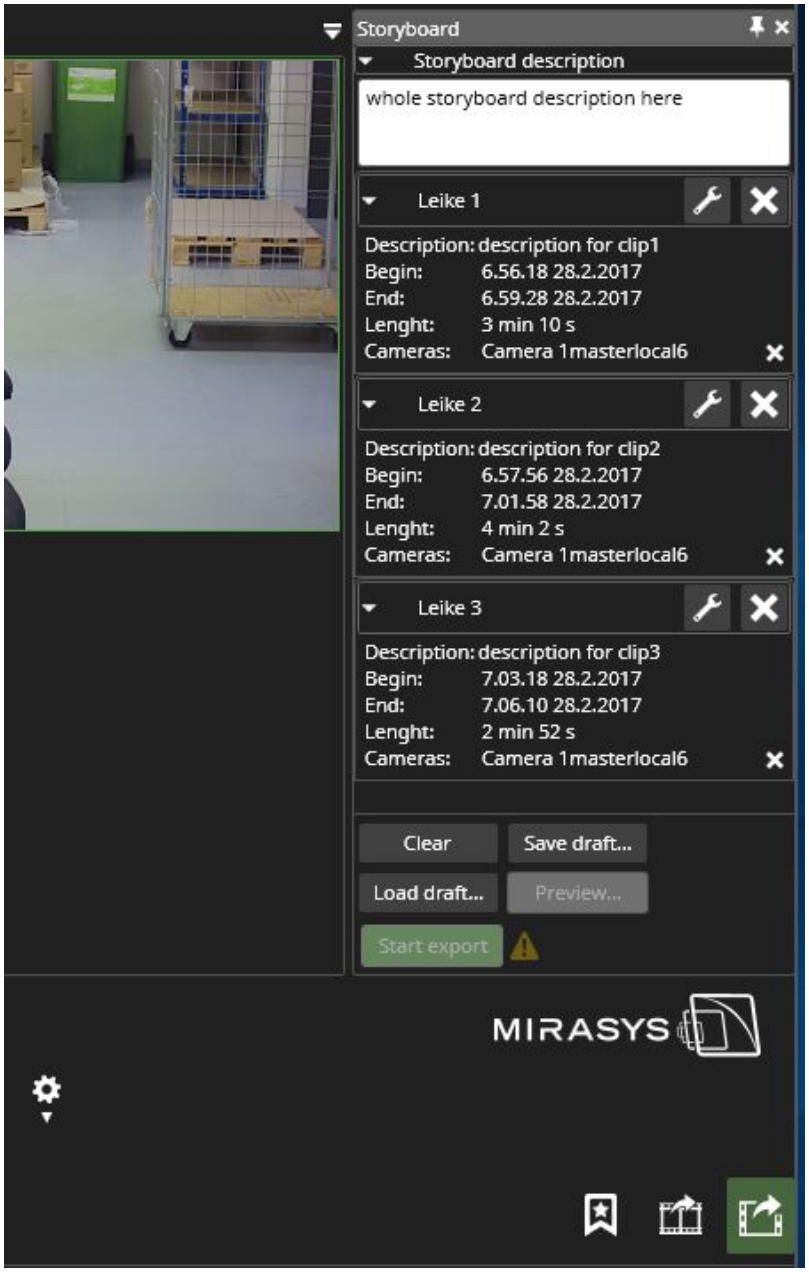
Frequently Used Keyboard Shortcuts:

Shortcut	Description
Ctrl+P	Print camera image.
Ctrl+S	Save (export) camera image

1.16.3. Storyboard

Storyboard

An essential feature of any video management system is creating authentic video export material for law enforcement authorities.



With Storyboard, it is possible to create a movie-like video export that makes it extremely easy for the recipient of the clip to view and understand instantly and accurately the chain of events.

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Storyboards can be viewed with the regular Spotter client application or the separate, standalone SpotterPlayer executable that is now exported as the default player for exported video.

Storyboard allows, for example, the following:

- I am creating a movie-like viewing experience from surveillance video material.
- Maintains complete material authenticity.
- View material in the Storyboard in sequential playback mode or an all-cameras real-time mode.
- Add clarifying comments and descriptions to activities.
- Viewer for control of displaying of comments as subtitles.
- Playback in continuous replay mode.
- Save drafts and share the Storyboard with other system users.

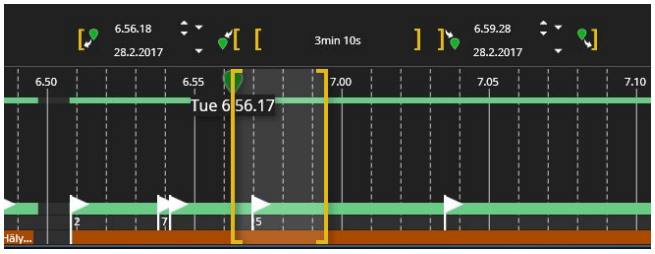
In addition to these, powerful features in the Spotter time slider make editing export clips very easy. These are explained in the section.

A single Storyboard can contain a maximum of 63 camera streams.

Adding Clips to Storyboard

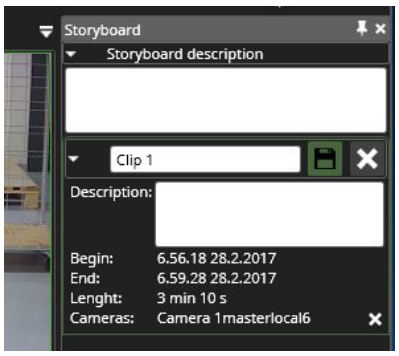
A storyboard is constructed from individual clips. These clips can contain up to 8 cameras, but for the most "movie like" experience, it is preferable to use a single camera per clip.

The recommended way to start storyboard creation is to find the camera and event that will be the first clip in the storyboard and adjust the first clip export start and end times usually with the export mode activity panel.



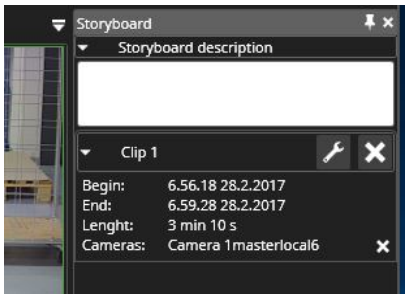
After this, add the clip to the storyboard with the "Add clip to storyboard" button.

This adds the clip as the first clip.

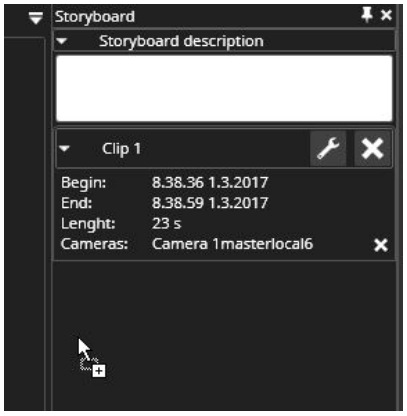


The clip is still in edit mode (white text boxes and the "Save" icon). The clip name or description can be edited. Any change in the clip start or end times or camera content is still reflected in the clip contents. If no editing is needed, press the "Save" button.

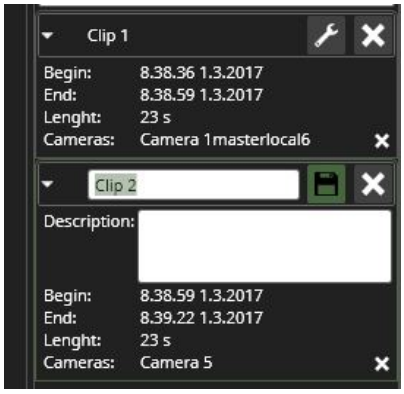
Now the clip is saved (texts change to non-white), and the following clip can be added to the storyboard.



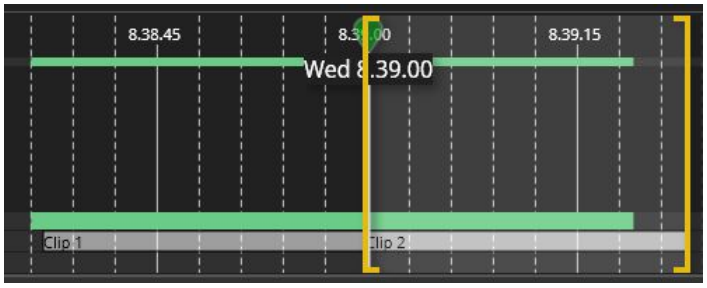
The most convenient way to add the following clip is to find the camera, open it to the work area, and drag it below the first clip in the storyboard.



This will set the next clip start time to match the end time of the previous clip and copy the clip duration. The clip opens in edit mode, and the start and end times can be fine-tuned.



The clips are highlighted in the activity panel. Note that it is all right if the clips overlap.



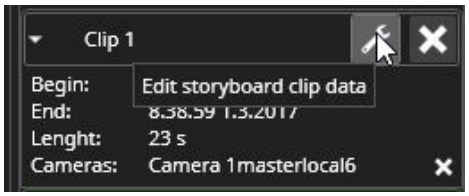
This same process can be repeated to add more clips to the storyboard. When it becomes difficult to drop a new camera to the list, the recommended way is to drop the new camera to the scroll bar. This will add the camera as the last clip. If a camera is dropped on top of an existing clip in the storyboard list, it will be added to that clip as an extra camera.

There are other ways to add content to the storyboard:

- With the camera toolbar export control.
- By drag and drop from different search result screens and the device tree.
- With a right-click option from the alarm list.

Editing Clips In Storyboard

Clips appear in the storyboard, always in time order, ordered by the clip's start time. A clip can be opened for editing later by pressing the "Edit" button.



When a clip is opened for editing:

- Any other clips in edit mode are automatically saved.
- The name and description are editable and change to white to indicate this.
- The export time slider is populated with the devices from the clip.
- The start and end times are editable and can be adjusted.

- Devices can be added to the export time slider, and saving the clip will add them to the storyboard.

If someone has created a bookmark for the clip time that is not already in the clip, editing the clip and saving the clip will add the bookmark to the storyboard.

If the start time is adjusted so that it is now earlier than before and before another clip, the clips are rearranged in the storyboard list automatically.

The start and end times of the clips can overlap. The start time of a later clip can be earlier than the end time of the previous clip. The user has several options for playback, but in the default setting, the clips are played sequentially, the first one to the end before the next one starts, even if the clip times overlap. The overlapping times are indicated in the time slider by a slight difference in the colour of the clips where they overlap.

Please note that if the storyboard is long, the clips can be minimized with the click of the clip title.

Descriptions And Comments

The storyboard has several types of descriptions:

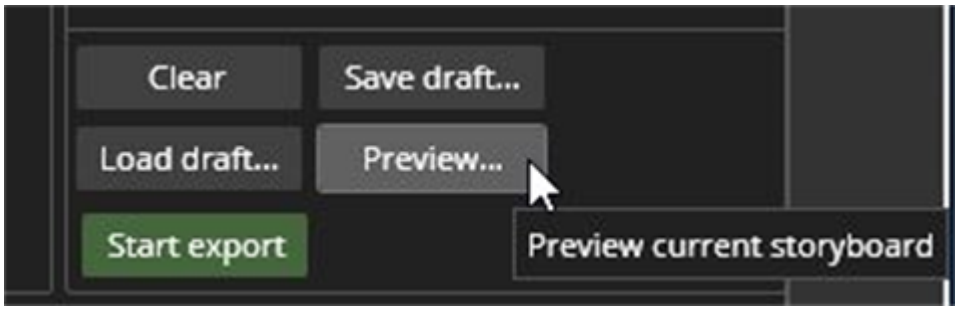
- Whole storyboard description
- Individual clip descriptions
- Bookmarks

The descriptions are shown to viewers of the storyboard as subtitles. The timing of showing the descriptions is based on the start time of the clip or bookmark.

Description texts are also exported in HTML text format to the target folder for further use for the target audience.

Preview

During the construction of a storyboard, it is possible to preview the storyboard by pressing the "Preview" button. This opens a new Spotter window where the draft storyboard can be previewed. After previewing, it is recommended to close the window and make any desired adjustments to the storyboard in the original Spotter window.



Preview opens in a unique Spotter window, first to full screen, but the window can also be resized.

Drafts And Sharing

It is possible to save storyboard drafts by pressing the "Save draft..." button.

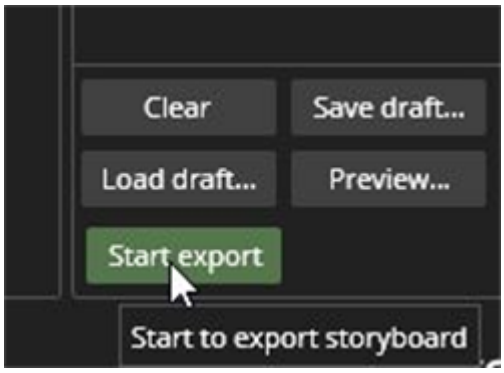
This will open a dialogue where the user can enter a name for the draft storyboard. If there are many users interested in draft storyboards, it is recommended to save the storyboard to a shared location, such as a network drive. Then the draft storyboards can be opened by anyone who has access to the same profile used to generate the storyboard draft. The location can be defined in settings.

The "Load draft" button can be used to load a draft storyboard. Please note that closing the Spotter window or exiting Spotter will clear any unfinished and unsaved storyboard contents.

Settings

Settings for the storyboard are described in Storyboard Settings.

Exporting Storyboards



When the storyboard is ready to be exported, the user can press the "Start Export" button. This will open a dialogue where the location and name can be adjusted. If no information is given, a default location and default name will be used. Please note that large storyboards can take some time to export.

It is also possible to export the individual video clips from the time slider button.

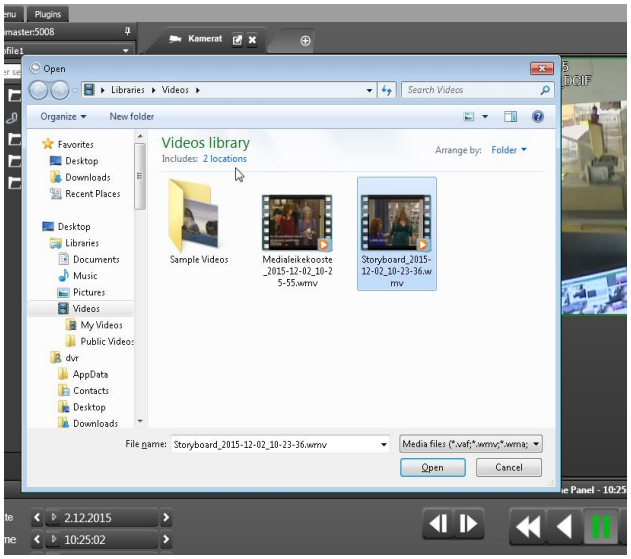
The SpotterPlayer application will also be exported to the target folder if it is not already there.

In addition to the media, the HTML text attachment with a summary and details of the storyboard is also exported to the target folder.

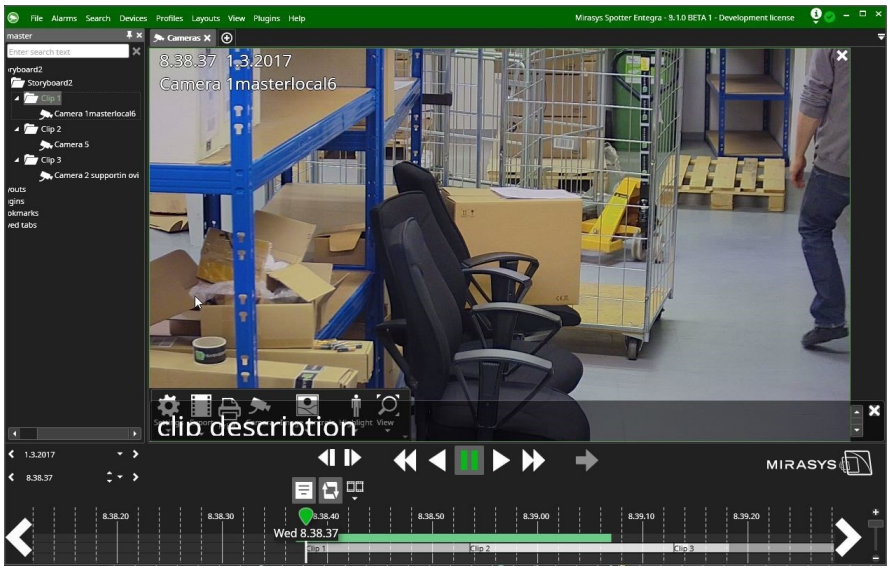
Viewing Storyboards

A storyboard can be viewed with Spotter or with the SpotterPlayer. Media can be opened by pressing the F4 key or by "Open media" from the File menu or by double-clicking the storyboard file in the file system.

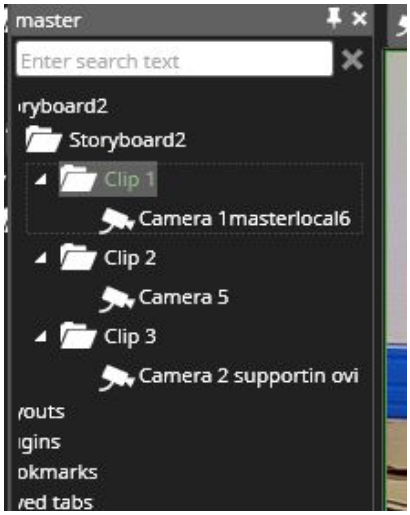
Then the storyboard can be opened from the file selection dialogue



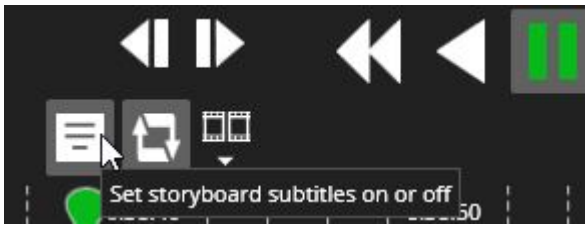
Media opens in "Media view" mode with a green window title.



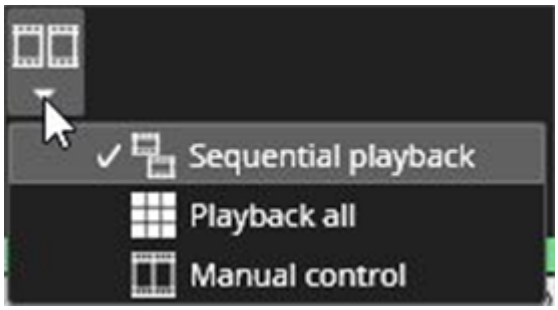
The clip will default open with the comment subtitles on and the player in "Repeat" mode. The individual clips are seen in the device tree area.



The repeat and subtitle settings and the playtime settings can be changed from the buttons next to the playback controls.



Other Viewing Modes



The sequential mode is the default playback mode. It plays the clips in time order, ordered by the start time of the clip. It plays each clip entirely before moving to the next so that the time can jump backwards in this mode.

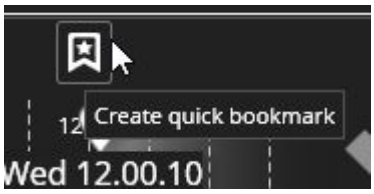
The user can switch the playback mode at any time. If he switches to "Playback all" mode, all cameras in the storyboard are opened. Note that when the user starts to play in this mode, the time does not jump backwards when clips overlap, but the storyboard is played in real-time.

In the manual mode, no camera is opened or closed automatically, and the user can choose which camera to open from the device tree.

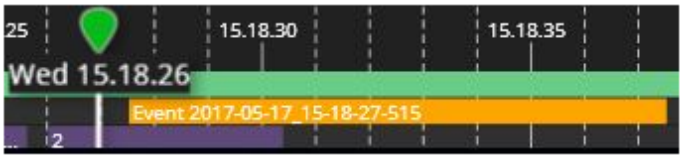
1.17. Bookmarks

Bookmarks

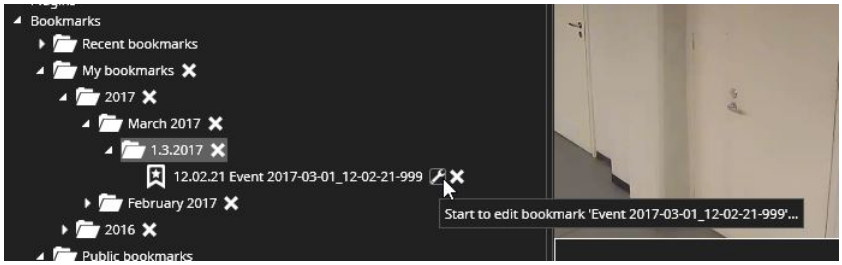
A bookmark can be created quickly by pressing the Fast bookmark button or with the keyboard combination Ctrl+Alt+B.



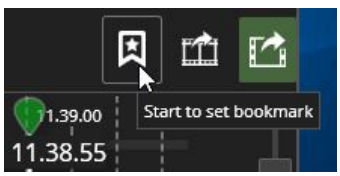
This will create a 10-second-long bookmark to the position of the playback indicator with the content that was open on the tab where the button was pressed.



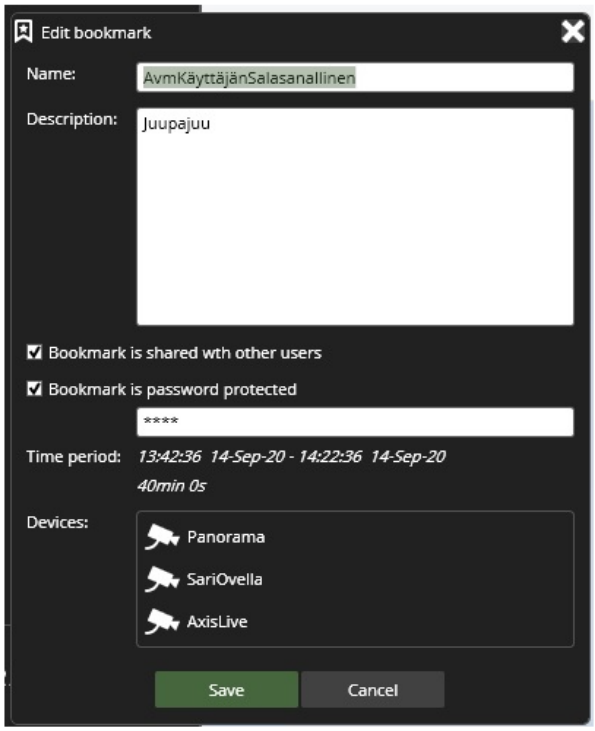
The bookmark can be later edited if desired.



A second way to create a bookmark is to take the content to the export mode activity panel and then click on the "Start to set bookmark" button.



The bookmark editing view is a separate dialogue



If so configured, bookmarks are displayed on the activity panel and can be accessed also from there with a right mouse click.

Bookmarks can be deleted one by one or by folder with the "X" control in the device tree.

The bookmark menu will show which bookmarks have been shared with other users. Also, if other users have shared bookmarks, the user who did the sharing is shown in parenthesis after the bookmark title.

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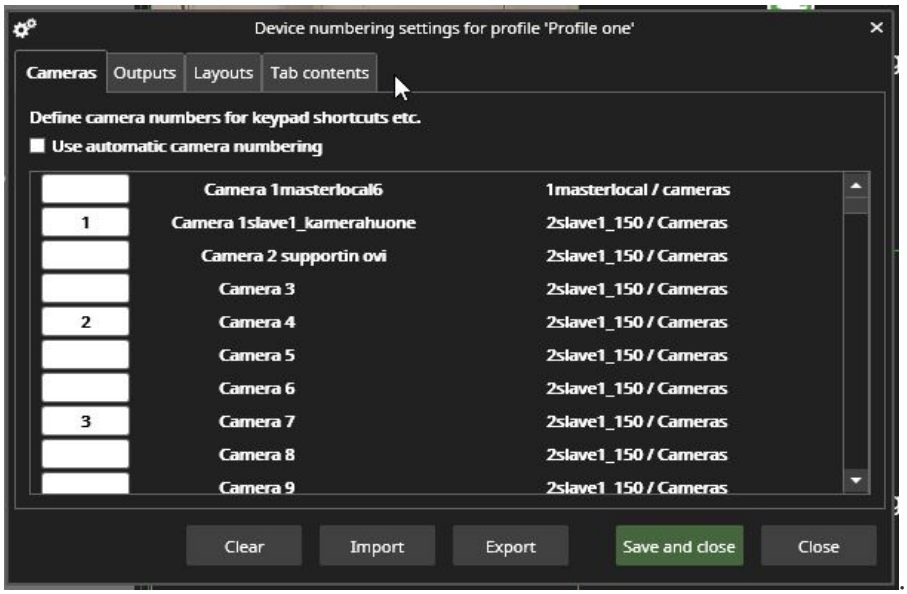


1.18. Archives

Archives

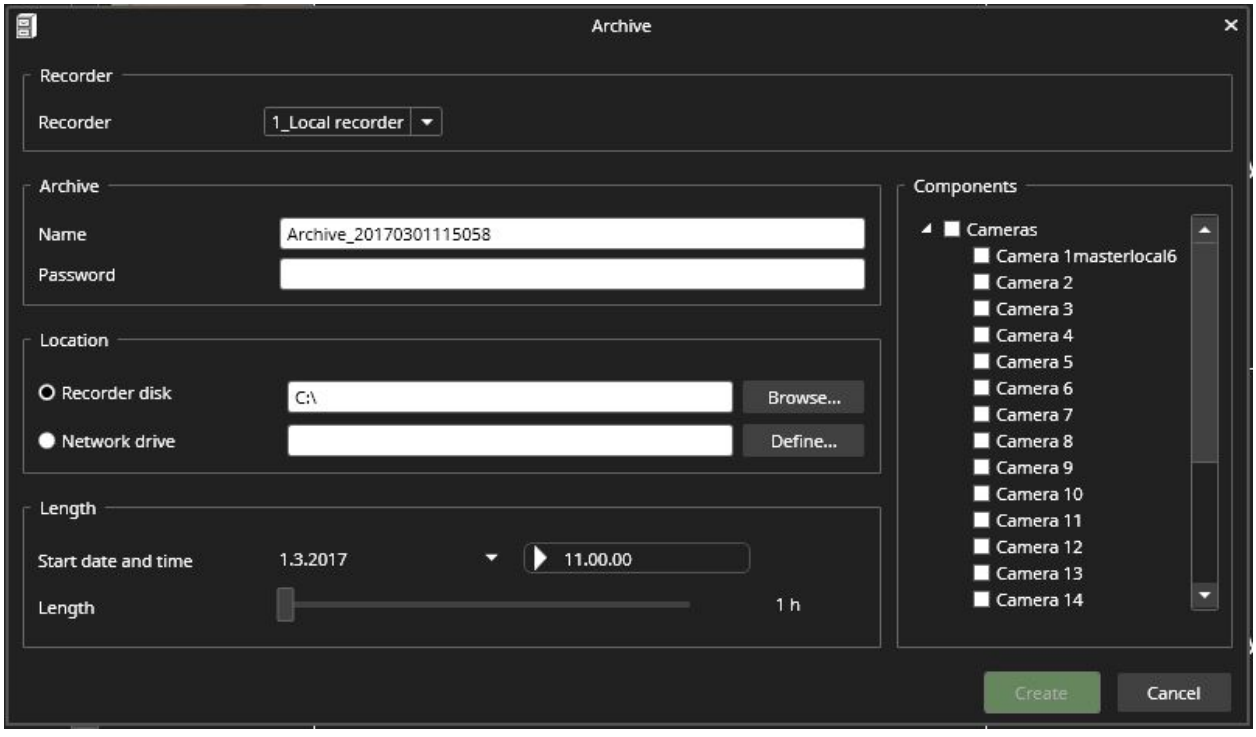
1.18.1. Create Archive On Local PC

Create Archive On Local PC

Archive creation is only allowed if the archiving feature is enabled in the license. Create an archive in Spotter by selecting “Create archive” from the File menu.

