



Cortex IP Video Management System

Configuration manual

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Introduction

This document covers the configuration of the Cortex IP Video Management System software. For operation of the system, please see the separate "Operation manual".

1. System structure

This section outlines the component breakdown of a typical Video Management System and describes the planning and operations required for the basic system installation.

1.1 System components

A typical Video Management System consists of the following components:

- Central SQL configuration database server
- Recording servers
- Monitor servers
- Client workstations

The first 3 of these are collectively called server components.

Other major components of the system not directly connected to the VMS software are:

- Cameras (or other video source devices)
- Storage volumes

Note that the components of the system can be freely distributed on physical machines, i.e. each component may run on a separate machine or multiple components can run on the same machine. The smallest system can utilize only one physical machine running the database server, recording server and client workstation software.

Central SQL configuration database server

This server contains the system configuration in the form of a SQL database. There should be only one database server in the system. In smaller installations, typically consisting of only one recording server, the database server software usually runs on the same physical machine as the recording server software.

Recording servers

These servers handle recording and other actions associated with cameras. Each camera and each storage volume must be associated to exactly one recording server. There may be one or several recording servers in one system.

Monitor servers

These servers handle displaying video on external displays. Each monitor server can display video on one or more attached displays (this is only limited by the graphics card and computing power of the server). The monitor servers are controlled entirely remotely through client workstations. This is an optional component of the system and is not used in all systems. If the servers are used, there may be one or several monitor servers in one system.

Client workstations

The client workstations are used by the system operators for viewing live video, playback of recordings and controlling other components of the system. There may be one or several client workstations in one system.

1.2 System installation

The number of physical machines and their exact specifications should be determined with the assistance of the manufacturer as there are several important factors to consider while planning the system.

In a typical installation, the following order of operations is required:

1. Network installation
2. Camera setup
3. Storage setup
4. Physical machine setup
5. System configuration

1. Network installation

The network has to be installed and all required devices – cameras, storage, machines – need to be connected to it. The scheme of IP addresses has to be decided upon at this time. All network components of the system need to have static IP addresses.

2. Camera setup

Each camera has to be connected to the network and be given a static IP address. Other camera properties like logins, passwords and video settings need to be set at this time.

3. Storage setup

Each NAS (Network Attached Storage) has to be connected to the network and be given a static IP address. The storage has to be configured in terms of RAID arrays and logical volumes at this time. The logical volumes should have sizes that would work with the selected machine operating systems (some operating systems have limits on volume size).

4. Physical machine setup

Each physical machine has to have the proper operating system installed along with all the hardware drivers. The machine has to be given a static IP address. Prior to installing the VMS software, the machine must have Microsoft DirectX 9.0c and Microsoft Visual C++ 2008 Redistributable Package (x86) installed. It is also important that the time and time zone are properly set on the system.

Depending on the roles of the machine, the following software has to be installed on it:

- Central SQL configuration database server – **Setup_database_Cortex_<version>.exe**
- Recording server – **Setup_server_Cortex_<version>.exe**
- Monitor server – for each display **Setup_monitor_Cortex_<version>.exe**
- Client workstation – **Setup_client_Cortex_<version>.exe**

If the machine is a recording server, all of the storage volumes associated to it must be configured to be visible either as a drive letter or mounted in a folder and formatted. This includes internal drives and external storage volumes. Each volume associated to a recording server has to be shared on it using standard operating system file and folder sharing.

Each machine running server components has to be configured for automatic login to allow the software to start automatically. For performance reasons, it is recommended that software firewalls are not used and the whole system is put in a DMZ. To facilitate continuous operation, it is recommended that the operating system automatic updates are turned off and that the power options do not allow for the system to be automatically suspended, hibernated or turned off. It is also not recommended to have the screen saver active.

- ✓ The software watchdog automatically starts all server components after 20 seconds following operating system login. An exception to this is the recording server, which starts after 5 minutes following login. This is to allow storage configuration by the operating system.

5. System configuration

For a simple single recording server system, it is usually only required to use the configuration wizard.

For more advanced systems, the following order of configuration is required:

1. Machines
2. Storages
3. Monitors
4. Devices
5. Users
6. Automatic login

All of these configuration steps are described in more detail in later sections of this manual.

2. System configuration

This section describes the configuration of the system components after they are installed on physical machines.

2.1 Configuration wizard

This section only applies to simple systems consisting of only one recording server.

