MyVMS

video surveillance system

USER MANUAL

Version 8.4

MYVMS.EU

Contens:

General information

This document describes MyVMS 8.4.0 software. The information is current as of June 2025.

Software architecture: client–server.
Bit capacity of supported operating systems: 64-bit
It uses SSL encryption for data sent between the client and the MyVMS server, recorder, and camera if supported by the device.

The server part is available for the following operating systems:

- *Windows* (at least Windows 10 version 1809).
- *Linux* (at least GLibc 2.22).

GPU (video card) requirements for using neural network video analytics:

- *Windows* (at least Windows 10 version 1903): Nvidia, Radeon, Intel GPUs, and full hardware support for DirectX 12.
- *Linux:* Nvidia and CUDA GPUs Compute Capability at least version 5.

The client part is available for the following operating systems:

- Windows (at least Windows 10 version 1809).
- Linux (at least GLib 2.22).
- macOS (at least 13).
- Android (at least 6.0).
- iOS (at least 12.5).
- Android TV (at least 8.0).

Default ports:

- 9780 — MyVMS apps, Android, Android TV, and iOS clients;
- 9786 — Web interface of the client part (HTML5 web server);
- 9784 — for delivering the RTSP stream from the server;
- 9877 — ping port for checking the connection between the client and server parts of MyVMS;
- 9796 — for the Admintool app (for MyVMS cameras and recorders).

Software installation

You do not need to purchase additional licenses to use the software as a client workstation. Just install the app, launch MyVMS (Android, iOS, MacOS), and connect to a server.

1.1. / Windows

To install the software, download the distribution from **https://myvms.eu/soft/.** Click Next in the MyVMS installation wizard window. Read the License Agreement and click I Agree to accept the terms and conditions (Fig. 1.1.). You must accept the terms of this agreement to use this software.

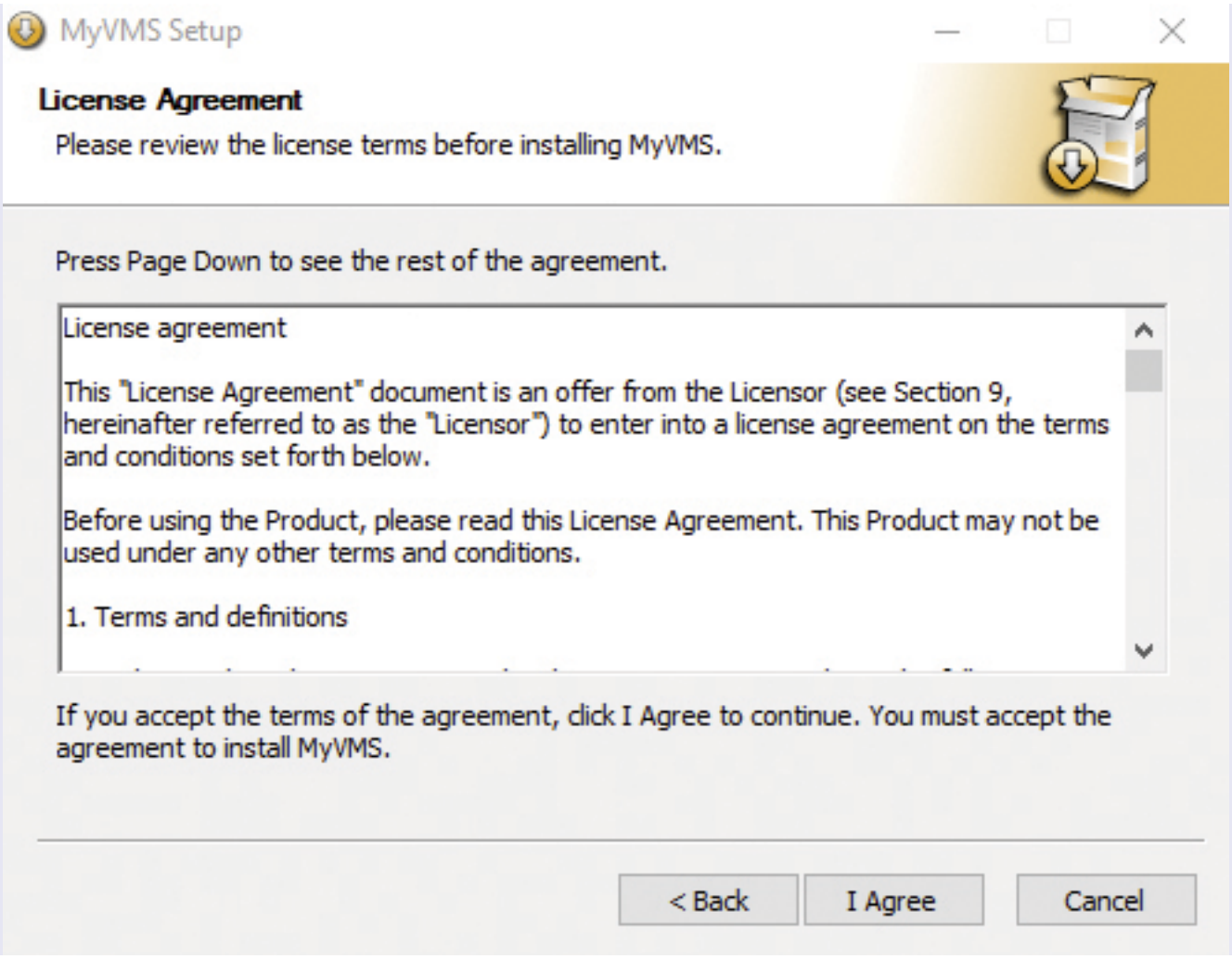


Figure 1.1 License Agreement

Select the installation folder (recommended default folder — C:\Program Files\ MyVMS Fig. 1.2) and click Install. Wait until installation is complete and click Ready.

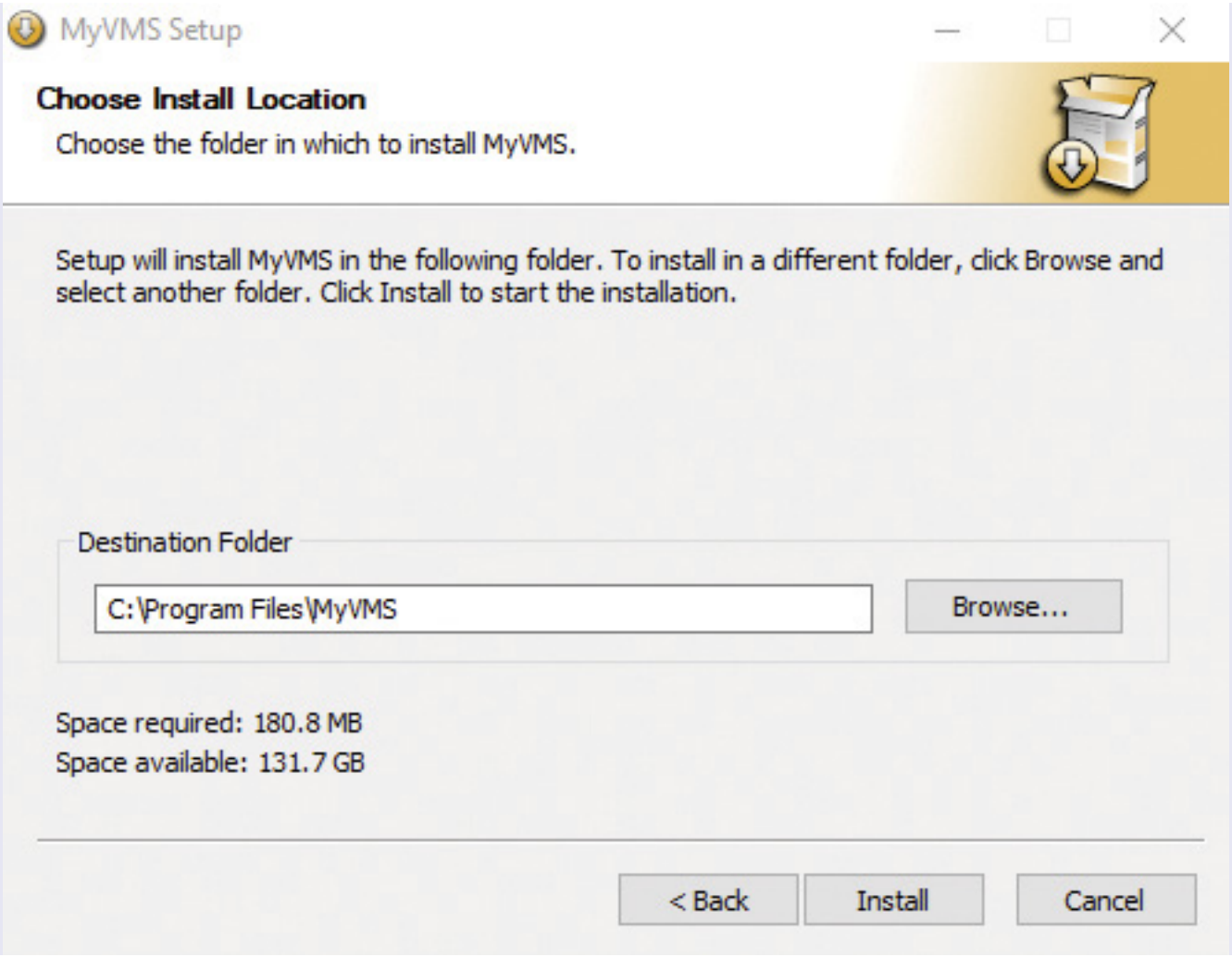


Figure 1.2 Choose Install Location

1.2. / Linux

To install the software, download the distribution from **https://myvms.eu/soft/.** To install the software, open the terminal and follow the sequence of commands:

- **Download and rename the installation file:**

```
wget -O myvms.run 'https://myvms.eu/count.php?c=451'
```

- **Change the permissions for the downloaded file:**

```
chmod 0755 myvms.run
```

• **Install the software:**

```
sudo ./myvms.run
```

• **Launch Observer with the command:**

```
/opt/myvms/bin/observer
```

More details can be found at **https://myvms.eu/linux.**

1.3. / MacOS

To install the software, use the distribution from any of these resources:

- **https://myvms.eu/soft/** under the name MyVMS MacOS. Double-click on the name of the downloaded file and mount the disk image. Drag MyVMS.dmg app to the Software folder. Wait until the copying is complete and dismount the dmg image.
- **https://www.apple.com/app-store/** under the name MyVMS. Click Download to download the app and automatically install it on your device.

2 License activation

A computer running Windows or Linux operating system becomes a MyVMS server after activating the MyVMS IP license codes and/or adding friendly channels.

2.1. / MyVMS IP

Important! The MyVMS IP license is intended for use on only one computer, which will be the server. You need internet access to activate the license. After activation, you can use the server offline. Before activating the license, please read the license rules at https://myvms.eu/l/

To activate a MyVMS IP license:

- **Run Observer** — Connect to server — Network connection.
- **Enter the details for connecting to the server** where you want to activate licenses.
  - On the server itself: localhost:9780
  - On a local network server: the local IP address of the server's network interface (for example 192.168.1.2:9780).
  - On a web server: external IP address or domain name (for exampleserver.myvms.net:9780)
- **Double-click to connect to the server** or select the server and click the Connect button.
- **Enter the log in details:** default admin without password and click Apply.
- **After connecting, open the Manage menu.**
  In the top left corner, click on the name of the video server MyVMS Server (Fig. 2.1).

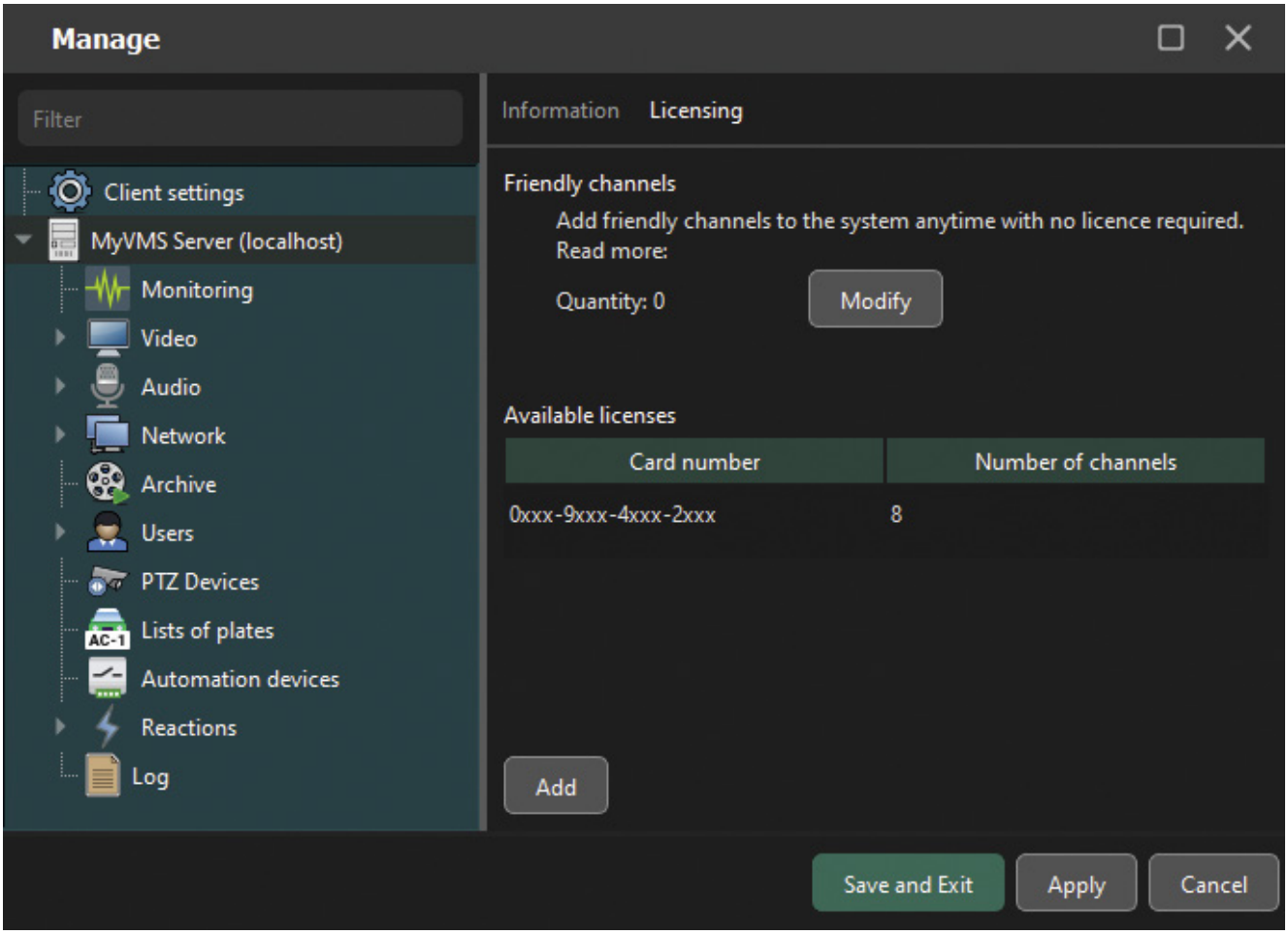


Figure 2.1 Activation menu

- In the **Licensing** menu, click **Add** and enter the 16-digit license code. If you have more than one activation code, click the + button. Click the - button to delete any codes that have been added but not activated. In case of activation error, make sure that the server is connected to the internet; try changing the value of the client setting **Use system proxy** (see section 4.1.1). The activation window displays a warning on the maximum possible number of channels on the video server (Fig 2.2).

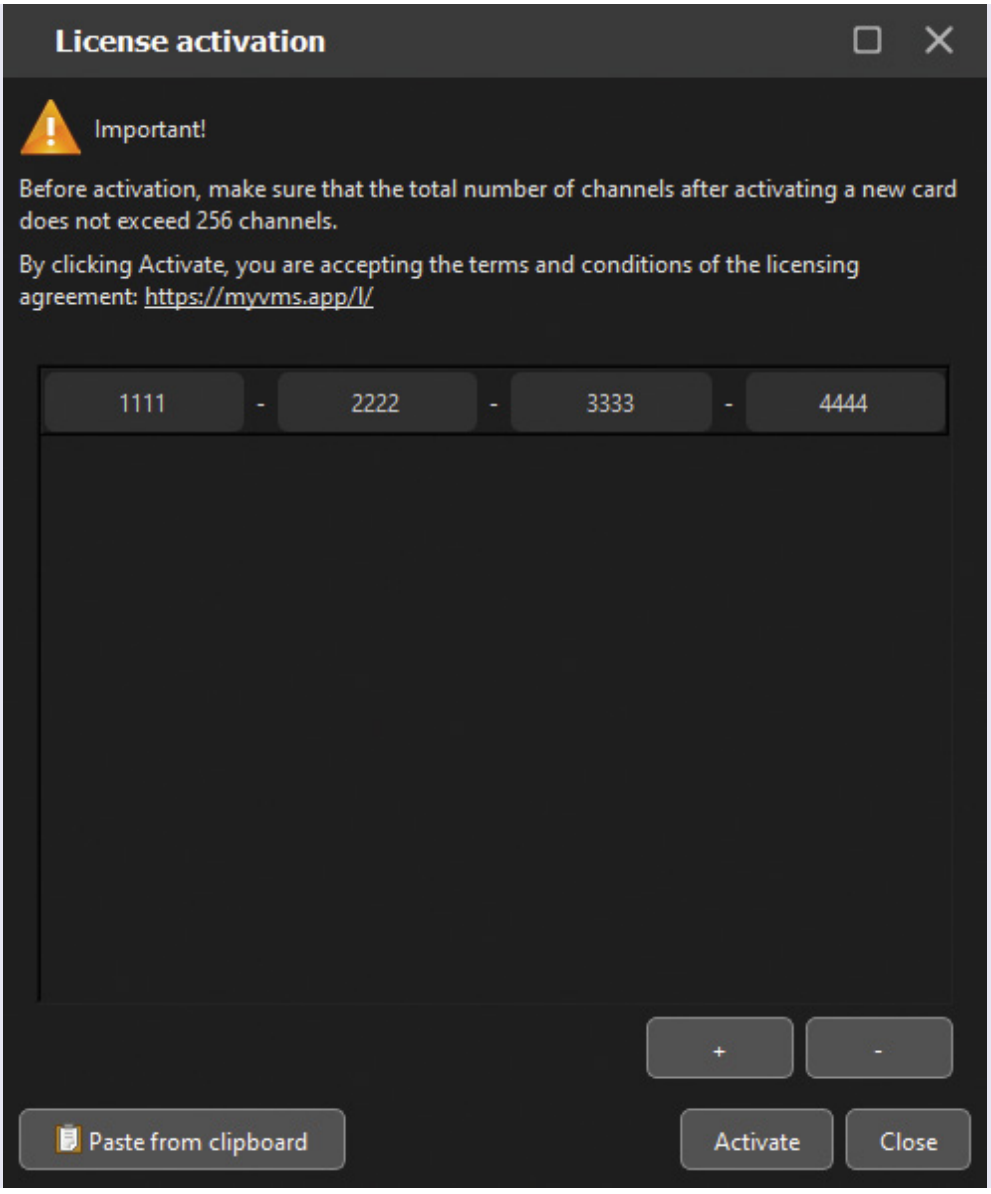


Figure 2.2
License activation

- You can configure the server through **Observer**. By default, admin and web users are created **without a password**. When cameras are connected, the default recording mode is **By motion detection**

with loop overwriting of the archive to the directories specified for recording. If there are no resources available for recording the archive, we recommend changing the recording mode for all channels to **Disabled.**

Once licenses are activated, they can only be deleted by completely deleting the license file:

- **Windows:** C:\ProgramData\MyVMS\license
- **Linux:** /var/opt/MyVMS/license

2.2. / Activating friendly channels

Add friendly channels for connecting MyVMS IP cameras by specifying the required number of channels after clicking the **Change** button. Make sure that the total number of activated channels does not exceed 256.

Friendly channels can only be used to connect MyVMS IP cameras and are added to the general channel list in the **Video** section (see section 4.2.3) after the channels activated with MyVMS IP by adding the letter L to the channel name (Camera L1 — Camera L256).

To delete friendly channels, click the **Change** button, set the value to zero (0) and click **Accept.** You can add, modify or delete these channels an unlimited number of times.

2.3 / Activating temporary codes

Important! The temporary code is not intended for use with the MyVMS software. It cannot be activated in the MyVMS software.

If you have a temporary activation code consisting of a combination of letters and numbers (for example, TW54-TKZ-CG9-7QN), you must activate it beforehand through https://myvms.eu/activate/ or by requesting a VMS IP activation code via email. If you receive a MyVMS IP activation code (16 digits) by email, you can activate it through the MyVMS software according to section 2.1

3 Observer

Observer is designed for real-time monitoring and playback, as well as for management.

When you turn on your computer, the MyVMS kernel is automatically started as a system service and starts working immediately.

The server does not need **Observer** to be running to record the archive and connect from client workstations.

The software interface (Fig. 3.1.) contains a workspace divided into multi-view windows and a toolbar at the top.

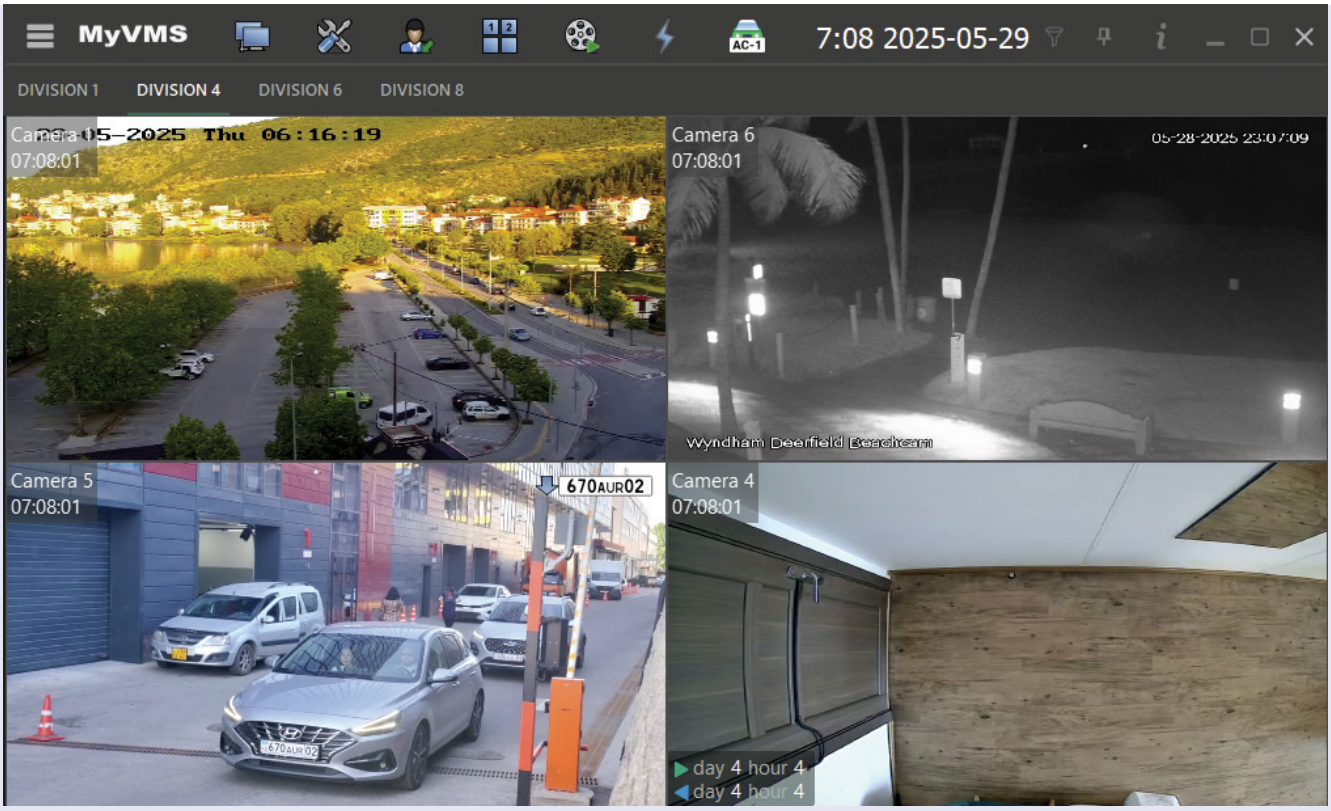


Figure 3.1 Observer

The available menu items on the **Observer** toolbar depend on the device, user rights and system settings. Right-click on the upper toolbar to hide or show the text of buttons and the quick screen layout toolbar. You can also adjust the date/time display details by right-clicking in the date and time area.

Access to the camera **Selection menu** where you can search and sort.

MyVMS

Brand logo. Go to **Client settings** to hide or display it (see section 4.1.1).

Server connection — go to the **Network connections** window

Manage — go to server settings.

User actions — change user, terminate session or configure the local record.

Screen divisions — select, create or edit the display.

Archive playback — go to archive playback.

Action button — quickly enable Reactions. Is not shown if Reactions are not used (see section 5).

Lists of plates — provides quick access to viewing and editing license plate lists of the License plates recognition module (see section 4.2.3.3.2).

Date and time. The widget has separate right-click settings.

Event viewer — hide and customise the toolbar for events and analytical modules.

Pin/hide the toolbar.

Information about the local app, about connected servers.

Quick screen divisions selection toolbar.

3.1 / Quick access toolbar

A special toolbar (Fig. 3.2) appears when you left-click a camera cell in multi-view for quick access to the main functions of the selected camera.

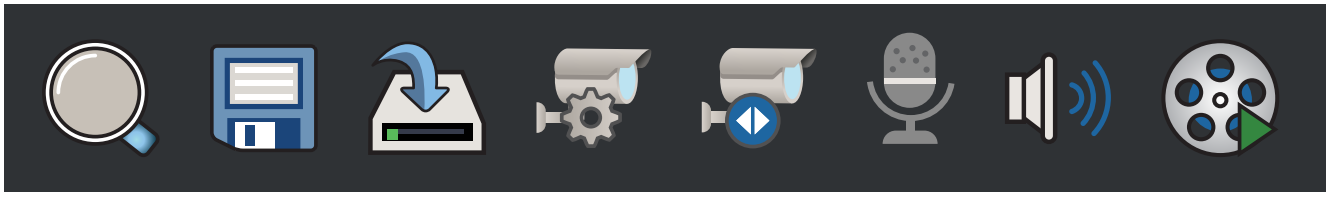
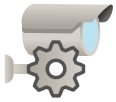
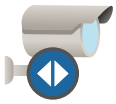


Figure 3.2 Quick access toolbar

The contents and operation of menu items on the quick access toolbar depend on the device and user rights:

	Digital zoom.
	Save the frame.
	Record video locally to disk.
	Camera settings (works depending on the camera's level of integration).
	PTZ settings (works depending on the camera's level of integration)
	Two-way audio (works with MyVMS cameras and third-party cameras with ONVIF profile T)
	Enable audio from microphone (works depending on the camera's level of integration)
	Archive playback.

Note: The customisation option is not available for some camera models. To control a PTZ (pan-tilt-zoom) camera, you first need to add it to PTZ devices (see section 4.7). You cannot turn on the sound from a microphone or use two-way audio for multiple devices at the same time.

3.2 / Context menu

The contents and operation of menu items depend on the device and user rights.

Right-click on the camera window to open the context menu, where you can: remove or assign the camera to a cell, display the main stream or substream, add an event (text label to the archive), information about the camera and go to Manage (Fig. 3.3).