Archives are created to the VMS server’s filesystem or a network drive. To create an archive, the user has first to select the VMS server and location where the archive is to be created, then define the cameras and the timeframe to be archived. Time can be from 1 hour to 1 week.

The archive creation process is displayed in the notification area on the title menu. When the process is finished, a note can be seen in the system status message display on the title bar.



1.18.2. Opening archive or clip

Opening archive or clip

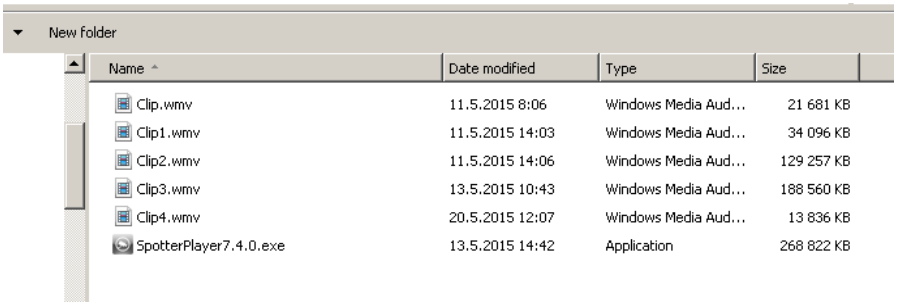
Archives or video clips are opened by the F4 key or the File menu “Open Media” option.

Media will open into a separate new window. The user can export archive material.

1.19. SpotterPlayer

SpotterPlayer

A spotter can be used to view video clips and archives. Mirasys has also made available an executable version of Spotter, the SpotterPlayer, that can be handed over to law enforcement or other authorities that would like to review video clips or archives as part of the investigation on possible illegal activities.



When the user exports files, the player is copied to the target folder if it is not already there.

SpotterPlayer is included in the complete Mirasys setup package. When handing over video evidence material to 3rd parties, the users should therefore remember to provide also the SpotterPlayer with the material.

SpotterPlayer contains and redacted version of help that opens automatically, instructing the novice Spotter users how the basic features of Spotter can be used.

SpotterPlayer supports 360 image de-warping, motion search, text data search, and bookmarks.

Please note that you cannot use SpotterPlayer while the standard version of Spotter is running.

The first SpotterPlayer startup takes approximately 25 seconds.

SpotterPlayer is the default media player, and it will be automatically exported to the target clip folder. It is also possible to use the SpotterPlayer to view storyboard clips.

The cameras retain their 360 de-warp or virtual camera zoom settings when they are exported. Users can reset or change these settings at the time of viewing.

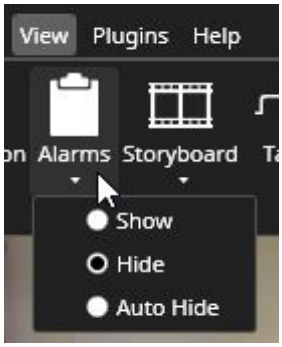
1.20. Alarms

Alarms

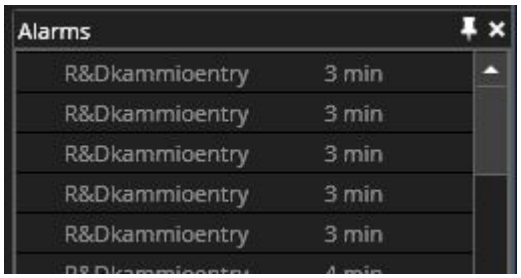
1.20.1. Alarm List

Alarm List

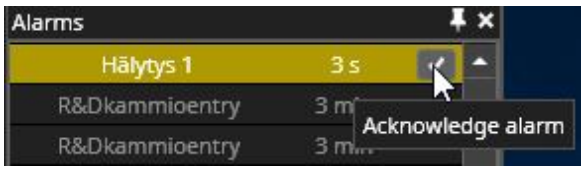
In Spotter, each Spotter window can have its alarm list. The alarm list visibility is controlled from the view menu.



The alarm window shows the name and the priority of each alarm.



Behind the alarm name, there is a timer that shows how long ago the alarm was started. The unit can be in seconds, minutes and hours.



It is also possible to acknowledge alarms. For active alarms, there is an "Acknowledge alarm" button. The button is visible for all alarms during their duration. It is also possible to set this option active in the System Manager application's Alarm settings. In that case, the alarm is active until the user acknowledges it.

The maximum amount of alarms in the alarm window is 100. If the limit is exceeded, then the oldest inactive alarm is removed. Underneath the alarm window, there is a pull-down window with options to show all alarms (default) or only active alarms.

Frequently Used Keyboard Shortcuts:

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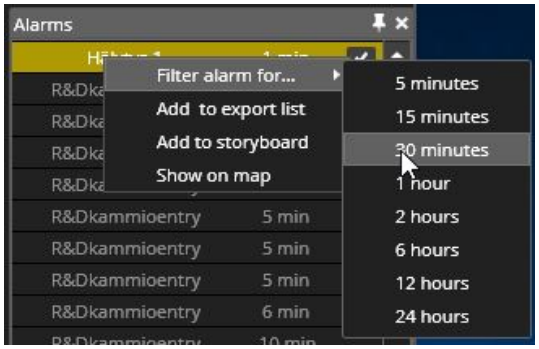
Shortcut	Description
F5	Focuses on the first alarm.
Ctrl+F5	Show/hide alarm window.
Enter	Opens the alarm in the alarm view tab.
Space	Acknowledges the focused alarm.
Ctrl+Alt+A	Hide/show the alarm list.

1.20.2. Alarm Filtering

Alarm Filtering



The alarm window also can filter alarms. Filtering can be done by selecting an alarm and opening the right-click menu. The user can filter an alarm for 5, 15, or 30 minutes, or 1, 2, 6, 12 or 24 hours. The alarm is removed from the standard alarm list during the filtering, and new occurrences are not shown. The alarm sound and alarm pop-up are also disabled during filtering.

The maximum number of filtered alarms is 50.

The filtered alarms are moved to a filtered list underneath the alarm window. The filtered list can be in an open or closed state. Each filtered alarm has a counter that shows how much longer the alarm remains filtered. There is also a button to remove alarm filtering. Filtered alarms can be unfiltered at any time. Although alarms are inactive in the filter window, they still show an alarm state. If a filtered alarm is inactive, it is greyed out, and when it is active, it has a white font. If there are no filtered alarms, the filtering window is not displayed underneath the alarm window. The filtering window is displayed in all Spotter windows if it has also the alarms window open.

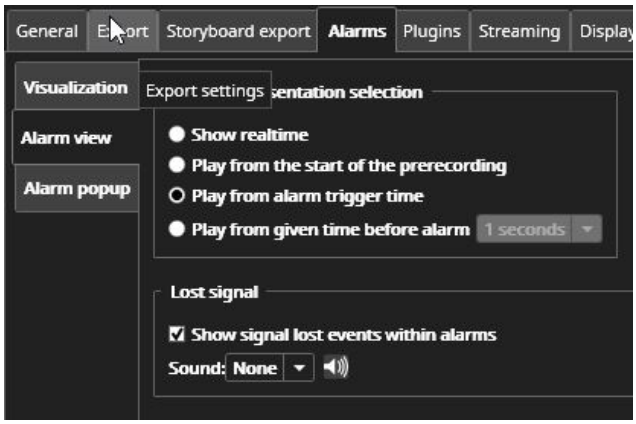
The alarm view can be opened for filtered alarms by a mouse double-click or drag and drop.

1.20.3. Signal Lost Alarms

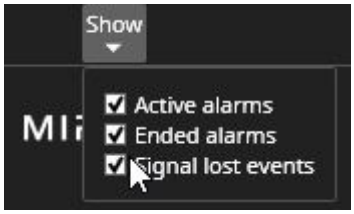
Signal Lost Alarms

It is also possible to show cameras that lose the video signal as alarms in the Spotter window.

This is achieved by activating the setting "Show signal lost events within alarms" in Spotter Settings' alarms tab. In the same place, the user can choose from preformatted alarm sounds, which sound is played when the signal lost event occurs.



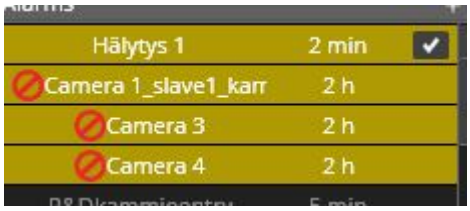
Signal lost events are shown in the alarm list if the "Show" configuration is set to show them. By default, the signal lost alarms are not shown, so to get the feature working, the user needs to open the alarm list and select the signal lost from the configuration list.



The setting is saved into layouts.

Even if the alarm list is hidden, if the "show" filter is configured to show the signal lost event, the sound file is played when the event happens.

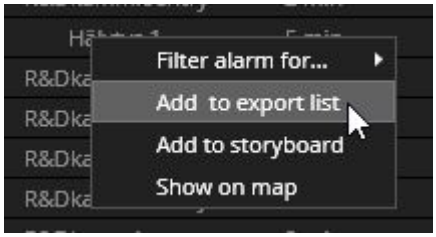
If the alarm list is configured to show the signal lost as an alarm, it appears with the lost icon.



When the signal returns, the event is still visible, but now it is shown as ended (greyed out). The tooltip shows further information.

1.20.4. Alarm Export

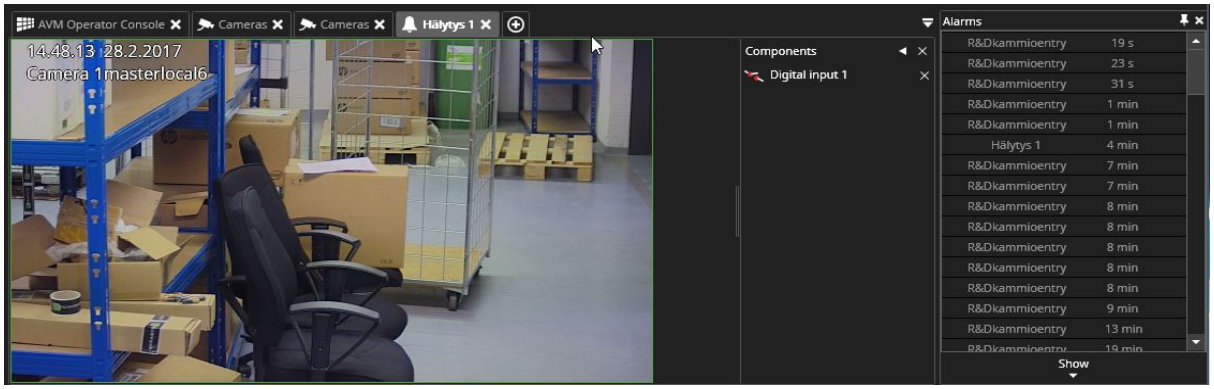
Alarm Export



Alarms are exported by dragging the alarm from the alarm list or the alarm view to the export area. The alarm list also has an option in the single alarms right-click menu to add an alarm to the export area.

1.20.5. Alarm view

Alarm view



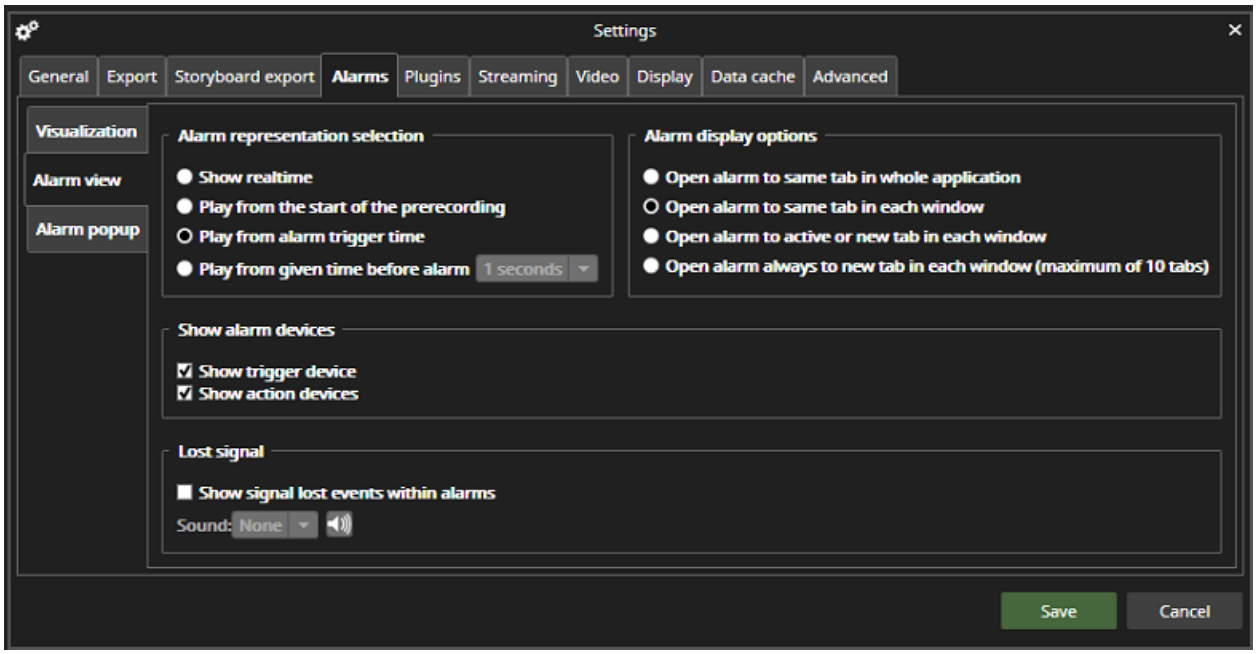
Alarm trigger and action views can be opened to an alarm tab. The user can define in Spotter alarm settings how an alarm is opened in a tab.

It is possible to open all alarms in the same tab, so that an old alarm is always replaced with a new one in the same tab, or it is possible to make a new tab for each alarm (maximum number of tabs is 50, so after the maximum has been reached, oldest ones are replaced with new alarms).

There is also the possibility to set each alarm to appear in its alarm tab, in its Spotter window or all Spotter windows.

Alarm Settings also define from what point the alarm is opened. It can be opened in a real-time view or playback view.

Playback start can be the start of alarm or start of alarm prerecording. A timer can also be set so that the alarm opens specified seconds before the alarm trigger start time.

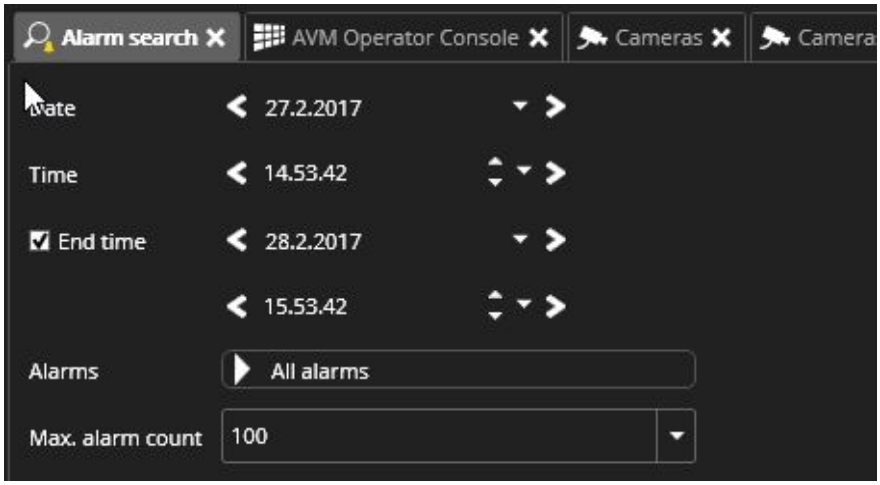


When an alarm is opened to the alarm view tab, the alarm name is visible in the tab, and the tab is indicated with a special alarm icon to differ from regular tabs. The tab icon is different when the alarm is active and when it is not active.

1.20.6. Alarm Search

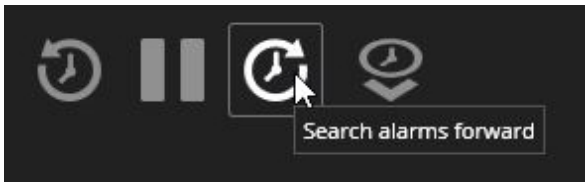
Alarm Search

Alarm Search can be opened from the" Search" menu.



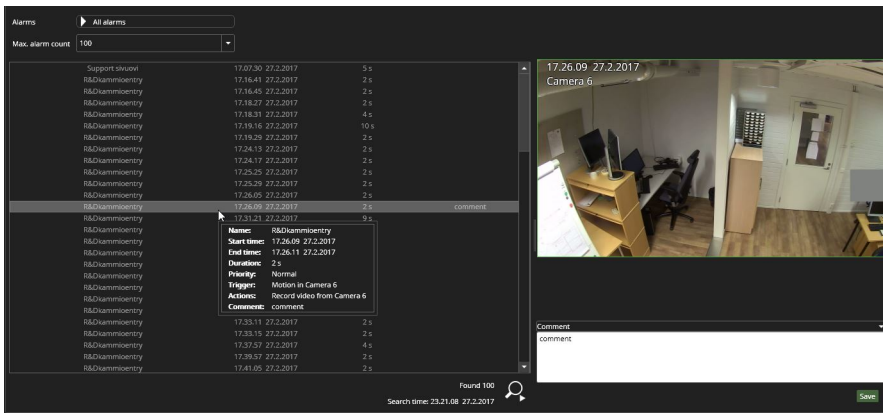
The alarm search tab is a separate tab plugin. There are options to set the alarm search start time with Date and Time selections on the right side of the alarm search tab. Below the Time Settings, there is an alarm pull-down list. It contains all alarms that are included in the selected profile. The user can search for one alarm or several alarms. There is also an option to search for all alarms.

On the right side of the alarm search tab, there are buttons to start the actual search. There is a search backwards and search forward button with a clock icon. The search goes backwards or forwards from the set time. Next to the search backwards and forward buttons, another button searches for the most recent alarms.



When a search is running, the pause button between the search backwards and search forward becomes active, and the user can stop or pause the search. After alarm search time and date searches are changed, the last found item becomes the new time. This way, the user can repeat the exact search further if necessary.

Alarm results are displayed in a list that shows the alarm name, alarm start time, duration and comment. The user can sort the list by clicking on the title fields.



Selecting a single alarm shows detailed information of the alarm in a tooltip. When an alarm is selected, the cameras and other devices mapped to it are displayed in the alarm preview field to the right of the result list. The playback controls can be used to review results. Each click will refresh the contents on the right.

The tooltip shows the name, start time, end time, duration, priority, trigger, action and alarm description and alarm acknowledgements if these are set to alarm and the comment. Double-clicking on an alarm occurs in the list, opens up the alarm in the alarm view tab.

1.20.7. Commenting alarms

Commenting alarms

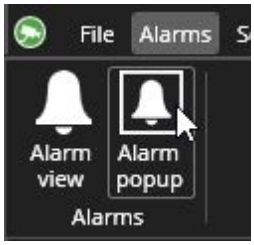
Comments can be added to alarms in the alarm search view. The comment is displayed on a single line in the result list and a separate Comment field below the alarm component preview area.

Commenting is possible in two ways; it is possible to start writing the comment after selecting the result list's alarm. In this case, the Enter key will save the comment.

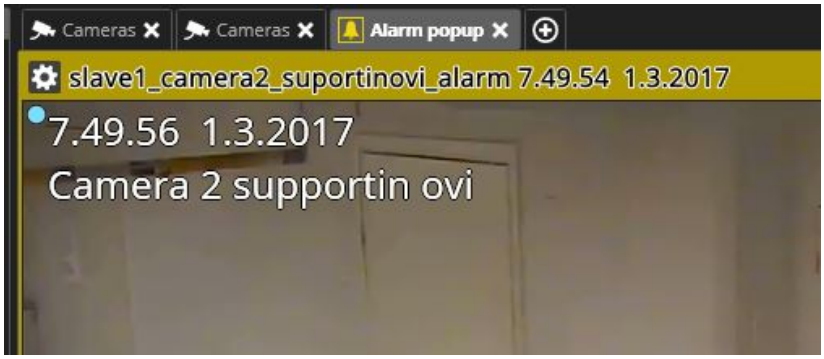
Another way to add a comment is to select a comment, click with the mouse in the comment field below the preview area, write the comment, and press "Save". This way, it is possible to use the Enter key to enter newline characters.

1.20.8. Alarm popup

Alarm Popup



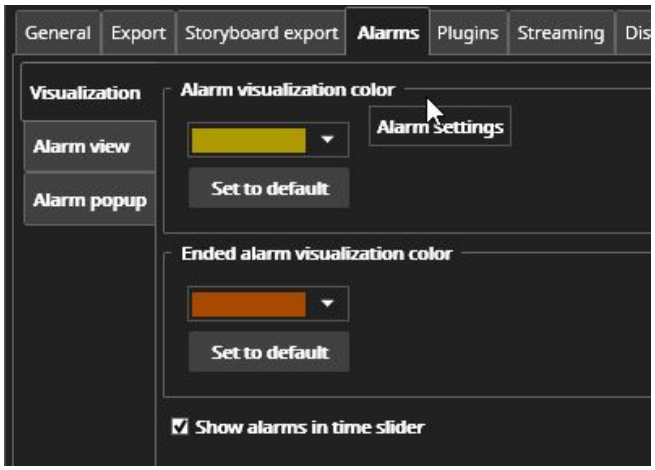
The alarm popup plugin can be used to alert a user when a new alarm is activated. The popup window can be a new tab or placed in a camera grid cell. The popup can be opened from the Alarms menu or the device tree.



When the alarm popup tab is open, any new alarm components are automatically opened to it, and they remain there for as long as the alarm is active.

The popup is by default highlighted with yellow colour when an alarm is triggered.

The alarm visualization colours can be customized in alarm settings. The colours can be changed separately for active alarms and ended alarms.



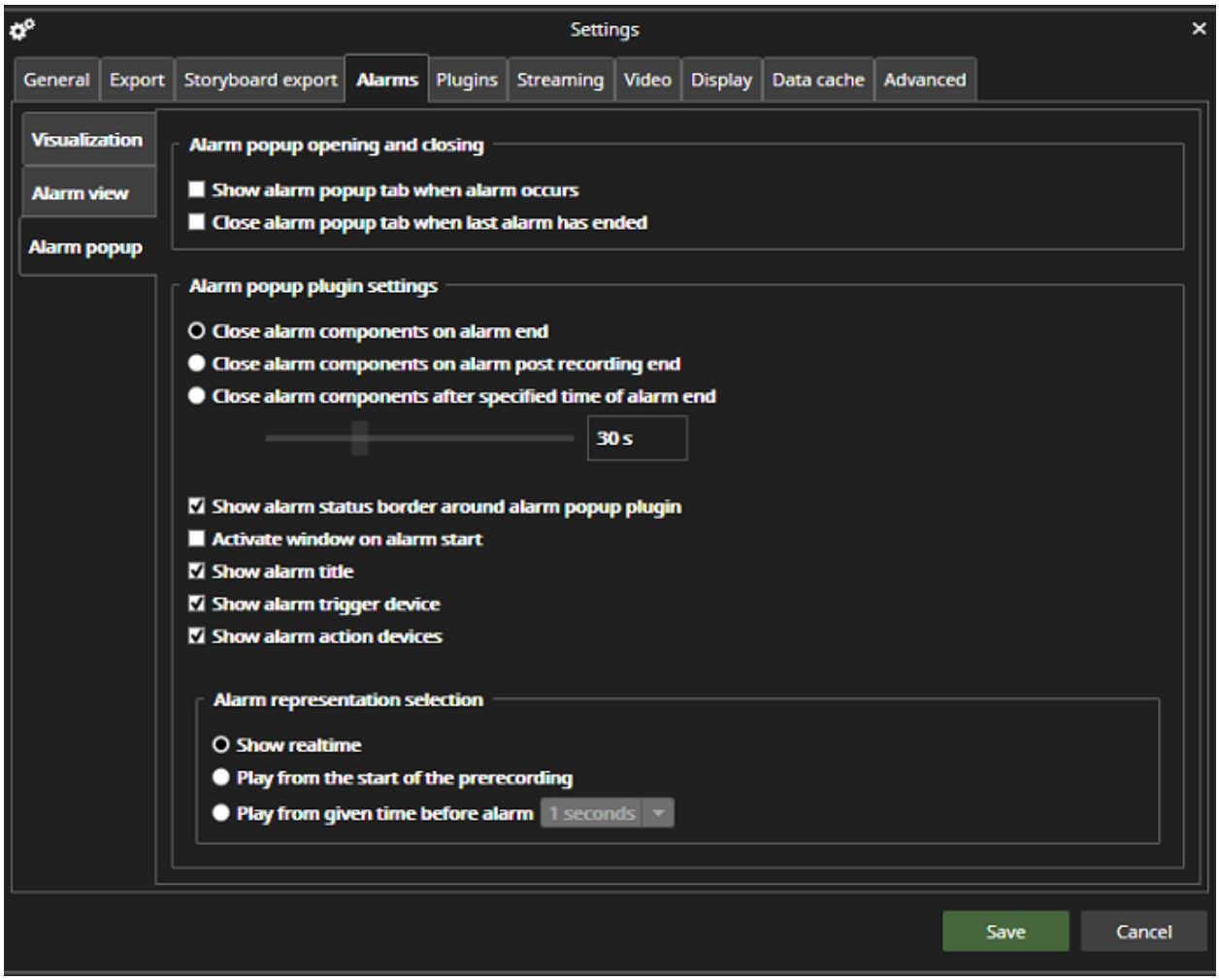
System administrators can also define a custom colour for each alarm in the System Manager application. There is no difference in the colouring between an ended alarm or an ongoing alarm for such alarms.