During the first software start, the configuration wizard will appear, which will guide you through a short process of configuring the basic system parameters and detecting the related devices. The wizard consists of the following steps:

- Welcome
- Network adapter configuration
- Device detection
- Storage detection
- User configuration
- Finish

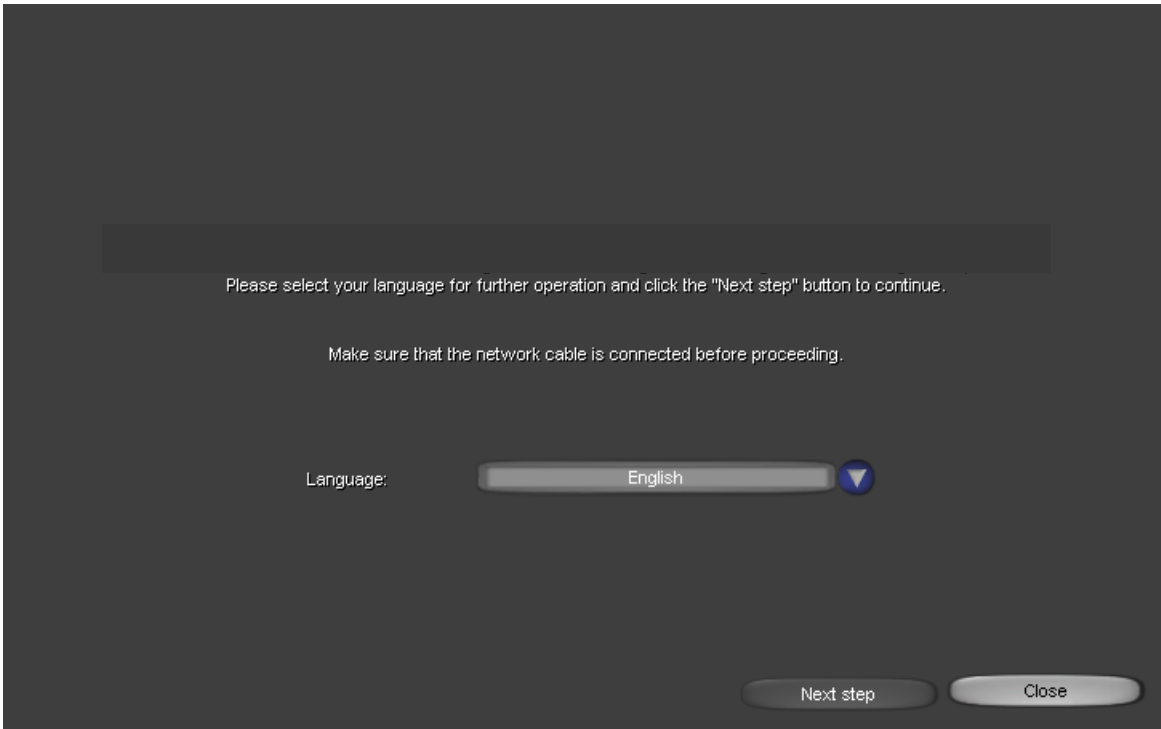
2.1.1 Welcome

The first step of the wizard is the welcome window.

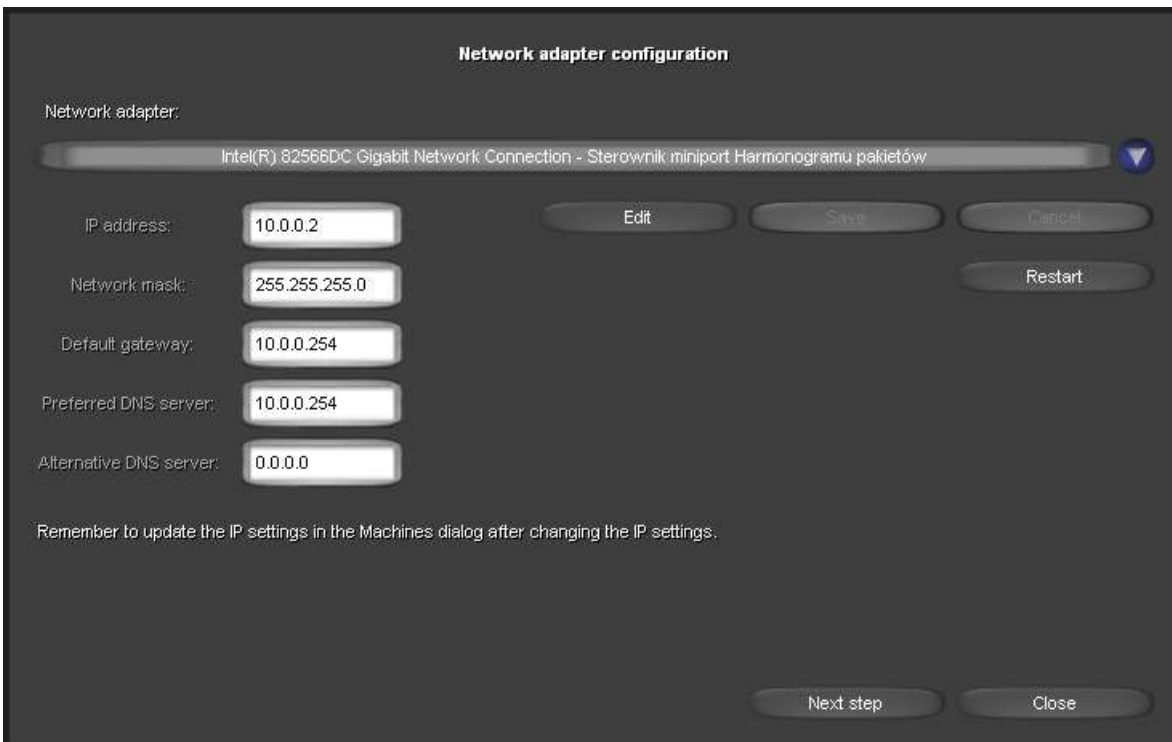
To change the system language, select the desired language from the **Language** list. This will change the language of all menus and messages in the system.