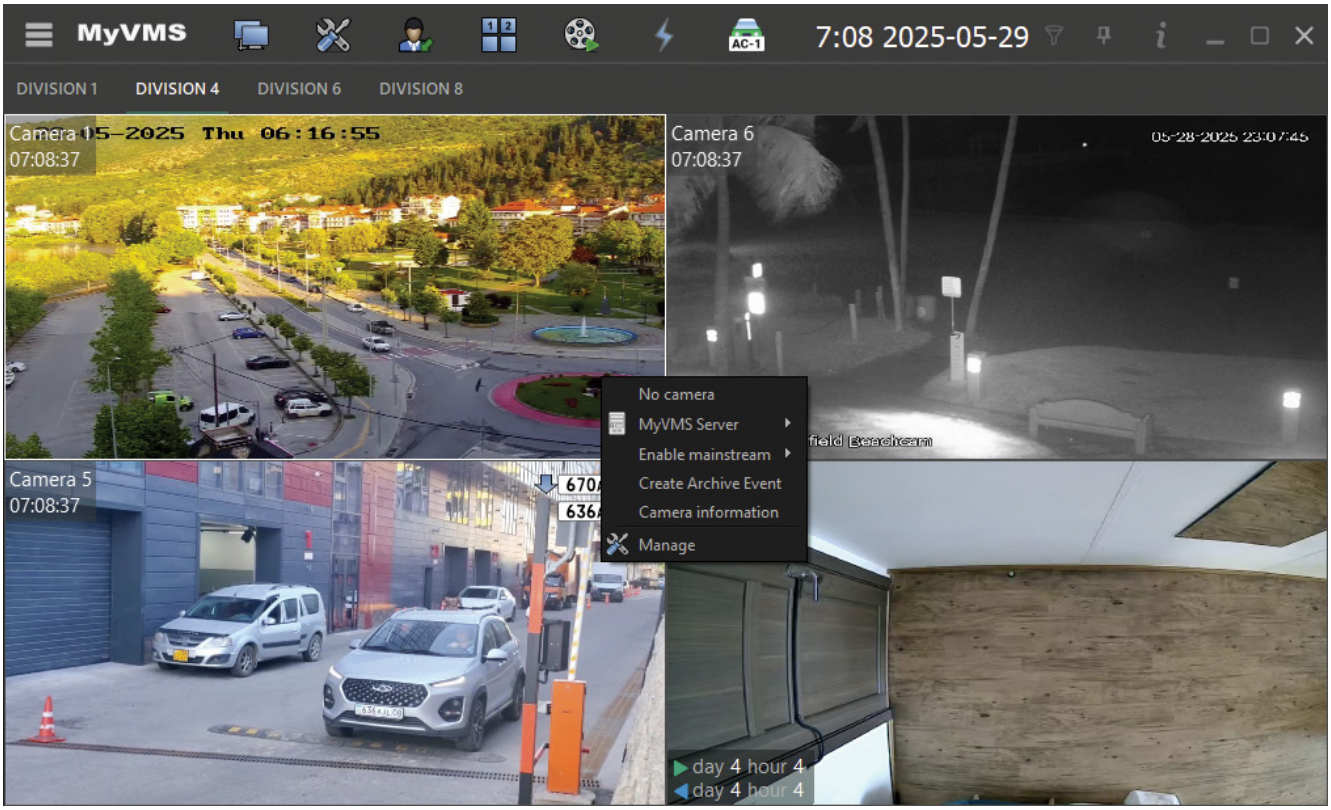


Figure 3.3 Context menu

Figure 3.4
User actions

3.3 / User actions

With the User actions menu (Fig. 3.4), you can:

Change user — switch between software users.

Logout — completely hide Observer and display in the centre of the screen only the login window for entering user details. To configure the default user, enter the name and password, tick the Save password checkbox and click OK (Fig. 3.5).

Local recording — record short video clips in an MP4 container to a specified directory.

Please note: using local recording consumes extra disk space in addition to archive recordings; we do not recommend using the system disk for local recording.

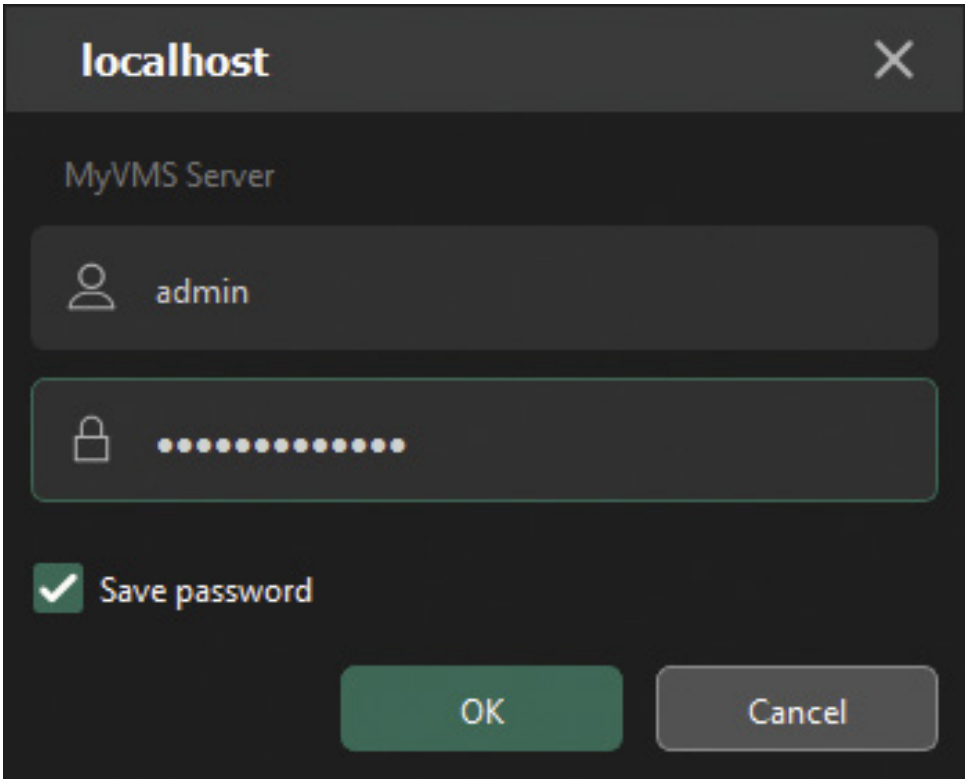


Figure 3.5
Login window

3.4 / Server connection

The **Server connection** menu allows you to open the **Network connections** window, where you can find available servers, recorders, and cameras using the MyVMS software and connect to them, using a local network or the internet (Fig. 3.6).

Click the **Auto Search** button to automatically search for devices in the local network. All available devices that are found will be automatically added to the list.

If you want to connect the device via the internet (the device is not available on the local network), enter its external IP address or domain name and port 9780.

You can change or view the connection settings of the selected device on the right pane of the Advanced Settings window.

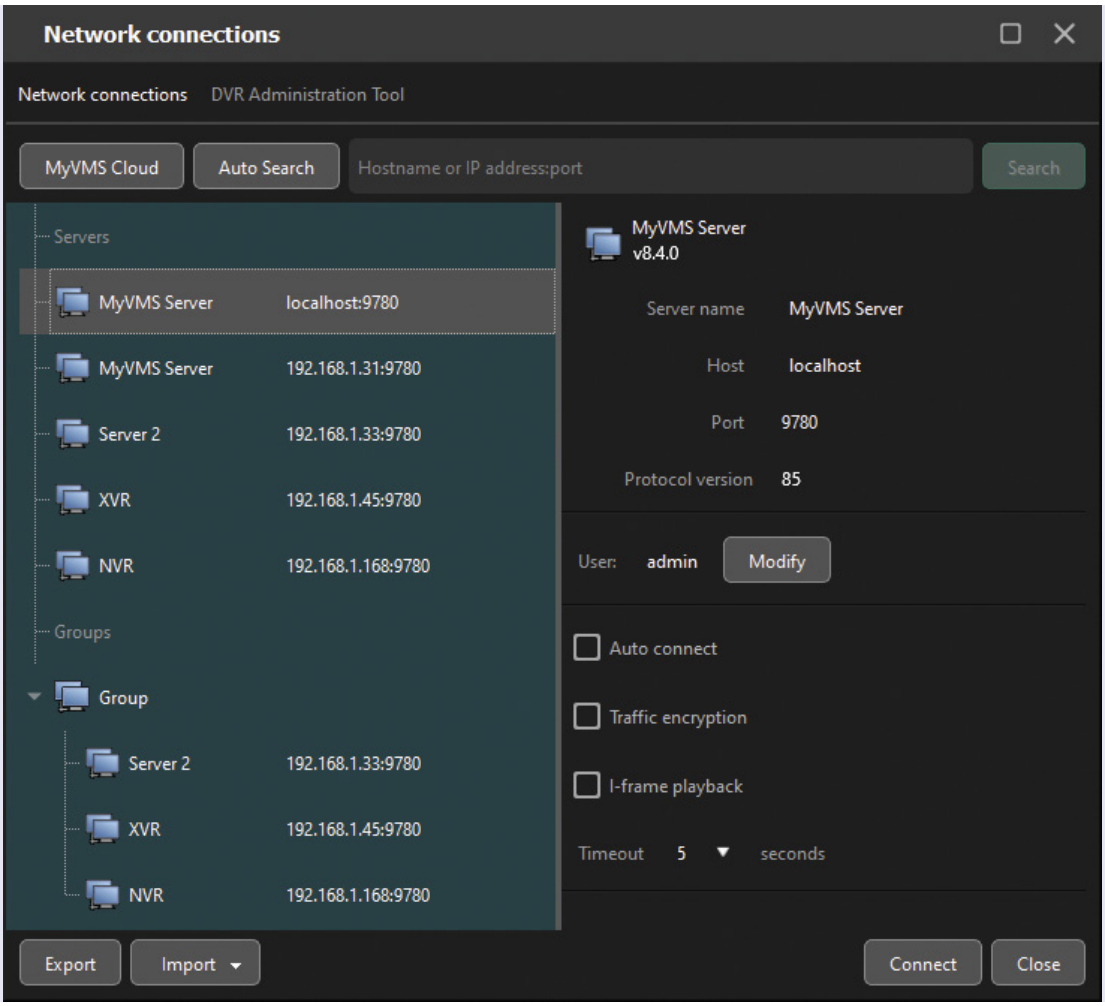


Figure 3.6
Network connections

To find a device manually, enter the IP address or domain name and port (if different from the default) in the search bar and click **Search.** Right-click to open the context menu and see additional options for managing the connection or displaying the list (Fig. 3.7).

Note: If you need to set up a video server on a local device running **Observer**, connect to a localhost server or the local IP address of this server. After connecting to the local server, click **Manage** and activate the MyVMS IP license (see section 2).

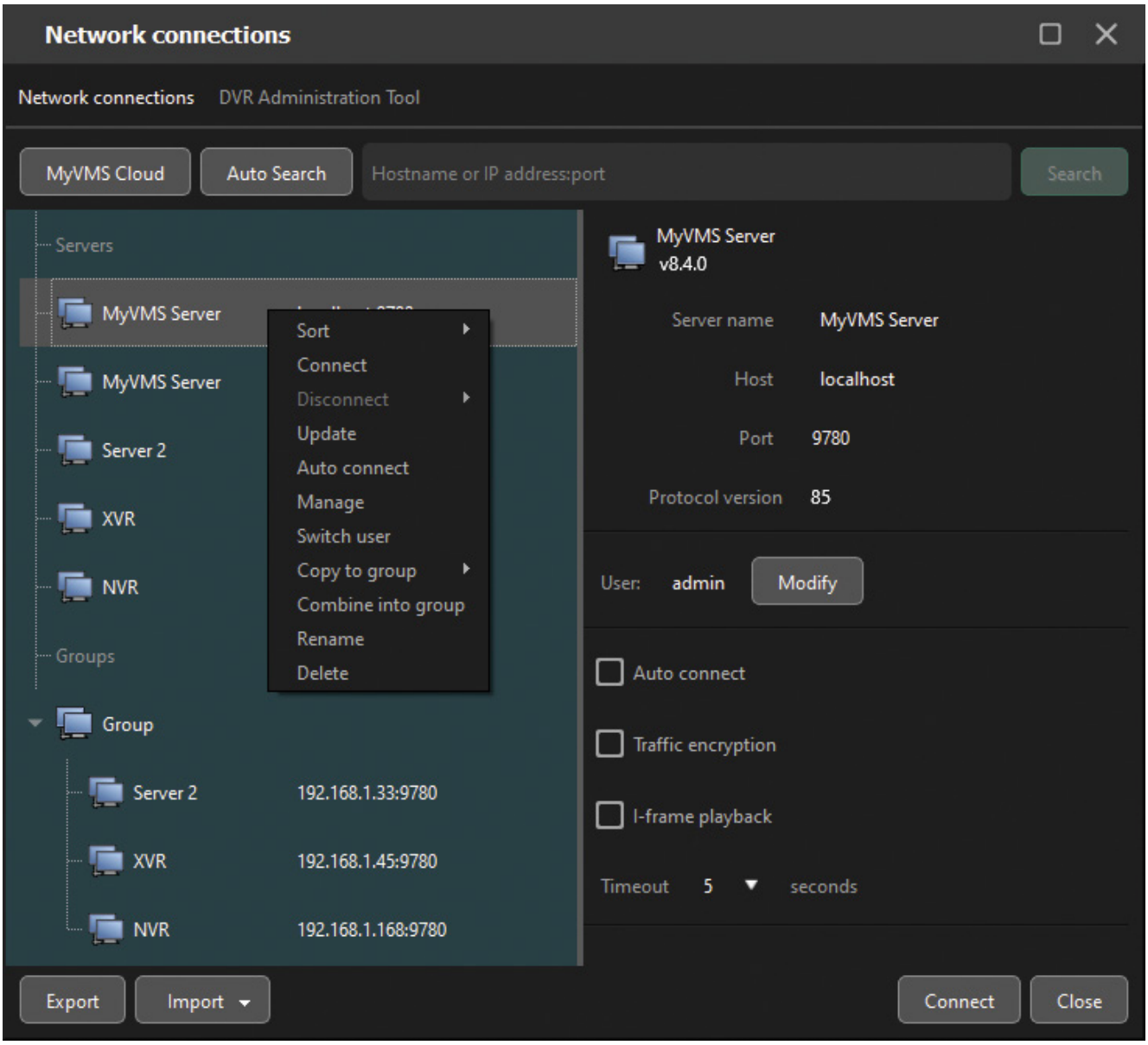


Figure 3.7 Menu

The system allows you to combine MyVMS servers, recorders, and cameras (hereinafter, devices) in a group on client workstations using a computer. When you create a group, you can work with several MyVMS devices as if they were a single device.

To create a group, press the **Ctrl** key and left-click with your mouse to select the devices you want, then combine them by clicking the right mouse button and selecting the appropriate menu item. If the group has already been created, you can click and drag the servers available in the list into this group.

To automatically connect to a device or group of devices, right-click on the selected device or group and select **Auto connect.**

The **Traffic encryption** option allows you to exchange information between the client application and the server part in encrypted form. If the option is not available in the client part, it means that the server does not support this functionality.

I-frame playback — only reference frames are requested when viewing in real time or playing back the archive. The setting is made for a group or any device in the group and is used for all devices of this group. We recommend using it if the internet connection is slow between devices and the client on mobile phones. This also significantly reduces the CPU load on the client workstation when using a multi-camera grid view.

The **MyVMS Cloud** button allows you to connect the service's account to all available servers and recorders. To automatically connect, enter the username and password for each server/recorder in the service's web interface, or additionally fill in the relevant information in the software interface.

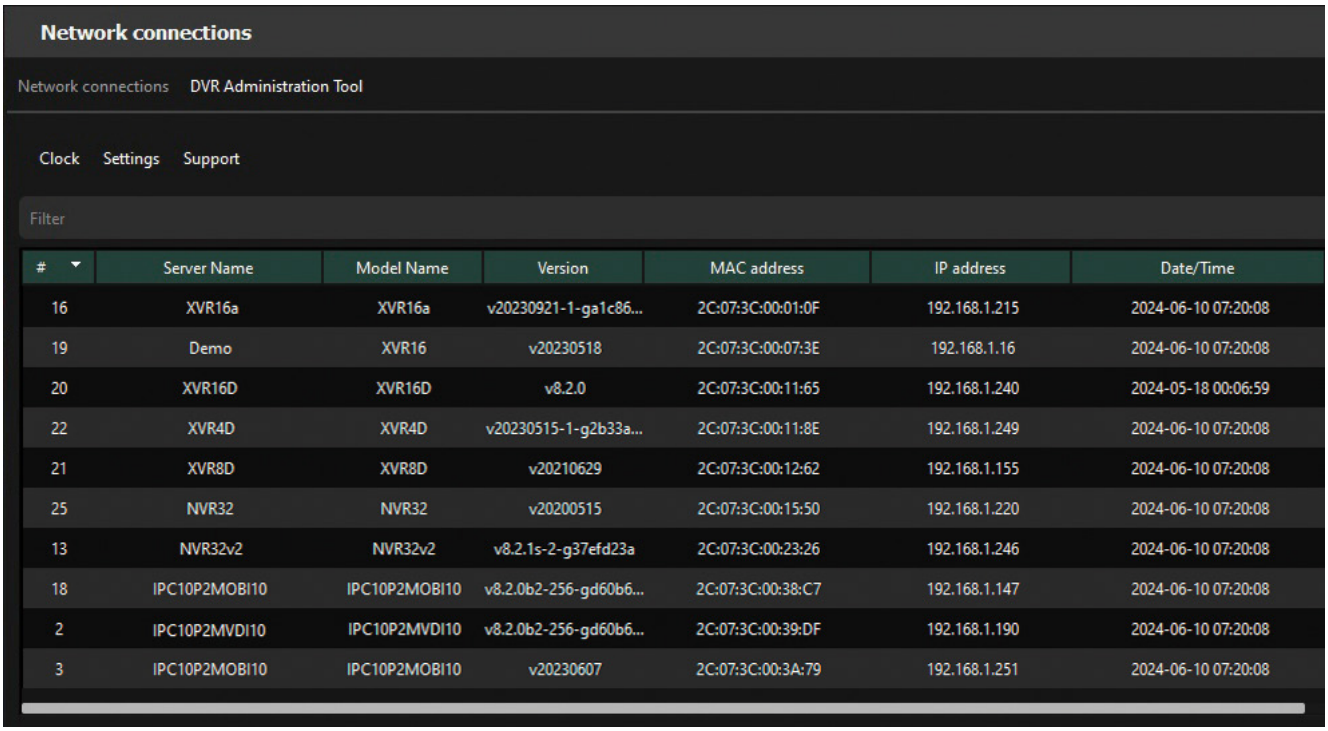
The **Export** and **Import** buttons allow you to upload and download the list both locally and to other client locations.

3.4.1 / Admintool

The **Admintool** tab allows you to find recorders and cameras using the MyVMS software in the same local network as the running

software. The search uses broadcast polling of MAC addresses of network cards and can find devices outside the network configuration rank of the PC on which **Observer** is running. This feature does not work for devices on the internet.

Enter text in the **Filter** field to display information by matching characters only in the table columns (Fig. 3.8).



#	Server Name	Model Name	Version	MAC address	IP address	Date/Time
16	XVR16a	XVR16a	v20230921-1-ga1c86...	2C:07:3C:00:01:0F	192.168.1.215	2024-06-10 07:20:08
19	Demo	XVR16	v20230518	2C:07:3C:00:07:3E	192.168.1.16	2024-06-10 07:20:08
20	XVR16D	XVR16D	v8.2.0	2C:07:3C:00:11:65	192.168.1.240	2024-05-18 00:06:59
22	XVR4D	XVR4D	v20230515-1-g2b33a...	2C:07:3C:00:11:8E	192.168.1.249	2024-06-10 07:20:08
21	XVR8D	XVR8D	v20210629	2C:07:3C:00:12:62	192.168.1.155	2024-06-10 07:20:08
25	NVR32	NVR32	v20200515	2C:07:3C:00:15:50	192.168.1.220	2024-06-10 07:20:08
13	NVR32v2	NVR32v2	v8.2.1s-2-g37efd23a	2C:07:3C:00:23:26	192.168.1.246	2024-06-10 07:20:08
18	IPC10P2MOBI10	IPC10P2MOBI10	v8.2.0b2-256-gd60b6...	2C:07:3C:00:38:C7	192.168.1.147	2024-06-10 07:20:08
2	IPC10P2MVDI10	IPC10P2MVDI10	v8.2.0b2-256-gd60b6...	2C:07:3C:00:39:DF	192.168.1.190	2024-06-10 07:20:08
3	IPC10P2MOBI10	IPC10P2MOBI10	v20230607	2C:07:3C:00:3A:79	192.168.1.251	2024-06-10 07:20:08

Figure 3.8 Admintool menu

Important! To manage and interact with found devices, the network settings of the client location and the found device must be in the same segment of the local TCP\IP network.

Select one of the found devices to configure:

- **Clock:** set the time zone, synchronise the time with your PC, set the time manually, configure NTP (Fig. 3.9).
- **Settings:** change network settings, select mode, add to network connections, connect, and save or restore settings (Fig. 3.10).

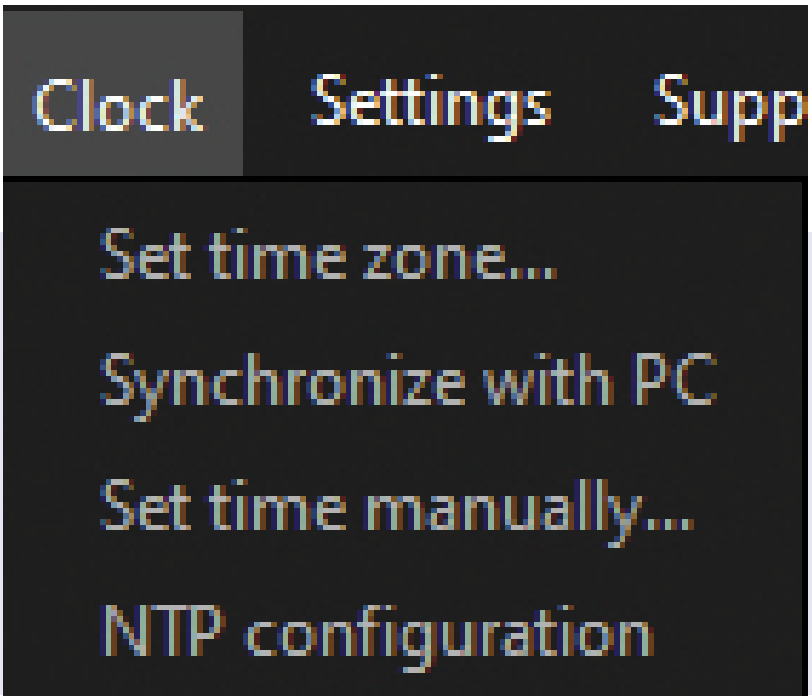


Figure 3.9
Clock menu

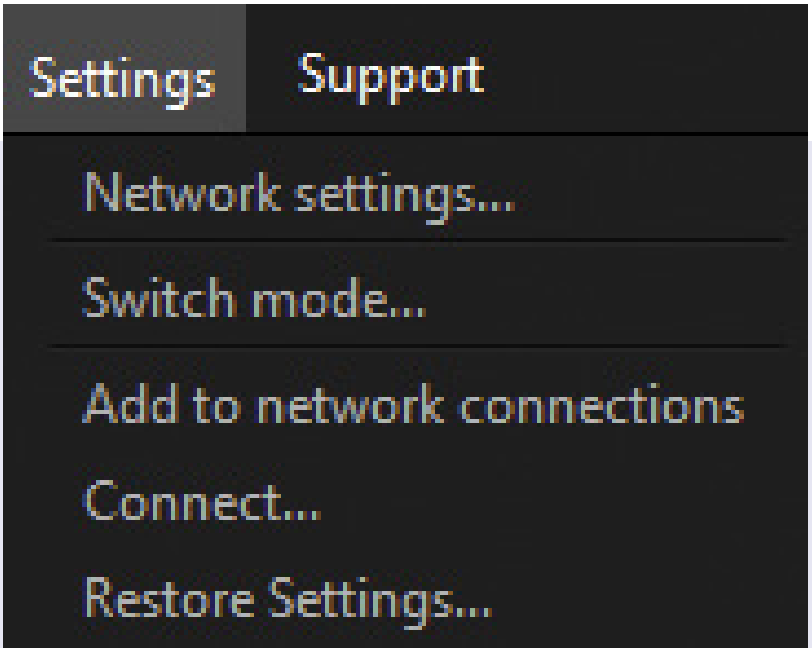


Figure 3.10
Settings menu

- **Support:** format HDD (first select and confirm actions), factory reset, update firmware, collect system information, copy MAC address to the clipboard (to reset user passwords) (Fig. 3.11).

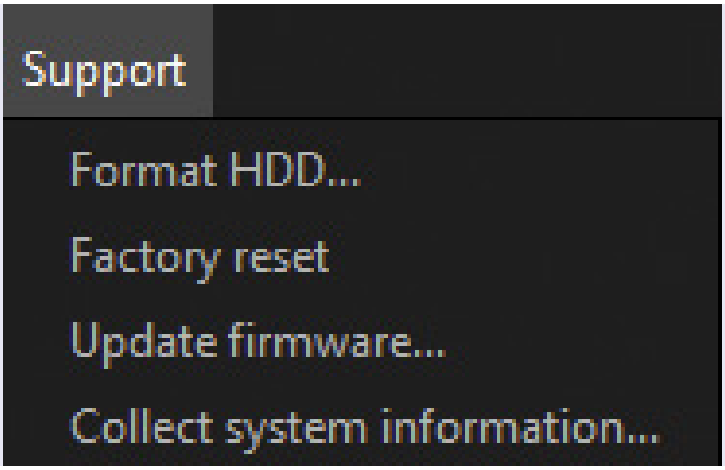


Figure 3.11
Support menu

All available menu items can be selected by right-clicking on the required line from the device. The Progress column shows the progress of the function in graphical form.

3.5 / Screen divisions

The Screen divisions window displays all created divisions available to an active user (Fig. 3.12). The green tick shows the default division. The screen division editor is available to users with the appropriate rights (see section 4.6).

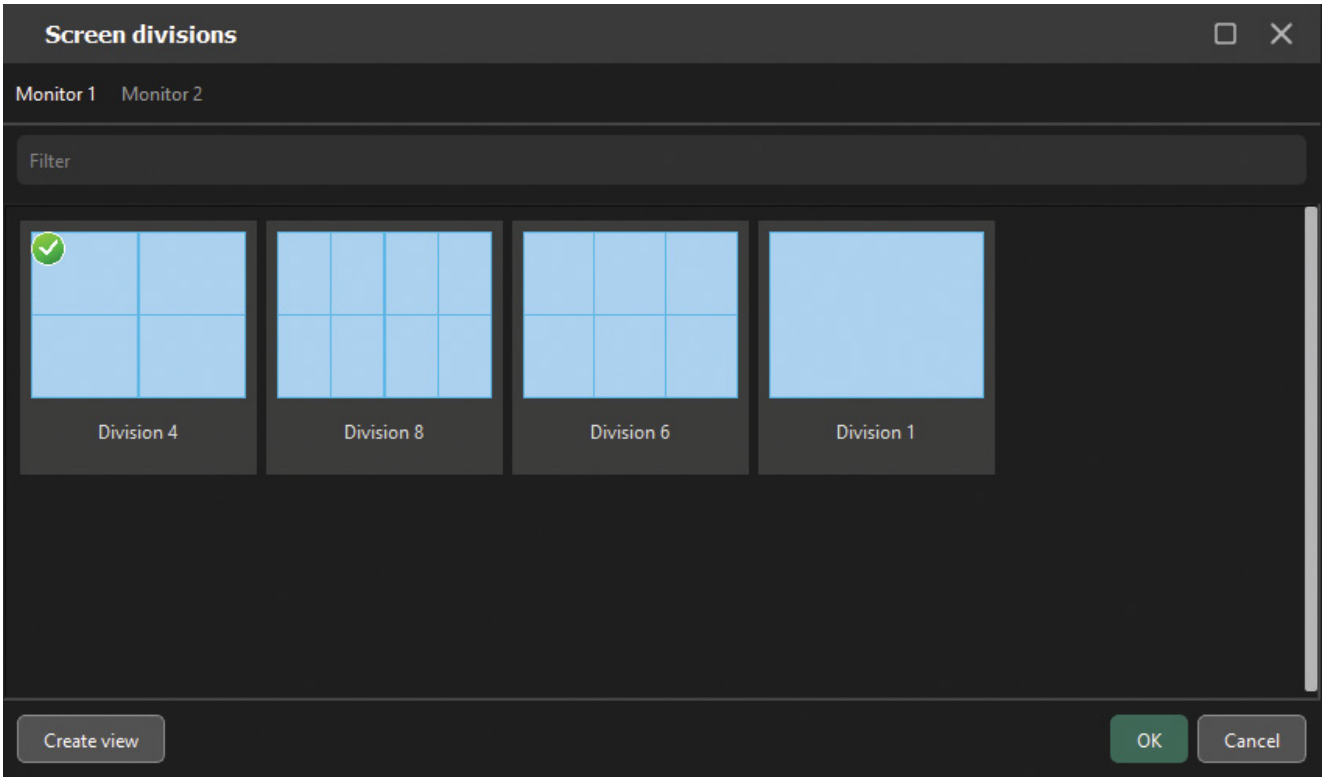


Figure 3.12 Screen divisions

3.6 / Event viewer

To display events for the current day, click on the funnel icon to activate the event viewer (Fig. 3.13) on the upper toolbar. Click the icon again to hide the menu.