The custom colour is reflected in time slider grouped alarms only if all alarms in the group are of the same colour.

There are various settings for alarm popup behaviour. The standard settings for all popups are adjusted from Spotter Settings. The filter settings for individual popup tabs are adjusted from the popup tab settings.

The user can define whether the tab is automatically opened if it is not open or whether the window containing the popup tab is brought to the foreground if it is already not in the foreground.

Also, the time of how long the alarm devices are visible can be controlled.



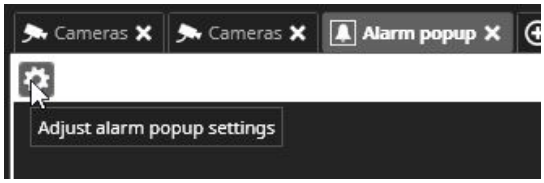
It is also possible to control the alarm title and the alarm status border, and the time from which the alarm components start playing. The Alarm popup can also be used in the Agile Video Matrix (AVM).

1.20.9. Showing the Alarm Name in Alarm Popup View

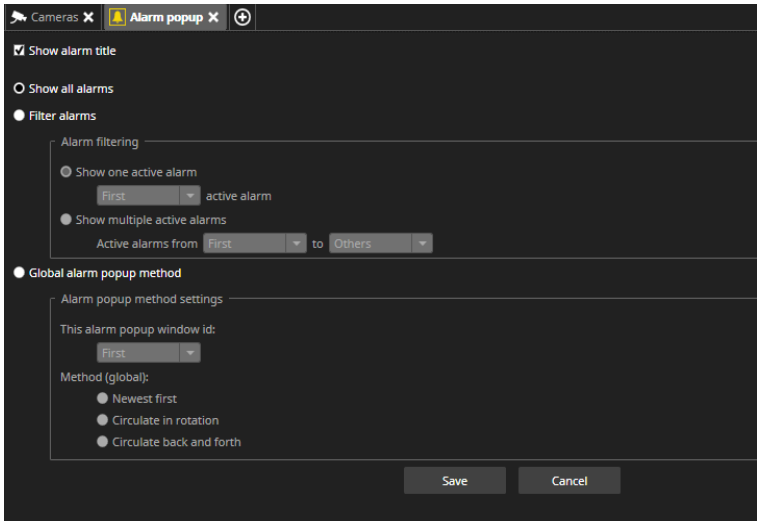
Showing the Alarm Name in Alarm Popup View

The alarm name can be controlled from both Spotter settings (system default) and alarm popup-specific settings.

When the user is "administrator" or has System Manager rights in the user group, he can see the Alarm Popup setting view.



Clicking this will open the Alarm popup in setting view:



The visibility of the alarm title can be controlled here for this single instance of the Alarm popup. When activated, it displays the alarm name with the popup.

If there are multiple active alarms, their names are listed on top of each other.

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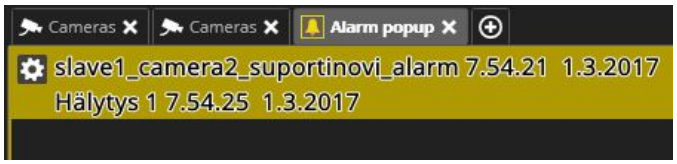


1.20.10. Use of Multiple Alarm Monitors

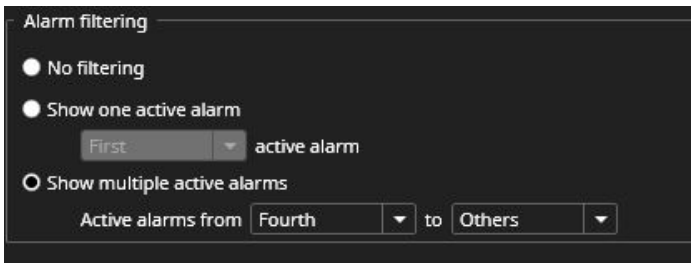
Use of Multiple Alarm Monitors

With the same Alarm popup settings as above, it is possible to configure the system to use multiple alarm monitors so that only a single alarm (or multiple if desired) is shown on each monitor.

The system can be configured, for example, to have four separate alarm monitors. Then alarm monitor number 1 will show the oldest alarm, monitor 2 shows the second oldest alarm, and 3 shows the third oldest alarm. Monitor 4 can, for example, be configured to show the rest of the alarms.

The configuration is done by defining which alarm the Alarm popup should show. For configuring alarm monitor 1, the first active alarm should be selected in the filtering.

For the second and third, a new alarm popup should be opened and then the filtering adjusted accordingly. For the 4th and additional alarms, the setting should be changed like this:

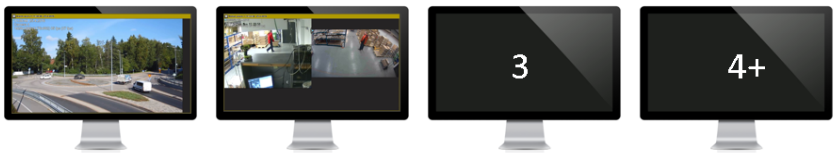


With these four-alarm popup windows open and configured, the layout should be now saved.

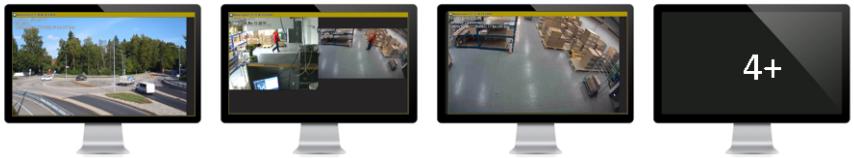
When there are no active alarms, the alarm monitors display a clarification number to know which monitor.

When there is only one alarm active, it is displayed on the first monitor.

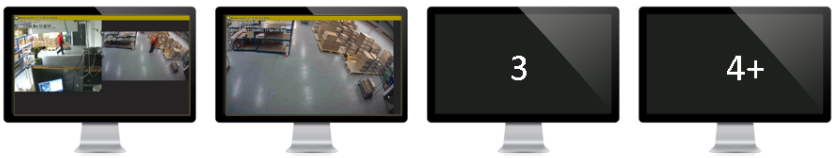
If two alarms are active, the oldest is displayed on the first monitor, and the newer alarm opens on the second monitor.



The third alarm on the third monitor.



When the oldest alarm ends, it will be closed from the first monitor (1). The monitors will automatically refresh so that the alarm previously in monitor 2 is now in monitor 1, and so on.



If the alarm settings have been defined so that alarm components are kept open longer than the alarm duration, the move of alarms will happen only when the alarm components are closed. In this case, the alarm colour in monitor one will change from the active alarm colour to the ended alarm colour.

The alarm popup filter setting is saved to layouts and saved tabs.

When using AVM, it is recommended to create a camera tab, open the alarm popup to the camera tab, configure the filter, and then save it with the appropriate name. The tab can then be opened to AVM using the AVM Operator Console.

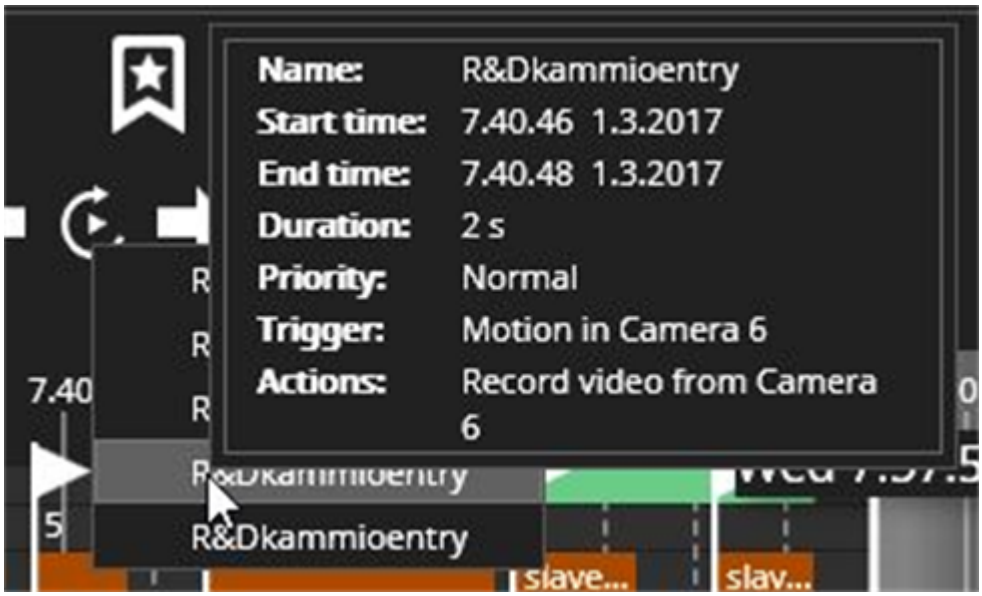
It is also possible to configure the multiple alarm monitors to show the Alarm popup and Profile map side by side by configuring the Profile map to use similar filtering settings as the alarm popup.

1.20.11. Alarms in Time Slider

Alarms in Time Slider

Alarms can be displayed on the Time Slider. The default setting is off. The setting can be controlled from the Activity panel configuration (a small arrow in the right activity panel).

The user can right-click on the alarm bar on the time slider to display a shortcut menu to access the alarm.



As the time slider is zoomed in, the alarms are automatically grouped under a heading number that shows how many alarms are in each group.

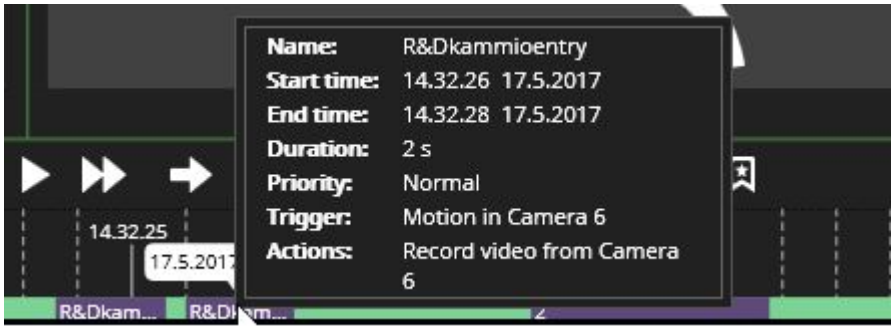
1.20.12. Alarms In Activity Panel

Alarms In Activity Panel

Active and ended alarms can be shown in the activity panel. The default setting is off.

The settings can be adjusted from the time slider settings.

Based on the time slider zoom level, alarms that are close together are grouped. Like bookmarks, these alarms can be accessed with mouseover and mouse right-click menus.



Frequently Used Keyboard Shortcuts:

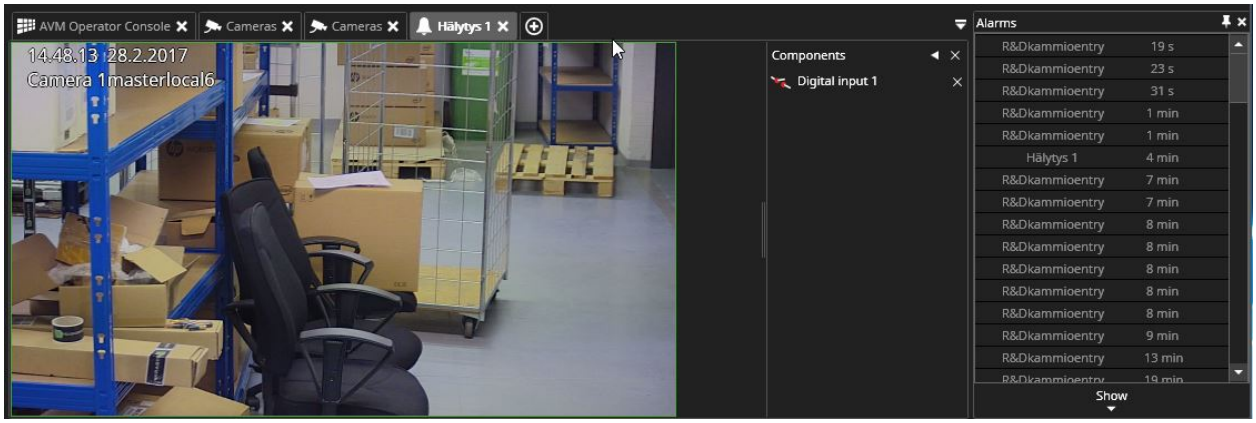
Shortcut	Description
Ctrl+D	Date selection.
Ctrl+G	Time selection.
Ctrl+E	Activity selection.
Ctrl+Alt+Shift+Left	Set playback time -1 hour.
Ctrl+Alt+Shift+Right	Set playback time +1 hour.
Ctrl+Shif+Y	Set playback time +1 day.
Ctrl+Y	Set playback time -1 day.

1.21. Plugins

Plugins

1.21.1. Alarm View

Alarm View Tab



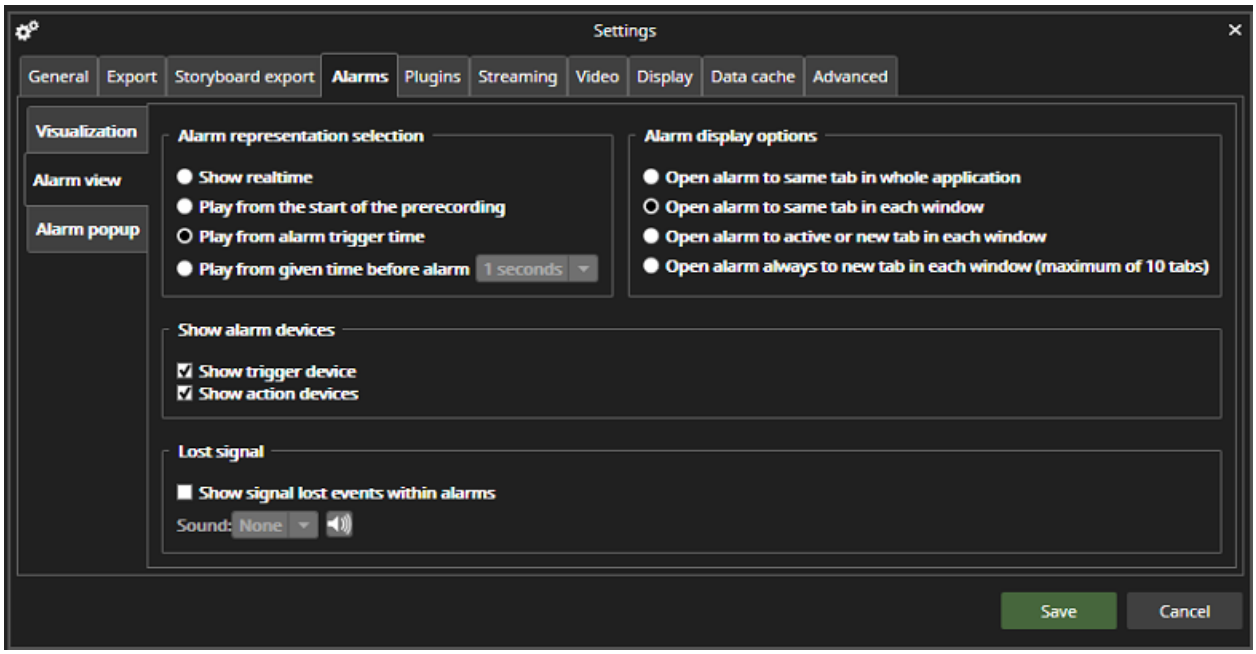
Alarm trigger and action views can be opened to an alarm tab. The user can define in Spotter alarm settings how an alarm is opened in a tab.

It is possible to open all alarms in the same tab, so that an old alarm is always replaced with a new one in the same tab, or it is possible to make a new tab for each alarm (maximum number of tabs is 10, so after the maximum has been reached, oldest ones are replaced with new alarms).

There is also the possibility to set each alarm to appear in its alarm tab, in its Spotter window or all Spotter windows.

Alarm Settings also define from what point the alarm is opened. It can be opened in a real-time view or playback view.

Playback start can be the start of alarm or start of alarm prerecording. A timer can also be set so that the alarm opens specified seconds before the alarm trigger start time.

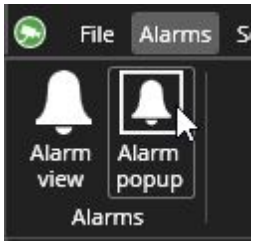


When an alarm is opened to the alarm view tab, the alarm name is visible in the tab, and the tab is indicated with a special alarm icon to differ from regular tabs.

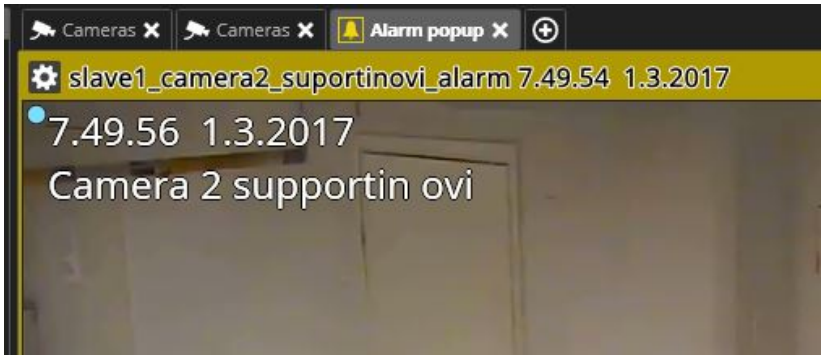
The tab icon is different when the alarm is active and when it is not active.

1.21.2. Alarm Popup

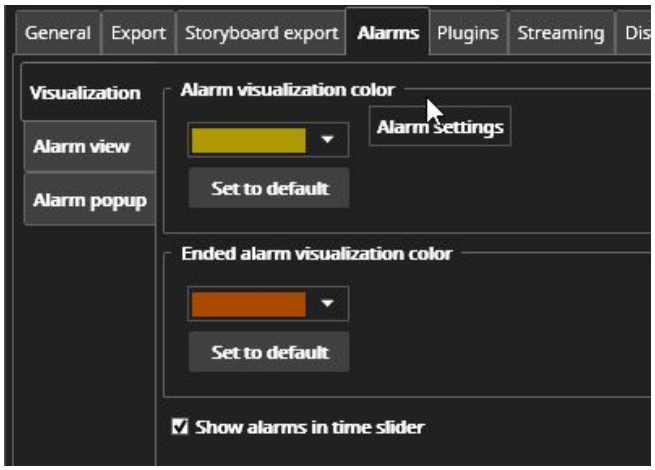
Alarm Popup



The alarm popup plugin can be used to alert a user when a new alarm is activated. The popup window can be a new tab or placed in a camera grid cell. The popup can be opened from the Alarms menu or the device tree.



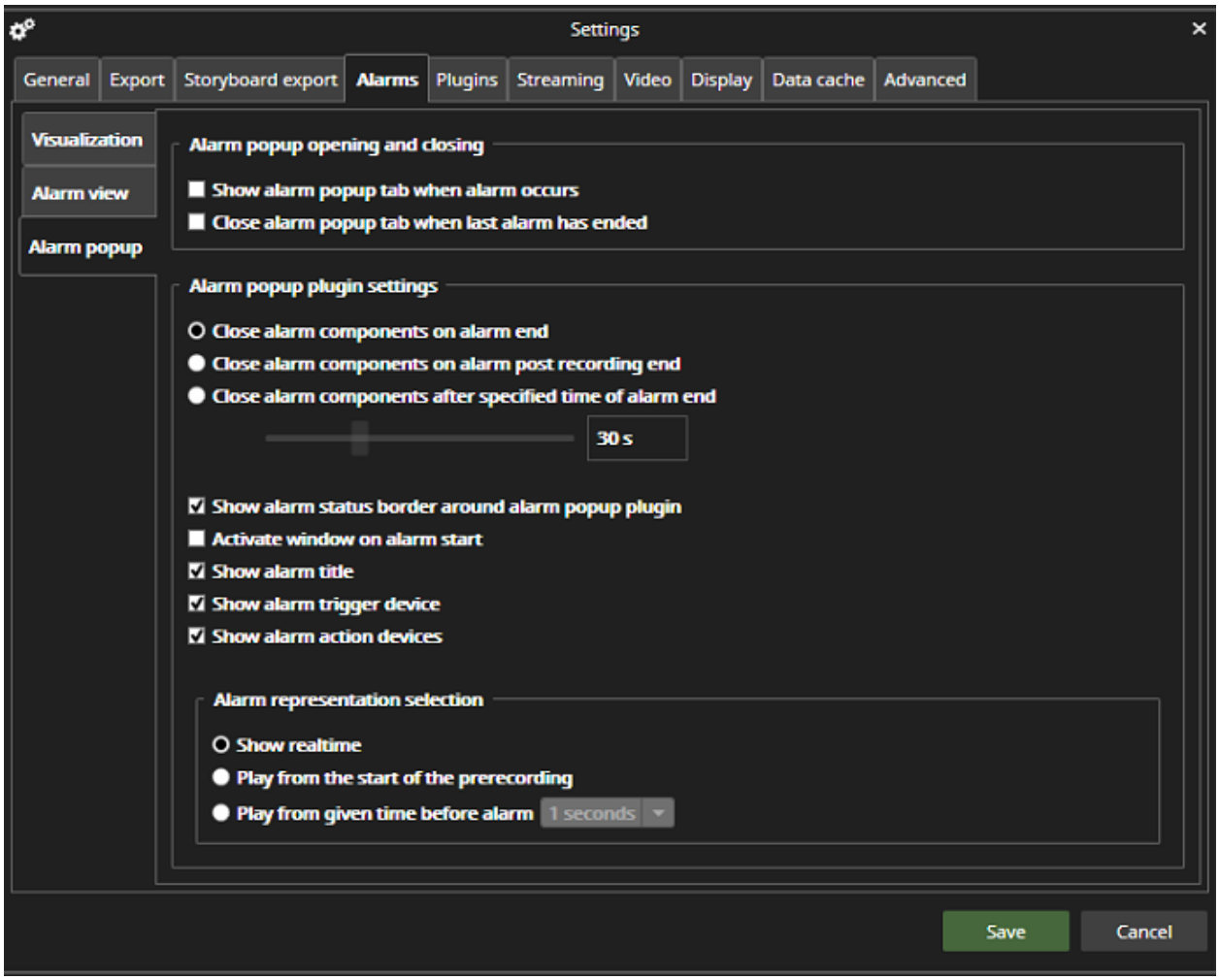
When the alarm popup tab is open, any new alarm components are automatically opened to it, and they remain there for as long as the alarm is active. The popup is by default highlighted with yellow colour when an alarm is triggered. The alarm visualization colours can be customized in alarm settings. The colours can be changed separately for active alarms and ended alarms.



System administrators can also define a custom colour for each alarm in the System Manager application. There is no difference in the colouring between an ended alarm or an ongoing alarm for such alarms. The custom colour is reflected in time slider grouped alarms only if all alarms in the group are of the same colour.

There are various settings for alarm popup behaviour. The standard settings for all popups are adjusted from Spotter Settings. The filter settings for individual popup tabs are adjusted from the popup tab settings.

The user can define whether the tab is automatically opened if it is not open or whether the window containing the popup tab is brought to the foreground if it is already not in the foreground. Also, the time of how long the alarm devices are visible can be controlled.



It is also possible to control the alarm title and the alarm status border, and the time from which the alarm components start playing. The Alarm popup can also be used in the Agile Video Matrix (AVM).

1.21.3. Camera Audit Plugin

Camera Audit Plugin

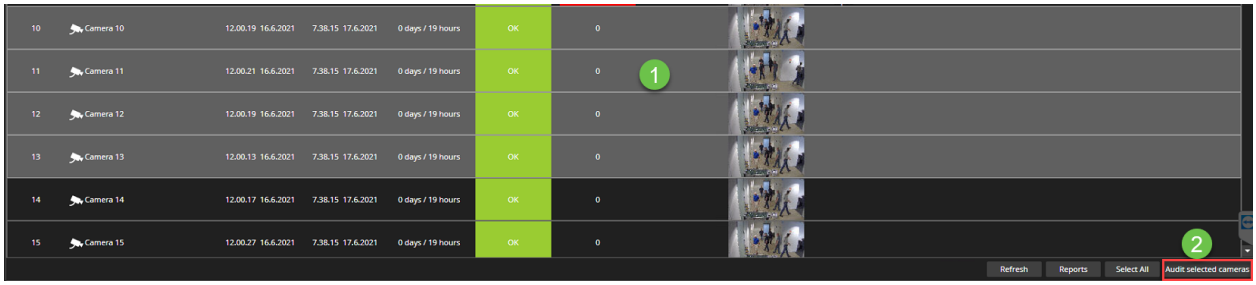
Camera health audit is a plugin that allows the operators to ascertain that every camera of the system works appropriately – plus that the cameras have not been turned/tampered/blocked.

The main report page provides information on the

1. Name of the camera
2. Footage start time
3. Footage end time
4. Footage Days/Hours
5. Current status of the camera
6. 90 days image loss
7. Reference image
8. Current image
9. Audit status
10. Comments

Auditing the cameras

1. Select cameras by control- and shift-clicking
2. Click **Audit selected cameras**



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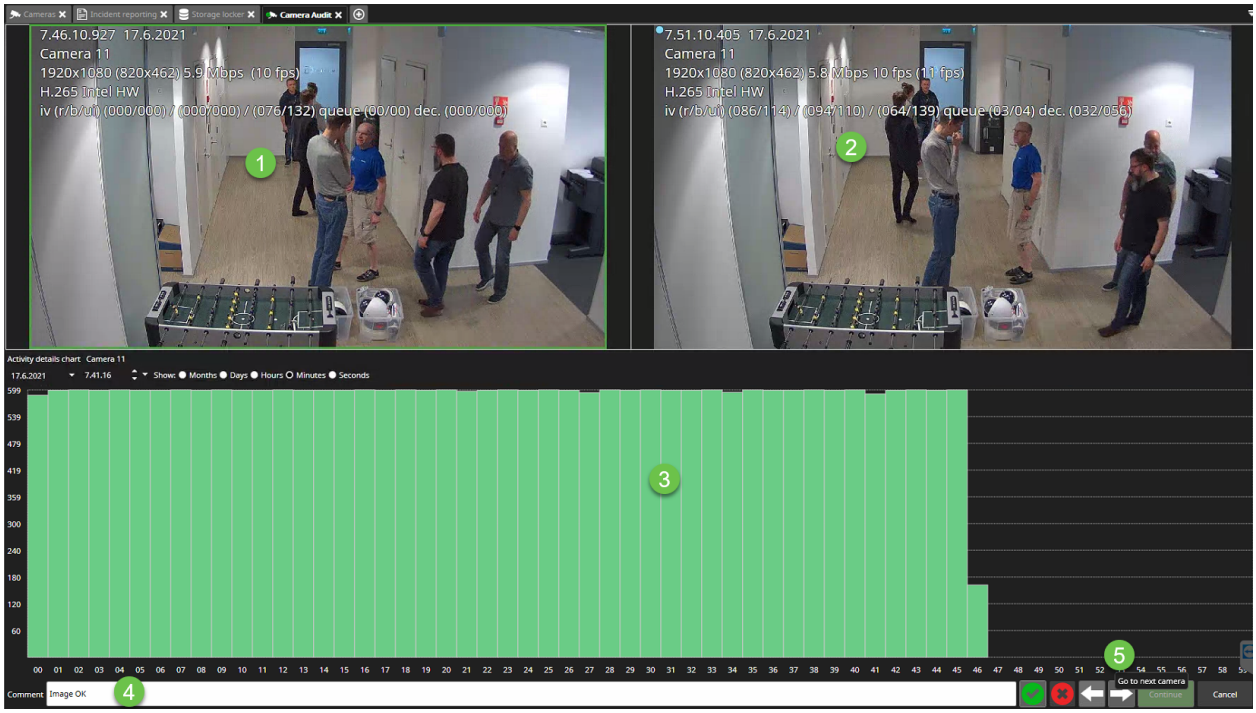
The camera audit view shows the following information:

1. Playback view from the camera
2. Real-time view from the camera
3. Amount of the frames received from the camera
4. You can add a comment to the camera audit report
5. Click **Go to the next camera** continue



1. Repeat the actions with all cameras and click **Continue**

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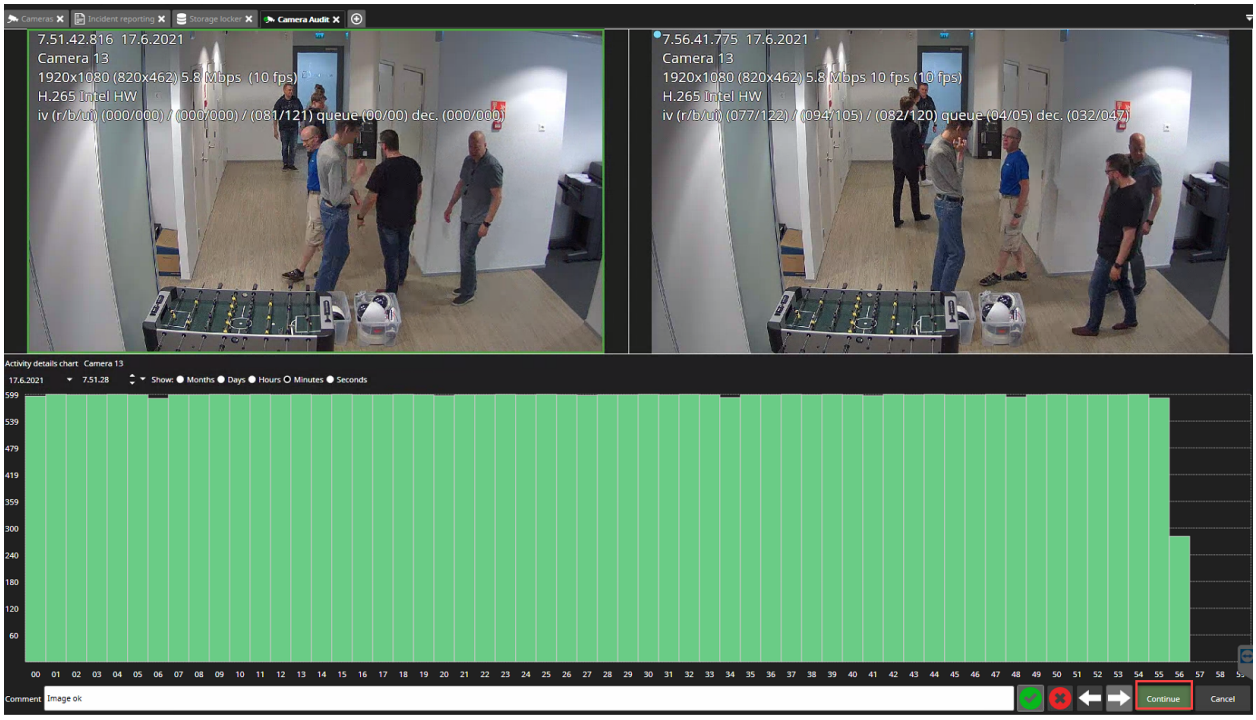
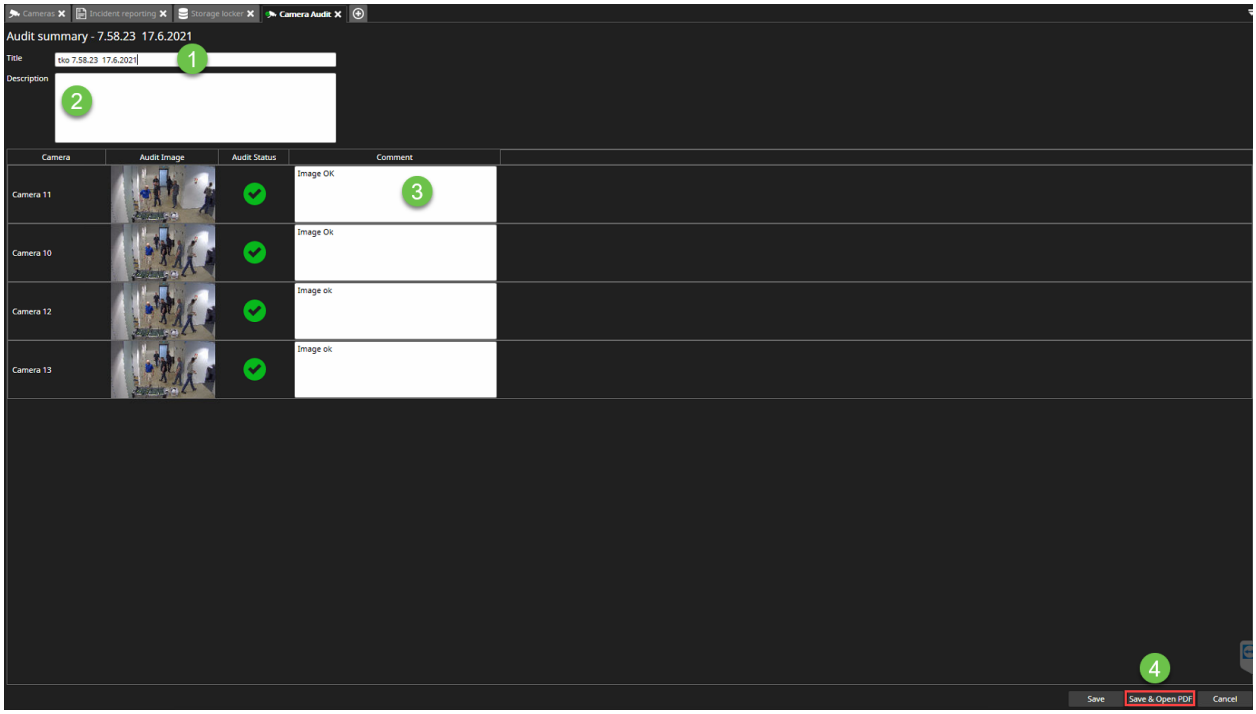


1. Enter the title of the camera audit
2. Type the description, if needed
3. Edit the comments, if needed
4. Click **Save & Open PDF**



From the PDF view, you can do the following actions:

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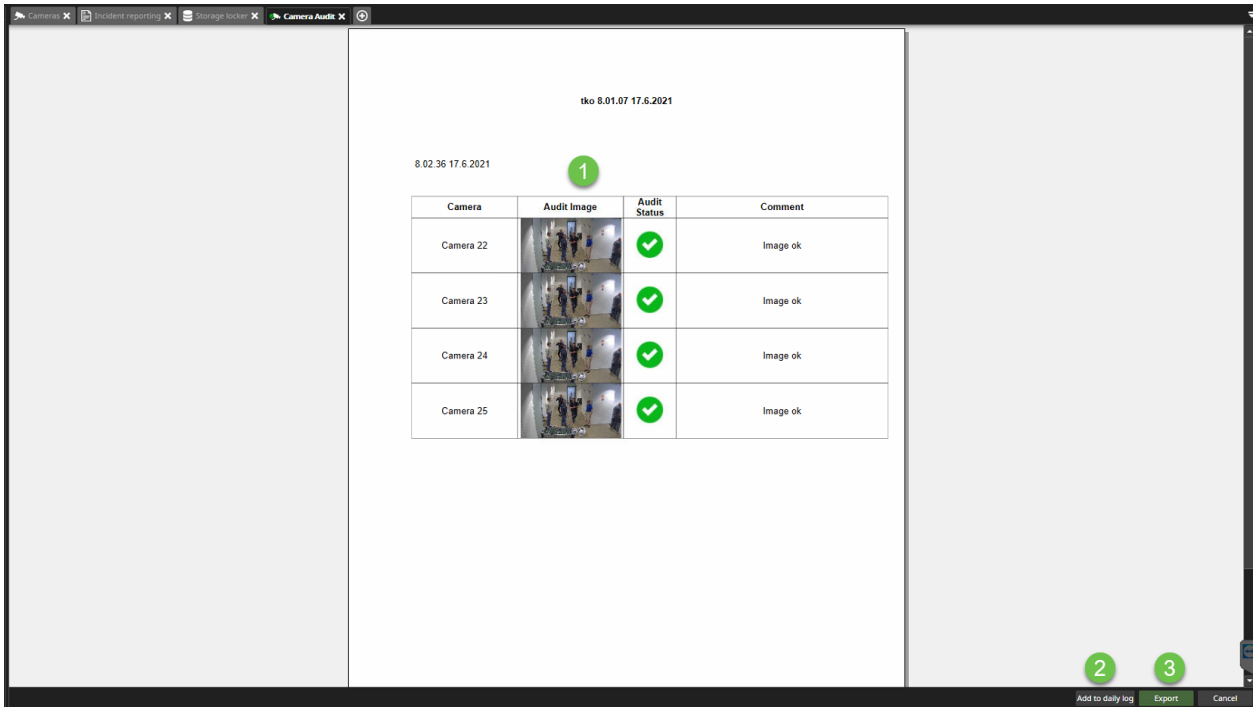
1. See an overall view of the camera audit report
2. Add camera audit report to the daily log
3. Export camera audit



Add to the daily log

1. Click **Add to the daily log**
2. Set the name of the daily log
3. Select **Attach to new daily log or attach to an existing daily log**
4. Click **Save**

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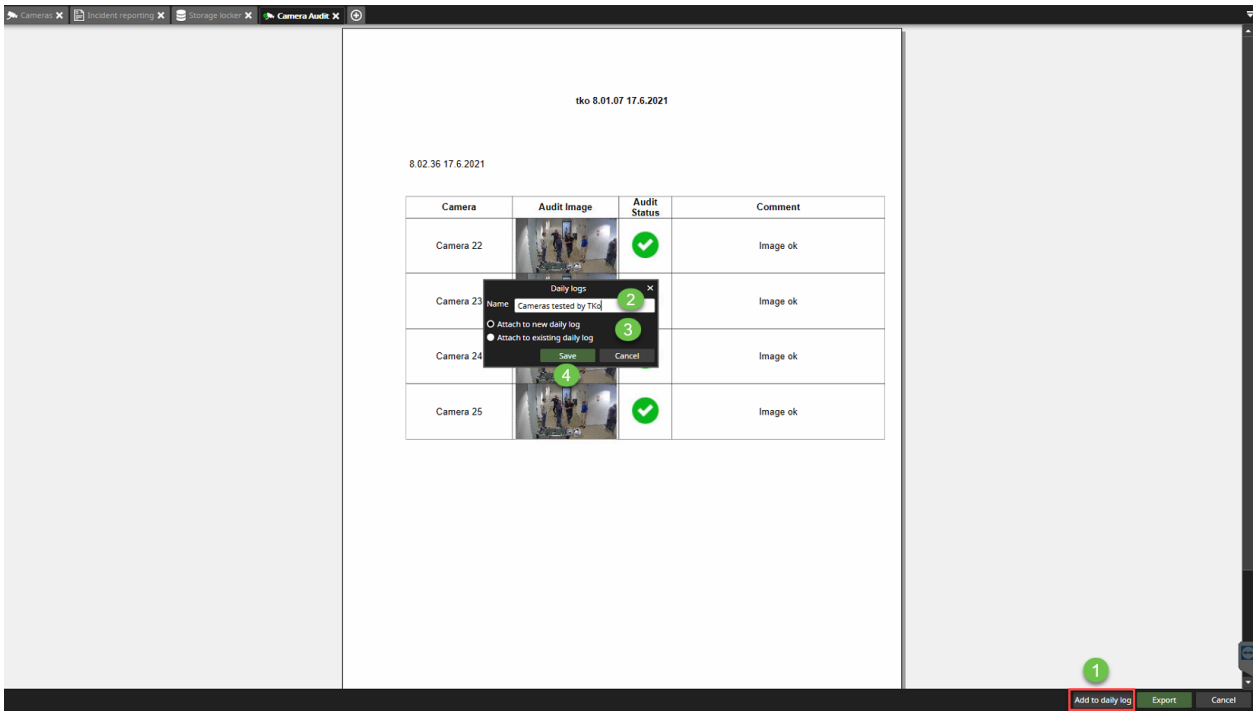
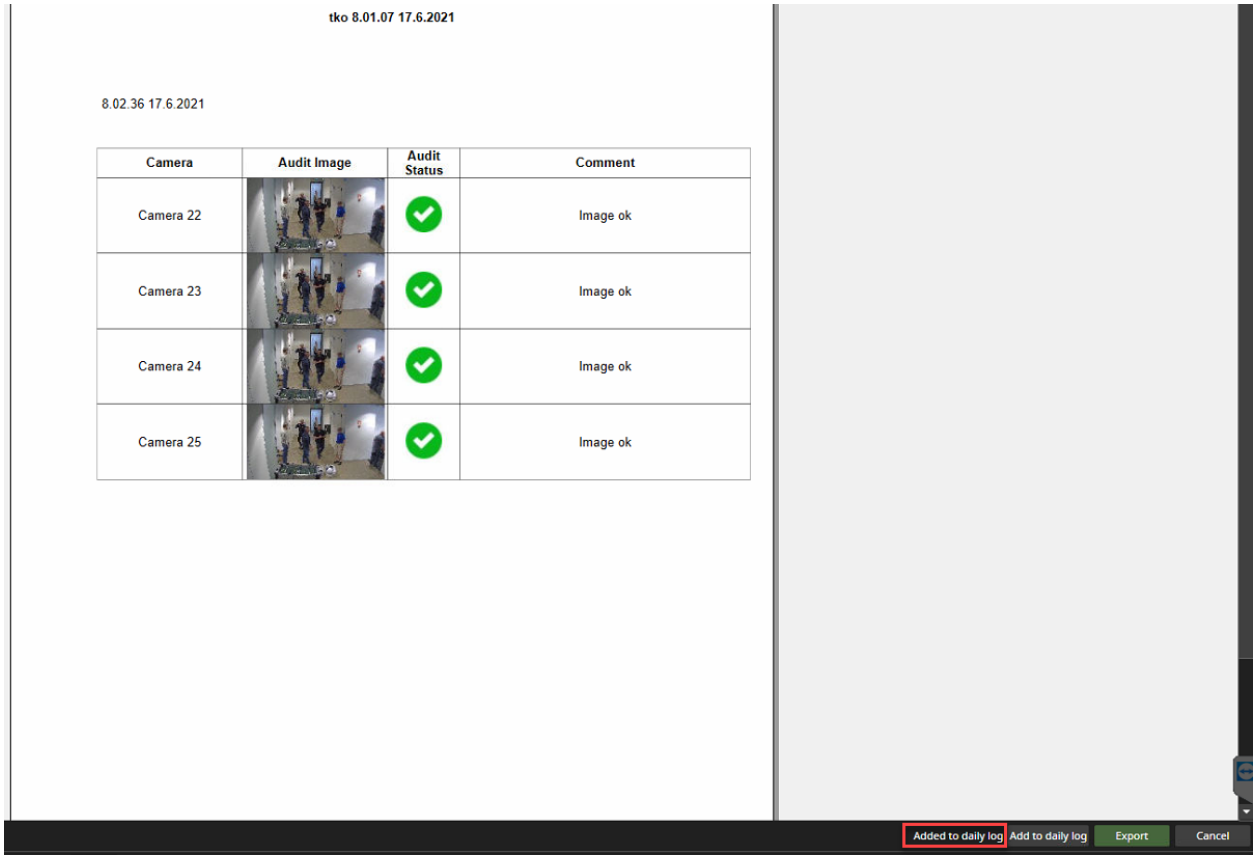


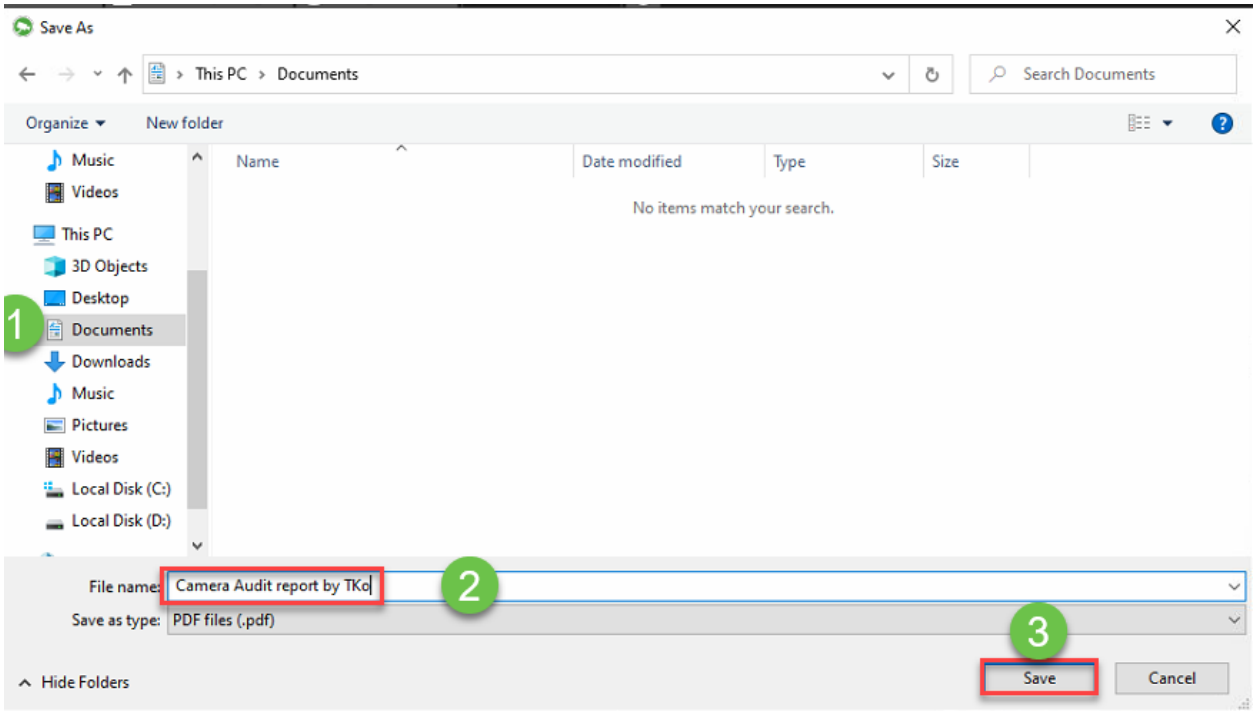
After the saving, you will see a message **Added to the daily log**



Exporting the camera audit report

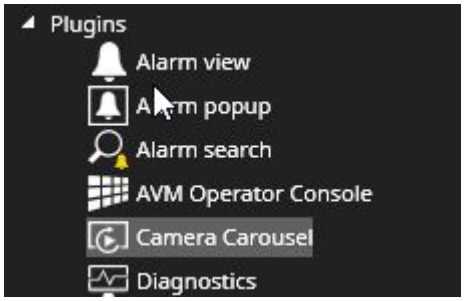
Click Export

1. Select the location
2. Set name for the camera audit export
3. Click **Save**

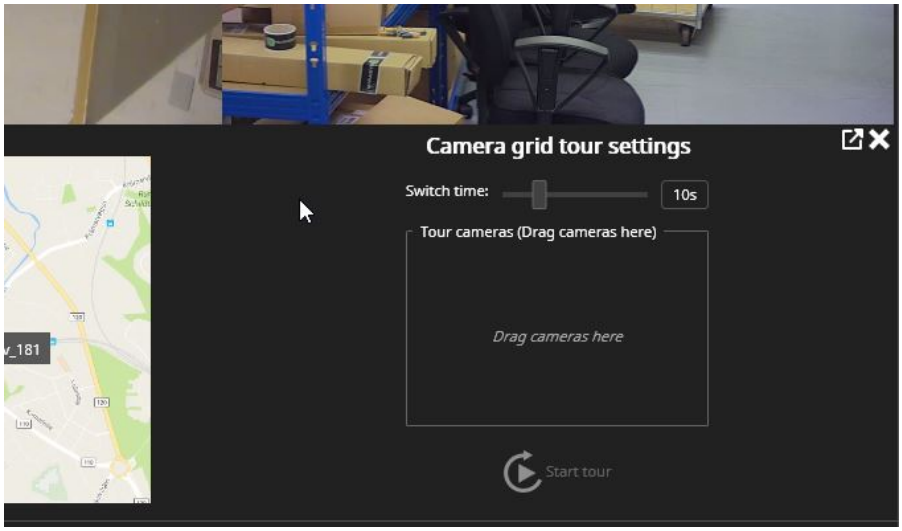


1.21.4. Camera Carousel

Camera Carousel



The Camera Carousel plugin allows users to create a lightweight camera tour on a single Spotter tab camera cell. Begin to use it by selecting the desired camera grid and then dragging the plugin to the cell from the device tree.



The plugin opens in edit mode, and cameras can be added to it.

When the carousel is running, the camera grid cell is indicated with an orange border.

The grid can also be used in a stopped state. The camera toolbar appears when the mouse is taken on top of the carousel, and the buttons can be used to select cameras in the carousel.

The user can now drag and drop desired cameras into the carousel, adjust the cycle time and hit start to start the tour. When the tour is running, the grid cell is highlighted with orange to indicate that the tour is on and the cell is a camera carousel cell.

The carousel can be paused, and cameras cycled forward and back with the controls that appear if the mouse is taken on top of the image.

The settings option allows to add more cameras, remove cameras, or adjust the time.

Pressing the "Edit mode" takes the user into a mode where individual camera settings can be modified. Taking the mouse on top of a camera image in Edit mode displays the camera toolbar. Here the user can edit, for example, zoom, 360 de-warping, or VCA settings.