The event viewer is designed to notify the operator in real time when the system registers various alarm and information events for the current day based on filter settings. It makes it possible to quickly access the archive fragment related to the event and export this fragment in two mouse clicks.

You can customise the viewer to select the categories of events to be displayed on it:

- **Events**
- **OSD**
- **Left items**
- **Sabotage**
- **Objects**, all or specific: **People** / **Vehicles** / **Animals**
- **License plates**, all or specific: **Without list** / indicating direction of movement
- **Visitor counting**, all or specific: in / out
- **Smoke and fire**

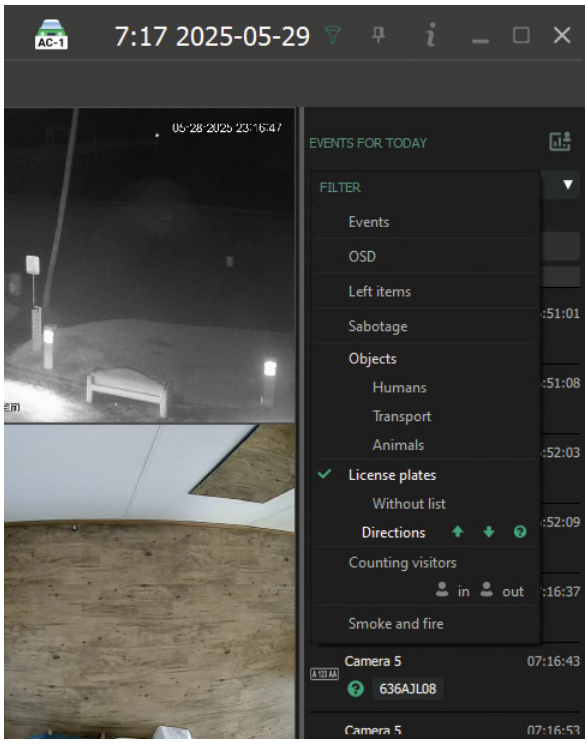


Figure 3.13 Event viewer

The availability of the feature depends on the device. To display analytics modules, first enable and configure them in **Manage -— Camera channel — Analytics** (see section 4.2.3.3)

Enter text in the **Filter** field to display information by matching characters only.

To view events earlier than the current day, enter the archive playback and use the filter in the archive (see section 7.3).

4 Manage

The **Manage** window provides access to all server settings and client settings of the Observer (Fig. 4.1). The feature is available locally and when connected via the internet.

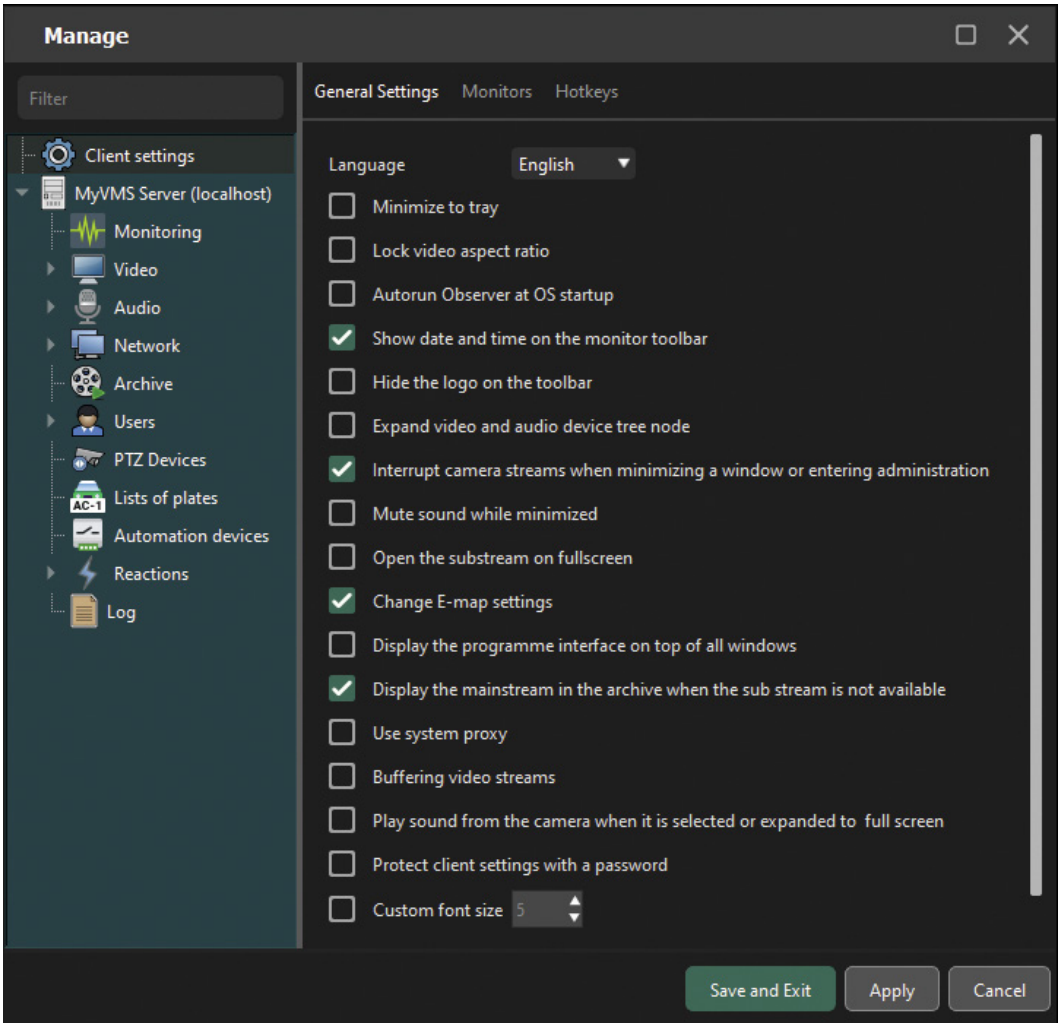


Figure 4.1
Manage window

4.1 / Client settings

Client settings allow you to configure Observer and include general settings for using and running the software, network connection, use of multiple monitors and camera display modes, as well as hotkey settings. Client settings can be accessed without connecting to the device, and the settings are only saved on the specific client device where the configuration is set.

4.1.1 / General settings

Depending on the client platform (server/recorder), you can use the following functionality:

- Language: English, Russian, Turkish, Traditional Chinese, Simplified Chinese.
- Minimise Observer to the tray.
- Lock the video aspect ratio (removes or displays black background on the edges of the frame).
- Autorun at OS startup.
- Show date and time on the toolbar.
- Hide the logo on the toolbar.
- Expand Video and Audio nodes in the Manage window.
- Interrupt camera streams when minimizing a window or entering Manage.
- Mute sound when the main screen is minimized.
- Open the substream in full screen.
- Change E-map settings.
- Display the software interface on top of all windows.
- Display the mainstream in the archive when there is no substream (if the substream did not record).
- Use system proxy.
- Buffer video streams.
- Play sound from the camera when it is selected or expanded to full screen.
- Enable the virtual keyboard.
- Hide view scroll arrows.
- Automatic screen lock.
- Save zoom when exiting to multiview.
- Hide toolbar in multiview.
- Protect client settings with a password.
- Custom font size.
- Collect information.

4.1.2 / Monitors

Go to the Monitors tab to configure the output of Observer on multiple monitors (Fig. 4.2). The availability and features depend on the device.

Monitor functions:

- **Disabled** — the monitor is not used.
- **Surveillance** — display cameras with a preset view for a user or for a group of devices.
- **Full screen** — when you expand the camera to full screen (by a double click), the monitor displays the video of the full frame.
- **Alarm monitor** — use the monitor to output video based on the display on alarm monitor action response.
- **Switching monitor** — use as a monitor that switches cameras and views.
- **E-map** — use as an electronic map of the object.

Use the **Default monitor position** button to return to the default settings. To activate this function, you must also click the **Save and Exit** button. Click **Cancel** to cancel the settings.

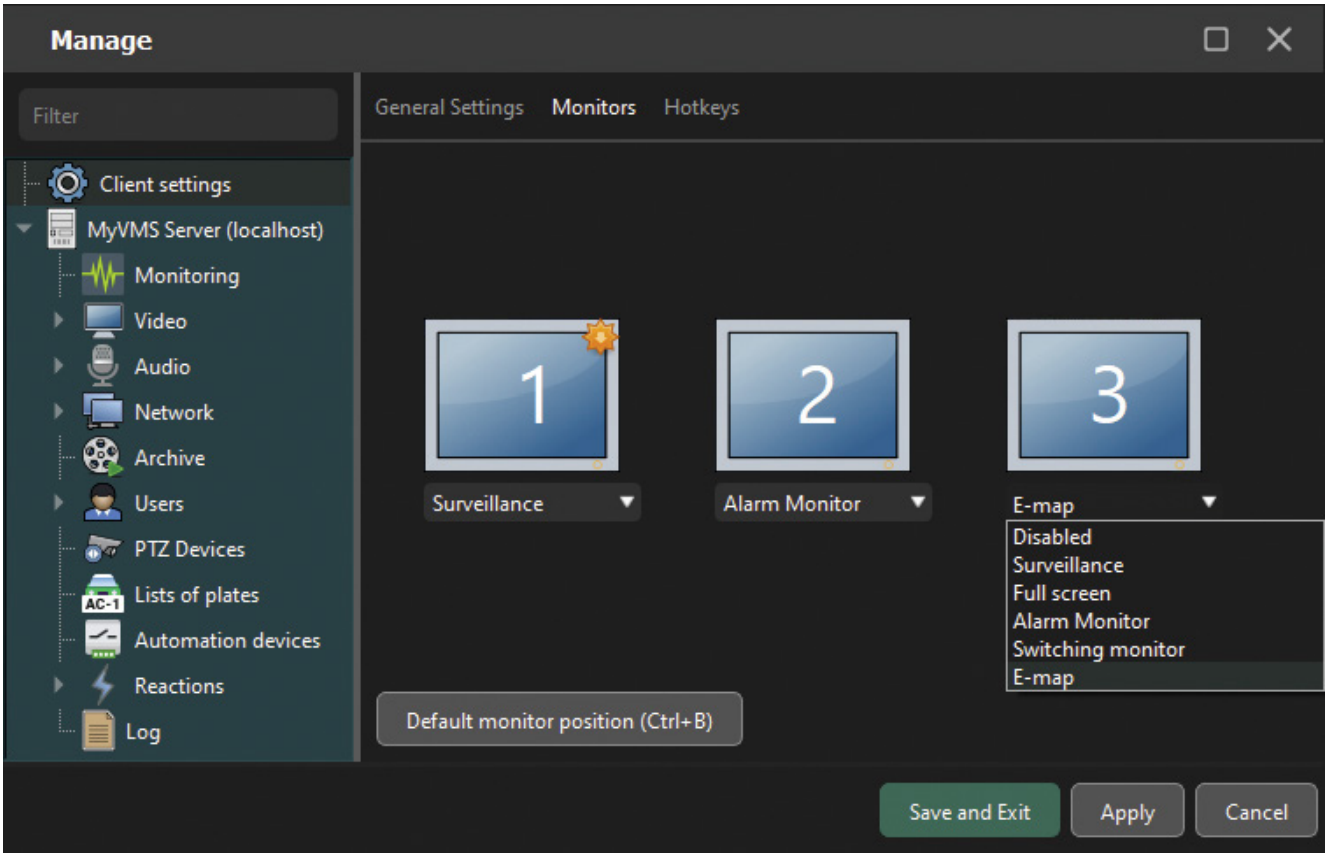


Figure 4.2 Monitors

4.1.3 / Hotkeys

Go to this tab to configure the hotkeys for quick access to MyVMS functions (Fig. 4.3). The availability of this tab depends on the device.

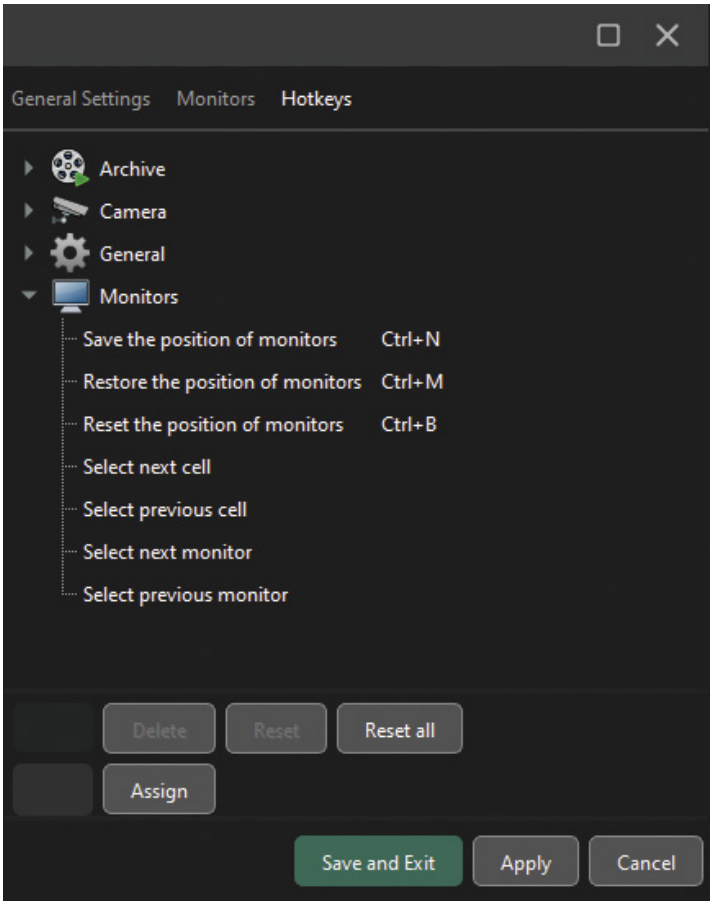


Figure 4.3 Hotkeys

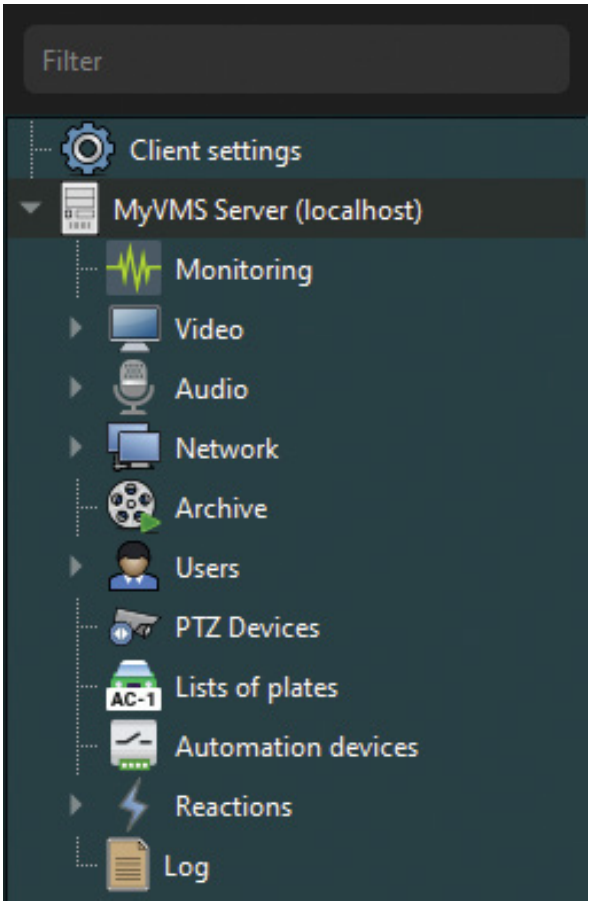


Figure 4.4 Selecting a device to configure

4.2 / Device management

To proceed to configuration, double-click on the device name in the left part of the Manage window (Fig. 4.4).

Use this list to configure the settings of each device, both for individual and group connection. The availability of menu items depends on the device and the user's rights.

The settings are divided into the following sections:

Device name — information about the connected device, utilities, and the Licensing tab.

Monitoring — device status, information on cameras, archive, and connected clients.

Video — general video camera settings, configuration of analytics, motion detection, and information display.

Audio — audio channel playback and recording settings, as well as information display.

Network — server network settings, IP address filter, Dynamic DNS.

Archive — settings for storing and recording video archive.

Users — creating, editing and configuring rights and deleting users (user groups).

PTZ devices — PTZ camera settings, creating presets and patrols.

Automation devices — settings of integrated devices.

Reactions — settings of server reactions to events, settings for sending notifications.

Log — tracking user actions and internal events.

Note: The settings presented in each section of the right part of the Manage window apply only to the device selected in the list on the left (when managing a group of servers).

4.2.1 / Device name

Click on the device name to access the following tabs:

Information — displays information about the connected device.

Admintool — available only for MyVMS video recorders and cameras (Fig. 4.5); it can be used both in the local network and via the internet when connected by DynDNS name (see section 4.4.1)

Licensing — only available for video servers; it displays the MyVMS IP license number and the number of activated and/or friendly channels; it allows you to activate or add licenses to the server (Fig. 2.1)

4.2.2 / Monitoring

The **Media** tab in **Monitoring** displays the local time of the device, startup time and run time, as well as technical data on streams, for each channel separately and in total (Fig. 4.6).

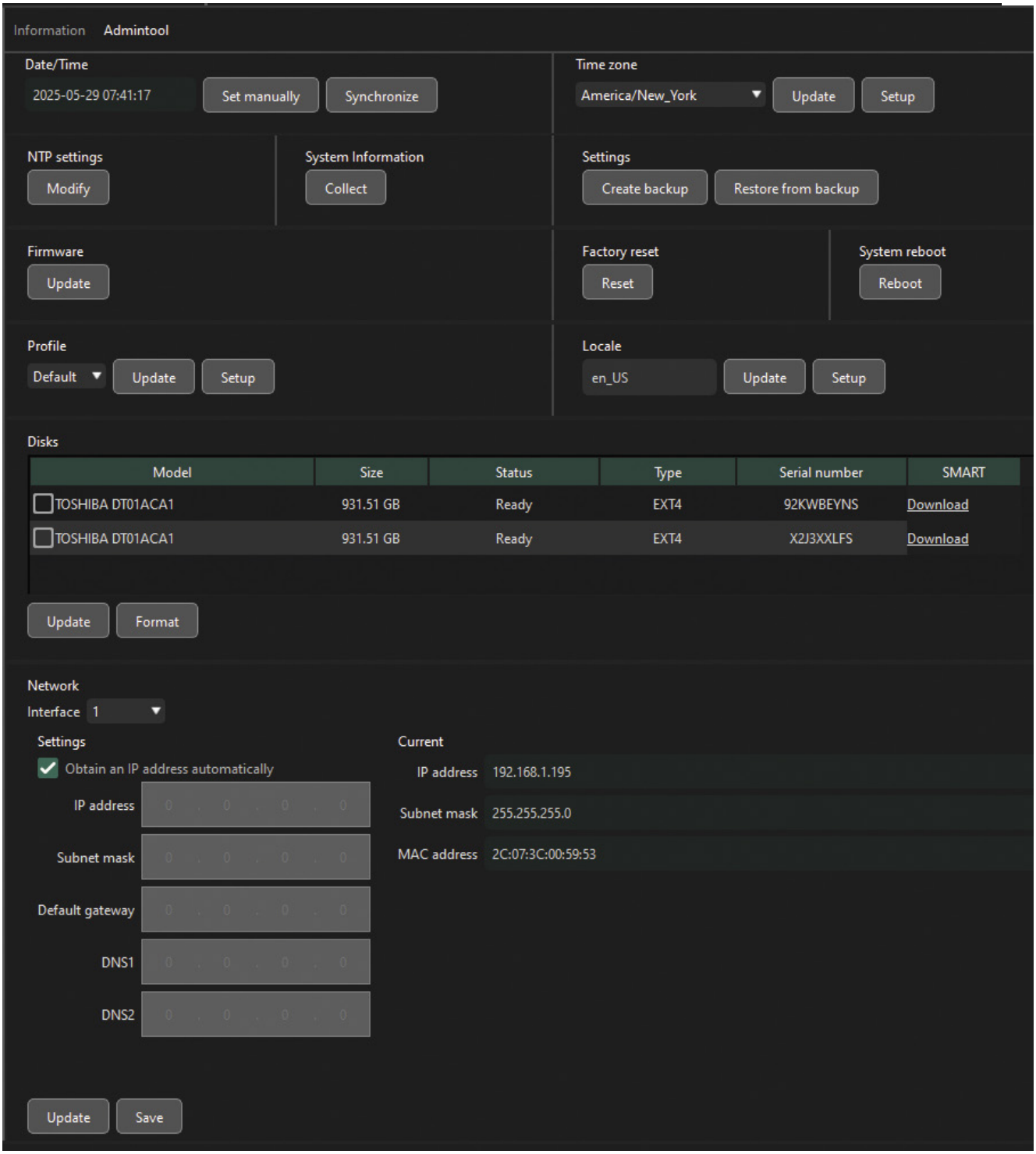


Figure 4.5 Admintool tab

The **Clients** tab displays the list of clients connected at the moment of viewing the information, their IP address, and connection time (Fig. 4.7).

The **Storage** tab displays the path of the record to the archive, available free space, and technical data about the record (Fig.4.8).

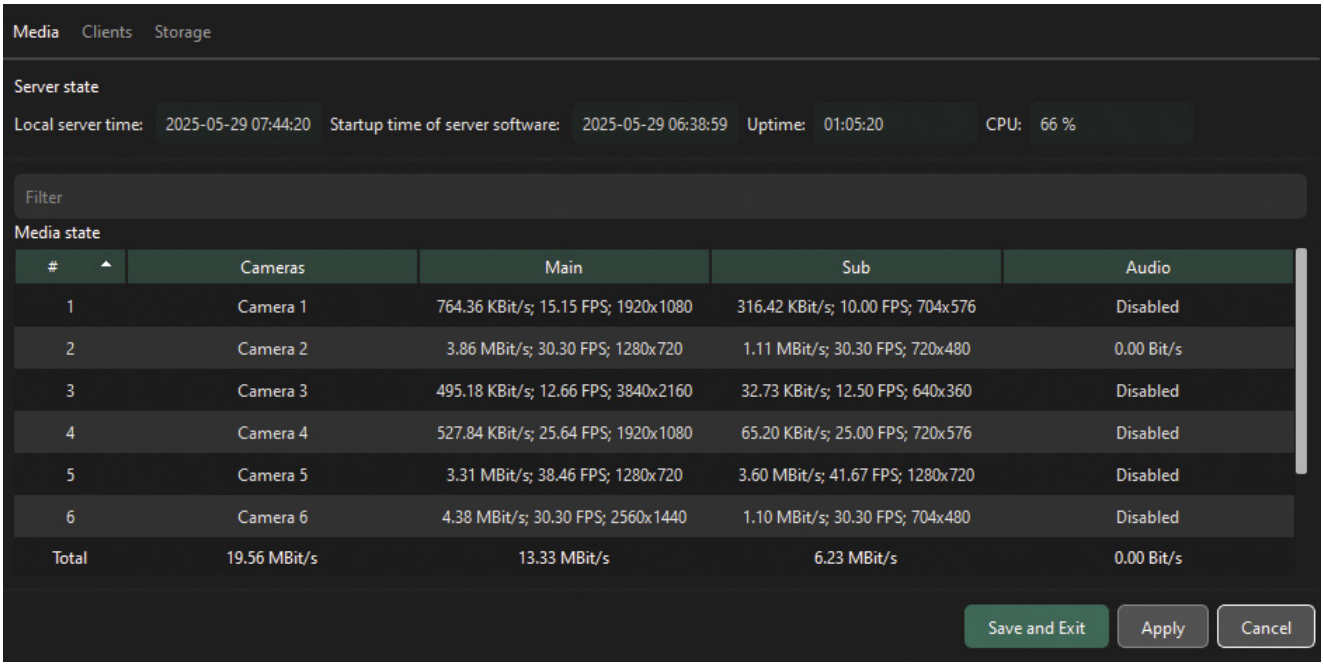


Figure 4.6 Media

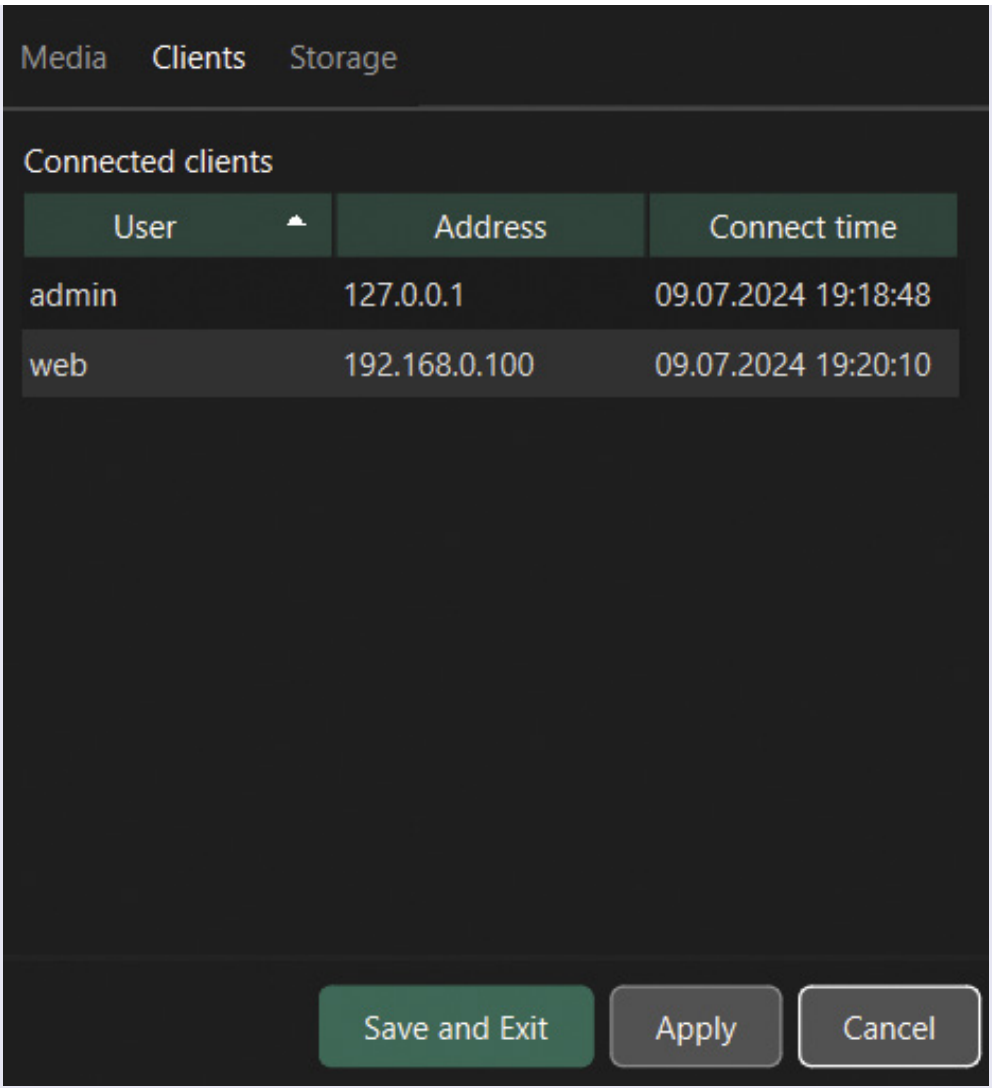


Figure 4.7 Clients

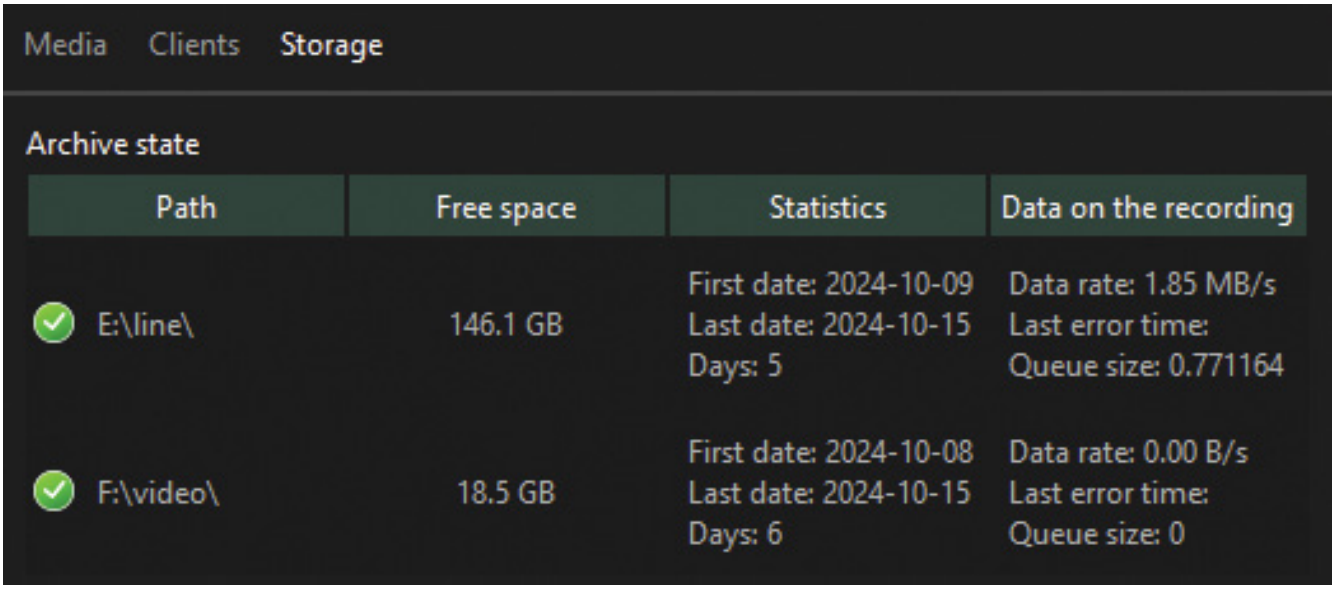


Figure 4.8 Storage

4.2.3 / Video

This settings section displays all device channels and the settings of connected cameras and lets you customise them; you can also add IP cameras by IP addresses or ranges or from found cameras.