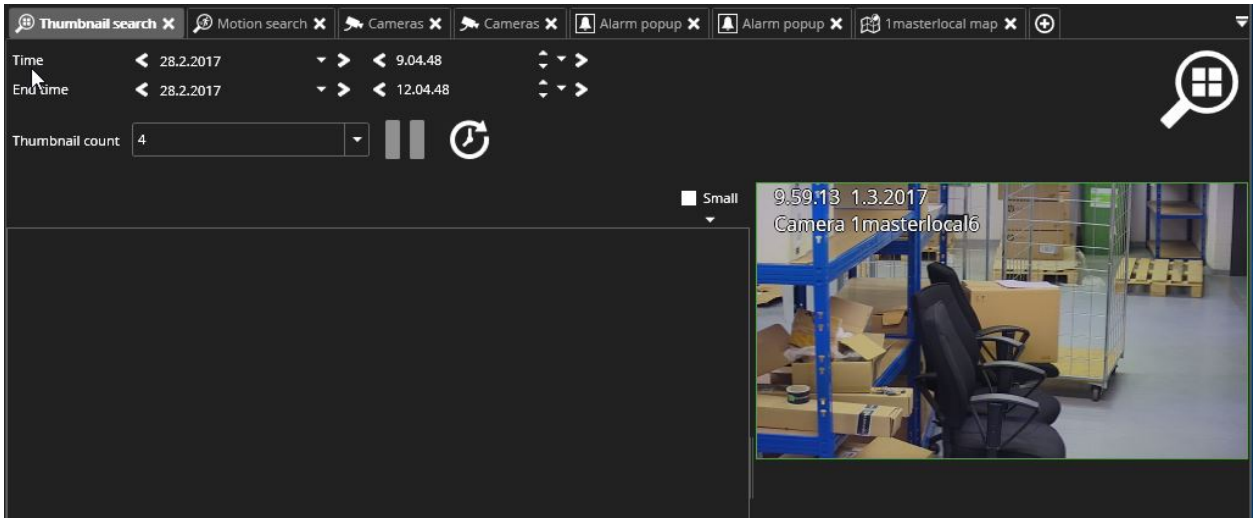
1.21.5. Thumbnail Search

Thumbnail Search

A Thumbnail search gives the user a quick way to inspect camera material visually. It is mainly meant for scenarios where some visual change in the camera view can be noticed, and the user wants quickly to find the time when this change has happened.

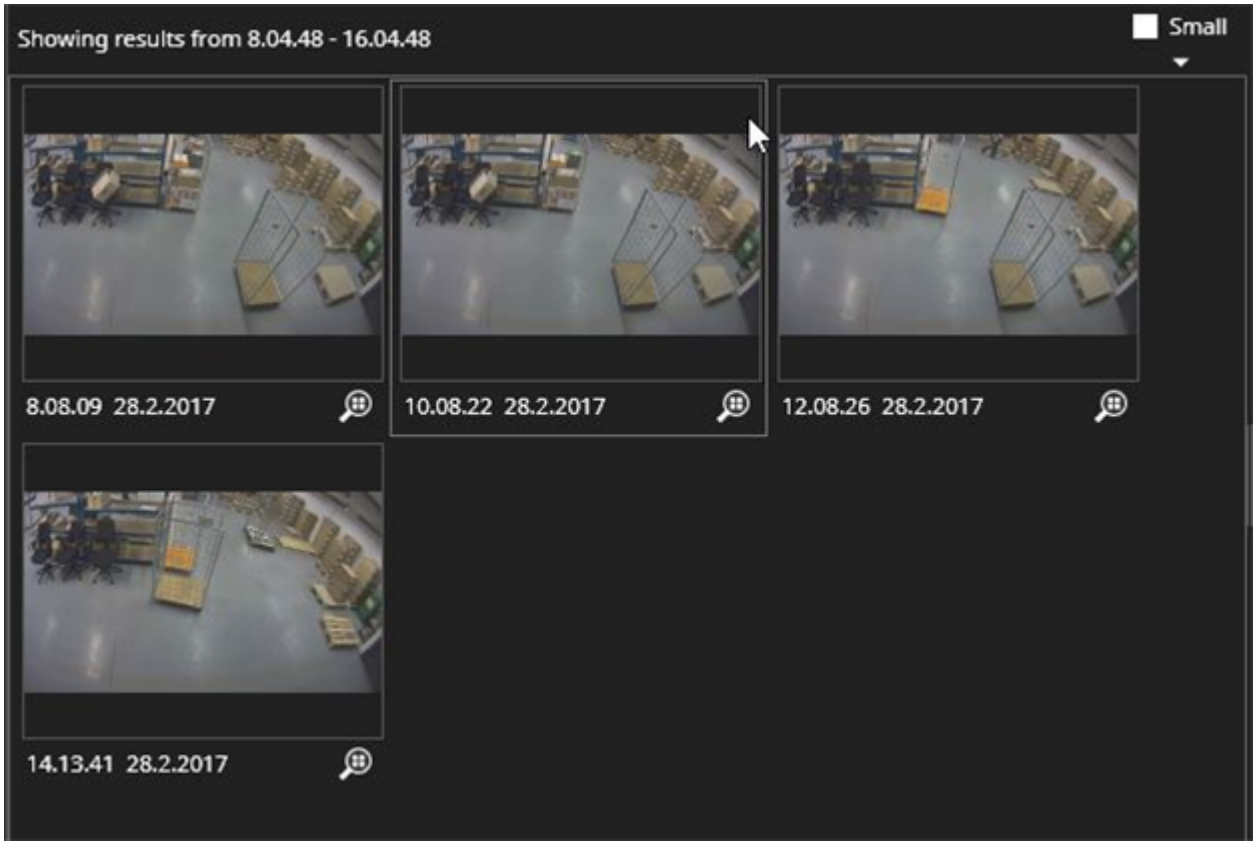
When the Thumbnail search is started, it fetches thumbnails from stored video and displays them on the results view.

The thumbnails are fetched based on the start and end time and a selected number of thumbnails. The default setting is four thumbnails, so four thumbnails are presented whenever a thumbnail search step is done.



In effect, the search timespan is split into four parts and the thumbnails fetched from these times. If no video is available at the targeted thumbnail retrieval time point, the plugin will search time forward until it gets a thumbnail or hits the next targeted thumbnail retrieval time point.

In the example below, we can see that a trolley has changed in the warehouse sometime during the day.

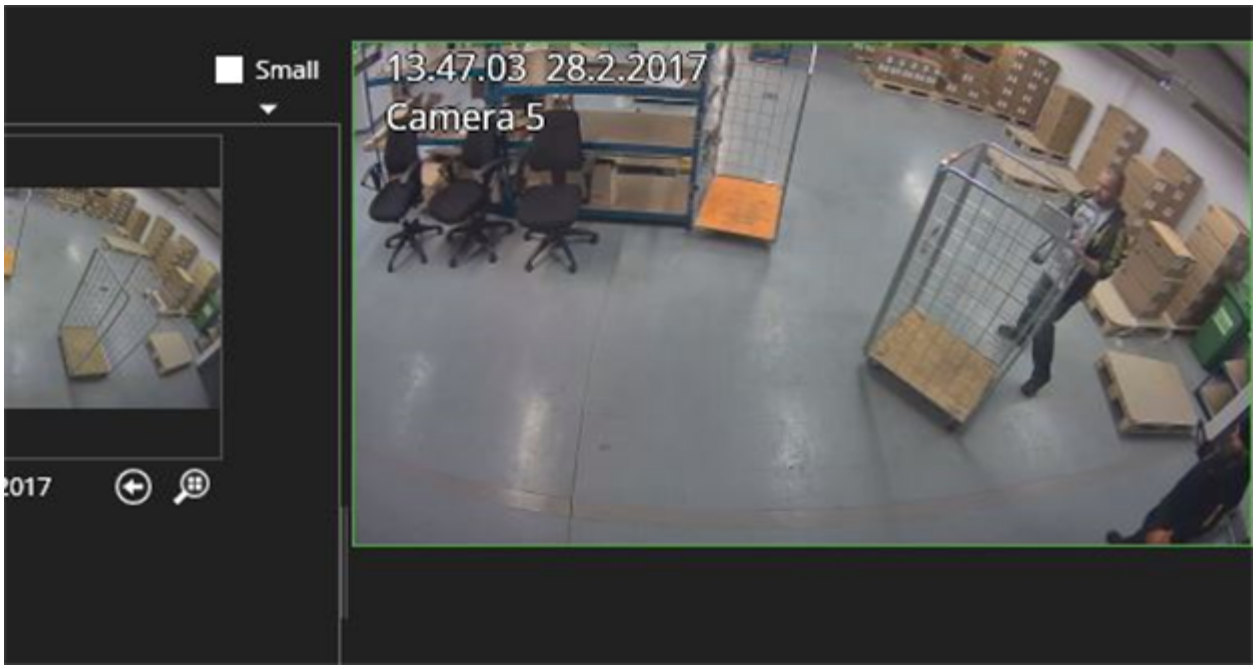


We can see from the timestamps that the change has happened between 12:08 and 14:13. By clicking the third result thumbnail, we can repeat the search for this period.

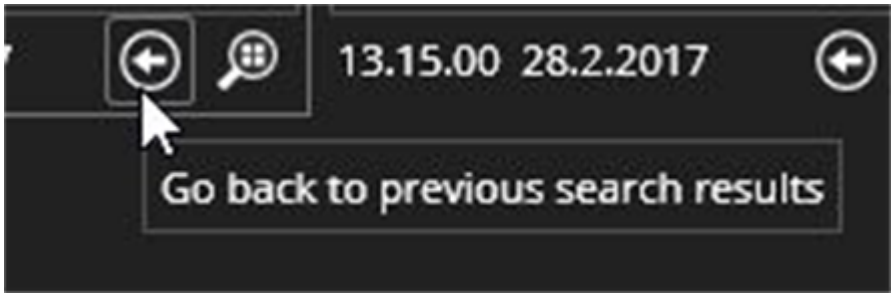
After double-clicking the third thumbnail, the following results screen shows four thumbnails again. From these, we can see that at 13:46, the trolley was still at the original place.

We can therefore click the fourth thumbnail and press play to find the time when the event happened.

Now in the camera view, we can find that the event took place at 13:47.

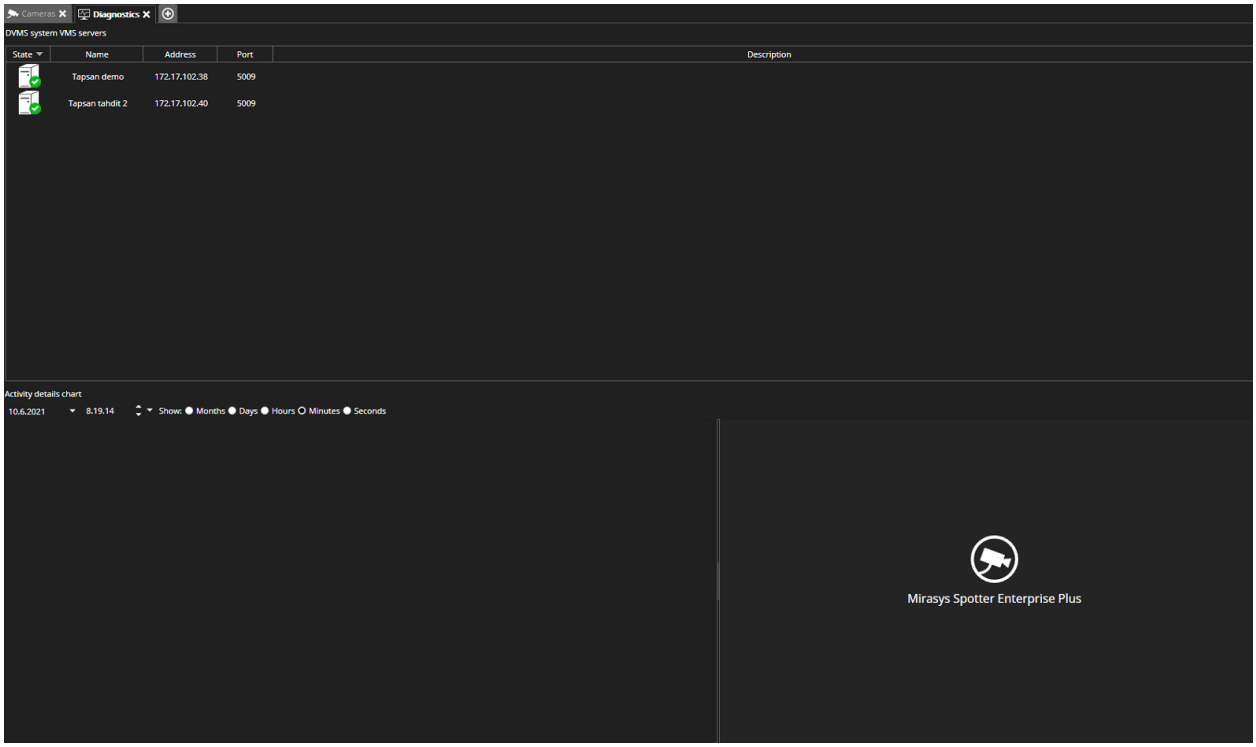


The user can return to the previous level of thumbnail results with the return arrow.



1.21.6. Diagnostic

Diagnostic



1.21.7. Monitor Manager

Monitor Manager

The Monitor manager plugin is like the AVM Operator Console but is designed for controlling monitors attached to the local PC. It is mainly designed for use in situations where the attached monitors are out of sight.

The operation is exactly as in the AVM Operator Console.

Note: to enable the monitor manager, you need to enable the AVM API in the Spotter settings:

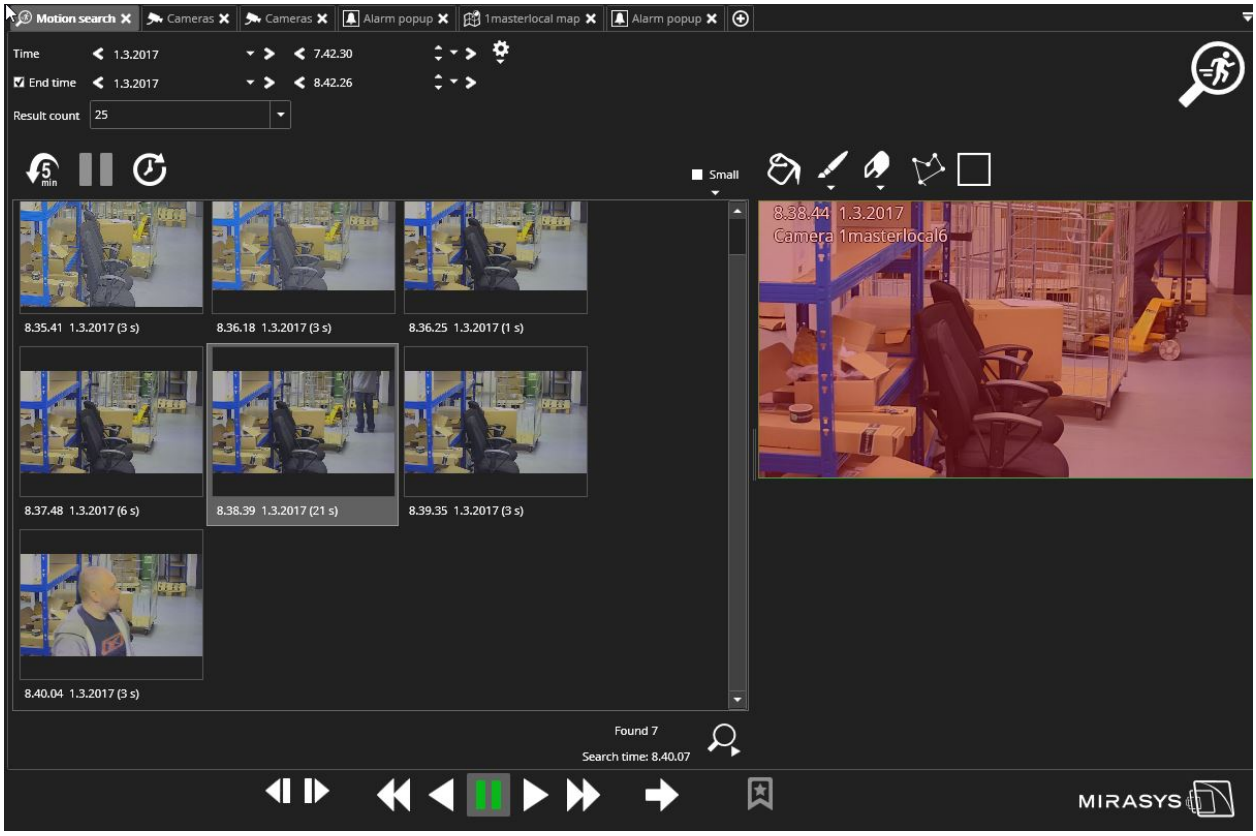
Spotter > File > Settings > Advanced > Enable External AVM API

(You will have to be logged in as an administrator to enable this.)

1.21.8. Motion Search

Motion Search

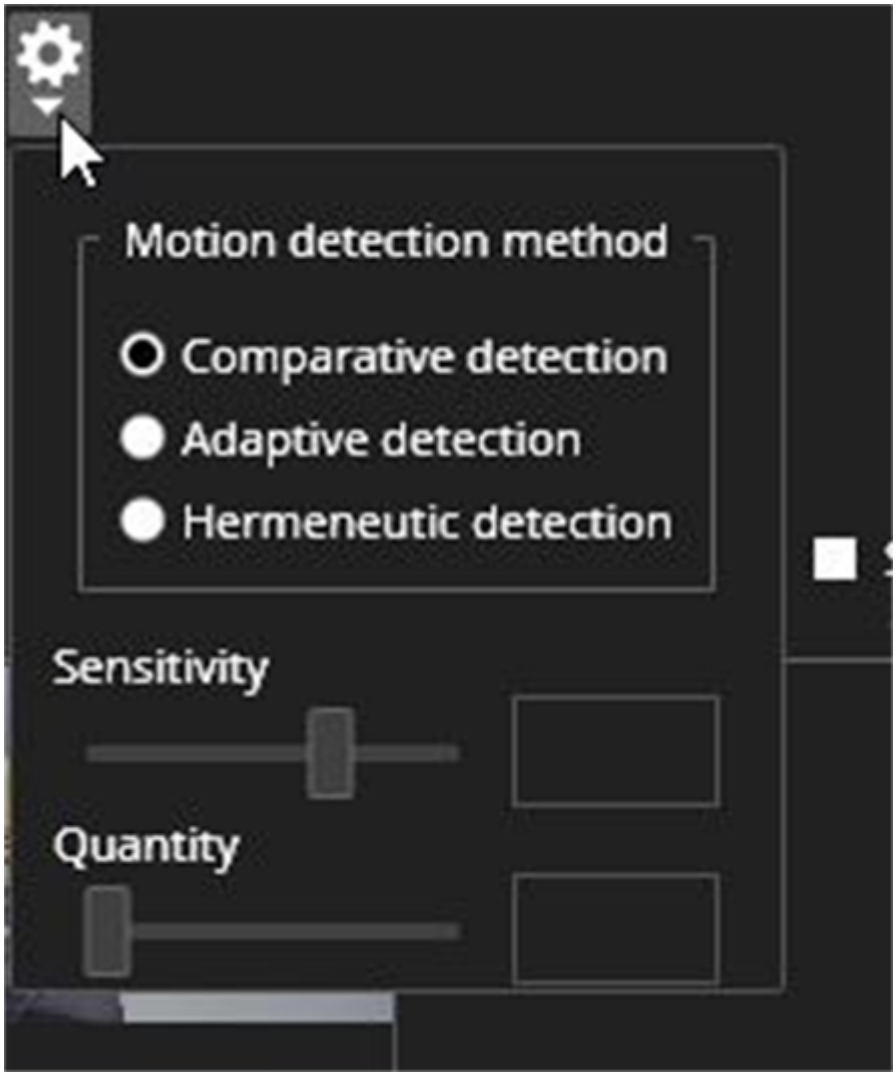
With the Spotter Motion Search plugin, the user can open a new tab and select Motion search. A camera can be selected by double-clicking a camera in the device tree or by dragging and dropping it to the Motion search tab. Motion search works only if camera playback is allowed.



The search results can be clicked, and the camera area on the right will be updated to show the image.

The playback controls can be then used to review the event. It is possible to play all results in sequence. The playback will jump to the following result at the end of the previous one.

The search settings can be adjusted with the "Settings" button.



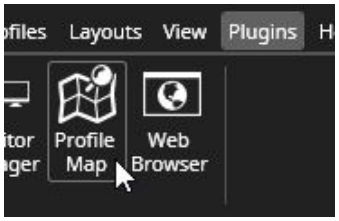
Comparative detection:	For stable indoor conditions
Adaptive detection:	For outdoor conditions with changing light levels
Hermeneutic detection:	A sophisticated method for environments with image "noise" (such

	as heavy weather). Requires more system resources than other methods.

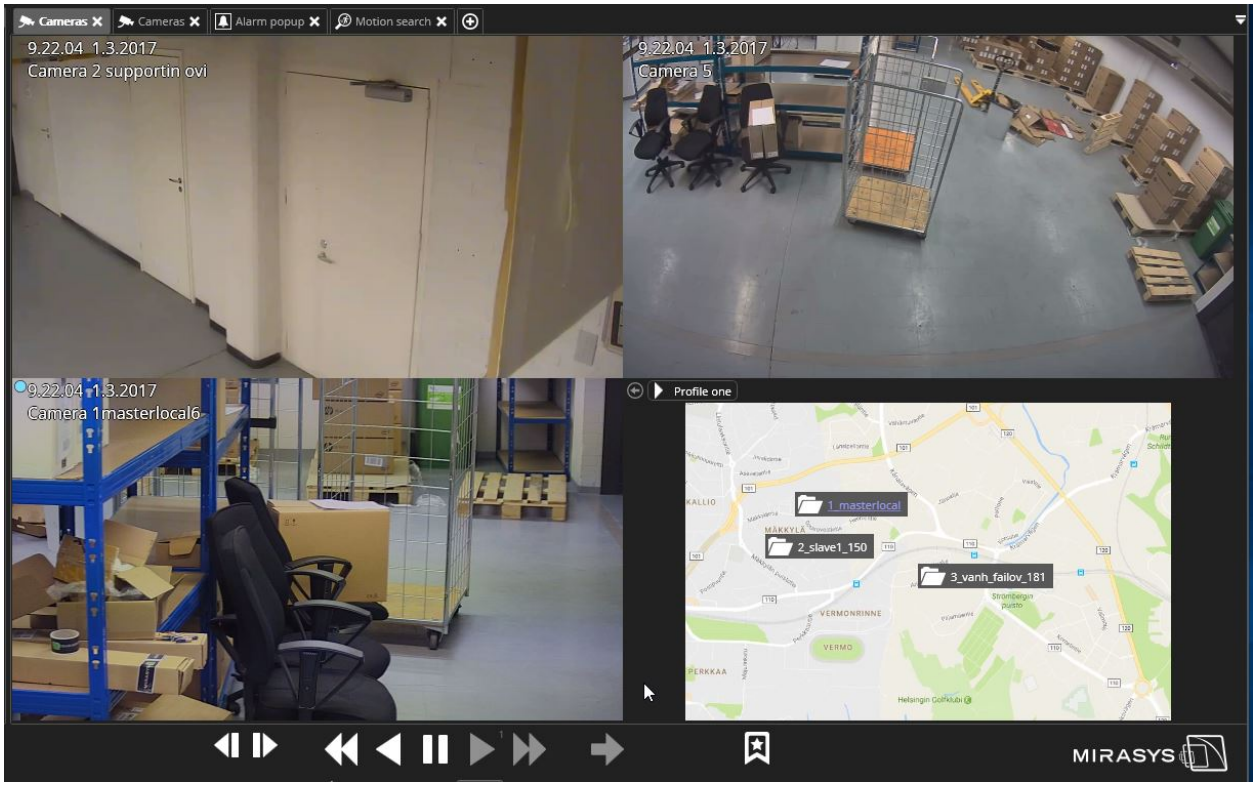
If the user wants to search for more results, there is a "Search more" button in the lower right corner. Search continues from the time of the last found item.

1.21.9. Profile Maps

Profile Maps



If the selected profile has a map defined, the Profile map plugin can show the map and its devices. The map can be a separate tab, or it can be embedded in a camera grid cell.



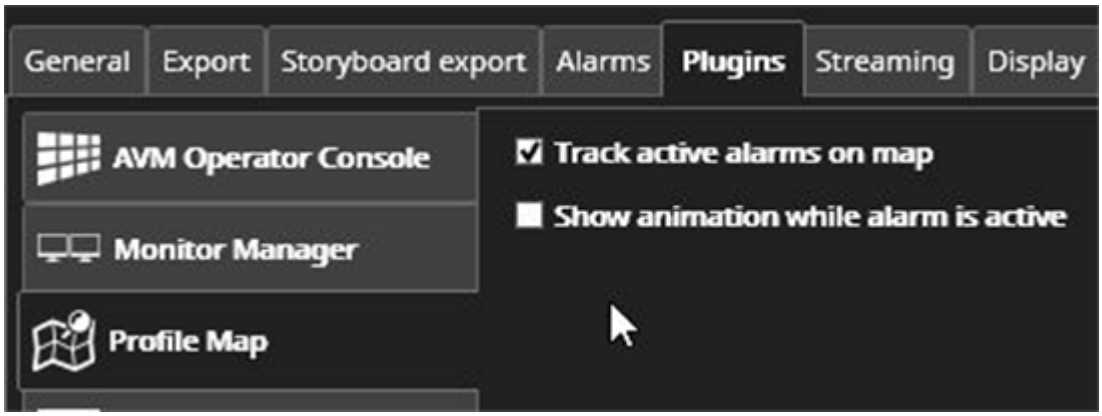
The map can include the following devices:

- Camera folders
- Cameras
- Audio
- Inputs
- Outputs
- Text data

The devices on the map show status information the same way as in the profile tree. Alarms of all priority are highlighted. Double-clicking the device on a map opens it to a new tab.

If a map is open and the user double-clicks an item in the profile tree, it is highlighted. The device tree also has a "Show on map" option for each device in the right-click menu.

The Profile Maps plugin can react to an alarm by switching the view to show the map view where a trigger for the alarm. This setting is controlled from Profile Maps settings.



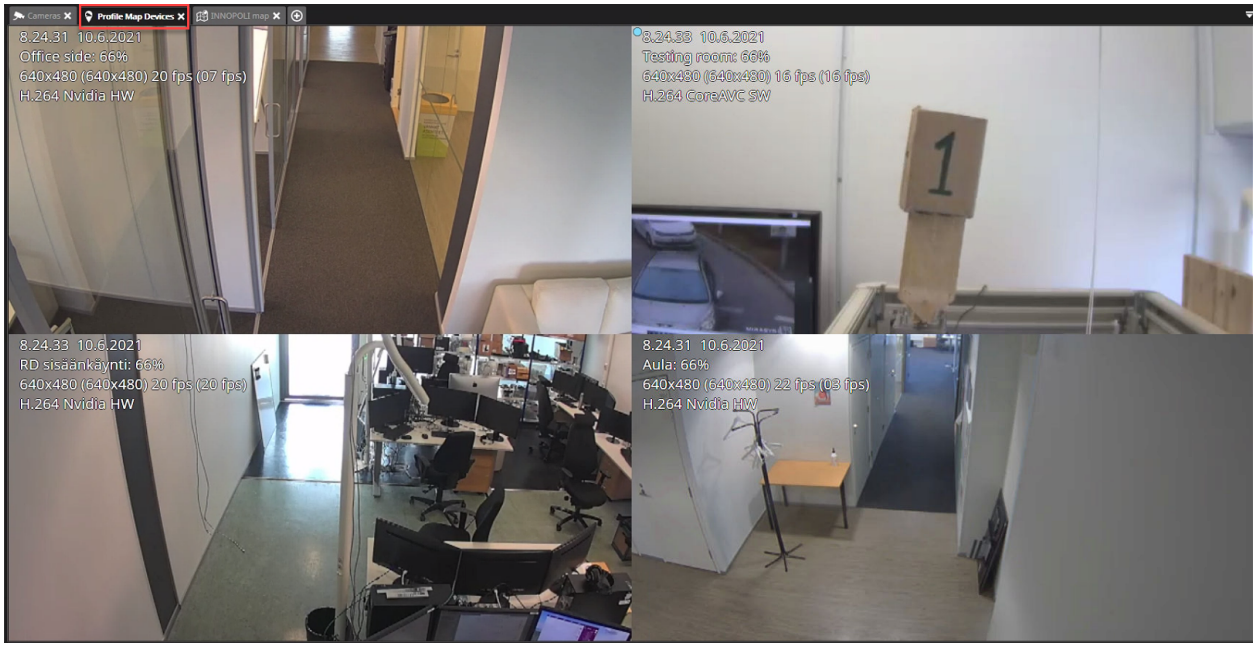
There is also a setting for turning the alarm "pulse" animation on or off.

Profile maps have the same kind of alarm filtering settings as the Alarm popup so that in the multiple alarm monitor case, it can be set to filter a certain number of active alarms for the map position reaction.

1.21.10. Profile Map Devices

Profile Map Devices

When a customer opens the camera from the Profile Map, the Profile Map Devices tab is opened automatically and shows those cameras in real-time view.



Profile Map Devices default grid type is defined in the **Spotter settings\Plugins\Profile Map Devices**

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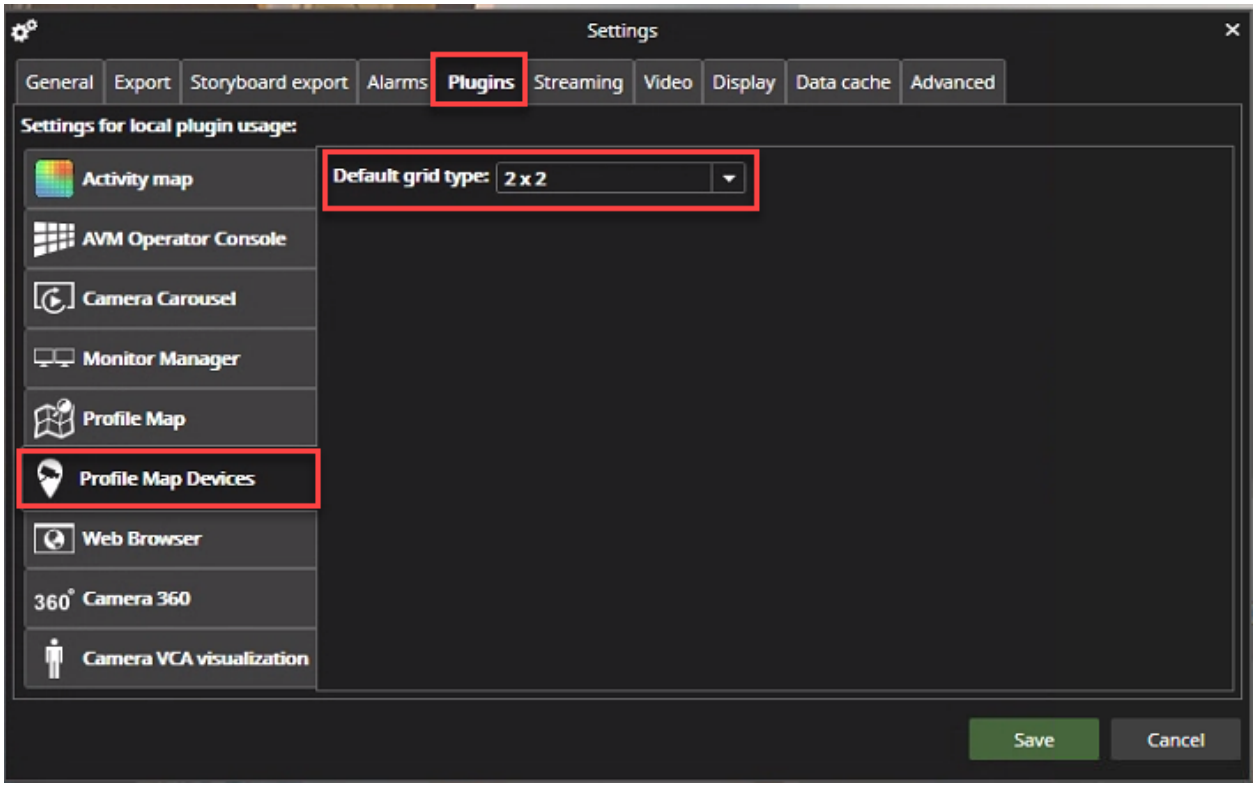
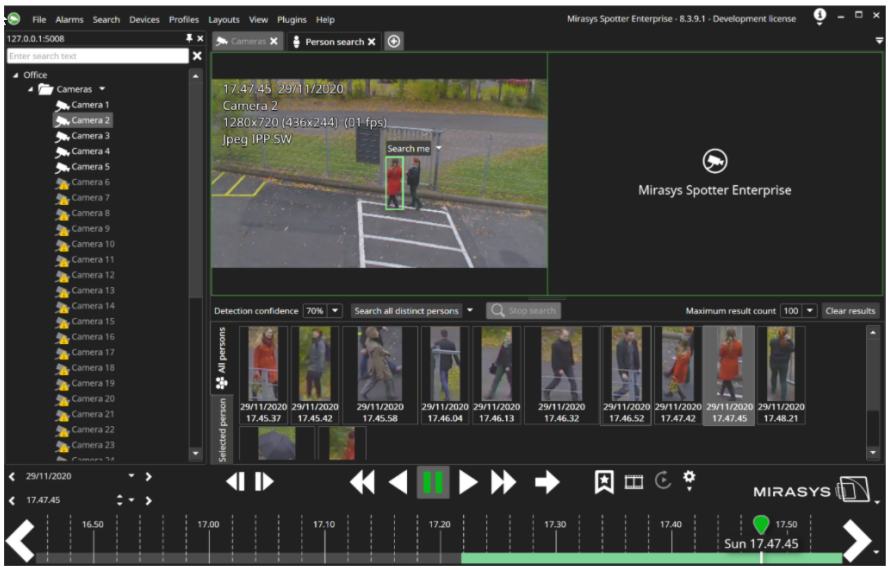


1.21.11. Person search plugin

Person search plugin

- Requires license



There are three modes

1. Playback mode: all persons are detected (this is the default mode)
2. Person search mode: the selected person is searched from played videos
3. All persons search mode: search all persons, try to display the same person only once

Thumbnails

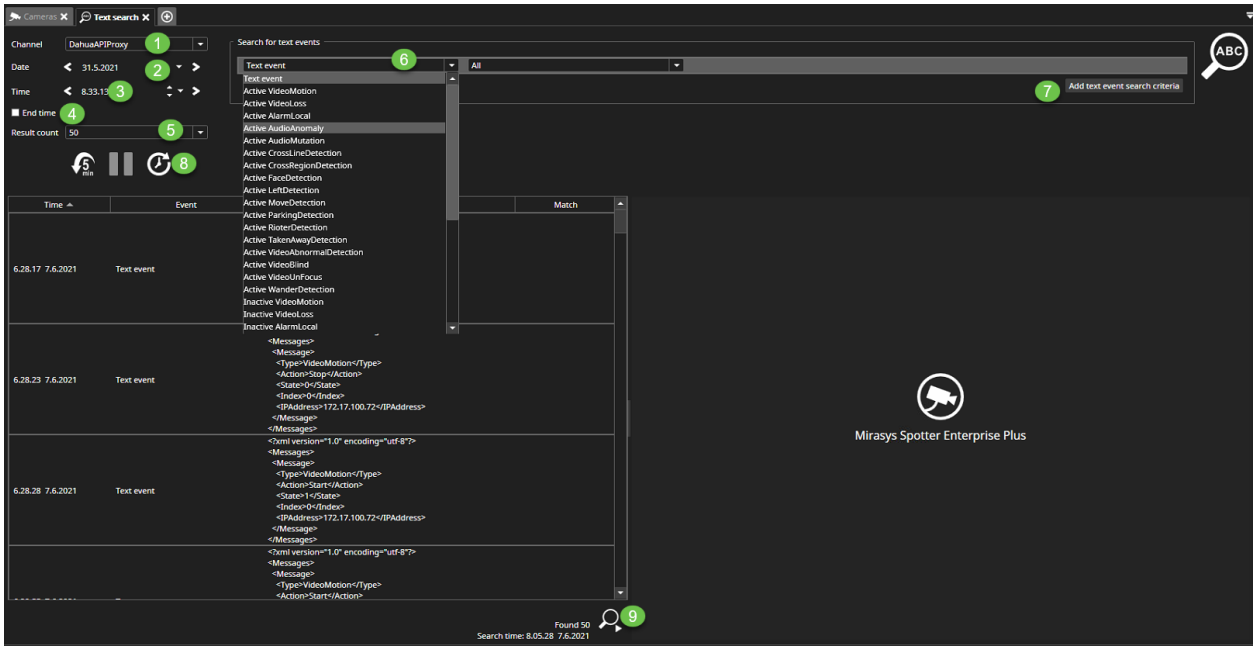
Found persons are shown in a thumbnail list. There are separate lists for all persons and selected person search results.

- Thumbnail mouse click (or Enter key) shows the thumbnail location in the video
- Thumbnail mouse double click opens the thumbnail video playback in the new tab

1.21.12. Text data search

Text data search

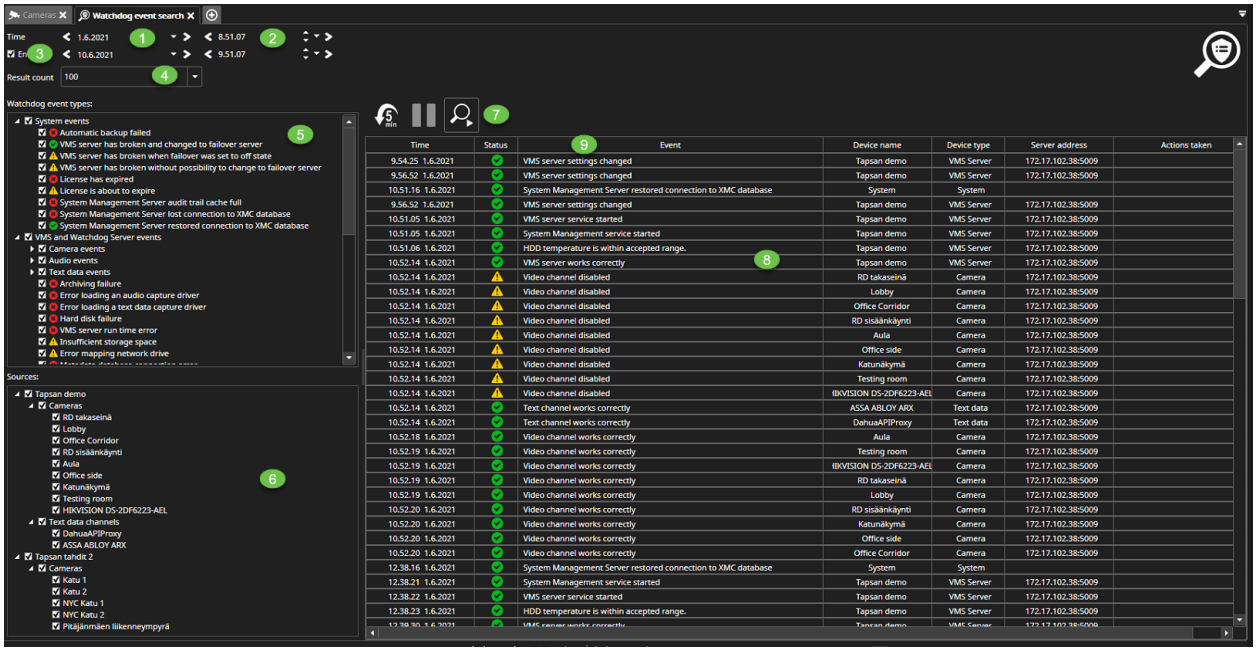
1. Select channel for the search
2. Select the search start date
3. Select the search start time
4. Select the search end time, if needed
5. Select result count(default 50)
6. Select searched event
7. Add text event search criteria, if needed
8. Start text search
9. From the lower right corner can be found the total amount of searched events



1.21.13. Watchdog Event Search

Watchdog Event Search

1. Select start date for the search
2. Select start time for the search
3. Set the search end time, if needed
4. Set the result count(**Default 50**)
5. Filter the Watchdog event types, if needed(**Default all events are selected**)
6. Filter the sources, if needed(**Default all servers connected to the master are enabled**)
7. Start search
8. All Watchdog Events are shown in the list
9. You can sort events by any column name

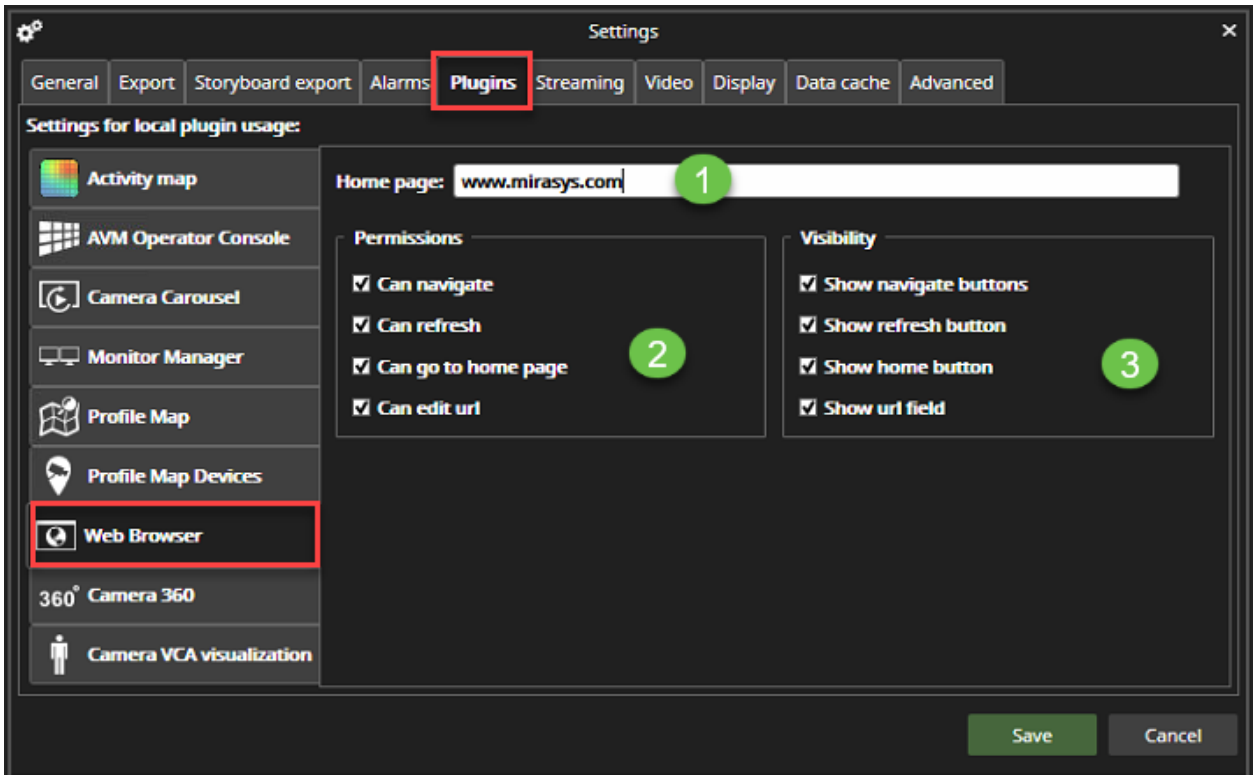


1.21.14. Web Browser

Web Browser

First, go to the **File\Settings\Plugins\Web Browser**

1. Set the **Home page**
2. Set the permissions for the browser
3. Set the visibility settings
4. Click **Save** to finalize changes



1. Go to the Plugins folder
2. Open Web Browser plugin

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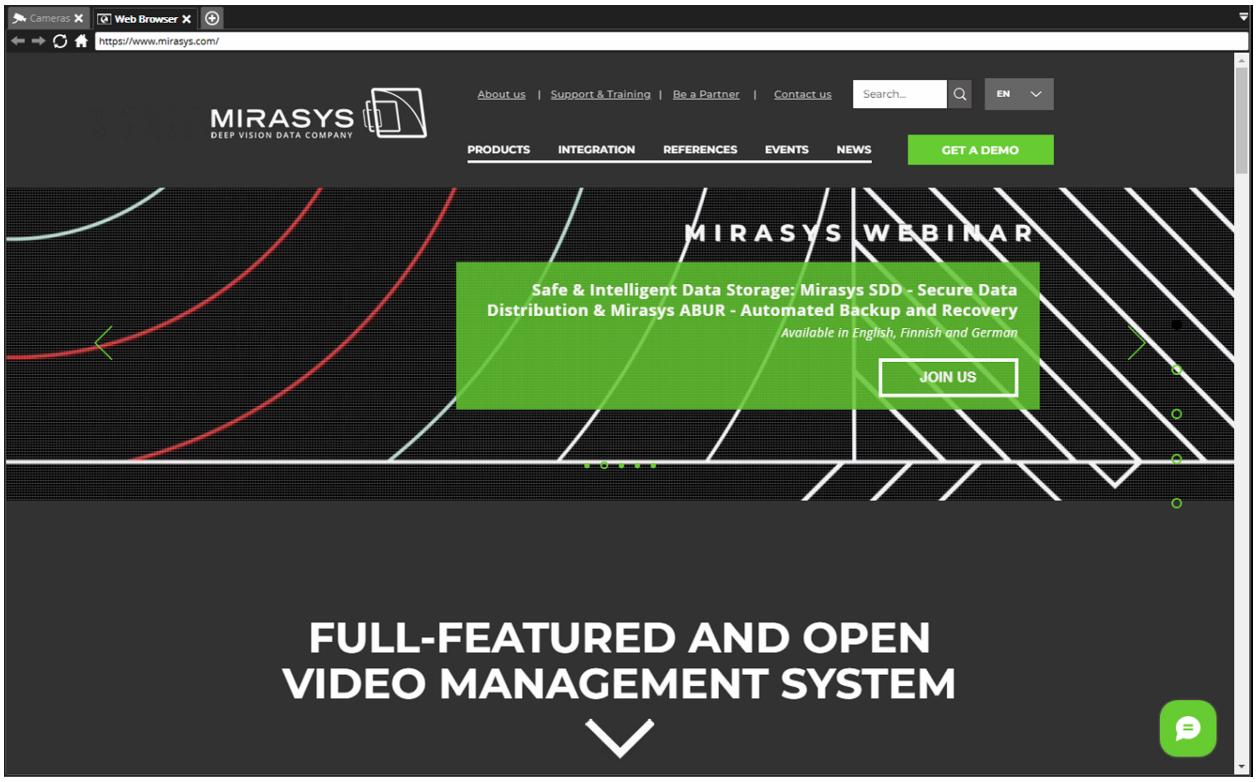
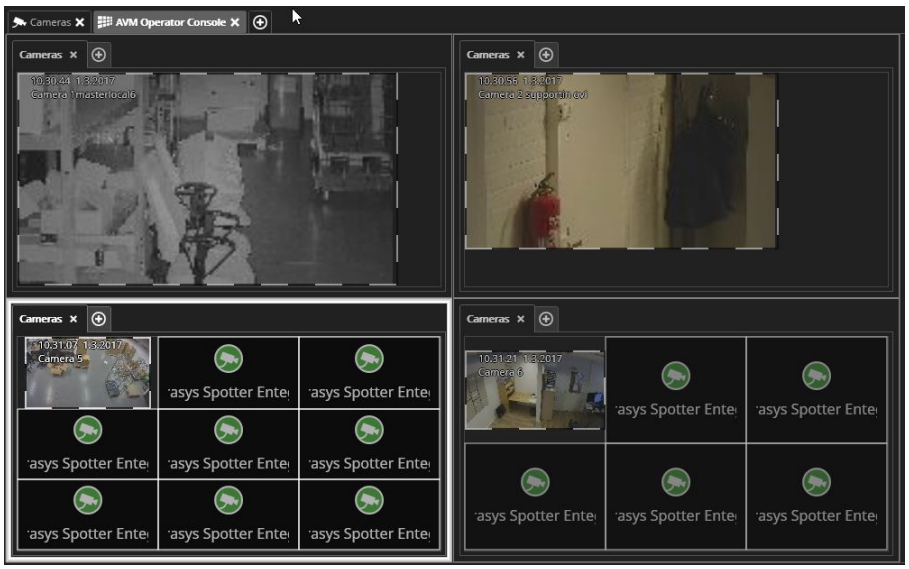


1.22. Agile Virtual Matrix Operator Console

Agile Virtual Matrix Operator Console

Agile Virtual Matrix (AVM) is a practical, powerful and flexible way to control any size monitor array in a control room.



The main control interface of the AVM is the Operator Console. The Operator Console shows a representation of the monitors in the AVM and allows to control what content is shown on the monitor screens.

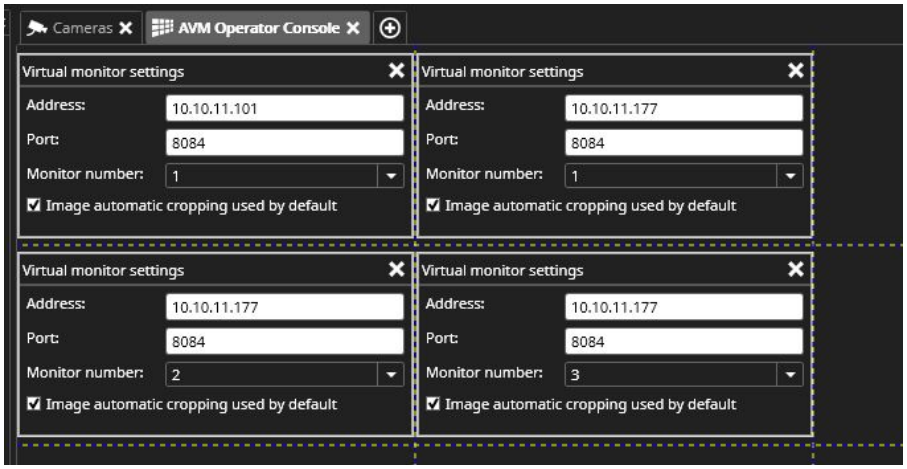
There can be multiple Operator Consoles (limited by the VMS Master Server license) connected to the same AVM Display Servers simultaneously, and they all are automatically synchronized.

1.22.1. AVM Operator Console Configuration

AVM Operator Console Configuration

The AVM Operator Console can be opened from the plugin menu. The IP address or computer name of the AVM Display Servers are added to the settings with the "Add virtual monitor" button. Typically, this task is done at the system configuration stage and does not need to be done many times.

The setting view can be accessed by the user who has system administration privileges.



After the monitor configuration is saved, the first layout containing the AVM monitors can be created. It is recommended to create a layout with no content on the monitors and save it as a shared layout.

The Operator Console represents the matrix' monitors content and has most of the standard Spotter functionality.

In the tab menu:

- Creating, closing, reordering, renaming, moving and copying tabs is possible.
- Control of auto-crop and VCA highlight for the whole tab is possible (from the tab menu).
- Control of Spotter fixed camera grids is possible.
- Show/hide the alarm list is possible.
- Opening any plugin is possible.

In the toolbar menu (for individual cameras):

- Control of image display settings, TruCast settings and camera name and timestamp settings.
- Control of individual auto crop settings.
- Control of automatic virtual zoom settings.

The selected AVM monitor in the Operator Console is shown with a solid white line.

The same line is visible in the AVM matrix monitors when the AVM operator console monitor representation is clicked with the mouse. Guards can use this effect to direct the attention of other guards to a specific monitor in the matrix.

The selected camera inside the Operator Console is highlighted with a dotted white-grey border. The Activity panel is not shown when the AVM console is used. The playback time can be controlled with playback and date and time controls.

Adding, Moving And Copying Cameras In AVM

It is possible to move and copy cameras and tabs from the Operator Console to standard, local Spotter and back. Similarly, it is possible to move and copy cameras and tabs from one AVM monitor to another. The playback time will synchronize when content is moved or copied. Moving happens simply by dragging and dropping the content to another location. Copying happens by keeping the Ctrl key pressed when dragging a tab or a camera.