The data provided in the general Video section table allows you to quickly view the information on each channel on the main settings and the analytics and to edit the connection settings. To display additional information, hover and hold the cursor over the password or analytics icons. Left-click on the name of a video channel to go to that video channel. If you left-click the icons in the **Settings** and **Info** columns, additional windows with the video channel's settings or information will open.

To configure a channel, select it in the list under **Video** and go to the right side of the **Manage** window. This part has three tabs: **Settings, Analytics,** and **Information.**

4.2.3.1. / Settings

The **Settings** tab allows you to individually configure the settings for each camera (Fig. 4.9).

Depending on the camera, the level of integration and the device used, the following functionality is available:

- enabling/disabling the camera;
- changing the camera name;
- replacing the IP channel with an analogue one and vice versa in hybrid recorders;
- connection setup and the option to open the web interface of the IP camera in a browser;
- video capture rate (fps) from the camera;
- quality;
- compression method;
- record mode: Constant — all frames are recorded; Motion — frames are recorded when the motion detector is triggered; Not recording — no recording to the archive;
- image colour, brightness and contrast settings;
- enable substream.

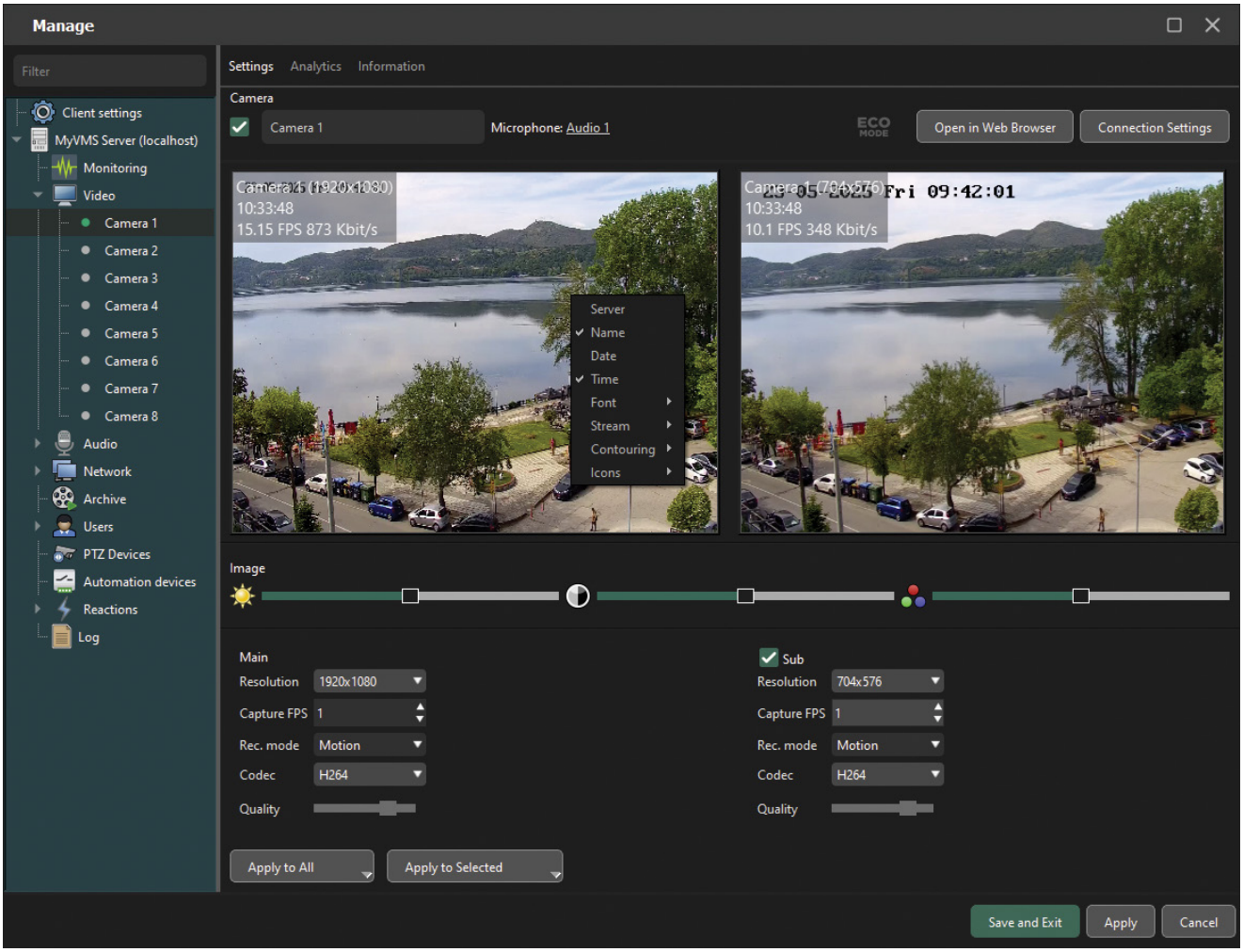


Figure 4.9 Settings

Right-click on the preview of the main stream to open the additional settings menu. Here you can configure the OSD output settings (name, date, time, stream number), display/change information in the cell of a particular camera or flip the image from the camera 180° (only for analogue cameras and MyVMS IP cameras). **Font** allows you to change the font colour and size; **Contouring** allows you to change the colour and thickness of the outline and display the size of the detection object in percentage; **Icons** allows you to customise the output of information icons.

Use the **Apply to all** button to apply the settings of this channel to all channels, or apply only the latest changes on this channel to all channels.

Use the **Apply to selected** button to apply the settings of this channel to selected channels or apply only the latest changes on this channel to other selected channels.

To connect an IP camera when using MyVMS hybrid recorders, click **Change to IP** and enter the address and port of the camera in the open window. These settings will be available in the **Connection settings** window. To return to capturing video from the recorder, click **Replace with board input.**

ECO mode is available for MyVMS IP cameras and connected streams from MyVMS servers and recorders via native protocol (port 9780 by default). This mode allows you to significantly reduce traffic (only service information is transmitted) under the following conditions: motion record mode, no motion detection in the frame, and no one is viewing video from the channel online. ECO mode does not work when using the **License plates recognition, Object detector, Smoke and fire detector,** and **Visitor counting** modules.

4.2.3.2. / Multi-streaming

The main advantage of using a substream is the reduced load. To activate this function, open the camera's Connection settings in Manage and check the Enable substream box (Fig. 4.10). Select Automatically get link for integrated IP cameras or RTSP (RTSPS), specifying full stream link for non-integrated IP cameras / streams from recorders.

When using a multi-camera grid view, the substream is automatically included in the display. If this does not happen, right-click in the window of the configured camera and select Enable stream 2.

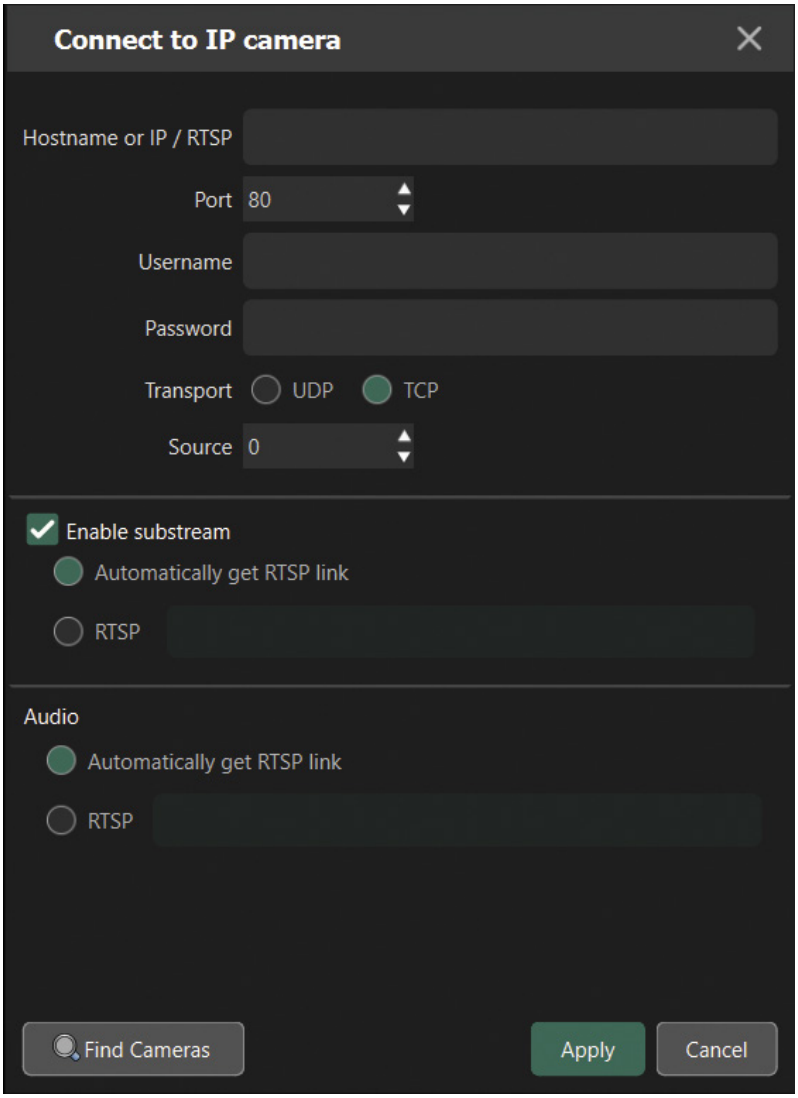


Figure 4.10 Substream

4.2.3.3. / Analytics

The **Analytics** tab contains analytical modules (Fig. 4.11) and their settings.

Neural network video analytics on the GPU (video card) can be activated on the server when using the modules **License plates recognition, Object detector**, and **Smoke and fire detector**.

The GPU (video card) can be used for video analytics if the server requirements are met:

- **Windows** (at least Windows 10 version 1903): Nvidia, Radeon, or Intel GPUs and full hardware support for DirectX 12.
- **Linux:** Nvidia and CUDA GPUs Compute Capability at least version 5.

The analytics functionality depends on the hardware capabilities of the device and the MyVMS software version.

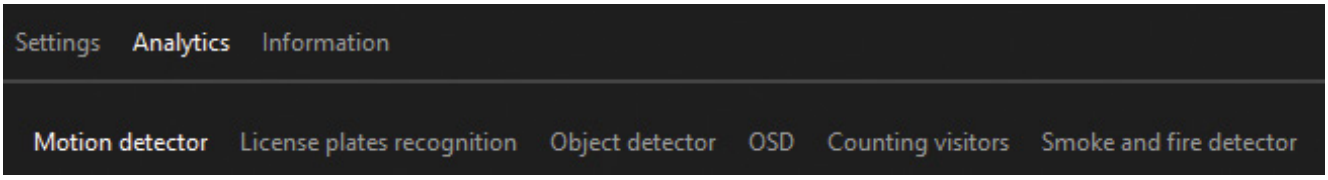


Figure 4.11 Analytics

4.2.3.3.1. / Motion detector

The **Motion detector** allows you to customise the detection zones for the selected camera, the size of the detection object, the degree of intrusion, the duration of motion detection, sensitivity, activation/deactivation of the Contouring function, and the pre-recording and post-recording time (Fig. 4.12).

By default, motion detection is performed over the entire frame area of the camera. To assign your own zones, you can delete a common zone or add a new zone by clicking the + or - icons accordingly. There are tools for drawing detection zones in the upper right corner. To draw, hold down the left mouse button and drag the cursor over the desired detection zone. You can delete, move, or name the detection zone. Each detection zone has its own settings: object size, duration, and intrusion.

Use the **Contouring** function to visualise the detected item in the frame, highlighting the moving object with a green outline.

Configuring the level of intrusion into the zone allows you to set the percentage for recording the moving object entering the detection zone (example):

0 — the object must touch the detection zone.

50 — the motion detector will be triggered if at least half of the object enters the detection zone.

75 — at least 75% of the object must enter the zone.

100 — the whole of the object must enter the detection zone to trigger the motion detector.

The **Duration** setting allows you to specify the length of time an object must be moving in the selected zone to trigger the motion detector.

To set the pre-recording and/or post-recording time, move the corresponding slider to the required value (measured in seconds).

Adjusting the sensitivity can eliminate reactions to minor image changes and noise.

The **Video analytics** section (see section 7.3) activates or deactivates the recording of information into the archive database for subsequent filtering, taking into account:

- **Region** — restricting the detection search to the zones specified in the image.
- **Colour** — searching for objects of a certain colour in the selected archive zone; 10 basic colours are used.
- **Direction** — showing only those objects that move in the specified direction.
- **Sabotage** — detecting defocus, changes to the camera's field of view, or lens closing.

Click **Apply to all** to apply the settings of this channel to all channels.

Click **Apply to selected** to apply the settings of this channel to selected channels.

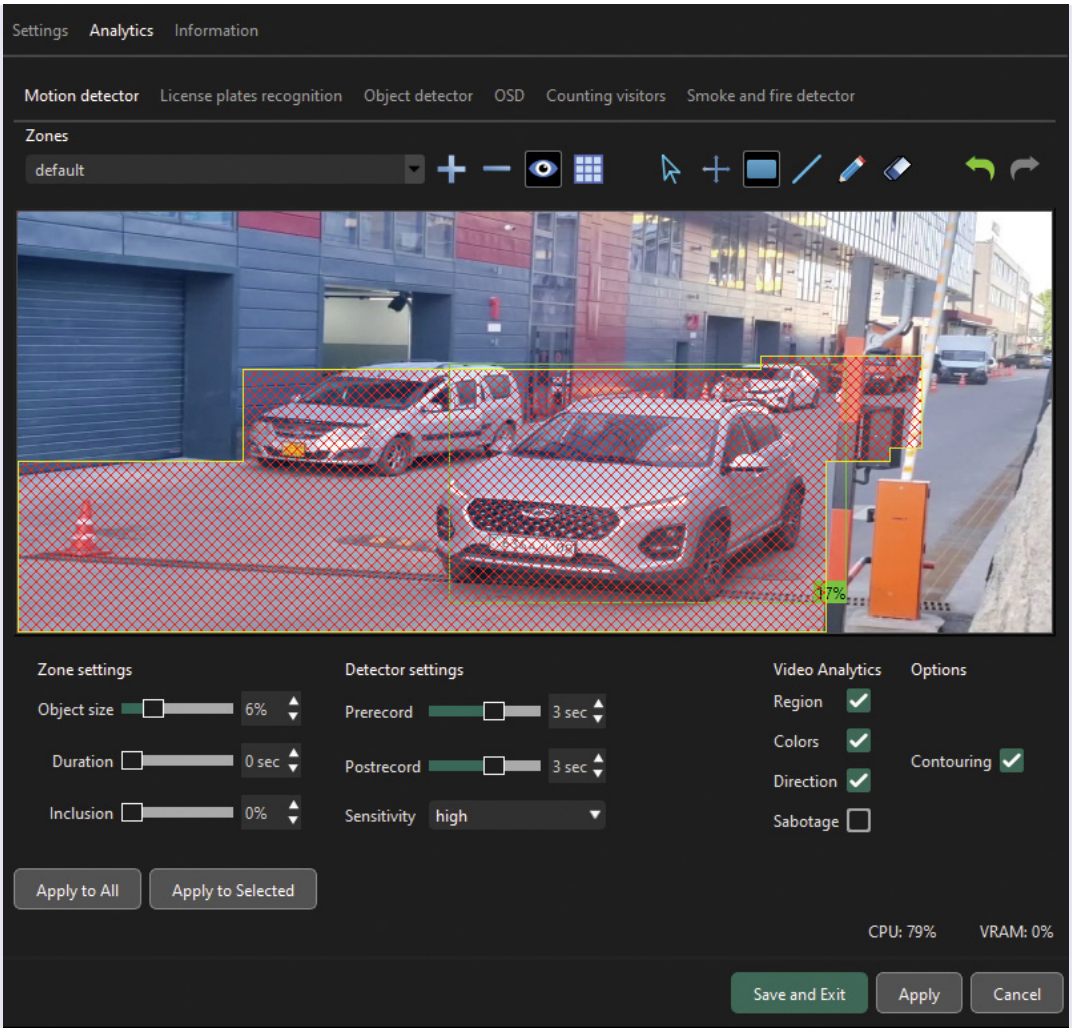


Figure 4.12
Motion detector

4.2.3.3.2. / License plates recognition

The **License plates recognition** module is designed for the following tasks:

- recognising the license plates of cars from Russia, Belarus, Kazakhstan, Armenia, Ukraine, Cyprus, Estonia, Latvia, Romania, and Serbia;
- determining the vehicle's direction of travel;
- recognition of several license plates in the frame at the same time;
- support for rectangular and square license plates;
- support for taxi, police, and military license plates;
- creating and editing a database of license plates with additional information on the number, the vehicle, or a list of license plates;
- the ability to combine license plates into permanent or temporary lists (see section 4.8), to enter a license plate into one or more lists at the same time, including automatically by reaction (see section 5);
- creating reactions to a recognised license plate based on the direction of travel or to a list of license plates (see section 4.8);
- sending license plates recognised by reactions in the form of text and/or Base64 encoding;
- storing recognised license plates in an archive with the option to search by time, date, list, number or part of a license plate and go to an archive fragment (see section 7.3);
- automatic control of a barrier or other actuators by selecting the configured device or sending an order by HTTP request based on reactions to the automation devices (see section 5);
- displaying information on the Event viewer (see section 3.6);
- import/export of the settings for license plate lists (.json);
- export of the list of recognised license plates when viewing the archive in CSV format.

The accuracy of license plates recognition directly depends on the choice of camera, its proper installation and configuration, and the settings of the module itself.

Requirements:

- image resolution of at least 1280x720, recommended from 1920x1080 to 2560x1440
- license plate width relative to the frame width not less than 10%; recommended 15%
- frame rate of at least 12 fps; recommended 25 fps
- tilt angle up to 30 degrees; recommended up to 5 degrees
- the license plate must be visible on each individual frame and be in the frame for at least a second
- any direction of travel.

The main stream is used for recognition. Enabling and configuring the module is specific for each camera (Fig. 4.13). Use the toolbar in the upper right corner of the tab for settings:

- **License plate icon:** go to the page for creating and editing lists of plates (see section 4.8).
- **OSD icon:** configure the display of recognised license plates. The position of the block with the list of recognised license plates on the camera image is determined by the position and size of the highlighted area. You can customise the appearance of the list of plates by right-clicking the mouse and selecting the settings: Filling, Alignment, License plate height, and License plate display time. You can move and zoom the license plate display by holding the left mouse button on the area highlighted by the yellow frame.
- **Ruler icon:** use this to compare and adjust the license plate width in accordance with the requirements of the license plate width relative to the frame width of at least 10%. Hold down the left mouse button on the ruler to move it across the frame and insert it into the area of the license plates for size comparison.
- **Play/Stop icon:** hold the stop frame and make adjustments based on the license plate width requirements. It can be used with the Ruler.
- **Detection zone icon:** configure the detection zone where license plate searches will be performed. The centre part of the frame is used by default.
- **Allowed plate countries:** select a limited list of countries to determine license plates.

- **Contouring:** highlight the license plates recognition area with a red frame.
- **Use GPU:** disabled by default and available when the functionality is supported by the server and the client. It allows you to analyse the video card and reduce the CPU load.
- The **CPU** and **VRAM** information indicators display the server CPU and GPU (video card) use in real time.

The License plates recognition module can be used on a computer-based server or MyVMS recorders in the Checkpoint mode (driving speed not exceeding 5 km/h) if the functionality is stated in the technical specifications of the recorder.

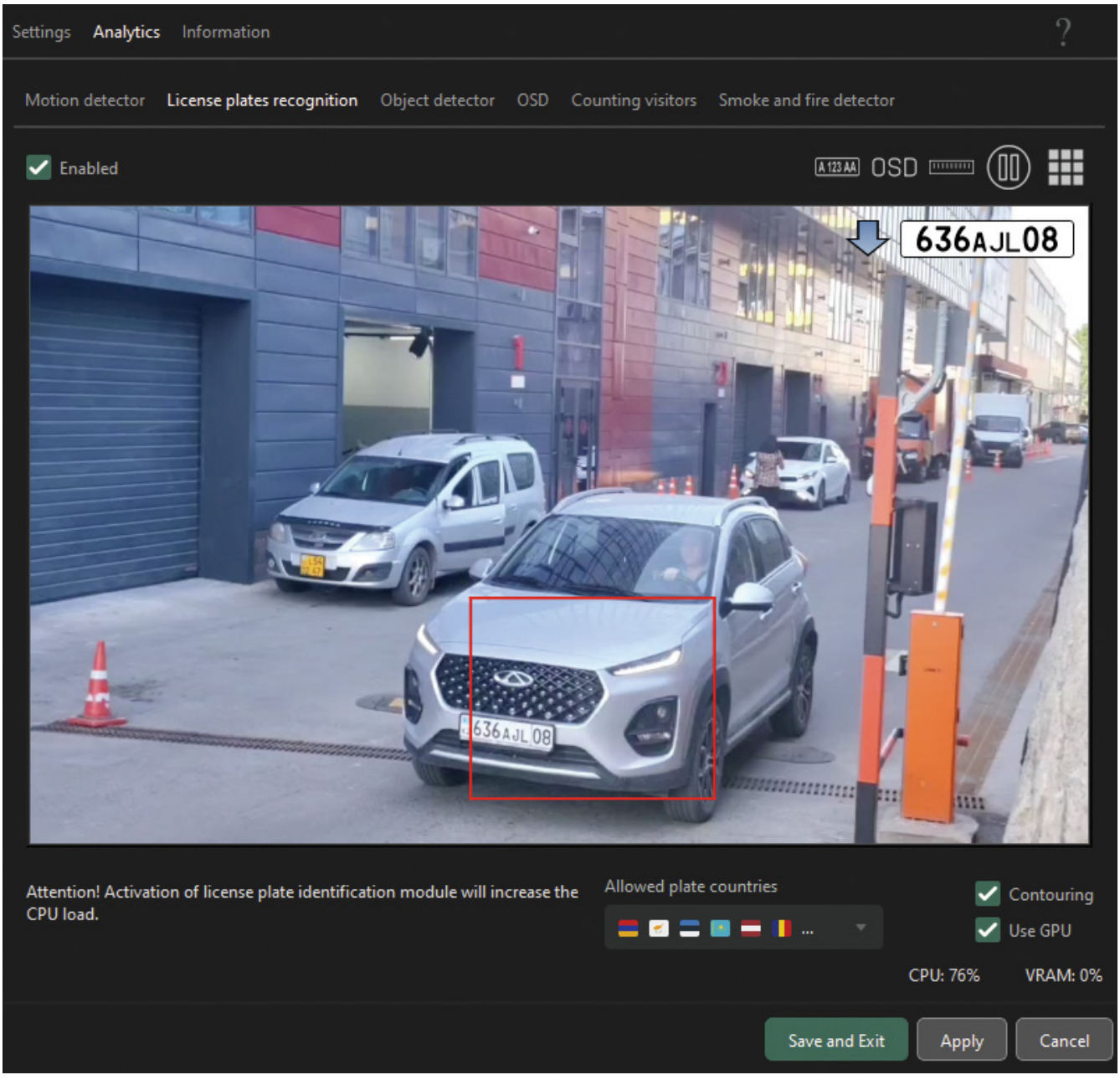


Figure 4.13 License plates recognition

4.2.3.3.3. / Object detector

The **Object detector** module is designed for the following tasks:

- recognising objects by category:
  - People
  - Vehicles
  - Animals
  - Left items
- creating automatic system reactions taking into account the recognised object category;
- saving information about recognised objects in the archive, with the possibility of making a further search by time, date, and specific object category and switching to the archive fragment (see Section 7.3);
- the Contouring option allows you to highlight recognised objects with a blue frame;
- displaying information on the Event viewer (see section 3.6).

Enabling and configuring the module is specific for each camera (Fig. 4.14). Using the **Object detector** has a significant impact on the server's CPU load.

The **Use GPU** option allows you to analyse the video card if supported by the server's functionality.

The tools for editing object detection zones are similar to those for the **Motion Detector** (see Section 4.2.3.3.1). The CPU and VRAM information indicators display the server CPU and GPU (video card) use in real time.

The module can be used only on a server running on a computer with MyVMS 8.2 software and higher, unless otherwise specified for the MyVMS device.

4.2.3.3.4. / OSD

The **OSD** (on-screen display) module allows you to apply text on top of the image; the text is not part of the image and is displayed only in the client part of the MyVMS software. The information is saved in the archive with the possibility of making a further search and switching to the archive fragment and exporting video with OSD (see Section 7.3).

Once the module is enabled, you can edit the list of zones for each camera, their settings and templates for each zone. In the template editor (Fig. 4.15), you can choose to enable/disable the optional lines **Source**, **Name**, and **Data**, as well as font and colour settings and the position of the text by right-clicking on the highlighted area. The position of each zone on the image is determined by the position and size of the selected yellow frame of the highlighted area, which you can zoom into and out of and move by holding down the left mouse button on the border of the fields.

The module can be widely used when integrated with third-party systems. OSD settings are sent and specified in accordance with the specification [https://myvms.eu/aboutweb/#osd] both by third-party programs and through **Send HTTP request** reactions in the MyVMS software (see section 5).

You can export the list of OSD records to CSV when viewing the archive.