This feature can be used for fast copying of content from AVM monitors to local Spotter monitors, such as using the time slider and seeking some exciting event. Then when the exciting event has been found in the local Spotter, the camera(s) with the playback position can be moved or copied back to a new AVM monitor tab to be shared with everyone in the room watching the AVM monitors.

Cameras are added to the Operator Console monitor in the same way as to standard Spotter. The user first selects the console monitor, and then cameras can be added to it by double-clicking the mouse, drag and drop, device numbering and numeric keypad, or navigating to the correct device in the device tree and hitting the enter key.

Camera images in the Operator Console are not live camera images; they are reference images, so they are static.

Using Numeric Keypad For Camera And Monitor Selection In AVM

When an Operator Console is selected, the keyboard numeric keypad monitor selection applies to it, not local Spotter windows or PC monitors. So, writing “3” and “plus” selects the third AVM monitor and not the third local monitor. To select the third local monitor, the user has to move the AVM Operator Console away from the foreground.

PTZ control via the Operator Console is also possible using the joystick. Control with a mouse or keyboard is not possible. It might be easier to control PTZ cameras via local Spotter and have the camera visible on the wall monitor simultaneously.

Camera Tours In AVM

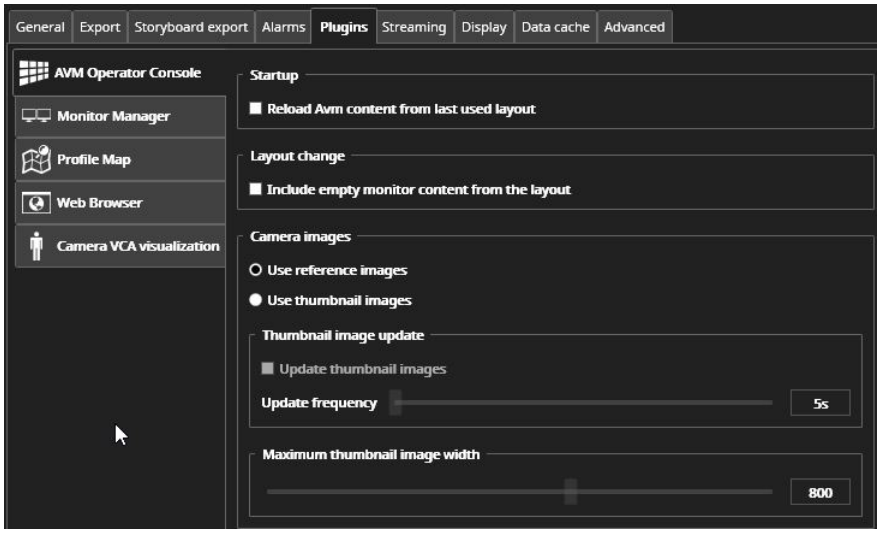
Camera tours work in the same way as standard Spotter camera tours. The user can select the AVM monitor from the Operator Console and then choose the camera tour settings for this monitor. Pressing the camera tour “Start/Pause camera tour” button will start the tour. The camera outline will change to orange to indicate the running tour. The only

difference to a standard camera tour is that the check box controls if the camera tour runs on a standard screen or full-screen is not visible.

Layouts In AVM

All the monitor settings, tabs, tab names, tab order, and cameras on the tabs and playback time and camera tour settings are stored to layouts also when the AVM Operator Console is open. This is an easy way to update the entire AVM wall monitor content.

Combined with layout scheduling, updating AVM walls or individual monitors in a building automatically is possible.



The AVM Operator Console plugin has two settings that can be used to change how the system behaves when:

- I am starting Spotter and connecting to the AVM Display Servers and the wall monitors.
- A layout is loaded.

The default setting for startup behaviour is that when an Operator Console connects to the AVM Display Servers, it shows the current content of the wall rather than replacing the content of the wall with the last used layout. This setting should be the most common.

If the users want to change this setting, they can check the box “Reload AVM content from last used layout”.

When the checkbox is selected and the user opens Spotter, Spotter will open the same active view when the user logged out from Spotter last. If the AVM Operator Console were

open with different content at that time, with this setting, the Operator Console would now change the AVM monitor content.

The other settings related to the use of reference images or thumbnails in the console view. The use of high-res thumbnails increases system load but will make the camera representation appear better in the console view.

Opening Saved Tabs in AVM

Alarm popup, Web Browser, Profile maps, Camera carousel and other plugins can be used easily with AVM when these plugins are saved to a tab, the tab shared and then opened in the AVM. This way, the Operator Console can manage multiple Alarm monitors and use Web Browser and Profile maps.

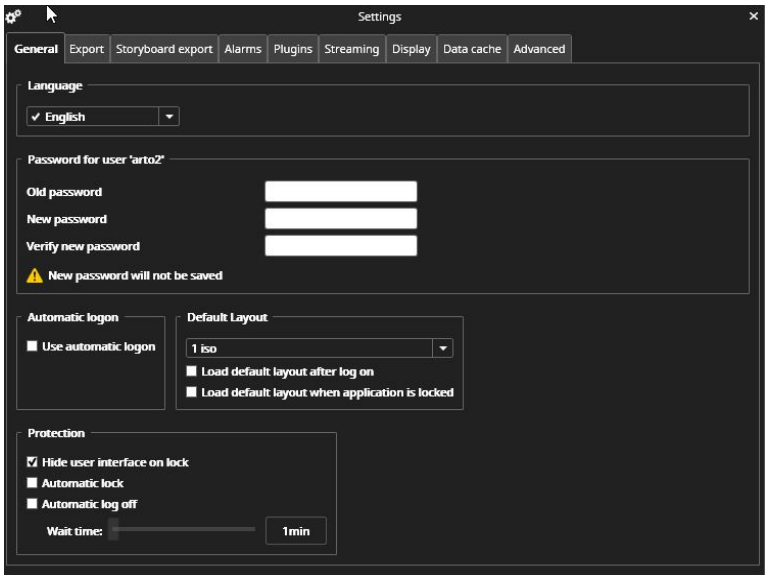
The opening of shared tab content from the tab menu

1.23. Settings

Settings

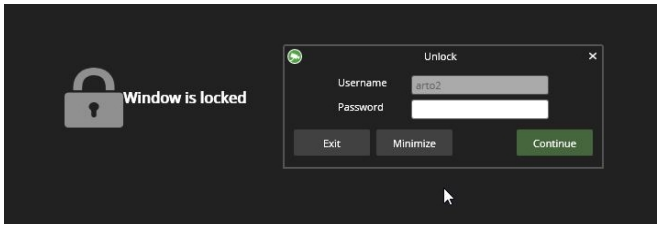
1.23.1. General Settings

General Settings



The first tab in the settings menu allows users to change their password and change the language of the user interface.

The protection settings control how the user interface is locked.



Turning on the “Hide user interface on lock” means that when the user interfaces lock automatically or manually locks the user interface, the whole interface turns grey, and no cameras can be seen.

If “Automatic logon” is checked, the user does not need to re-enter their credentials (username and password) when starting to use the application.

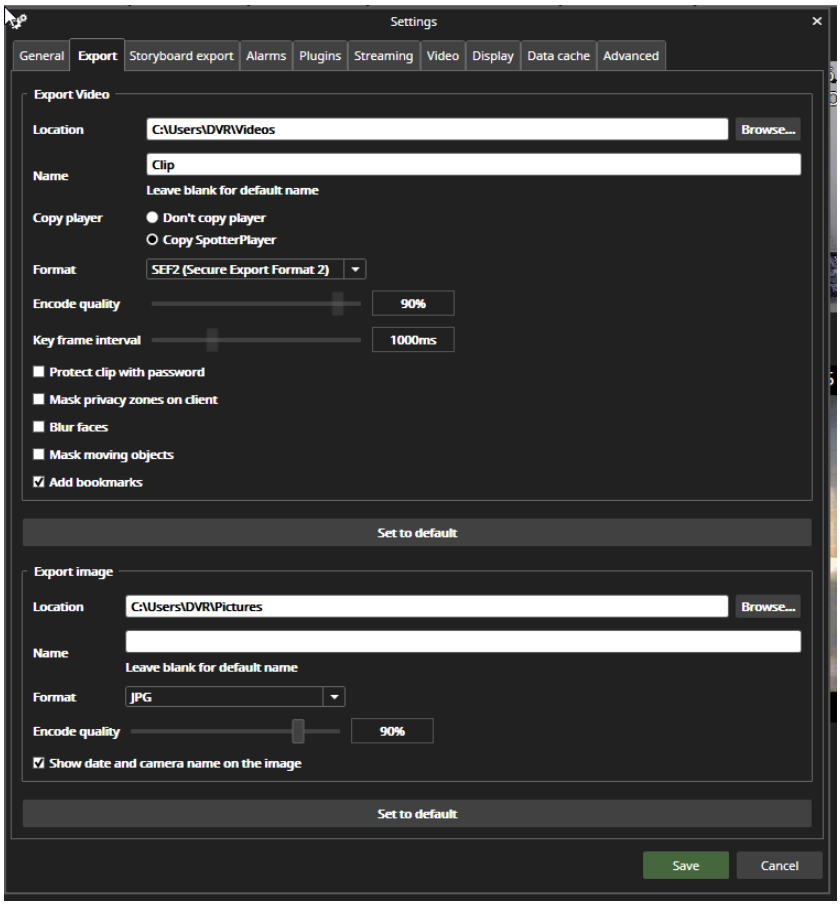
The default layout can be selected in the General settings section. The two options for the layout are:

1. Load this layout immediately after the user has logged in
2. Load this layout immediately after the user is locked

This setting can be used to guarantee that a particular “general” view is always active when the workstation is not in use.

1.23.2. Export Settings

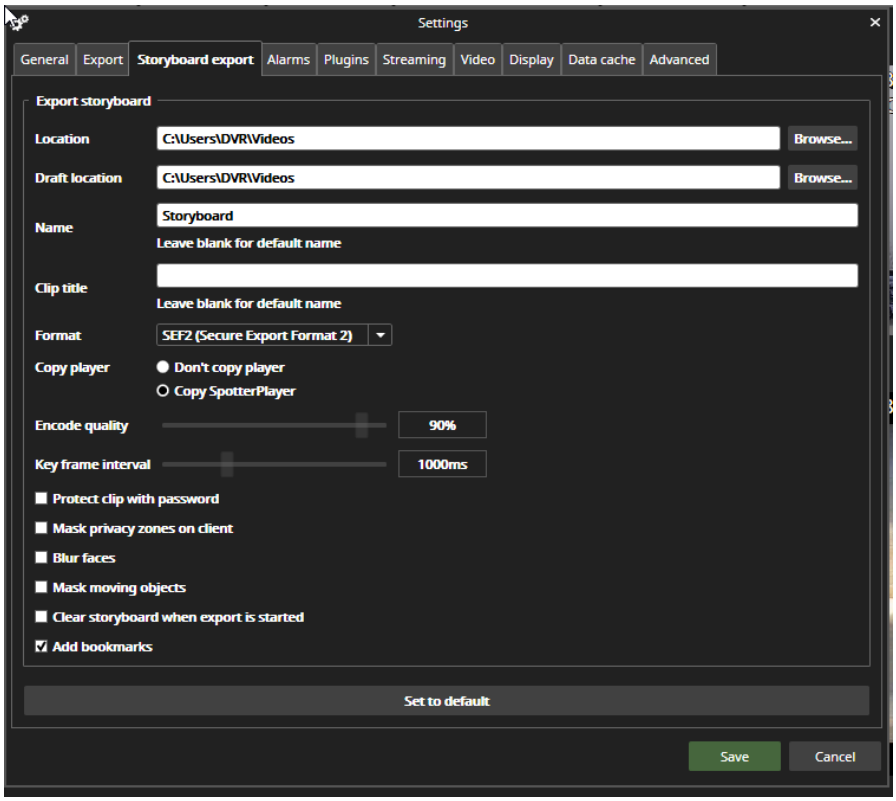
Export Settings



The data export screen has settings where the exported video clips and images are saved and named. Also, the format can be chosen here and if logos are added to the clip when exporting.

1.23.3. Storyboard Settings

Storyboard Settings



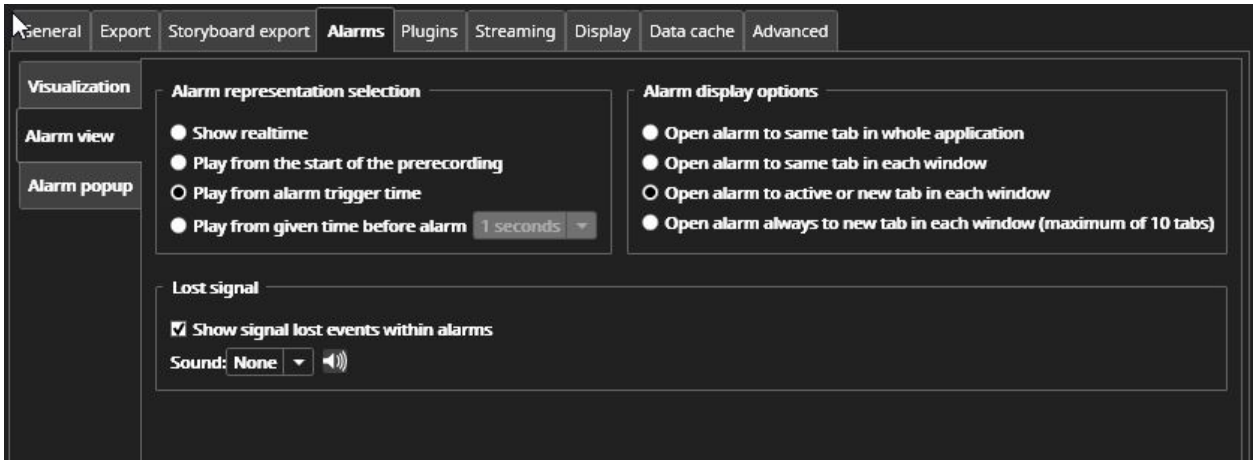
Storyboard settings contain the export target location and the target location for the draft storyboards. The name of the storyboard and the clips can be defined here. If the names are left blank, a default name with a timestamp is used.

1.23.4. Alarm Settings

Alarm Settings

The alarm tab in settings is split for the Alarm visualization, Alarm view and Alarm popup sections.

Alarm visualization allows a selection of the alarm highlight colour for active and ended alarms.

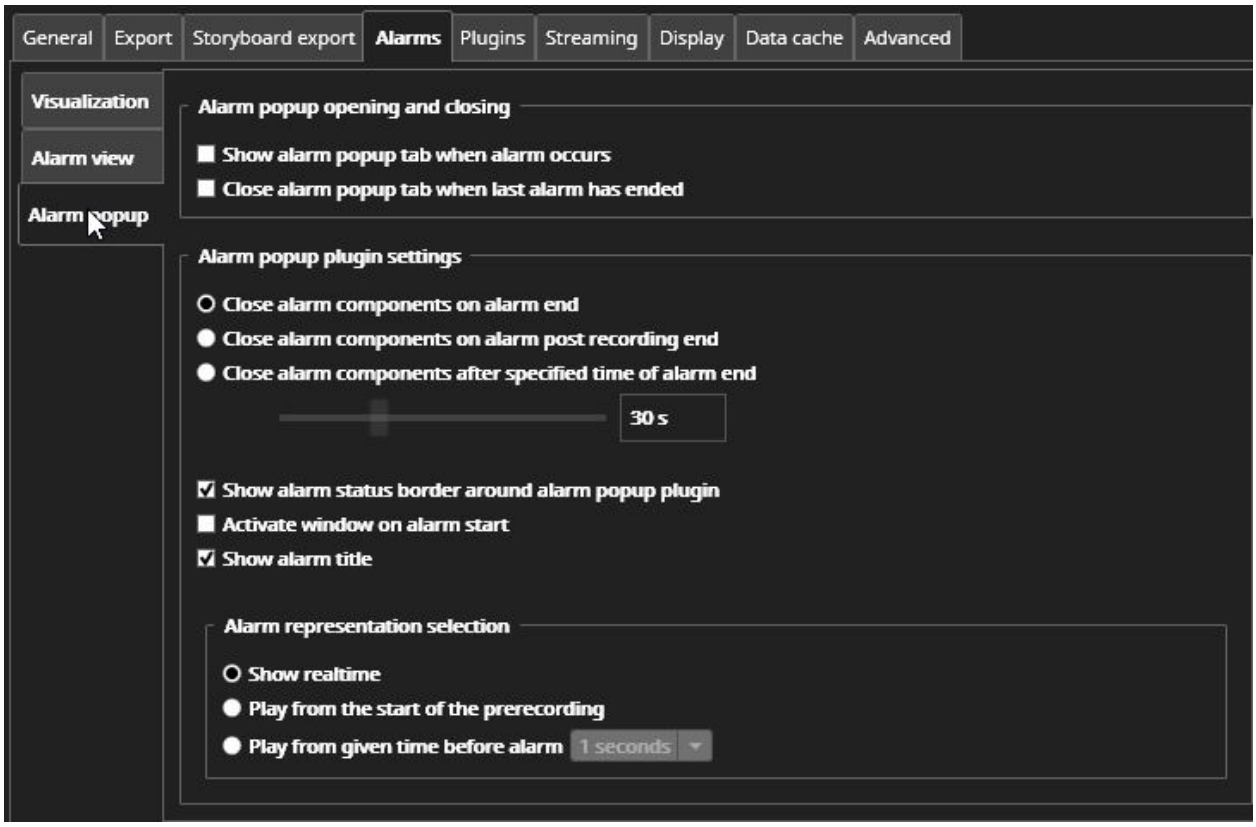


The Alarm representation selection defines what time the alarm is being played when it is opened from the alarm list. The possibilities are:

- From real-time
- From the start of the alarm pre-recording time
- From alarm trigger time (default option)
- From a freely selectable time (1- 60 seconds) before the alarm triggers

It is also possible to define how the alarm is opened. The possibilities are:

- Each alarm opens to the same tab in all of Spotter, in all windows
- Each alarm opens to the same tab in a single Spotter window
- Each alarm opens to the active alarm tab
- Each alarm opens to a new tab. (allows to view multiple alarms simultaneously in own tabs)



Alarm popup settings define how the Alarm popup view opens and closes. The default setting is that the Alarm popup is not opened and closed automatically if it is not open.

If the user wants the Alarm popup not to open normally and only opens when an alarm happens, he should select the first checkbox.

If the user wants the Alarm popup closed automatically after the last active alarm ends, he should check the second checkbox.

The second part of the Alarm popup settings defines how long the alarm components are displayed in the popup tab. The possibilities are:

- Alarm components are closed when the alarm ends (default option)
- Alarm components are closed when post-recording time ends
- Alarm components are closed after a specified time has passed after alarm end (5 seconds – 30 minutes)

Furthermore, it is possible to control if the Alarm popup is highlighted with the alarm status border and if the Alarm popup window is brought to the foreground if it is hidden.

It is also possible to control if the Alarm popup shows the name of the alarm.

Additionally, it is possible to define from what time the Alarm popup will start playing the material.

1.23.5. Plugin Specific Settings

Plugin Specific Settings

This setting view contains all settings for the installed Spotter plugins not specified elsewhere. The settings visible here can be different based on what Spotter plugins are installed.

The AVM Operator Console specific settings are explained elsewhere in this guide.

The Web Browser plugin has settings for

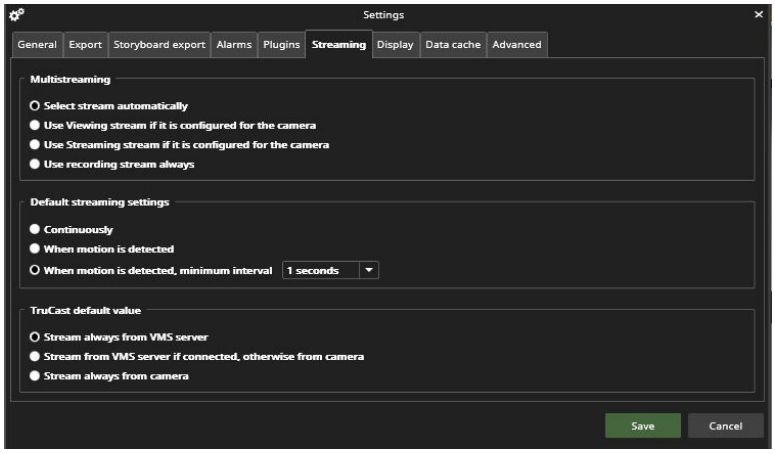
- It is setting the home page where the plugin will go when it is opened.
- Permissions and visibility of controls for controlling if the user can navigate, refresh, go back to the home page and edit the URL.
- It is selecting the version of Internet Explorer that is used.

VCA visualization settings allow the user to change the colour of the VCA highlight and the movement trail, the movement trail length in seconds and the line thickness.

The VCA zone colour can be adjusted independently from the VCA highlight colour.

1.23.6. Streaming Settings

Streaming Settings



The streaming settings allow changing the default values for three areas of streaming.

- Which stream from the camera is used for live viewing.
- Whether the live view stream is directly from the camera (TruCast) or the VMS Server.
- Does Spotter draw all images always, or only based on detected motion.

The TruCast and default image drawing settings can also be adjusted individually per camera from the camera toolbar menu.

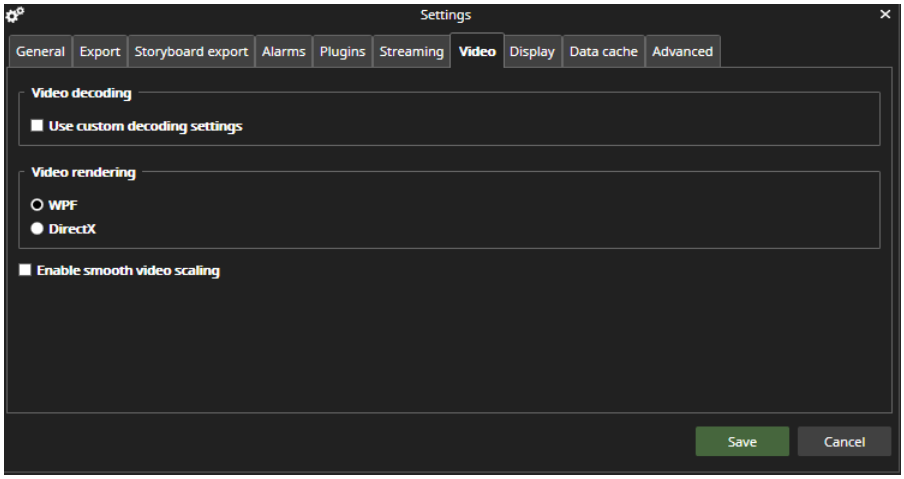
These settings will override any settings up until now done for cameras. However, after changing these settings, it is possible to customize individual cameras to use different settings, which are memorized per camera.

Setting “Automatic” in the multi-streaming settings means that Spotter will choose the stream which resolution most closely matches the area that the camera has on the device grid.

1.23.7. Video settings

Video settings

The video settings allow setting custom decoding and change rendering technologies to help improve performance depending on hardware.



Using **custom decoding settings** allows you to select a specific decoding setting and decide what per cent of streams are decoded using GPU.

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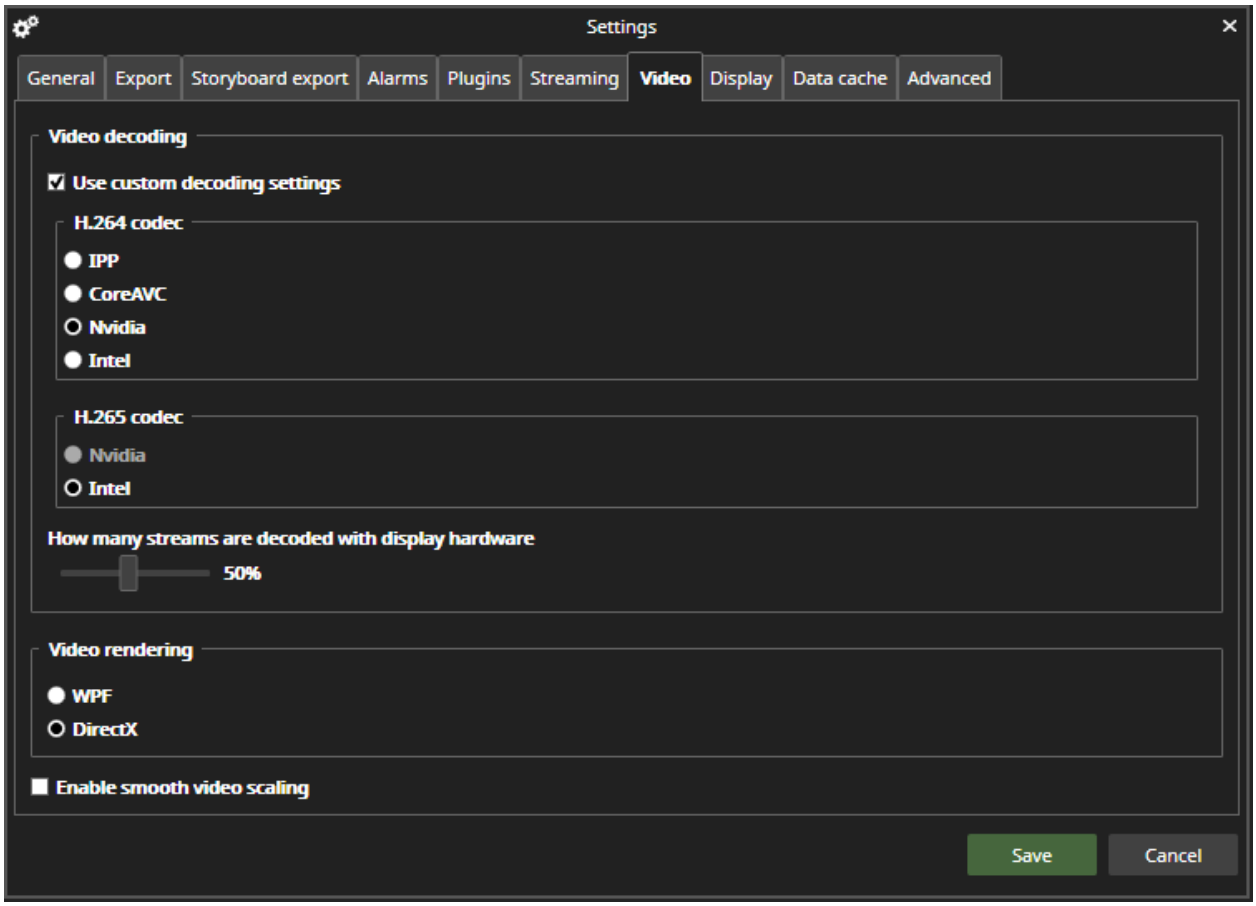


H.264 codec options are following:

- **IPP:** uses CPU
- **CoreAVC:** Can use CPU or Nvidia CUDA
- **Nvidia:** requires Nvidia GPU
- **Intel:** uses CPU; if processor chip has Intel Graphics inbuilt GPU, it can also use GPU

H.265 codec options are following:

- **Nvidia:** based requires Nvidia GPU
- **Intel:** uses CPU; if the processor chip has Intel Graphics inbuilt GPU, it can also use GPU, slider affects how many cameras use CPU/GPU.