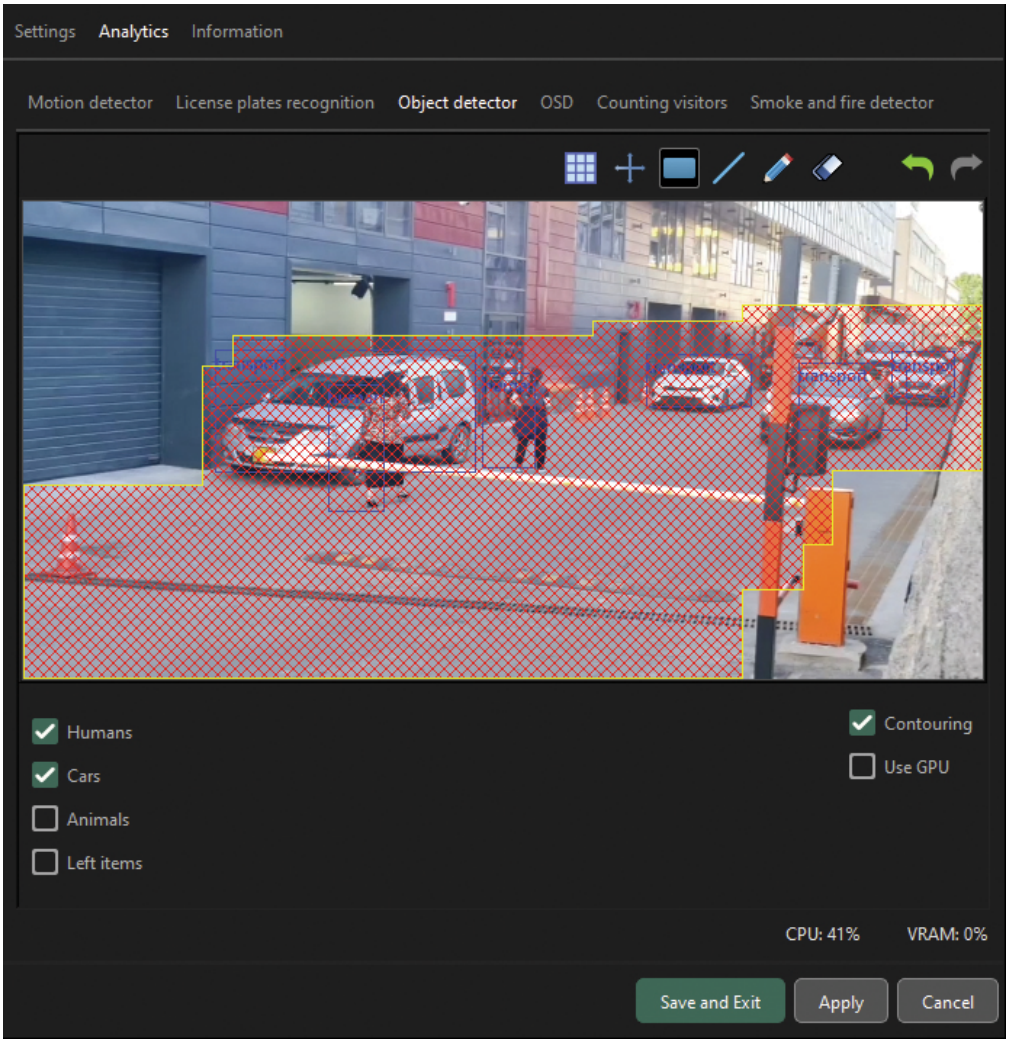


Figure 4.14
Object detector

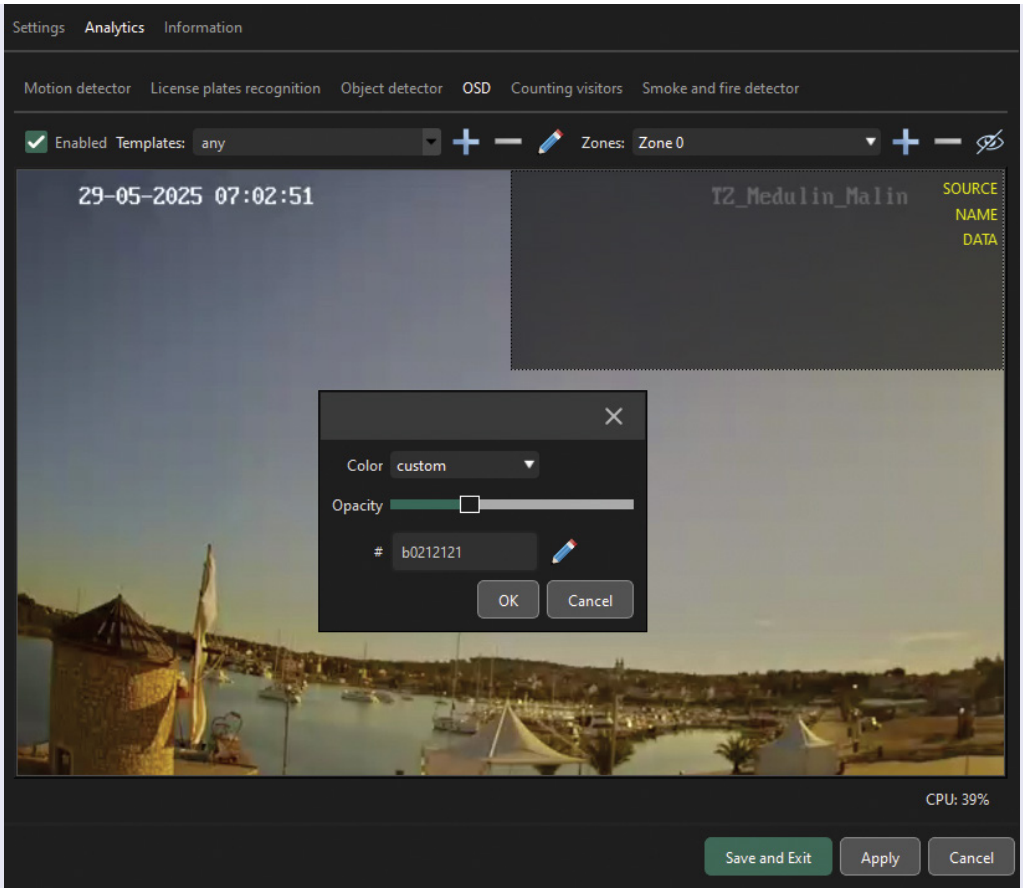


Figure 4.15
OSD

4.2.3.3.5. / Visitor counting

The Visitor counting module is designed for the following tasks:

- automated counting of the number of people entering and/or leaving a certain premises or zone
- creation of automatic system reactions on entry and/or exit
- OSD display of real-time information
- display of information on the **Event viewer** (see section 3.6)
- generation and uploading of reports for a specified period in PDF or CSV format
- saving data to the archive with the possibility of making a further search by time, date and switching to the archive fragment (see section 7.3).

To ensure the module operates correctly, the camera must be placed directly above the entrance/exit zone. The camera must be mounted on the ceiling with its lens perpendicular to the floor. This module may have inaccuracies and is suitable for counting the average number of visitors.

Enabling and configuring the module is specific for each camera (Fig. 4.16). To configure the module:

- Specify the exact position of the intersection line by holding down the left mouse button and dragging the intersection line on the image.
- Adjust the distance between the control boundaries using the horizontal zoom slider.
- Select the direction of entry and exit by clicking on the icon of multidirectional vertical arrows.
- If necessary, enable OSD and configure its position and the display of information.

The Visitor counting module can be used on a server running on a computer with MyVMS 8.3 and above or on MyVMS recorders if the functionality is stated in the recorder's technical specifications.

The CPU information indicator displays the server CPU usage in real time.

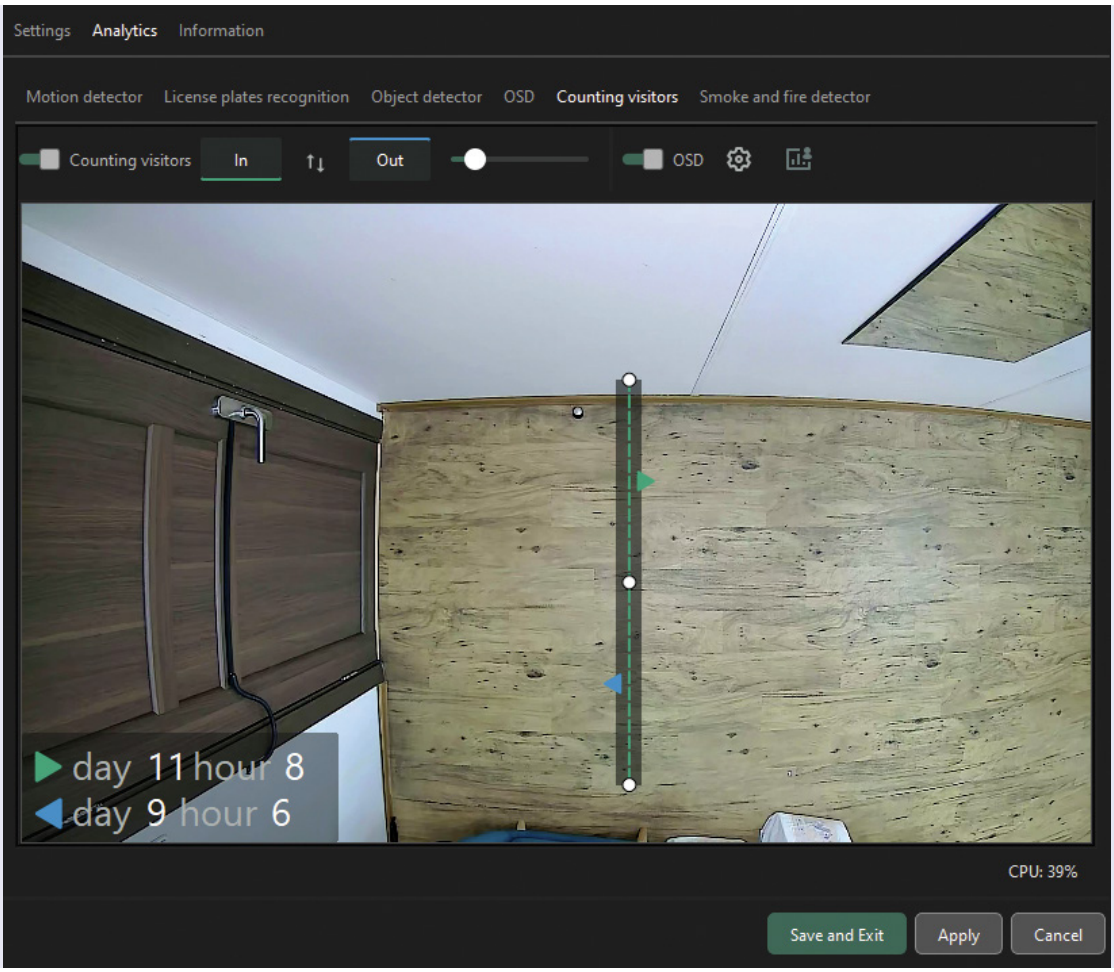


Figure 4.16 Visitor counting

4.2.3.3.6. / Smoke and fire detector

The **Smoke and fire detector** module works in real time and detects signs of smoke and open flame in the frame.

It can only be used on a server running on a computer with MyVMS 8.4 and above, unless stated otherwise in the technical specifications for the MyVMS device. No additional sensors or equipment are required to operate the module. The **Use GPU** option allows you to use the video card for computing analytics if this is supported by the server's functionality. The module may be used as an additional tool together with conventional fire alarm sensors. This module is not a substitute for a fire alarm system; the video surveillance operator must assess the situation before making a final decision.

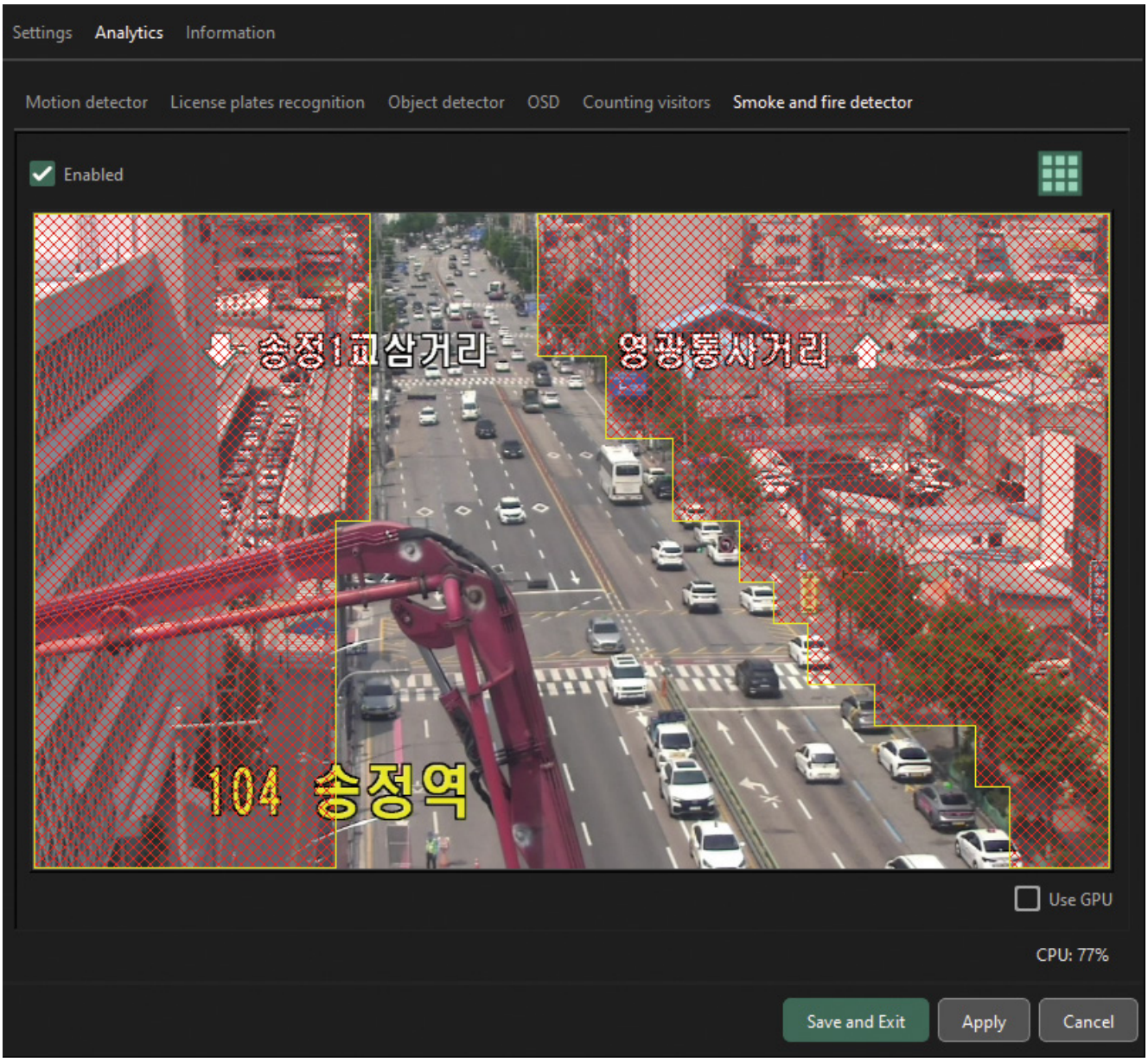


Figure 4.17 Smoke and fire detector

4.2.3.4. / Information

The **Information** tab provides information on the connected camera: protocol, model, firmware version, streams, and functionality (Fig. 4.18). RTSP / RTSPS / DVLN links received from the device can be copied to the clipboard. You can remove from the list a user or a group of users who previously had access to this device; user rights settings are duplicated (see section 4.6).

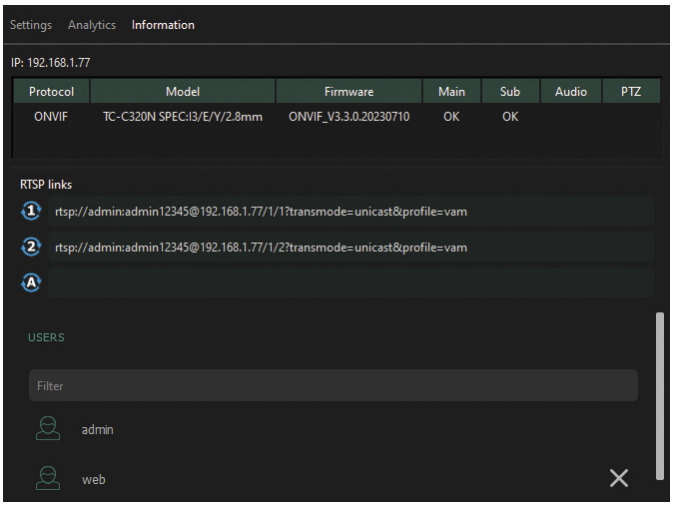


Figure 4.18 Information

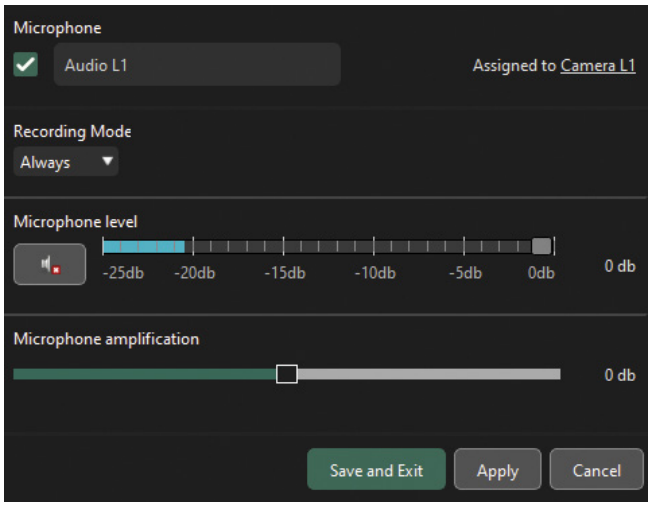


Figure 4.19 Audio

4.3. / Audio

The Audio section contains general information about audio channels and their settings. Select a specific audio channel to listen to audio or customise the settings (Fig. 4.19) individually for each microphone:

- on/off;
- change audio channel name;
- select recording mode: **By level**, **Always** or **Not recording**;
- adjust the **Microphone level** scale in the **By level** recording mode;
- use the **Microphone amplification** slider to turn up or down the sound from the microphone.

4.4. / Network

The Network section allows you to change the name of the device, change the default ports and configure the IP address filter (Fig. 4.20).

By default, connection from any IP address is allowed. To allow only specific IP addresses to connect to the server, click **+Add**, enter a trusted IP address in the field and click **Apply**.

Important! After adding the first address, the **IP address filter** is enabled and blocks connections from all other addresses except those on the list, i.e. you can only connect to the server from the addresses specified in the **IP address filter**.

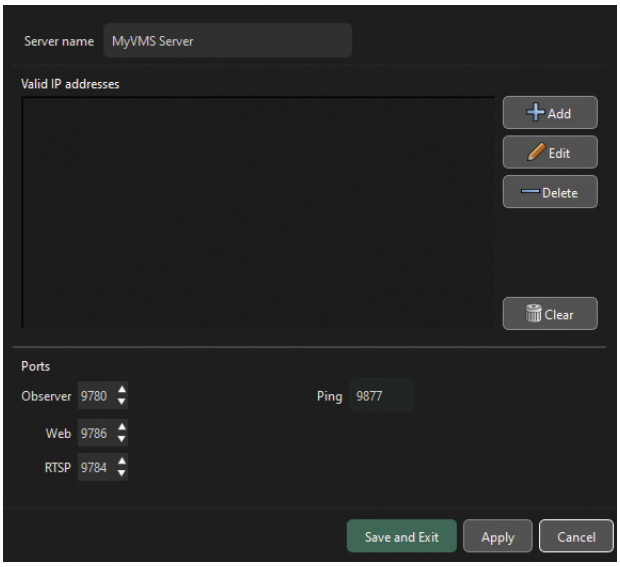


Figure 4.20 Network

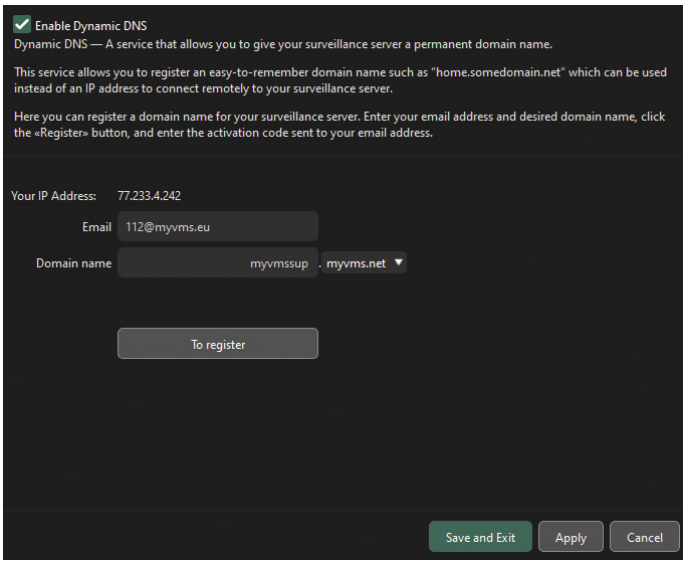


Figure 4.21 DynDNS registration

4.4.1. Dynamic DNS

Register an account in the Network — Dynamic DNS section to:

- connect by domain name over the internet if you have a static or dynamic IP address and working ports open on your network equipment (9780 and 9786 by default);
- use the TURN service to connect by domain name via the internet when the working ports are closed;
- set up a personal account in the MyVMS Cloud online service https://eu.myvms.net/;
- change the preconfigured domain name (depends on the device used).

To register, check Enable Dynamic DNS, enter a valid email address and the domain name, click Register and confirm by entering the verification code sent to your email address. To change the details, click Change (Fig. 4.21).

4.5 / Archive

In the **Archive** section, you can configure camera groups and assign them to directories for recording and limit the depth of the archive separately for each group (Fig. 4.22). Allocate cameras to different directories by adding the required number of main groups: **Add — Main group.**

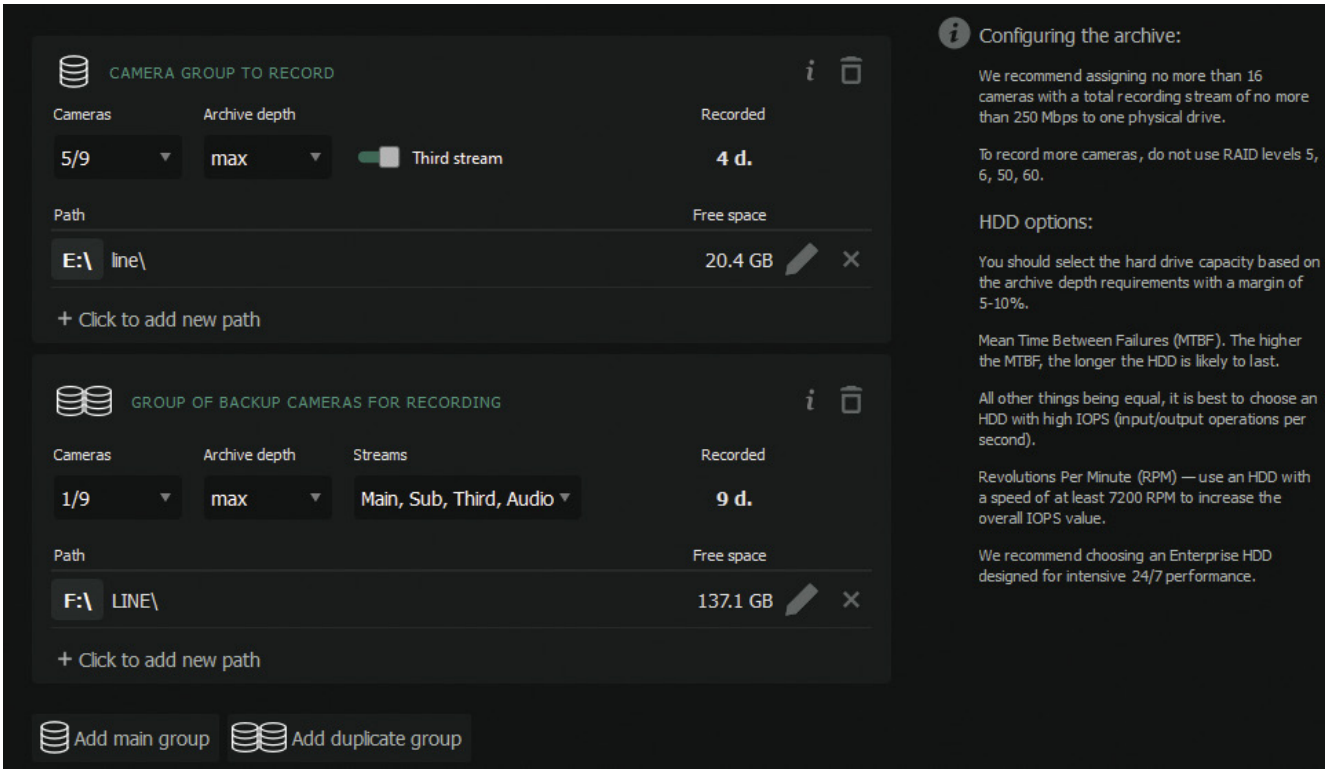


Figure 4.22 Archive

For each group, select cameras for recording from the list (Fig. 4.23) and specify local and/or network paths. All cameras must be in the main groups; the same camera cannot be assigned to different main groups but can be both in the main and duplicate groups.

Adding a **Duplicate group** allows you to configure the following options:

- duplicate recording for all cameras (similar to RAID 1);

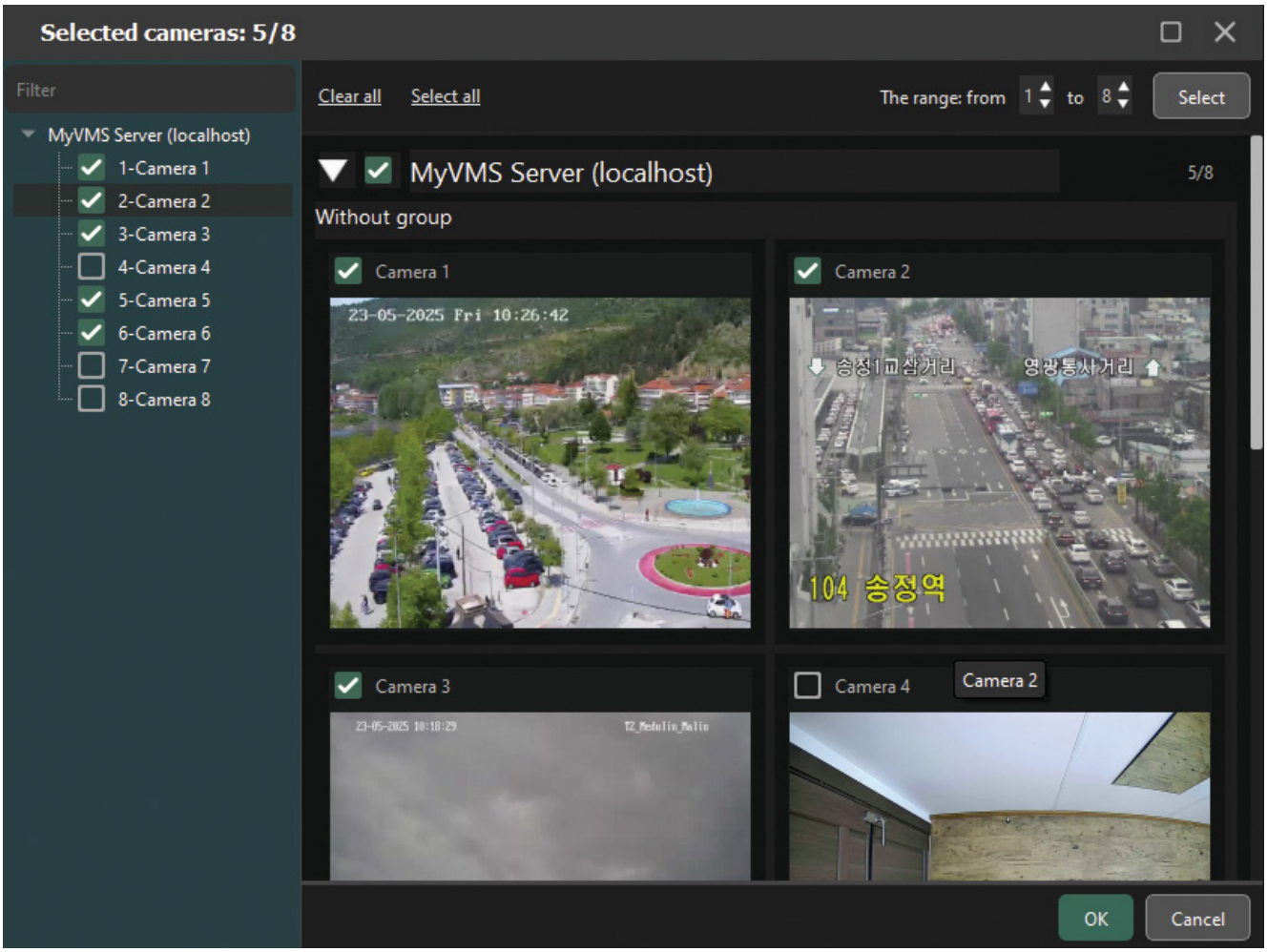


Figure 4.23 Assigning cameras to a group

- duplicate recording only for selected cameras and/or streams;
- use the network directory in the duplicate group for recording (backup to the network).

To rename a group, double left-click the group name. To delete a group, click on the waste basket icon next to the group name. To assign a recording path, click on the **Add path** line in the block of the corresponding group. To delete the recording path of a group, click the waste basket icon next to the record path.

The software uses loop video recording mode: as soon as the space on the specified directory is full, the software will start recording new data over the oldest recordings. Data is deleted on a daily basis. If several folders are selected for storing the video archive, they will be filled in turn.

In Linux, the server part of the MyVMS software uses the settings of the/etc/fstab configuration file to assign the record.

Configuring recording to network directories differs depending on the device and hardware used:

- **Windows server:** in the MyVMS Server's properties, change the login settings by selecting the administrator account. In the settings for adding a path to the archive record, select Enter manually and enter the network address of the directory in the Path line.
- **Linux server:** use the settings of the configuration file /etc/fstab. Mount the network directory using the required protocol and under the required user; the mount point is provided in the MyVMS settings. For example: //IP/share/mnt/share cifs username=admin,password=password,rw,nolock,auto,vers=2.0,iocharset=utf8,file_mode=0777,dir_mode=0777 0 0
- **MyVMS** recorders and cameras: only Windows network directories (SMB protocol) can be mounted.

4.6. / Users

The **Users** section allows you to create, delete, and rename users or user groups and customise the level of access to the server, devices, and functions of the client part.

To add a new user/group, select the **Users** tab and click **Add** user or **Add group** as appropriate (Fig. 4.24).

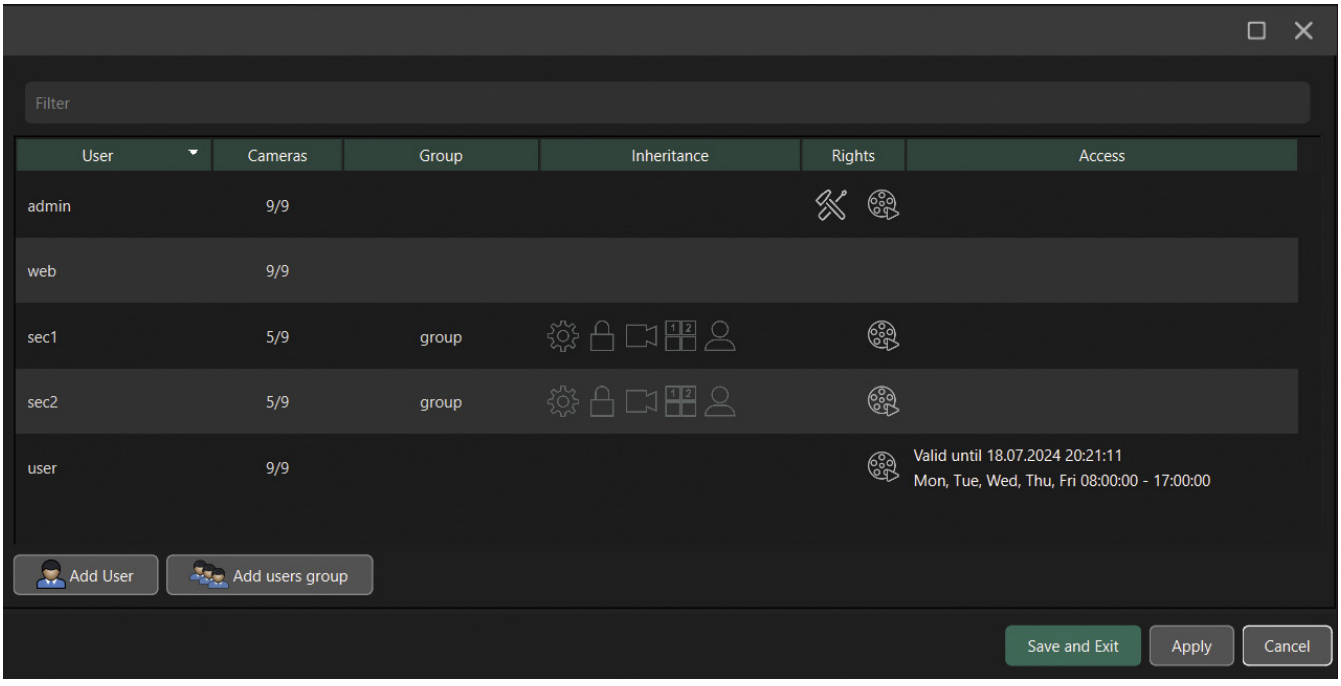


Figure 4.24 Adding a new user or group

By default, the system creates an admin user without a password. You cannot change the permission level of this user, move it to a group, or delete the admin user. You can rename it and create a new password. The new added MyVMS IP channels are initially only available to this user (admin); after logging in, you have to allocate access to the new channels to the required users and user groups.

Important! If you set a password and subsequently lose it, you can only restore full access to the server administration by contacting the manufacturer's technical support to fully delete all the passwords of all the users.

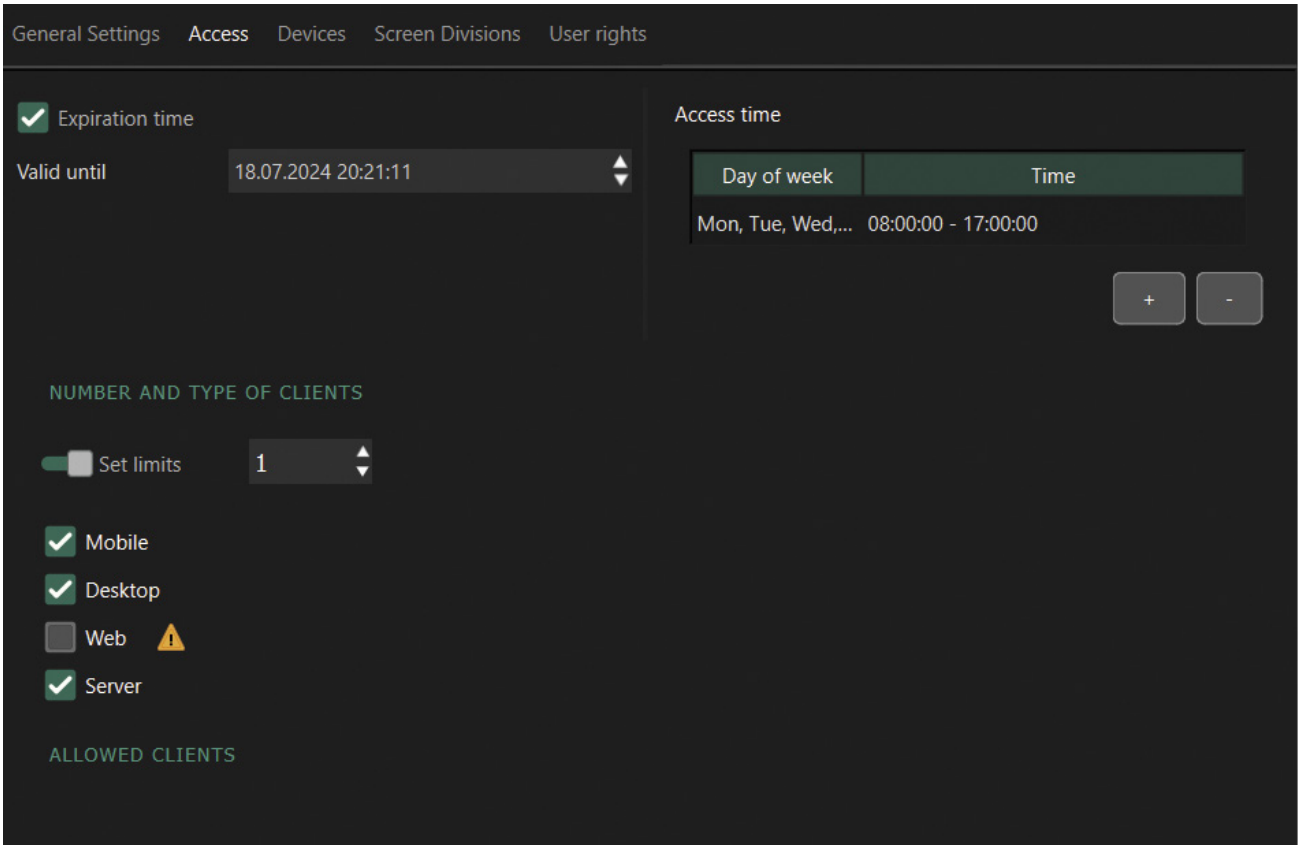


Figure 4.25 Access

The **General Settings** tab allows you to enable/disable a user/group, set/change username and password, and add text to the **Description** field.

The **Access** tab allows you to configure access time by intervals, by day of the week, before a specific time and set limits on the number and type of connected clients with a unique ID. By default, a user/group does not have limit settings. (Fig. 4.25).

The **Devices** tab restricts the ability to view cameras, listen to audio, or control a PTZ camera to a specific user/group. To restrict a user's or user group's access to the cameras or microphones or PTZ cameras, untick those for whom you want to remove access (Fig. 4.26). Enter a channel name in the **Filter** field to perform a quick search.

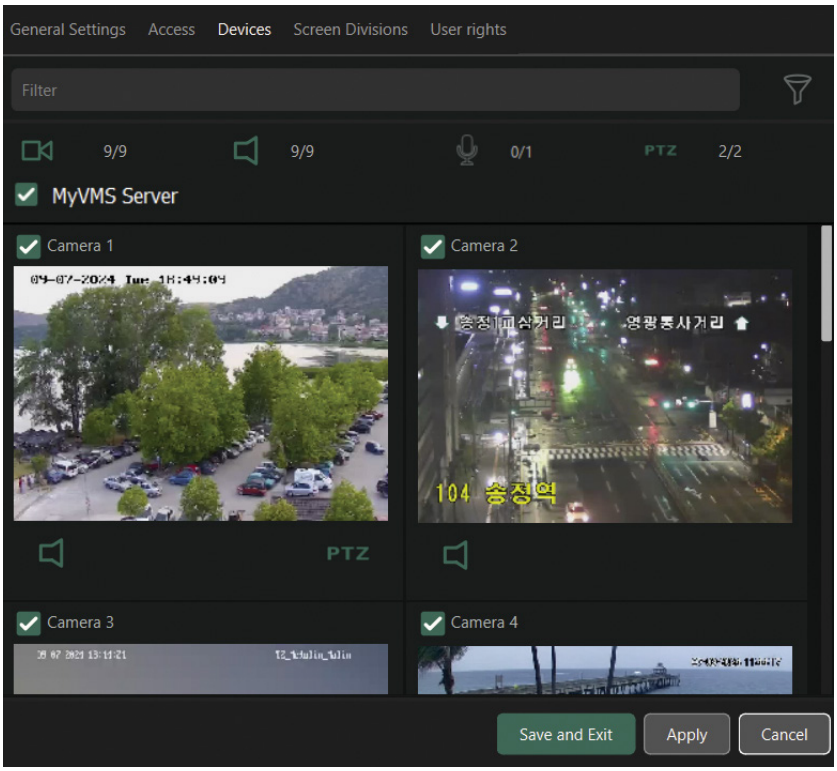


Figure 4.26
Devices

The **Screen Divisions** tab displays sets of camera locations on monitors created for a specific user or group of users. Use the corresponding tab to select available screen divisions for multiple monitors. To assign a default screen division, right-click on it and select **Default**. To create, delete, and edit screen divisions, either click the corresponding icon at the bottom of the tab or right-click on the required screen division and then select the required function.

When creating a screen division in the **Screen Division Editor** window, draw the required number of displayed cameras in sequence. Draw by holding down the left mouse button and dragging the cursor from one corner to another of the proposed window. Or use the automatic screen division creation function by clicking the **Matrix** button and specifying the number of rows and columns. Click the **Generate** button to automatically create a screen division for the cameras selected in the left part of the window (Fig. 4.27).

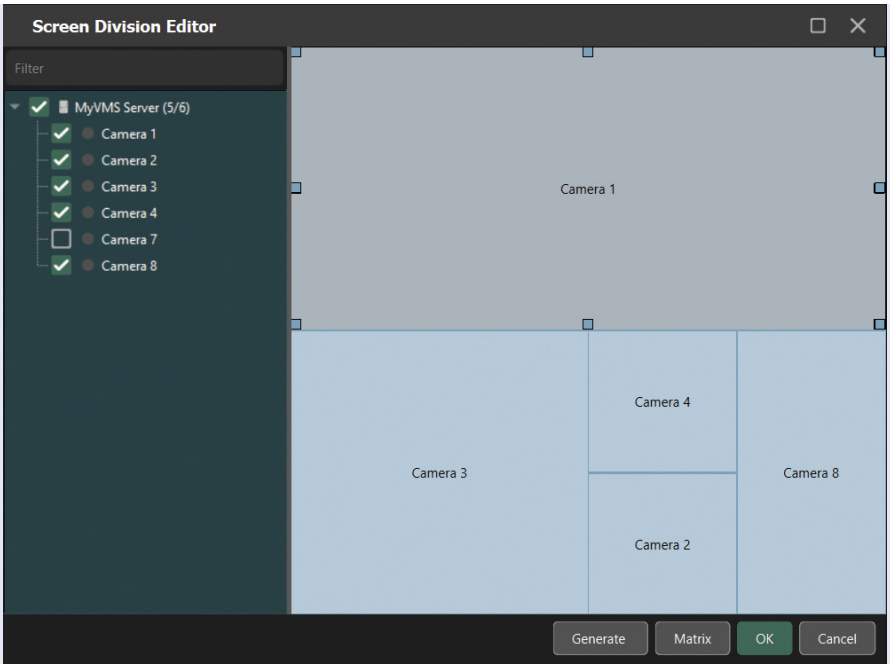


Figure 4.27
Screen Division Editor

The **User rights** tab divides the functionality into **Server operations**, the availability of which depends on the system kernel, and **Client operations**, the availability of which is visible in the client part of the software. If server operations are available/not available, then client operations are enabled/disabled by default, but if server operations are available, you can additionally disable client operations (Fig. 4.28).

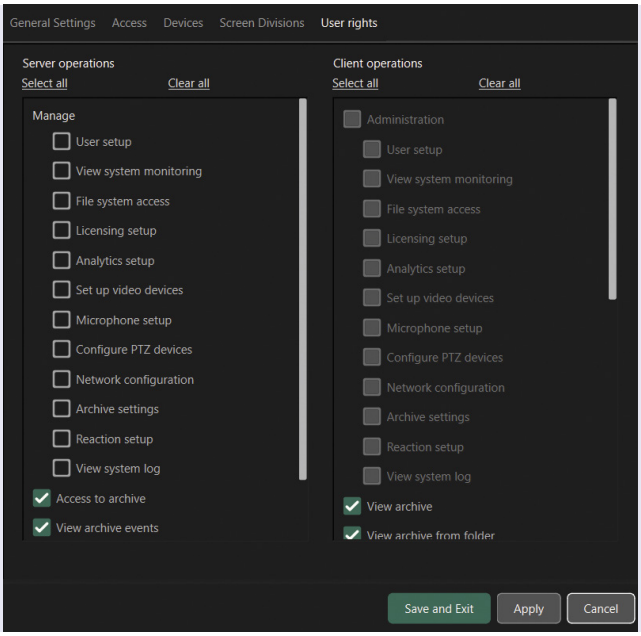


Figure 4.28
User rights

When users are added to a group, they inherit all group settings by default. However, you can select individual settings for each user for all functions that are different from the settings of the group the user is in.

4.7 / PTZ devices

To add PTZ cameras, click the **Add PTZ** device button in the **PTZ devices** section.

To manage an IP camera, it must be integrated with MyVMS software. The degree of control depends on the level of integration.

To add an analogue PTZ device, tick the **Use COM port** checkbox (depends on the device). Then configure the device's settings. In the **General Settings** tab, specify the data speed, control protocol and camera address. Use the graphical joystick menu to control the camera. To add a preset, point the camera at the desired area, highlight an empty preset cell, and click **Save**. To rename a preset, double-click on its name (Fig. 4.29).

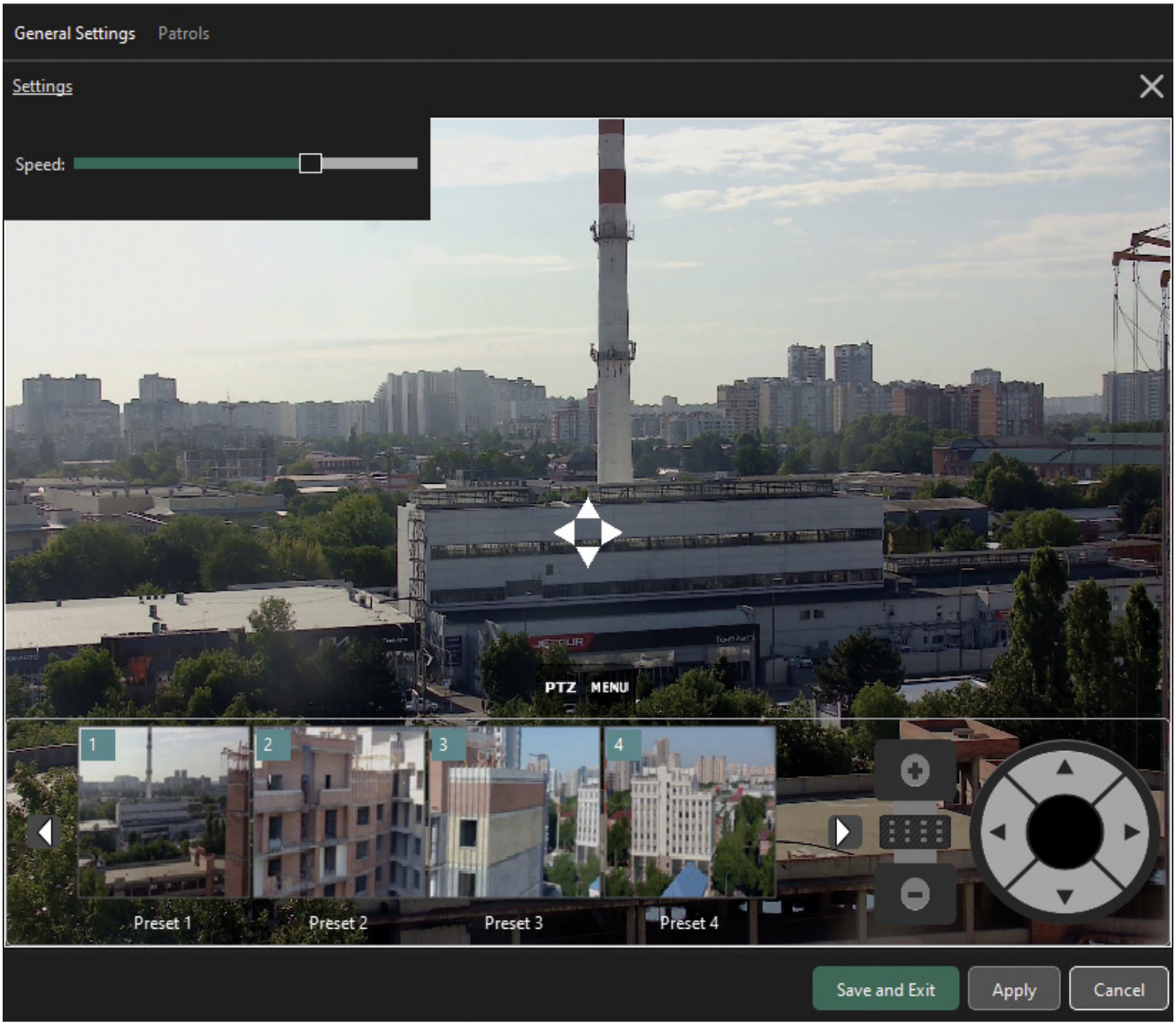


Figure 4.29 PTZ device settings

In the **Patrols** tab, you can set up automatic patrols from presets (Fig. 4.30).

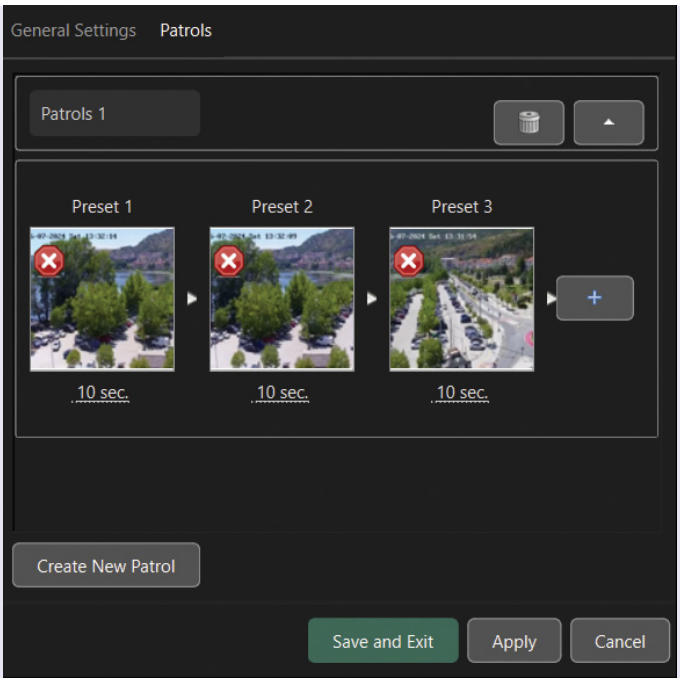


Figure 4.30
Patrols

A **Patrol** is a set of PTZ camera presets where the camera moves according to a list of camera positions, which you can see in the photos of saved presets.

To create a patrol, click **Create New Patrol**, select + in the created patrol and select a preset. You can specify how long the camera will stay in this position (including the time the camera takes to switch to the preset). Continue adding presets until the patrol has been generated. To delete a patrol, click the corresponding button next to the patrol name.

To launch a patrol, you must create a reaction with the **Patrol** action.

4.8. / Lists of plates

The **Lists of plates** section refers to the settings of the **Number Plate Recognition** module (see section 4.2.3.3.2) and allows you to create, edit, export, import, and delete permanent and temporary lists of plates (Fig. 4.31). For each user or user group, you can assign rights to work with the lists.

Temporary lists can be used in a fully automatic pass system with time limits for vehicles at the site.

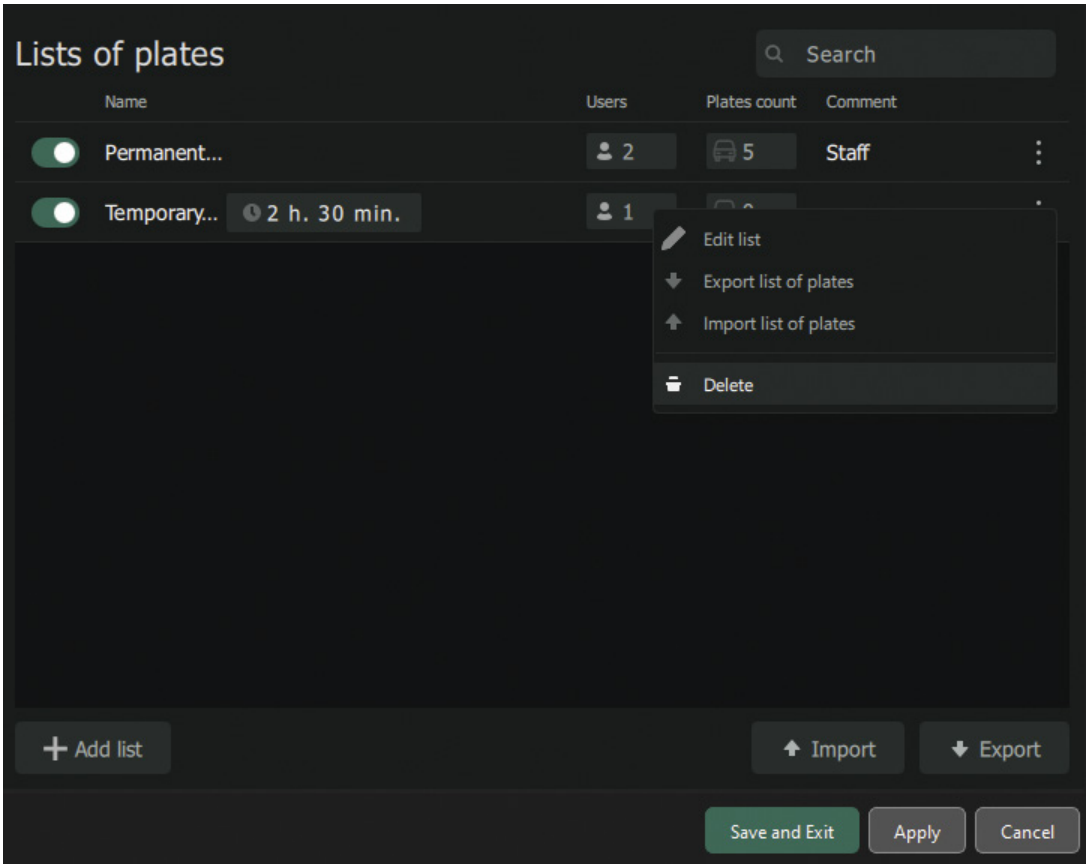


Figure 4.31
Lists of plates

The license plate database is the same for all cameras on the server. The number of lists of plates and the number of license plates in the lists are not limited. You can create and edit a database when managing, viewing in real time and when playing back the archive, automatically by reactions.

4.9. / Automation devices

This section contains information about automation devices (Fig. 4.32) added from the list of supported devices. Starting from MyVMS 8.3.0 version, the following Ethernet relays have been integrated: KORTEX 2x4C, Gate-Ethernet/Wiegand, RODOS9, RODOS10, and ML-R1S2-L-5V-TG. To add a new device, click the **Add device** button and configure its connection settings. The automation devices added in this section can be used in reactions in both conditions and actions.

If the device to be used is not in the list of integrated devices and can be controlled via HTTP requests, skip this section and proceed to configuring the reaction.

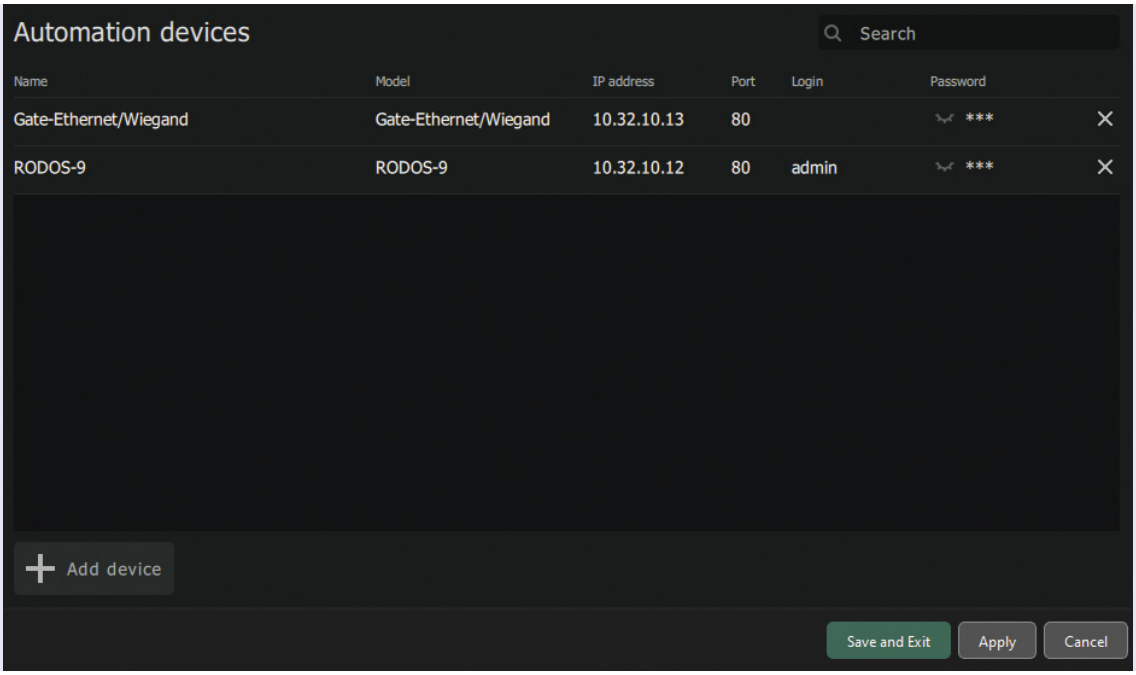


Figure 4.32 Automation devices

5 Reactions

In this section, you can customise the schedule in detail and specify conditions and actions that will be performed automatically (Fig. 5). The availability of the functionality of the **Reactions** section depends on the device.