How many streams are decoded with display hardware defines that how percentages of cameras use CPU/GPU.

If decoding method Nvidia is chosen and the slider is set to, E.g. 50%, half of the cameras will be decoded using Nvidia and the other half will use CoreAVC if they are H.264 and Intel CPU if they are H.265

Video rendering

Allows to change video rendering to WPF (default) or DirectX

Enable smooth video scaling

It uses a different image drawing mechanism, and it will have a smoothening effect on video, especially if the framerate is high (over 20 fps).

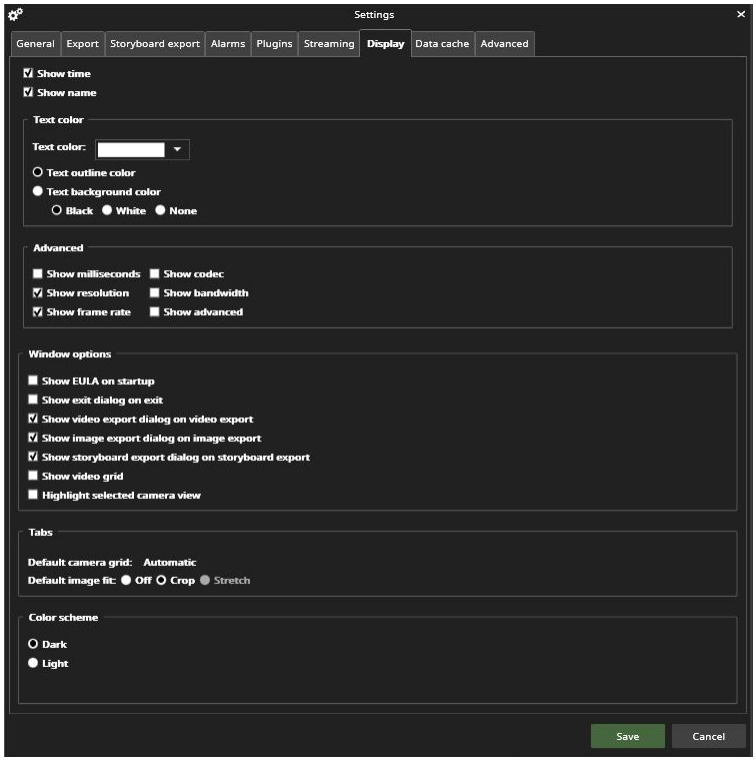
However, the smooth video scaling setting should not be used if the user has multiple Spotter windows open.

Smooth video scaling will make video image appearance better, but this setting increases the computer load slightly.

1.23.8. Display Settings

Display Settings

The display settings control if the camera name and timestamp are shown on all the cameras.



Also, the colour of the text and the outline can be adjusted separately.

The colour can be adjusted for individual cameras from the camera toolbar.

It is also possible to activate the advanced information display such as codec, bandwidth used, framerate, and buffering status.

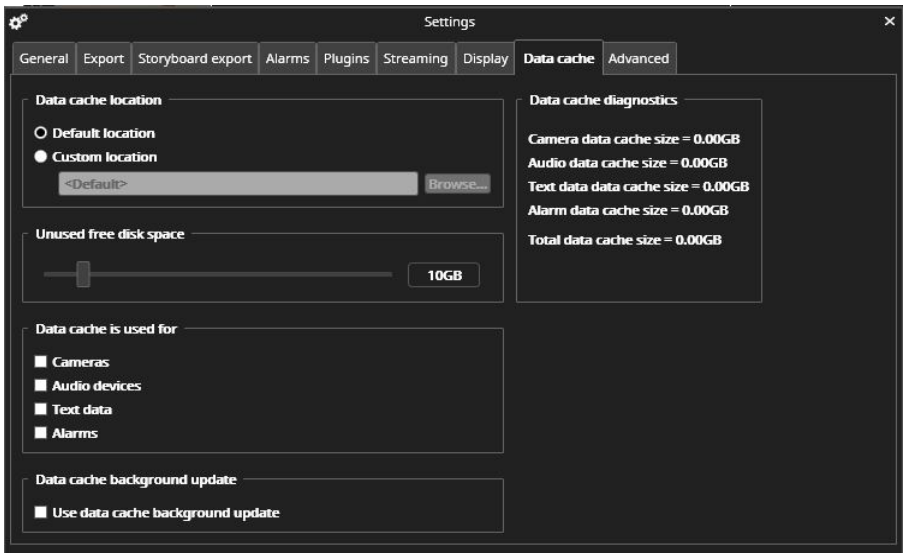
Activating the advanced display settings displays information on the video buffering performance. This information is meaningful only if the video buffering (see advanced settings tab in Spotter settings) is set on and only for live video (not for playback).

Tab settings control the default camera grid for new device tabs and the default image fit setting. “Crop” is set as default.

The last setting controls whether the colour scheme is dark (default) or light. This setting is not available in all product variants

1.23.9. Data Cache Settings

Data Cache Settings



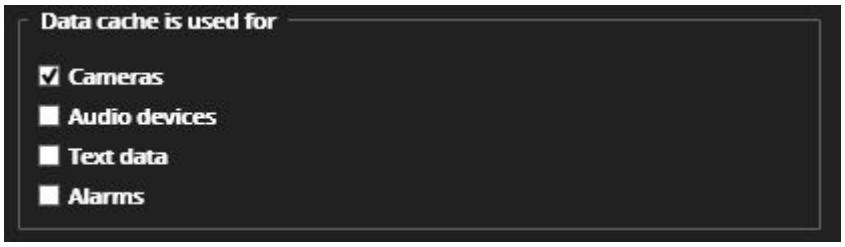
Data cache speeds up camera and audio device activity data, text data, and alarm data retrieval when in use.

The system uses either C-drive or some other system hard disk for caching camera data.

The camera activity bar (blue bar on the time slider) is updated faster with cached camera data. The cache is profile specific.

For larger systems, it is recommended to set up a separate hard disk to store the cache data.

The cached data can be controlled from the dialogue that defines what data is cached:



When any of the above is selected, the cache is in use. If the user wants to remove the cache from use, the above checkboxes should all be unselected.

In this case, when pressing save, any previous cache data is deleted.

If the setting “Use data cache background update” is selected, the application will continuously update selected activity data while the application is open. This will increase system and network load slightly but will guarantee the best possible cached data performance.

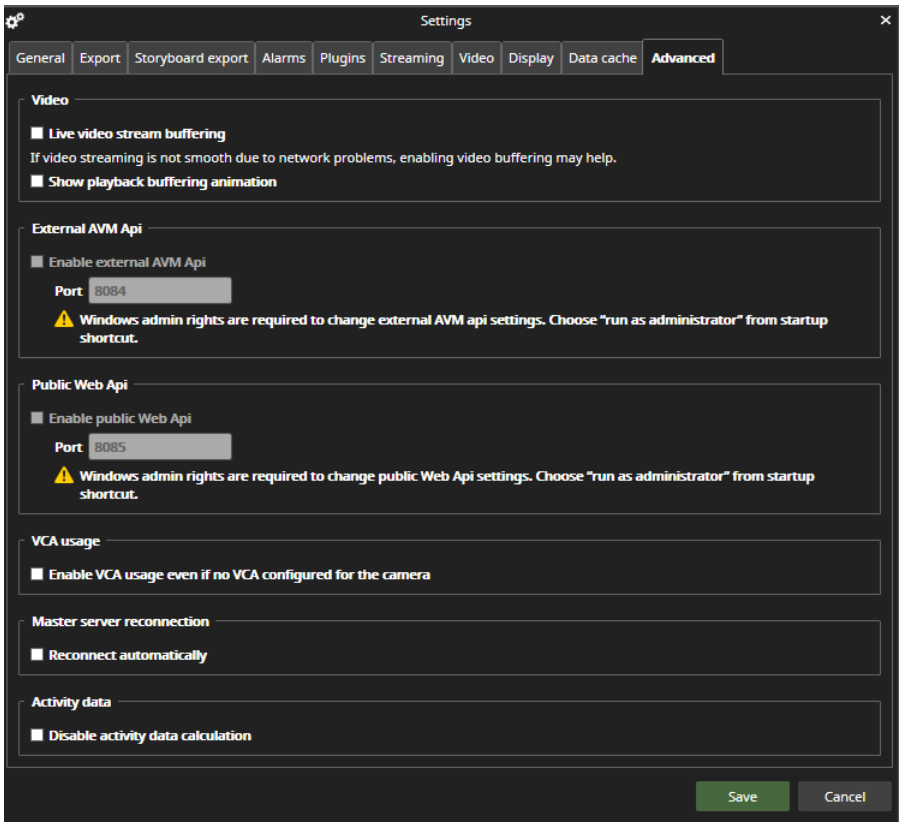
1.23.10. Advanced Settings

Advanced Settings

Using video buffering can help if the video stream appears choppy. Buffering will attempt to queue image frames dynamically to even out any time differences in arriving image frames. The memory use is increased slightly, as is any possible delay with the video compared to real-time.

The AVM API (Application Programming Interface) must be activated in AVM Display Server use.

The Master Server reconnection setting, if activated, will keep Spotter open also in case of loss of connection with the Master Server.



Disabling the activity data calculation will make the camera material bar disappear from the activity panel, reducing the system load slightly. It can be disabled if the user

has no intention to use the activity panel (for example, in the AVM Display Server case).

Spotter has advanced video buffering that smooths out the effect of bursts in-network or an ill-behaving camera where the image frames are not arriving smoothly and regularly from the camera to Spotter. Without the buffering on, Spotter draws the live images as fast as they arrive without regard for the frame rate or the image.

Frequently Used Keyboard Shortcuts:

Shortcut	Description
F3	Show settings window.

1.24. Joysticks And Other Input Devices

Joysticks And Other Input Devices

You can use any DirectX compatible joystick as a control device. A joystick can be fully configured, and each button can be assigned a customizable function.

Before a joystick can be taken into use, it needs to be configured, first in Windows, then in Spotter.

To calibrate a joystick in Windows, open the Control Panel and find “Set up USB game controllers” under “Devices and printers”. Follow the instructions on calibrating the joystick.

After calibration, start Spotter and open the “Input devices” option in the Devices menu.

If the “Setup” line item is not visible, add it using the “+ Add” button. Now you can configure the joystick buttons and motion axis and map them to Spotter actions. Any button combination can be used, so multiple button presses can be used to do different things compared to single button presses. The option “Use quick setup time” disables the “configuration timer” that runs from 0 to 100% when pressing a button.

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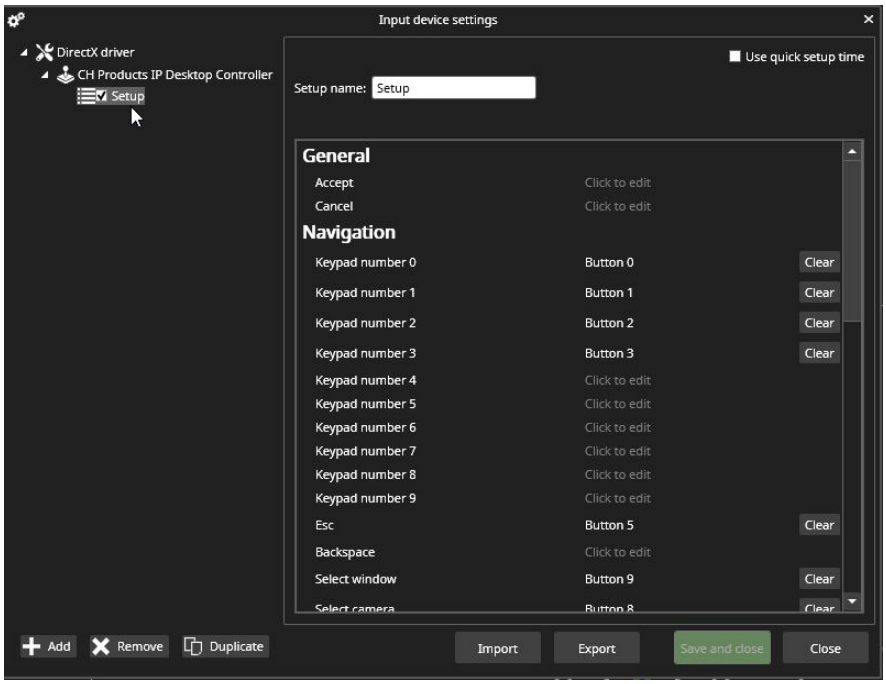

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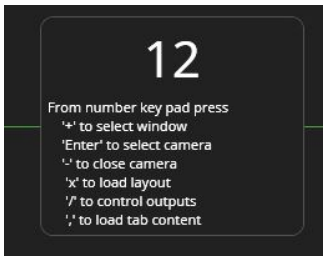
1.25. Device Numbering

Device Numbering

The shortcut numbers for cameras are assigned via the system manager at the profile level. The configured keyboard shortcuts can be accessed anywhere in Spotter by using the numeric keypad. The entered numbers show up in a popup dialogue.



The dialogue can be positioned anywhere in the Spotter window, and it will remember the set location.

When the following Numpad keys follow the numbers:

- Enter: The camera is opened.
- Double-Enter: The camera is opened and maximized, and if a PTZ camera, the PTZ control is assumed.
- "+": Spotter window is selected.
- "-": the camera is closed.
- "/": layout is loaded.
- ",": saved tab is loaded.

The device numbering settings can be exported and imported to another PC. The import works only if the same profile is active.

1.26. Locking The User Interface

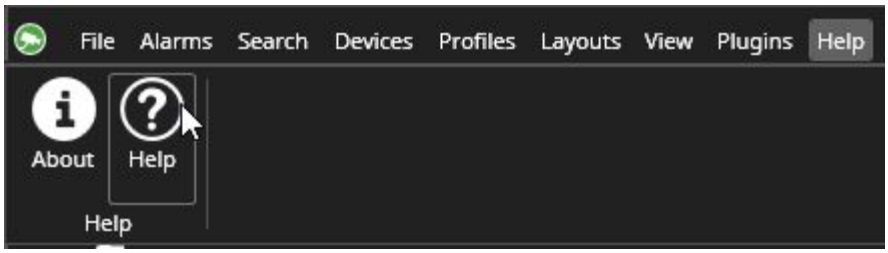
Locking The User Interface

The user can manually lock and log off Spotter from the File menu.

1.27. Help

Help

Spotter contains built-in help. The help is accessible from the Help menu or by pressing the F1 key.



Help contains information on new features and valuable things like keyboard shortcuts and links to view training videos.

1.28. Keyboard Shortcuts

Keyboard Shortcuts

You can activate all devices and access most of the functions in Spotter with keyboard shortcuts (hotkeys). When accessing devices, use the numeric keypad; the number row on top of the alphabetic keys cannot open devices.

1.28.1. Windows

Windows

Shortcut	Description
Ctrl+N	New window.
Alt+F4	Close the current window.
Ctrl+Alt+F4	Exit Spotter.
Ctrl+Alt+F5	Log off Spotter
Ctrl+Alt+L	Lock Spotter

Alarms

Shortcut	Description
F5	Focus to first alarm.
Enter	Open the alarm in the alarm view tab.
Space	Acknowledge focused alarm.
Ctrl+Alt+A	Show/Hide Alarm list.

Dialogues

Shortcut	Description
Enter	Same as clicking the OK button in a dialogue. If the focus is on another button when the Enter key is pressed, then the other button's action is executed.

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Show / Hide Components

Shortcut	Description
F1	Show Help window.
ALT+F1	Show About window.
F2	Reset layout: Set the main window to a normal state (not maximized). 100% zoom. Show profile window, time panel and time slider. The close export panel in the time slider. Focus is not in any component.
F3	Show settings window.
Ctrl + F3	Show control device settings window.
Shift + F3	Show number mappings settings window.
F4	Opens the "Open media" dialogue.
Ctrl+F5	Show/hide alarm window.
Ctrl+F6	Show/hide profile window.
Ctrl+F8	Show/hide time panel.
Ctrl+F10	Show/hide ribbon (menu items).
Ctrl+Alt+A	Show/Hide Alarm list.
Ctrl+Alt+C	Cycle between Playback panel view modes.
Ctrl+Alt+T	Cycle between Activity panel view modes.
Ctrl+Alt+D	Show/Hide Device tree.
Ctrl+Alt+V	Show/Hide Tabs.

When a component is displayed, the focus is set to the first item in the component (same functionality as with the shortcut key without Ctrl).

Moving Focus

Shortcut	Description
Tab	Move focus to the next element within the container component.
Shift+Tab	Move focus to the last element within the container component.
F5	Move focus to the first active alarm in the alarm list. If no active alarm, move focus to the first alarm in the list. If the alarm window is hidden, show it first.
F6	Move focus to the first item in the profile tree. If the profile window is hidden, show it first.
Alt + F6	Move focus to the next device tree item.
Alt+Shift+F6	Move focus to the previous device tree item.
F7	Move focus to the first camera in the current tab.
F8	Move focus to the time panel. If the time panel is collapsed, open it first.
F10	Move focus to the first ribbon menu item. If the ribbon is closed, open it first.

Full-Screen Window

The following shortcuts work in a full-screen window.

Shortcut	Description
F1	Open help plugin.
F2	Reset layout.
F8	Move focus to the time panel.
Ctrl+F8	Show /hide time panel.
Tab	Move focus to follow control (next camera in tab).

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Shift+Tab	Move focus to previous control (previous camera in tab).
Ctrl+P	Print video image.
Ctrl+S	Save video image.
Ctrl+Shift+D	Duplicate video view.
Ctrl+Tab	Select the next tab. If the currently selected tab is the last, select the first tab in the window. The addition (+) tab is not selected.
Ctrl+Shift+Tab	Select the previous tab. If the currently selected tab is the first tab, select the last tab in the window. The addition (+) tab is not selected.
Ctrl+T	Create a new camera tab. When a new camera is created, move focus to the first item in the device tree (to make it easier to add new cameras).
Ctrl+Shift+W	Close current tab.
F11 or Esc	Restore from full screen to normal state.
Ctrl+D	Date selection.
Ctrl+G	Time selection.
Ctrl+E	Activity selection.
Ctrl+Right	Set playback time +30 seconds.
Ctrl+Left	Set playback time -30 seconds.
Ctrl+Shift+Right	Set playback time +5 minutes.
Ctrl+Shift+Left	Set playback time -5 minutes.
Ctrl+Alt+Shift+Left	Set playback time -1 hour.
Ctrl+Alt+Shift+Right	Set playback time +1 hour.

Ctrl+Shift+Y	Set playback time +1 day.
Ctrl+Y	Set playback time -1 day.
Ctrl+Enter	Set to the current time.
Ctrl+Space	Pause playback.
Shift+Left	Decrease playback speed.
Shift+Right	Increase playback speed.
Ctrl+0 to Ctrl+9	Camera selection.
Ctrl+W	Close selected camera.
Alt+Enter	Maximize selected camera.

Tabs

Shortcut	Description
Ctrl+Tab	Select the next tab. If the currently selected tab is the last, select the first tab in the window. The addition (+) tab is not selected.
Ctrl+Shift+Tab	Select the previous tab. If the currently selected tab is the first tab, select the last tab in the window. The addition (+) tab is not selected.
Ctrl+T	Create a new camera tab. When a new camera is created, move focus to the first item in the device tree (to make it easier to add new cameras).
Ctrl+Shift+T	Open tab menu.
Ctrl+Shift+W	Close current tab.
F11	Maximize the current tab to full-screen size.
Esc	Restore maximized tab to a standard size (when no camera is selected).

Ctrl+Shift+C	Automatic image cropping on / off.
Ctrl+Shift+S	Automatic image stretching on / off.
Ctrl+Shift+R	Reset all camera zooms to full zoom.
Ctrl+Shift+B	Bounding box on / off.
Ctrl+Shift+A	Tail on / off.
Ctrl+Alt+V	Show/Hide Tabs.

Profile Window

Shortcut	Description
Enter (when a camera is selected)	Add a camera to the tab.
Enter (when a folder is selected)	Add all cameras in the selected tab and Expand the folder.
Left (when the selected folder is expanded)	Close the folder.
Left (when a selected node is not expanded)	Select parent folder.
Proper (when the selected folder is not expanded)	Open the folder.
Up and Down	Move selection up or down. When a camera is active, the buttons for that camera are shown in the tab (that camera becomes selected).

Playback Time And Speed

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Shortcut	Description
Ctrl+D	Open date selection panel. Select a date with arrow keys and accept selection with entering. Both Enter and Esc close date selection panel.
Ctrl+G	Open time selection panel. Select time with arrow keys and accept selection with entering. When pressing a button, the panel stays open. Esc closes the time selection panel.
Ctrl+Right	Set playback time +30 seconds.
Ctrl+Left	Set playback time -30 seconds. If in real-time mode, switch to playback mode first, and set 1x speed.
Ctrl+Shift+Right	Set playback time +5 minutes.
Ctrl+Shift+Left	Set playback time -5 minutes. If in real-time mode, switch to playback mode first, and set 1x speed.
Ctrl+Alt+Shift+Left	Set playback time -1 hour.
Ctrl+Alt+Shift+Right	Set playback time +1 hour.
Ctrl+Shif+Y	Set playback time +1 day.
Ctrl+Y	Set playback time -1 day.
Ctrl+Enter	Go to real-time mode. No action is already in real-time mode.
Ctrl+Space	Pause / play.
Shift+Right	Increase playback/fast forward speed—no action in real-time mode.
Shift+Left	Decrease playback/fast forward speed (when speed = 0, start to playback/fast

	rewind). If in real-time mode, switch to playback mode and start playback at 0.5x speed.
Ctrl+Alt+Right OR Ctrl+Alt+P	Display the next video frame in playback mode.
Ctrl+Alt+Left OR Ctrl+Alt+O	Display previous video frame in playback mode.
Ctrl + Alt +[number key 1..0]	Direct access to forwarding play speeds.
Ctrl + Alt + Shift + [number key 1..0]	Direct access to backward play speeds.

Miscellaneous

Shortcut	Description
Ctrl+E	Open activity list. Use arrow keys + Enter to select an activity. Esc closes the activity list without selecting the activity. Tab closes the menu and sets focus to the next element.
Ctrl+L	Open layout menu (layout name selection can be changed with arrow keys, Esc closes menu without selecting layout).
Ctrl+M	New layout.
Ctrl+Up	Load previous layout (same order as in layout menu).

Ctrl+Down	Load following layout (same order as in layout menu).
Numpad number + numbad x	Load layout with this number (layout numbering configured under Layouts – Layout numbering)
Ctrl + B	Open bookmarks folder in Spotter device tree.
Ctrl + Alt + B	Create a quick bookmark.
Ctrl + Alt + M	Create a quick storyboard clip

Camera Selection In a Tab

Shortcut	Description
Ctrl+1 to Ctrl+0	Set focus to n:th camera in tab (0=10th).
Tab	Next camera.
Shift+Tab	Previous camera.
Esc	Remove camera selection.

C

Export Time Controls

Shortcut	Description
Alt + I	Zoom time slider to show export period ultimately.
Alt + Y	Moves playback position to current export start time.

Alt + CTRL + Y	Sets current playback time to be the export start time.
Alt + U	Moves playback position to current export end time.
Alt + CTRL + U	Sets current playback time to be the export start time.

Camera Controls

Shortcut	Description
Ctrl+W	Close current camera.
Alt+Enter	Maximize camera in tab.
Double enter	Maximize/minimize camera in tab. (if the focus is on camera)
Esc	Restore camera average size (when maximized). When in a standard size, remove focus.
Ctrl+P	Print camera image.
Ctrl+S	Save (export) camera image.
Ctrl+Shift+D	Duplicate video view.
Ctrl + Alt + Shift + D	Duplicate the camera and move it to mixed playback mode.
Numpad number + Enter	Add camera (device number).
Numpad number + plus	Activate monitor/window (monitor number).

Numpad number + minus	Close the camera (device number).

PTZ Camera Control

Shortcut	Description
Arrow keys	Moving the camera left, right, up, down (also intermediate directions).
Page Up	Zoom out.
Page Down	Zoom in.
Home	Full un-zoom.
End	Maximum zoom in.
Double enter	Maximize camera and assume PTZ control for selected camera number. (if the focus is on the PTZ camera)
Ctrl + H	Home position / program

I/O Control

Shortcut	Description
Arrow keys	Change focus between action button, content popup button and close button when focusing in the component panel.
Space	Performs default action when the item is selected from the profile tree.

Camera Tour

Shortcut	Description

F12	The toggle camera tour starts and pauses state.
Ctrl + F12	Steps to next camera tour view.
Ctrl+Shift+F12	Steps to previous camera tour view.

1.29. About Screen

About Screen

The Spotter About window contains information about the installed plugins and their licenses.

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