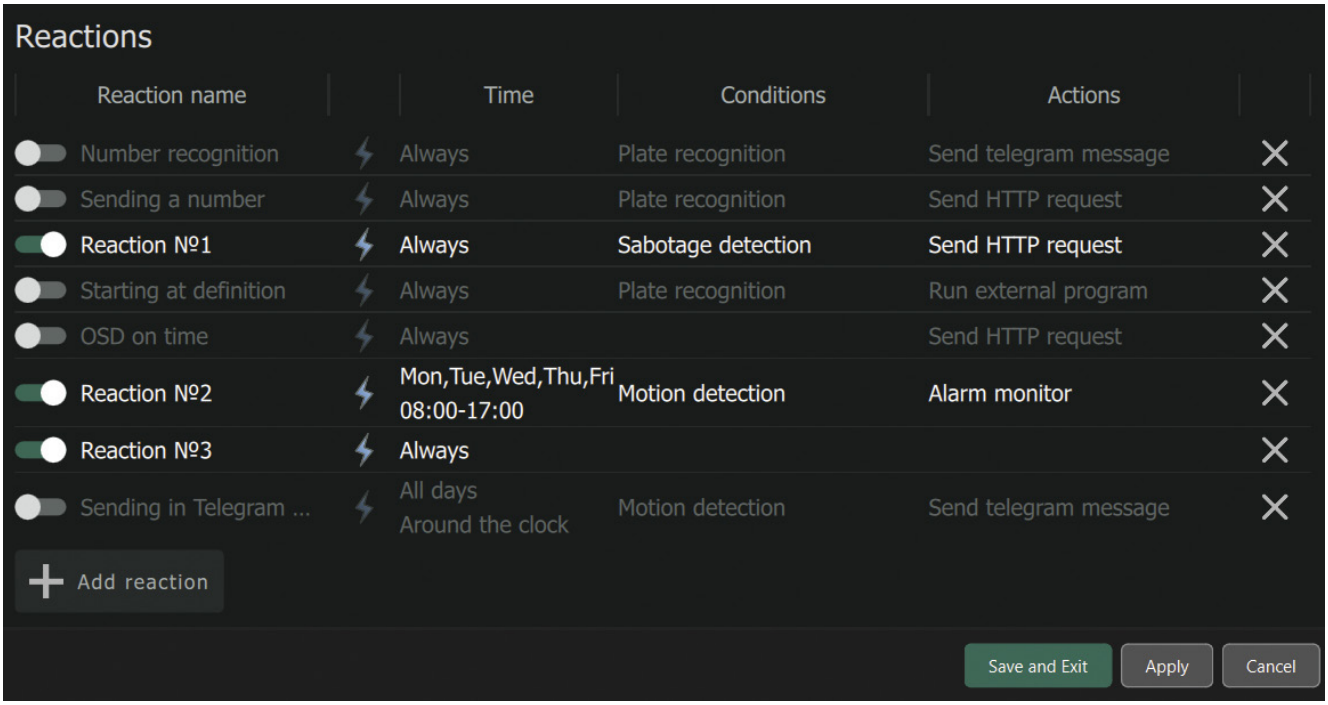


Figure 5 Reactions

By default, the list is empty; to customise it, click **Add reaction**, and the Reaction window will open (Fig. 5.1).

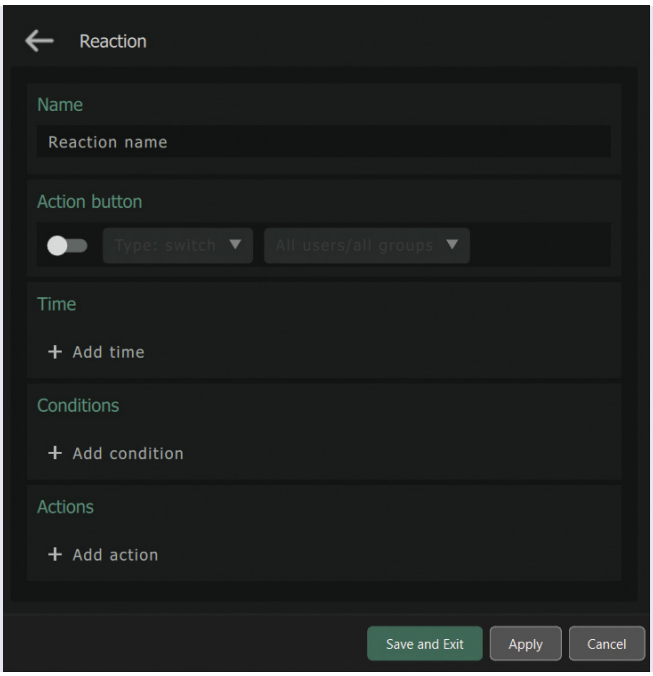


Figure 5.1
Adding a reaction

Adding or editing each reaction involves the following settings:

- **Name** — set a unique name for the reaction; it will also be used for the Action button.
- **Action button** — this setting determines the option to enable/disable (only for Switch) the reaction to the specified users from the Observer control panel without going to Manage and defines the type: Switch or Button.
- **Time** — this is set as Always by default; you can create an individual schedule.
- **Conditions** — this is set to Unconditional by default; reactions to the following events are available:
  - Motion detected — triggers the motion detector in the set area of the specified camera.
  - No motion — the absence of motion in the set area of the specified camera for a specified time.
  - Signal lost — loss of signal from the specified camera and its absence for a specified time.
  - Signal restored — restoration of a stable signal for a specified time after its absence for a specified time.

- Microphone signal level — triggers a reaction when the specified volume level on the selected microphone is exceeded (see section 4.3).
- Archive recording errors — failure to record the archive to the specified directory.
- External event — HTTP request received by the system.
- License plate recognised — recognition of a license plate on the specified camera based on the settings (see 4.2.3.3.2).
- Left item — reaction to a left item (see section 4.2.3.3.3).
- Object detected — recognition of any object or an object belonging to a specified category (Vehicles, Animals, People) (see section 4.2.3.3.3).
- Sabotage detected — defocusing, changes of the camera's field of view, lens closing.
- Visitor counting — reaction to the module operation with the possibility of getting more details Entry / Exit.
- Automation devices — reacting to the settings of a previously added automation device (see section 4.9).
- Smoke and fire detector — detecting signs of smoke and open flames in the frame (see section 4.2.3.3.5).
- User actions — reaction to server connection/disconnection, failed login attempts, logging into manage, access to the archive.

• **Actions** — automatic actions performed by the system when the Condition is met at a specified Time:

- Send Telegram message — sending a Telegram message; you can use variables and attach a video clip from the specified camera up to 10 seconds in length. Sending must be configured (see section 5.1).
- Save video to FTP — saving a video clip from the specified camera up to 10 seconds in length to an FTP server; you can use variables. Sending must be configured (see section 5.1).
- Send email — sending an email; you can use variables and attach a video clip from the specified camera up to 10 seconds in length. Sending must be configured (see section 5.1).
- Issue sound notification — plays a sound file for a specified time interval.

- Alarm monitor — output on the alarm monitor of the specified camera during the specified time interval. The alarm monitor must be configured (see section 4.1.2).
- Run external program — settings for starting an executable file with specified variables; the action is executed as a system kernel child process.
- Send HTTP request — settings for sending an HTTP request with specified variables.
- Camera preset — switching to a preset of the controlled camera. The preset must be configured (see section 4.7).
- PTZ patrol — starting the previously configured patrol for the controlled camera Patrol must be configured (see section 4.7).
- Send command to clients — sending a command to client workplaces to minimise, expand or restore the application window. Automation devices — managing a previously added automation device (see section 4.9).
- Write to file — adding the specified or automatically generated text, using variables, to the file created or generated by the system automatically with the name generated using variables.
- Show OSD — displaying text using variables over the image (see section 4.2.3.3.4).
- Add license plate to list — automatically adding a license plate to the lists of plates (see section 4.8.).
- Turn off camera — turning off the specified camera for the specified time.
- Camera recording mode — changing the recording mode of the specified camera for the specified time.
- Turn off microphone — turning off the specified microphone for the specified time.
- Microphone recording mode — changing the recording mode of the specified microphone for the specified time.

The ability to use variables in the Actions settings expands the options for using reactions and makes it possible to combine several reactions into one.

Available variables:

- ${year} — year, i.e. 2000, 2023
- ${month} — month, i.e. 01, 04, 10, 12
- ${day} — day of the month, i.e. 01, 09, 20, 31
- ${hour} — hour, i.e. 00, 05, 16, 23
- ${minute} — minute, i.e. 00, 07, 34, 59
- ${second} — second, i.e. 00, 02, 41, 59
- ${millisecond} — millisecond, i.e. 000, 008, 020, 458, 999
- ${server_name} — server name, i.e. Server
- ${server_domain_name} — server domain name, i.e. demo.myvms.net
- ${camera_name} — camera name, i.e. Camera 1, Camera 16
- ${camera_number} — camera serial number, i.e. 1, 4, 32, 128
- ${camera_index} — channel index, i.e. 0, 3, 31, 127
- ${camera_id} — the camera ID matches the index
- ${plate_text} — full text of the recognised license plate
- ${plate_description} — text description of the license plate from the list of plates
- ${plate_list_name} — name of the first list that contains the license plate
- ${plate_list_description} — text description of the first list that contains the license plate
- ${plate_photo_frame_base64} — Base64 image of the frame with the recognise license plate in JPEG format
- ${plate_photo_area_base64} — Base64 image in JPEG format containing the area of the recognised license plate
- ${plate_photo_report_base64} — Base64 image of the summary of the report with the recognised license plate in JPEG format
- ${Plate_direction}direction} — text indication of the license plate's direction of travel
- ${Integration_input_value}integration_input_value} — value received from the integration module.

All created reactions are presented in a list. You can enable or disable reactions without deleting them if properly configured and if the user has the respective rights; the functionality is duplicated in Observer, using the Action button function.

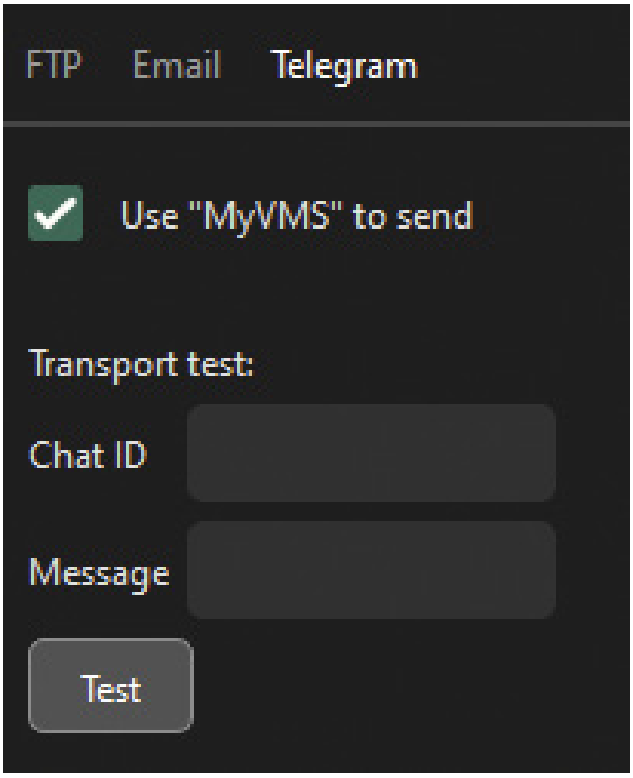


Figure 5.2 Send settings

5.1 / Send settings

In this section, you can change FTP, email and Telegram settings.

By default, email and Telegram send via MyVMS Cloud (Fig. 5.2); an account is created automatically when registering DynDNS (see 4.4.1).

For additional settings, visit the web resource: **https://eu.myvms.net/**

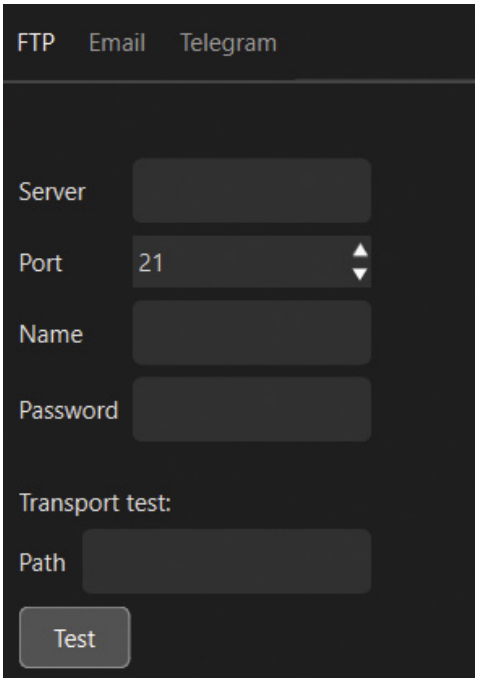


Figure 5.3 FTP

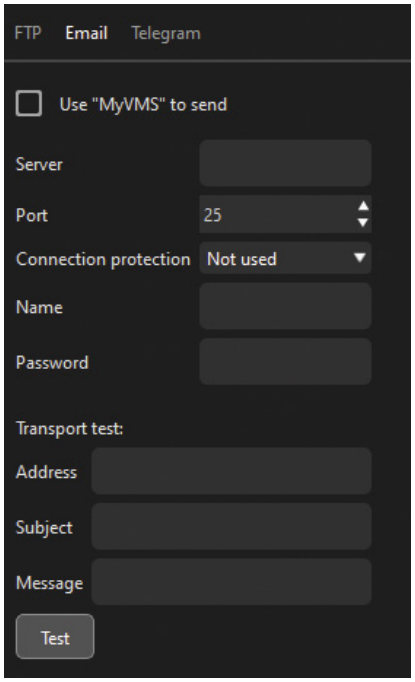


Figure 5.4 Email

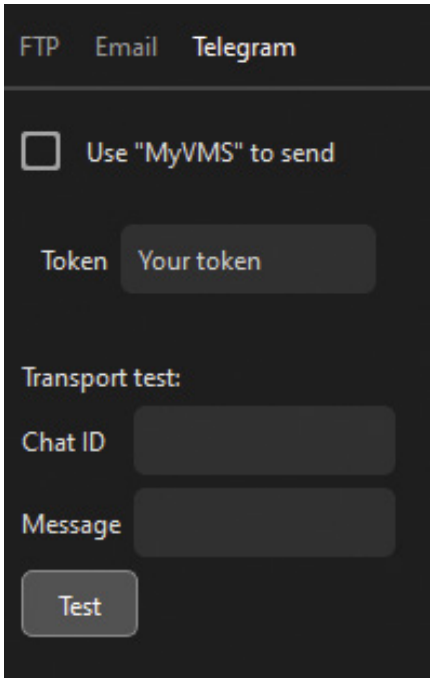


Figure 5.5 Telegram

To configure the send settings yourself, untick **Use MyVMS Cloud** and enter the information in the appropriate tab.

To configure sending email, enter the IP address and port of the mail server in the **Email** tab, then select the connection type and enter the mailbox name and password (Fig. 5.4). To send Telegram messages, enter the token of the Telegram bot that you created (Fig. 5.5).

After completing configuration, click the **Test** button to test the transport.

6 Log

This section allows you to monitor user actions and internal server events (Fig. 6).

You can filter by timestamp, message level, and text message.

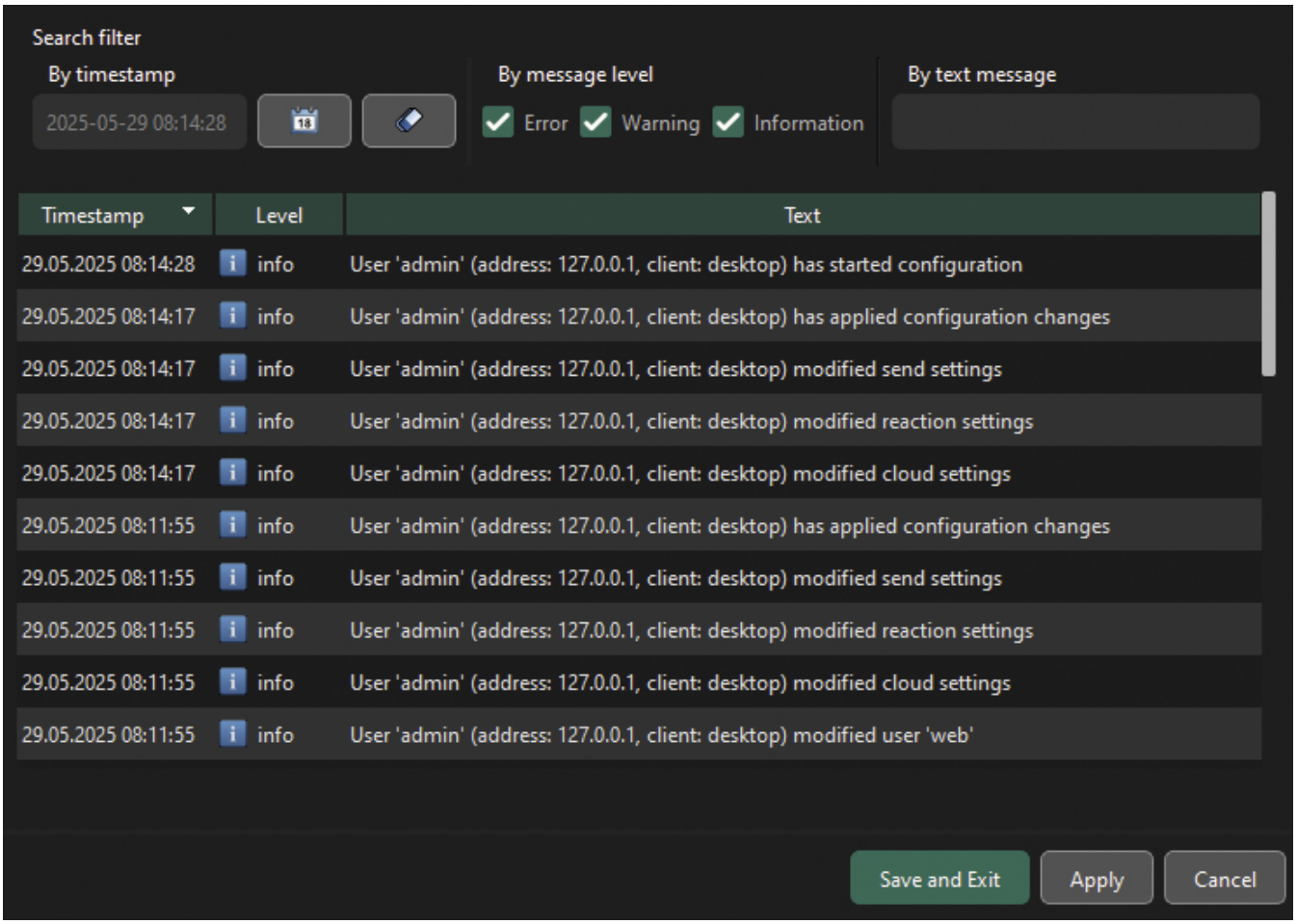


Figure 6 Log

7 Archive playback

Archive playback is intended for local and remote viewing of previously recorded video and audio, as well as for exporting recording fragments to a commonly used format. The available menu items on the **Archive playback** toolbar depend on the device, user rights, and client settings. The workspace is divided into the video recordings display area, the archive sidebar, and the filters panel, which is hidden by default (Fig. 7).

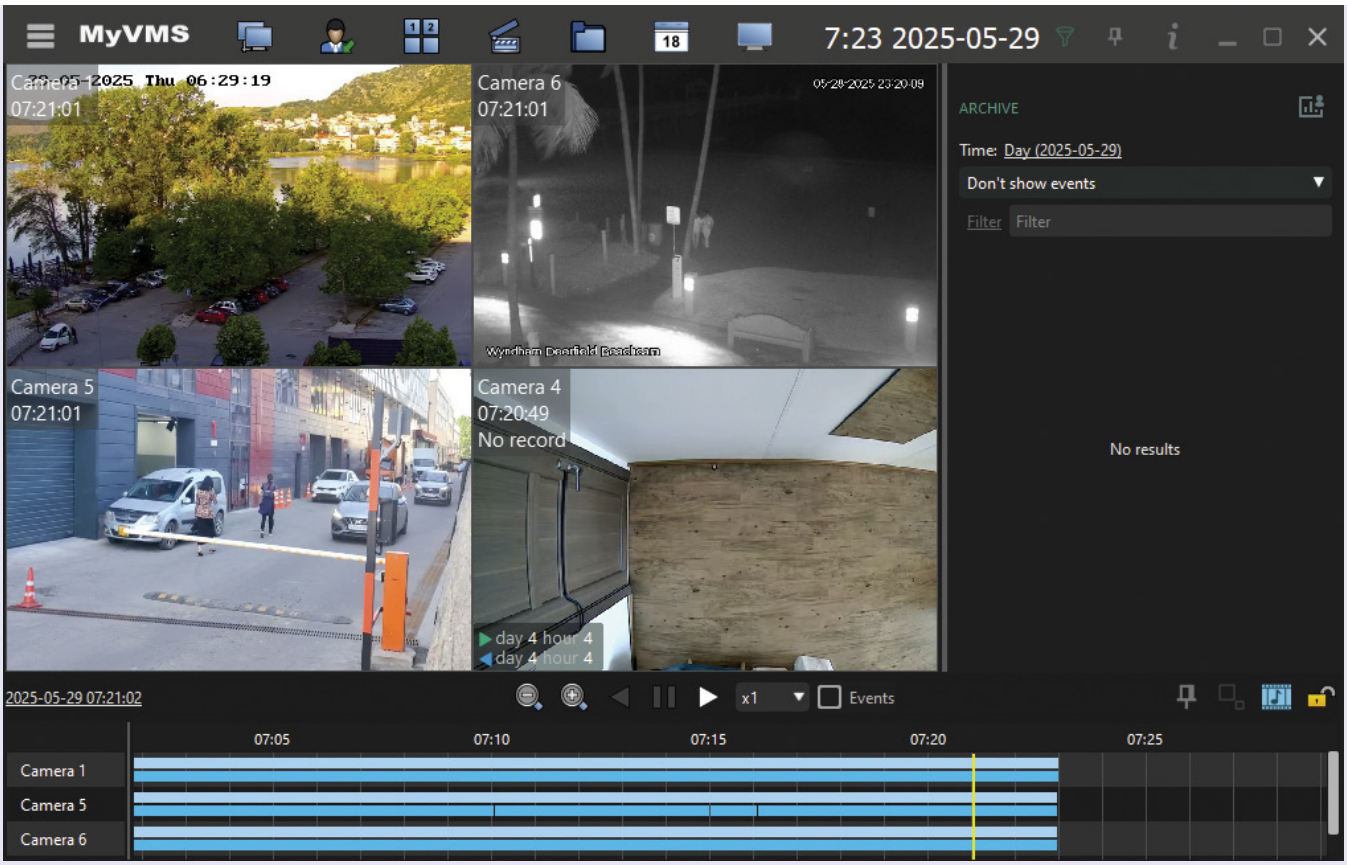


Figure 7 Archive playback

Right-click to remove or display icon captions and click on the time area to see more detailed time settings.

Access to the camera selection menu where you can search and sort.

Server connection — open the Network connections window.

User actions — change the current user or end the connection session.

Screen divisions — select, create or edit the display.

Video export – export the archive to a commonly used format.

Archive playback from directory — playback the archive from the specified directory

Calendar — select the date and time for the archive fragment.

Observer — finish work with the archive and return to Observer.

Date and time. Right-click to customise.

Pin/hide the toolbar.

Information about the app, connected server, camera or recorder.

At the bottom of the **Archive**, there are timelines for quick searches, where dark blue marks the current stream in real time, light blue shows the recording of another stream and dark blue shows the sound. If all three streams are recorded, then, for each camera, they are arranged from top to bottom in the following order: first stream, substream, audio stream.

To move along the quick-search timeline, either left-click on the desired time or hold down the left mouse button and move the cursor in the desired direction; when you release the mouse button, the timeline will automatically scroll in the specified direction.

To zoom the time in or out, use the mouse wheel or magnifying glasses with **plus** and **minus** icons.

To select the displayed video stream, right-click on the desired camera and select **Enable stream number 1 or 2**, depending on the current settings.

The following buttons are above the timeline:

	Zoom out of the timeline.
	Zoom into the timeline.
	Playback video in Reverse.
	Pause playback.
	Playback video Forward.
x1	Speed regulator. When Max is set, playback is based on reference frames.

	Display of found events on the timeline. When this is activated, you can set the number of seconds (up to 10) for playing the event in the additional field with numbers to the left of it.
	Auto hide the timeline below
	Show/hide the filter toolbar — display the filter toolbar for analytics and event settings.
	Enable contouring to frame moving objects.
	Priority stream — play segments by video/ audio stream priority.
	Lock the cursor — the cursor is locked in the centre of the timeline.

The time and date of the played archive are displayed in the lower left corner above the channel name. Click here to open the calendar to select and switch to the desired recording date.

7.1. / Archive export

The **Archive export** window (Fig. 7.1) is intended for exporting to a commonly used format The items in the export settings menu depend on the device. To configure the export settings, in the **Video source** field, select one or more cameras, check the required streams, enter the date and time interval of the exported clip and select one of the available codecs:

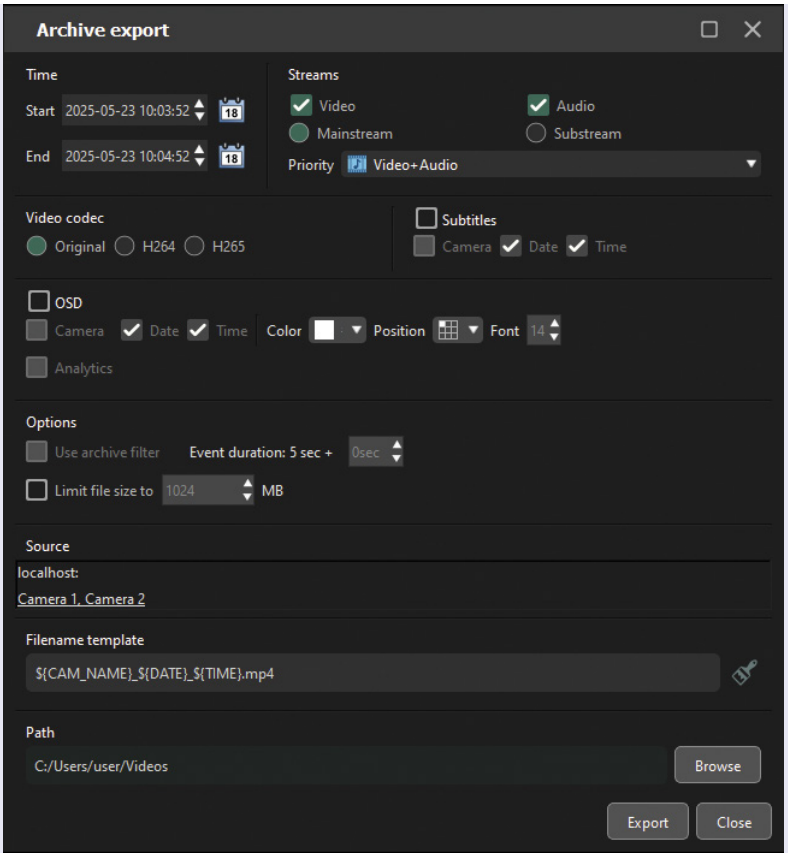


Figure 7.1
Archive export

Original — quick export without video stream transcoding and without the option to add OSD information. This is performed in an MP4 container using the codec that was used for recording from the camera. Subtitles can be added.

H.264 — export is performed by recompressing the original video data with the H.264 codec into an MP4 container. The process may take quite a long time, but you can add OSD information.

H.265 — export is performed by recompressing the original video data with H.265 codec into an MP4 container. The process may take quite a long time, but you can add OSD information. Compared to H.264, it compresses better but is more demanding on resources when compressing and playing video.

By activating the **OSD** option and ticking the **Analytics** checkbox, you can overlay visual data from analytics modules (license plates recognition, OSD, visitor counting) onto the original video sequence, just as they are displayed in the client part of the MyVMS.

Subtitles — text information that can be displayed when playing a file in media players.

Use archive filter — only fragments that match the filter settings will be exported. You can additionally set event duration. This item is available if there is a search result using analytics; it allows you to combine in the exported file only those events that correspond to the filter settings.

The **Limit file size** item allows you to set the maximum size (in megabytes) of export files that will be created in parts but will not exceed the set size.

If necessary, you can adjust the export path and exported filename template in the **Filename template** field. Hover the cursor over the filename input field for more than 2 seconds to see possible filename settings. The Brush icon button allows you to restore the default name template.

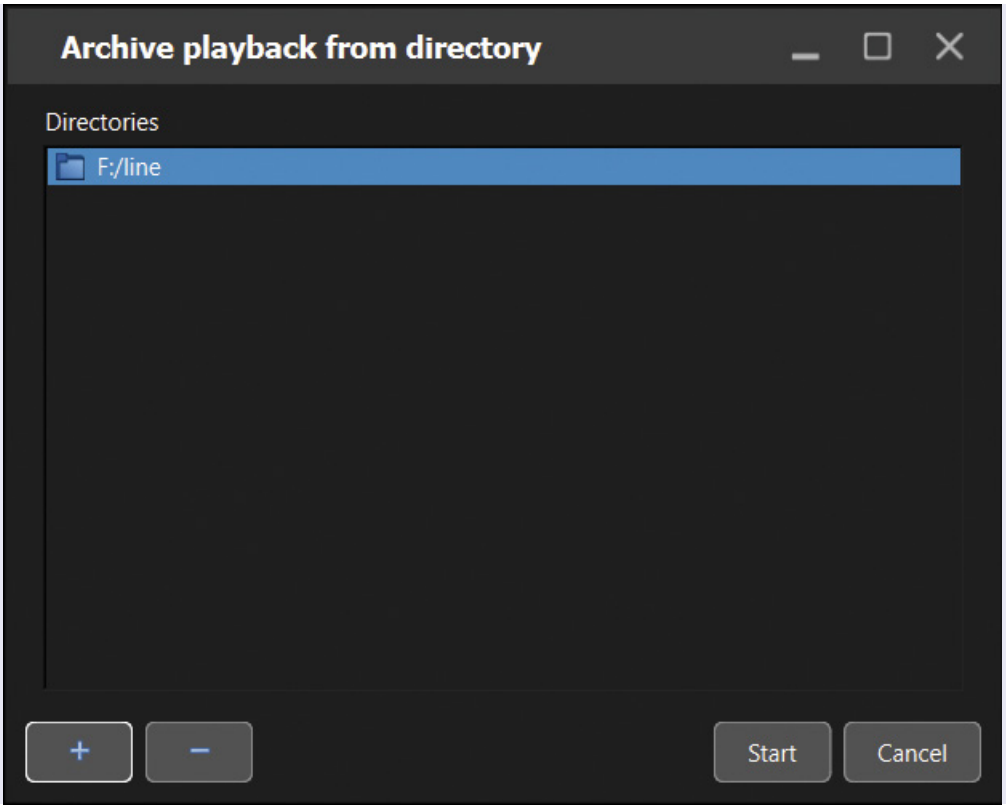


Figure 7.2
Archive playback from directory

7.2. / Archive playback from directory

To playback the archive, you can also use the **Archive from directory** function. Specify the path to the root directory or several directories containing the archive (Fig. 7.2). The software versions must match to playback the archive from other MyVMS servers, recorders or cameras.

7.3. / Archive search

Searching the archive uses metadata stored in databases of days and allows you to search for information about detection in the frame, the size, direction of movement and colour of the object, data on license plates, OSD, left objects, sabotage, information about the recognition of people, vehicles, animals, visitor counting, etc.

The database is generated by video analytics modules and is recorded along with the archive.

The availability of the archive filtering option and the operation of specific filters depends on the device used and the settings of the camera software in the **Manage — Camera — Analytics** tab.

To open the list of events of all cameras in the screen division, click the funnel icon in the lower right corner and select one or more main filters: **Events, OSD, Left items, Sabotage, Objects, License plates, Visitor counting, Smoke and fire** (Fig. 7.3). Double-click an event in the list to playback a video with the found fragment.

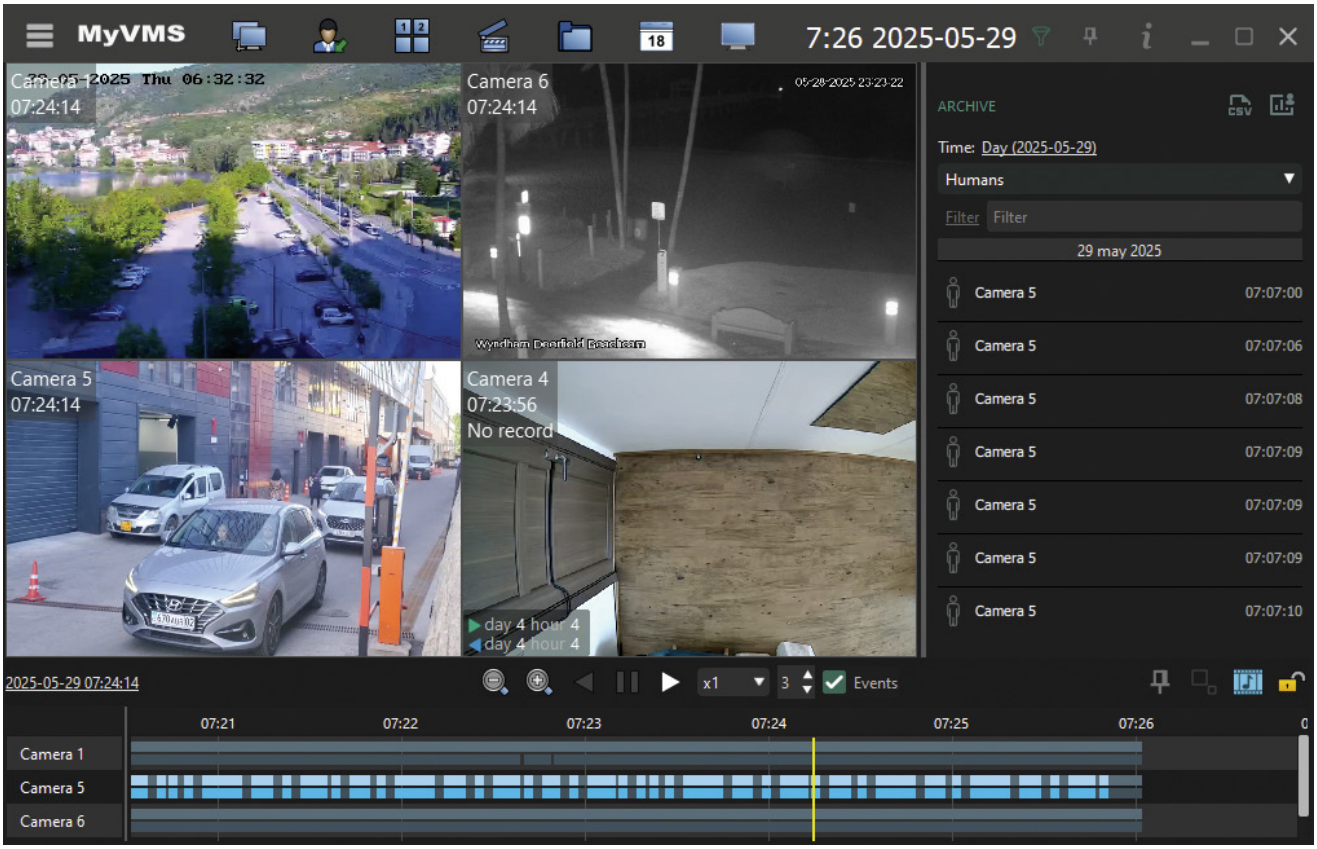


Figure 7.3 Archive event filter

Filter options (Fig. 7.4):

- **Time** — set the interval. In addition to specifying date and time values, you can select one of the preset intervals. Selecting All time can significantly slow down the output of results.
- The **Filter** field filters in the found category; you can use masks.
- **Filter** — a precise filter (it is duplicated and can be customised on the camera's mini toolbar). You can select and configure the following options:
  - Cameras — select one or more cameras.
  - Motion detector — limit the search by specifying one or more areas on the frame, object colour, size and direction of movement. Configure the area on the camera's mini toolbar.
  - License plates.
  - Events.

If you specify multiple search categories, the results will match all the specified filters at the same time.

Click Accept to go to the results.

Click Clear to reset the settings.

Click the CSV button to upload data as text information.

Click the funnel icon again to hide the filter panel.

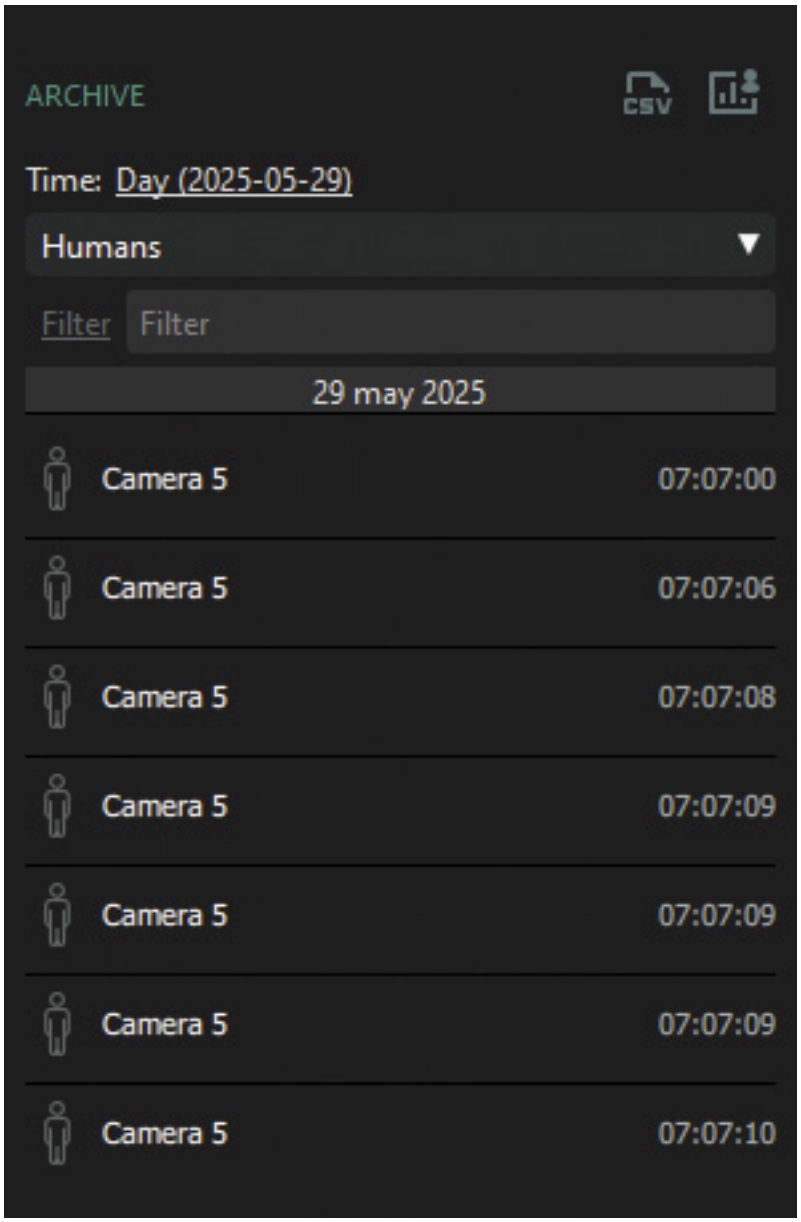


Figure 7.4 Filter results

8 Mobile clients

The **MyVMS mobile client** is designed for viewing camera images, establishing two-way audio communication, and accessing the archive. It also provides management options.

To find and install the app, visit the app store and search for MyVMS:

Google Play. For Android devices.

App Store. For iOS devices.

or download the setup file from **https://myvms.eu/soft/**

Please note: The functionality of the mobile client is as close as possible to the desktop client, but due to the specifics of the operating system, performance and specificity of mobile device screens, menu items may be displayed differently or may not have all the features.

Searching the MyVMS server, recorder, camera is carried out automatically when the mobile device is located in the local network (using Wi-Fi) or by specifying the IP address/ domain name when connected via the internet.

By default, port 9780 is used, username: **admin** without password.

Please note that the search is case sensitive. To access additional menu items for a found device, tap and hold the device name until the selection is highlighted and the bottom navigation menu is displayed.

If you want to control multiple devices at the same time, long-tap on each device to highlight them; the number of highlighted devices will be displayed in the lower left corner.

To set up a multi-server connection, select more than two devices and tap on the Other... button and select Combine from the context menu. Tap the right arrow next to the required line to change the connection settings of the selected item.

You can use the operating system's buttons and navigation gestures (back, cancel, minimise, next/previous display) for navigation and control, in addition to the usual menus and buttons in the app's mobile clients. Use landscape mode for easy navigation and playback.

The button's function is determined by the active window:

- When viewing an image from the camera — access to the camera selection menu where you can search and sort.
- In Manage — open/hide the menu items on the Manage sidebar.

The MyVMS mobile client offers different screen divisions:

- **Local screen divisions** — divisions used only on this device. If you have the respective rights, you can arrange the cameras by tapping and holding on the required cell to open the menu.
- **Server screen division** — a screen division preset on the server and assigned by default to the user. On the server, you can create a non-standard screen division using the display grid or the number of cameras in the screen division.

9 Web server

The MyVMS web client is designed for viewing images from cameras, listening to audio from microphones and accessing the archive in web browsers that support HTML5. This is only available when using MyVMS servers and recorders.

Functionality (may be limited by user rights):

- View camera images in real time.
- Listen to audio from microphones in real time and from the archive.
- Local recording of online video and audio when opening an individual camera to full screen.
- Change streams when opening a single camera to full screen (H.264 only).
- Playback the archive from multiple cameras at the same time.
- PTZ control when an individual camera is opened full screen.
- Select a screen division of up to 128 cameras at a time and drag and drop to arrange cameras.

To access the web server, enter the IP address or domain name and port in the address bar. The default port is 9786. For example:

- **http://127.0.0.1:9786/** or **http://localhost:9786/** — access to the server interface.
- **http://192.168.1.2:9786** — a local IP address is used if the server or recorder is on this local network.
- **http://server.myvms.net** — an external IP address or domain name is used to connect via the internet. The TURN service uses the HTTPS protocol; you do not need to specify th e port.

If the connection is working correctly, the Cookies settings window will appear, as well as the client settings (Fig. 9).

After customizing the settings and clicking Accept, the user authorisation window will appear, where you need to enter details from the MyVMS user on the server. By default: admin without password.

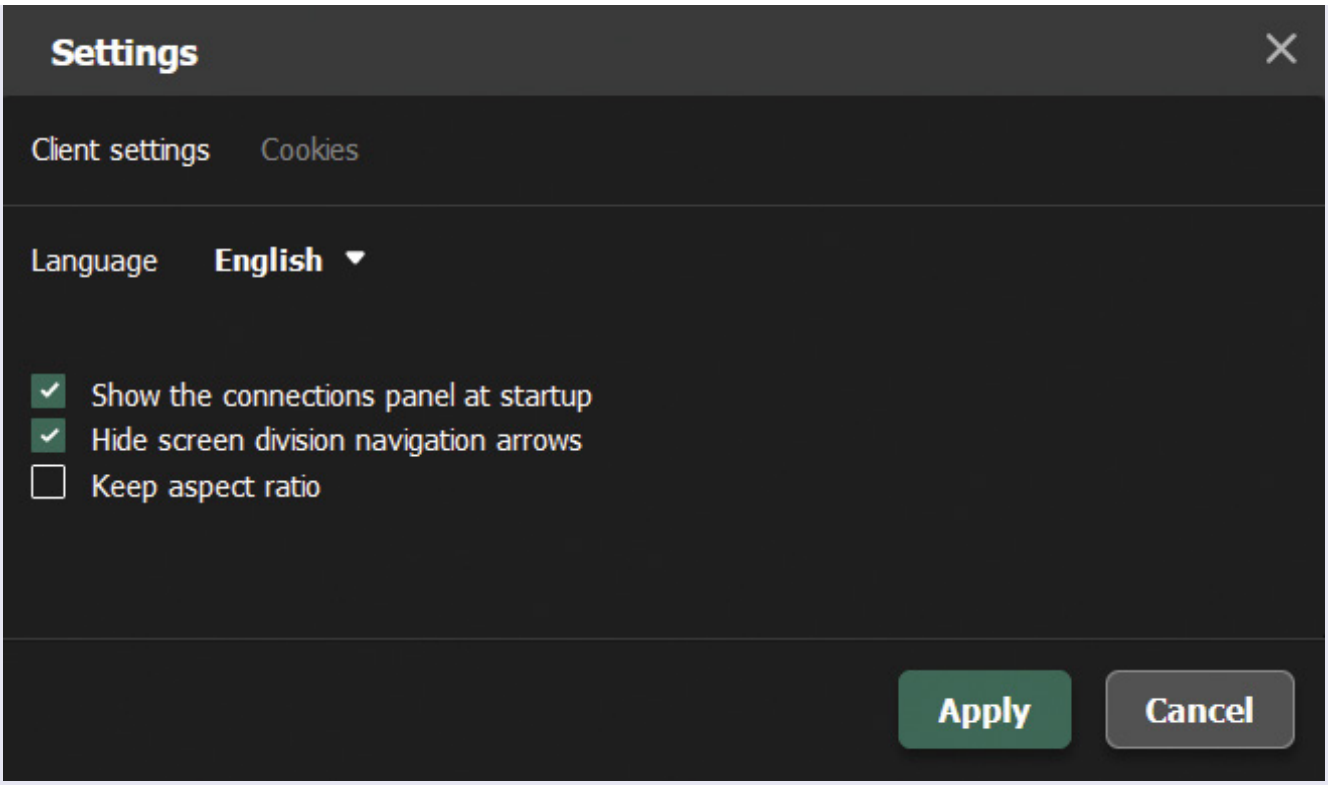


Figure 9 Archive event filter

After connection, the client interface will be displayed (Fig. 9.1).

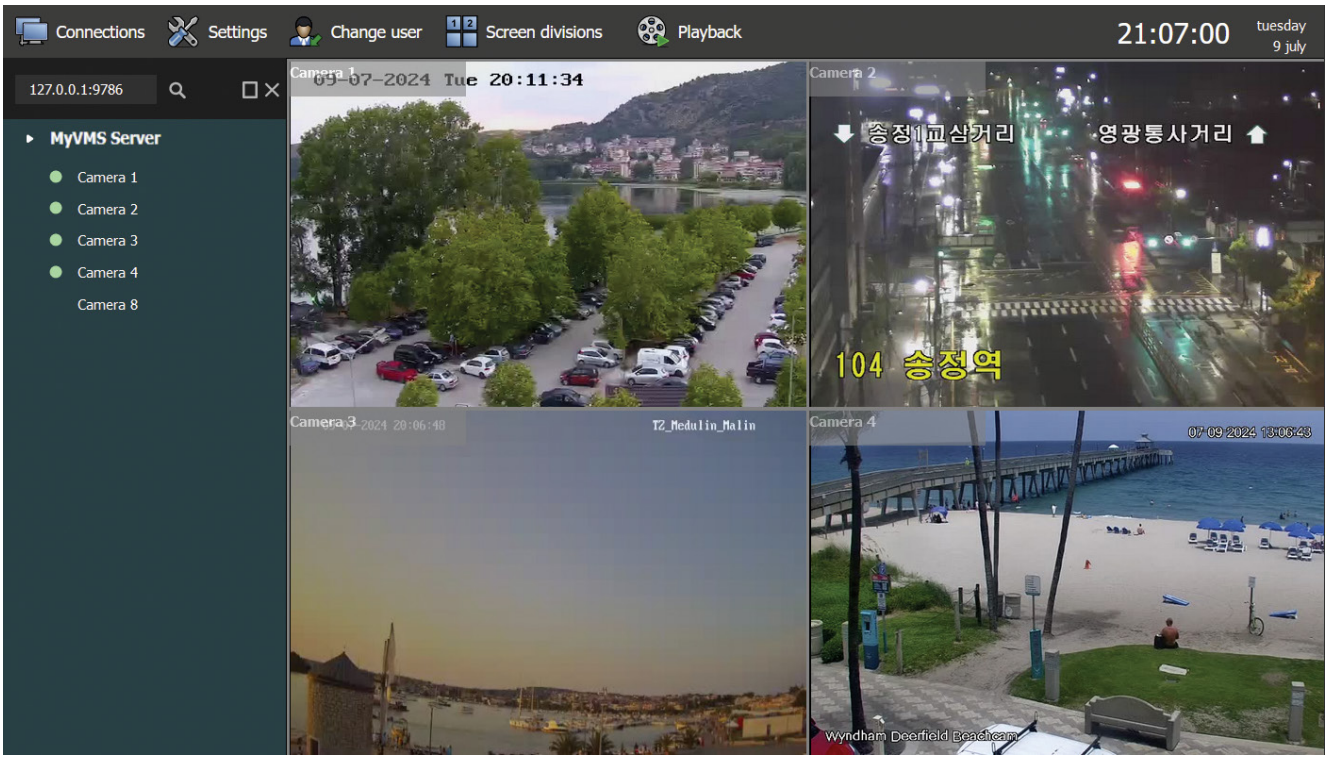


Figure 9.1 Web server client interface

On the left, you will see the server name and a list of available cameras (depending on user rights).

To hide this menu, click on the **Connections** button in the upper toolbar.

To display it as a separate pop-up window, click on the square icon between the search bar and the close button at the top of the list. Click the same buttons to reset the display.

Client settings and Cookies, Change user, **Screen divisions**, and Playback are available in the upper toolbar (Fig. 9.2).

Like for mobile clients, Screen divisions allows you to either display built-in screen divisions or the default one for the connected user.

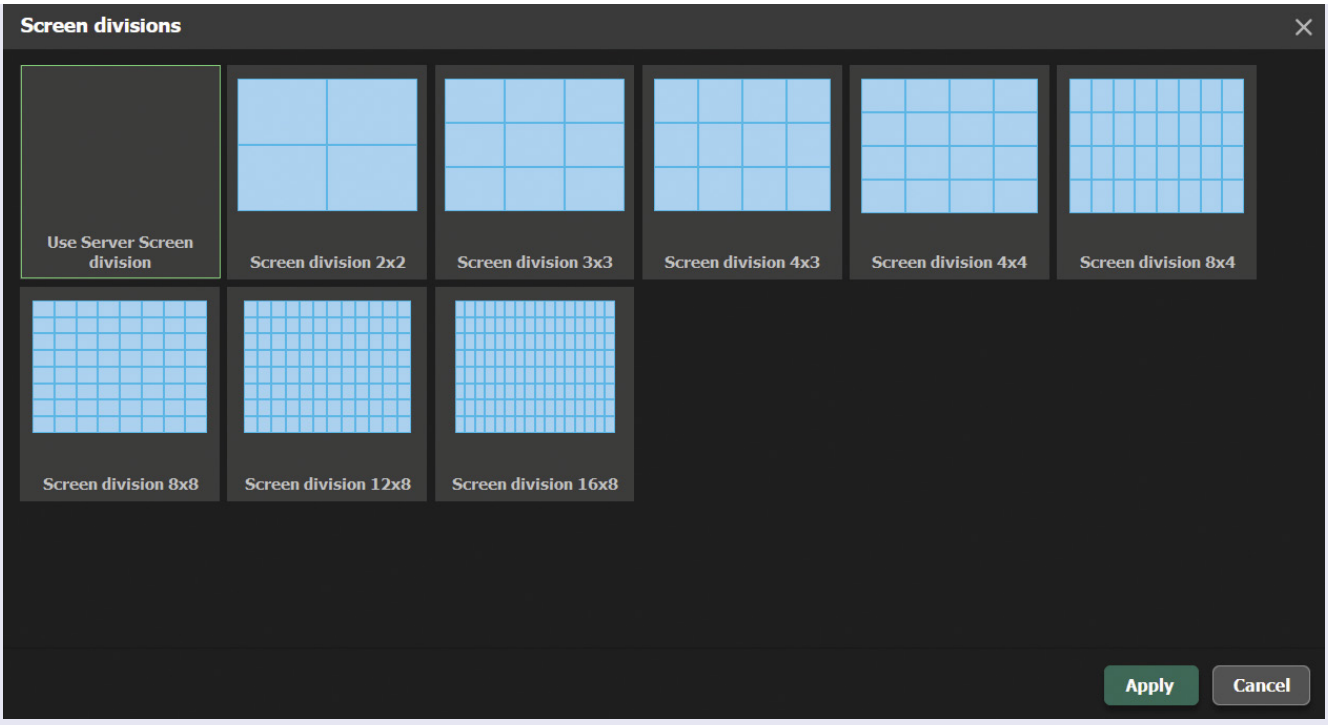


Figure 9.2 Screen divisions

The set screen division will take up the most of the display. In the screen division grid, when selecting a cell, you can display the control panel of a specific camera and select audio playback or PTZ camera control by clicking on the corresponding icon (Fig. 9.3).

Figure 9.3 PTZ camera

Double-click to expand the camera to full screen and display the main (first) stream, which will be indicated by the **letter M** in the upper right corner of the display.

Click on the icon to switch the display of streams to the substeam (second stream) (S) or the third (JPEG) stream (J), which is formed by the web server.

In the same state, with full screen camera display, you can export video from the archive by clicking on the archive export icon in the bottom panel.

To view the archive, click on the **Connections** button in the upper toolbar.

To display the first stream or the substream, open the selected camera in full screen; the streaming information of the first stream or the substream will be displayed, depending on its presence in the record: first stream symbol (M), substream symbol (S) in the upper right corner.

There is a quick search timeline at the bottom of the **Archive**. To move along the quick search timeline, hold down the left mouse button and move the cursor in the desired direction.

Use the mouse wheel to zoom in or out. In addition, to manage the archive, use the **Forward**, **Back** and **Pause** buttons and the speed slider, where 1x is the default playback speed and Max is the maximum possible playback speed.

To export an archive, select the camera in the archive playback cell or expand the camera to full screen; the export button will become available on the bottom panel.

In the export dialog box (Fig. 9.4), select the export settings: start of events, duration (measured in seconds), data type, stream number, and filename.

After you click the **Export** button, the browser or the operating system will suggest a location to save the data. For more archive export options, use the client part of the desktop computer software.

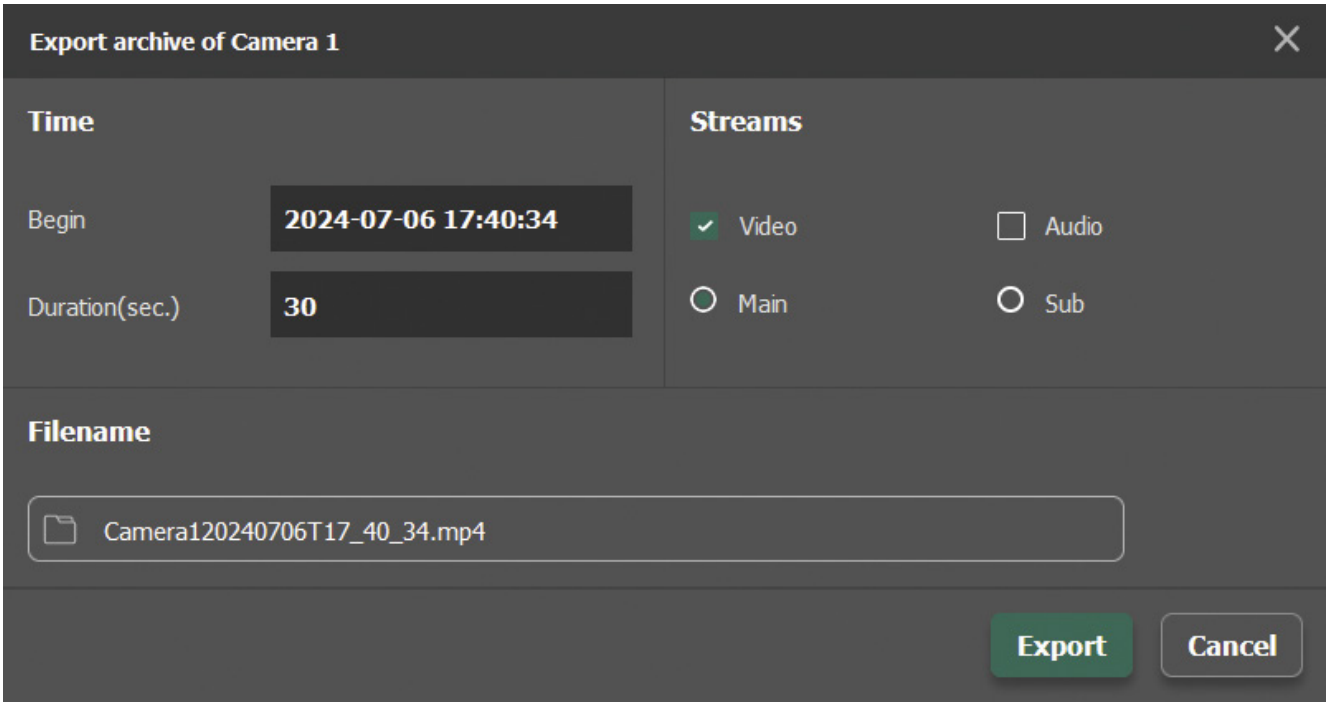


Figure 9.4 Web export dialog box

MyVMS IP licensing regulations
https://myvms.eu/l/

HDD recommendations:
https://myvms.eu/recommendations_HDD/