Clicking the **Next step** button will show the next step of the wizard.

Clicking the **Close** button will cause the wizard to close (all remaining steps will be cancelled).



2.1.2 Network adapter configuration



This window is used to manage settings of network adapters installed in the server.

To change settings of a network adapter, select it from the **Network adapter** list and click **Edit**. Enter the new settings in the edit fields: **IP address**, **Network mask**, **Default gateway**, **Preferred DNS Server**, **Alternative DNS Server** and then click **Save**. The network adapter will be automatically restarted with the new settings. To manually restart the network adapter, click the **Restart** button. To cancel editing of the network adapter, click the **Cancel** button.

Clicking the **Next step** button will show the next step of the wizard.

Clicking the **Close** button will cause the wizard to close (all remaining steps will be cancelled).

2.1.3 Device detection

The screenshot shows the 'Device auto detection' window. It features input fields for 'Start IP:', 'End IP:', 'Start port:', 'End port:', 'Login:', and 'Password:'. There are two radio buttons: 'Use only the default port (80)' and 'Use port range:'. Below the fields is a text box with instructions: 'The user identified by the entered login must have administrator rights on the device for the software to be fully functional.' and 'The following devices have been detected in the system:'. There are 'Search' and 'Cancel search' buttons. Below that is a large empty list area. At the bottom, there is a list item 'Kardol (10.0.0.2)' and 'Next step' and 'Close' buttons.

This window is used for fast detection of cameras connected to the network.

To start the search, fill out all search parameter fields (see below) and click **Search**. The search will begin and if a camera is found, it will appear in the **Camera list**. To cancel search while it is in progress, use the **Cancel search** button.

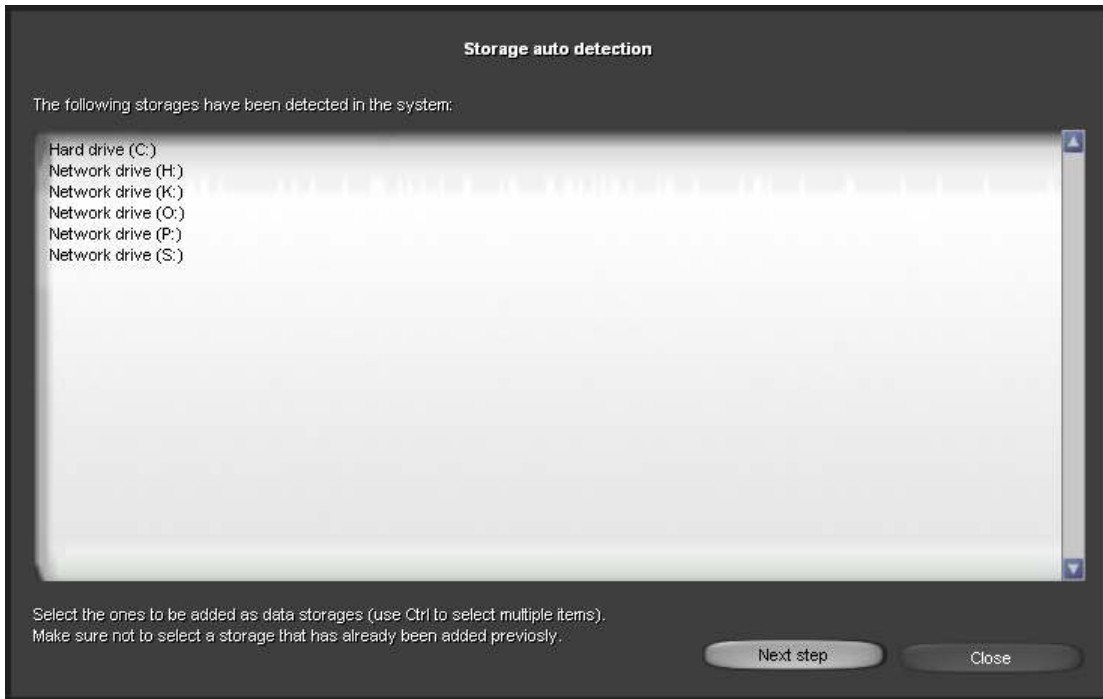
The parameter fields in this window are:

- **Start IP** – the IP address at which the search will start (e.g. 192.168.0.1).
- **End IP** – the IP address at which the search will finish (e.g. 192.168.0.20).
- **Use only the default port (80)** – if this option is selected, the cameras will be detected only at the default port 80.
- **Use port range** – selecting this option allows you to specify the port range at which the cameras will be detected.
- **Start port** – the port at which the search will start (e.g. 80).
- **End port** – the port at which the search will end (e.g. 82).
- **Login** – the login of the user having administration privileges on the camera (it is set in the camera settings, usually **root** or **admin**).
- **Password** – password for the user identified by the login in the **Login** field (it is set in the camera settings)

To add detected cameras to the system (after the search has finished), select them in the **Camera list** and then click **Next step** which will add the cameras, with their default settings, to the recording server and show the next step of the wizard.

Clicking the **Close** button will cause the wizard to close (all remaining steps will be cancelled).

2.1.4 Storage detection

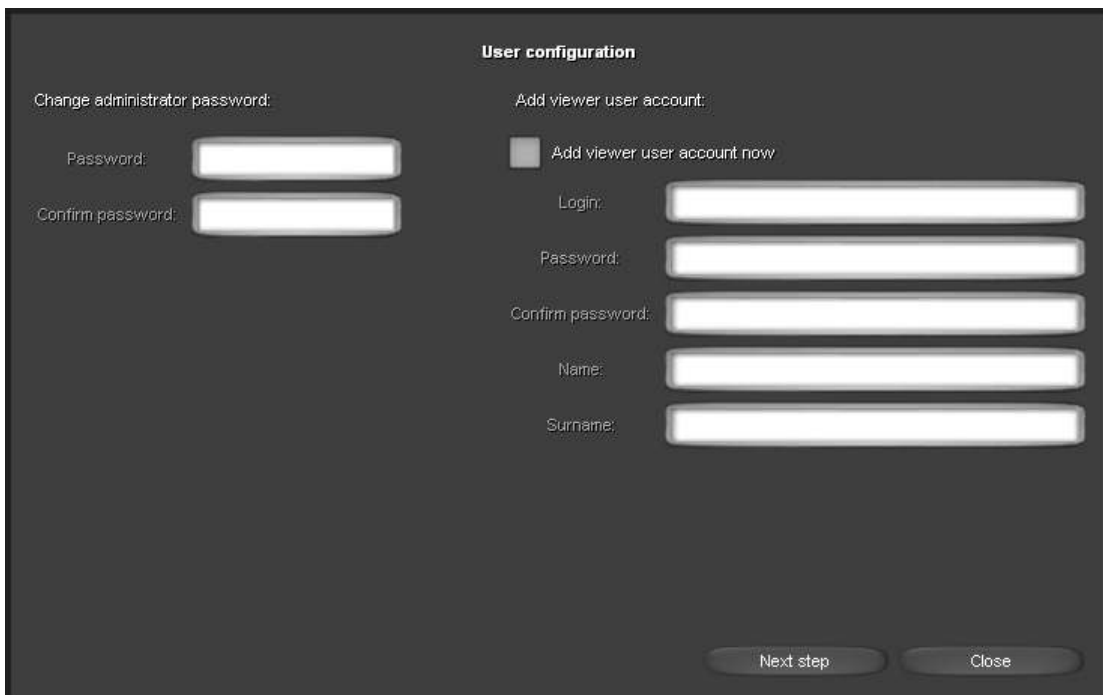


The storage detection window is used for fast detection of storage volumes (hard drives, disk arrays etc.) connected to the server.

To add detected storage volumes to the system, select them in the **Storage list** and click the **Next step** button, which will also show the next step of the wizard.

Clicking the **Close** button will cause the wizard to close (all remaining steps will be cancelled).

2.1.5 User configuration



This window is used to change the administrator password and create the first user with rights to view live video and playback stored recordings.

To set the new administrator password, enter it in the **Password** and **Confirm password** fields. The password in both fields must be identical.

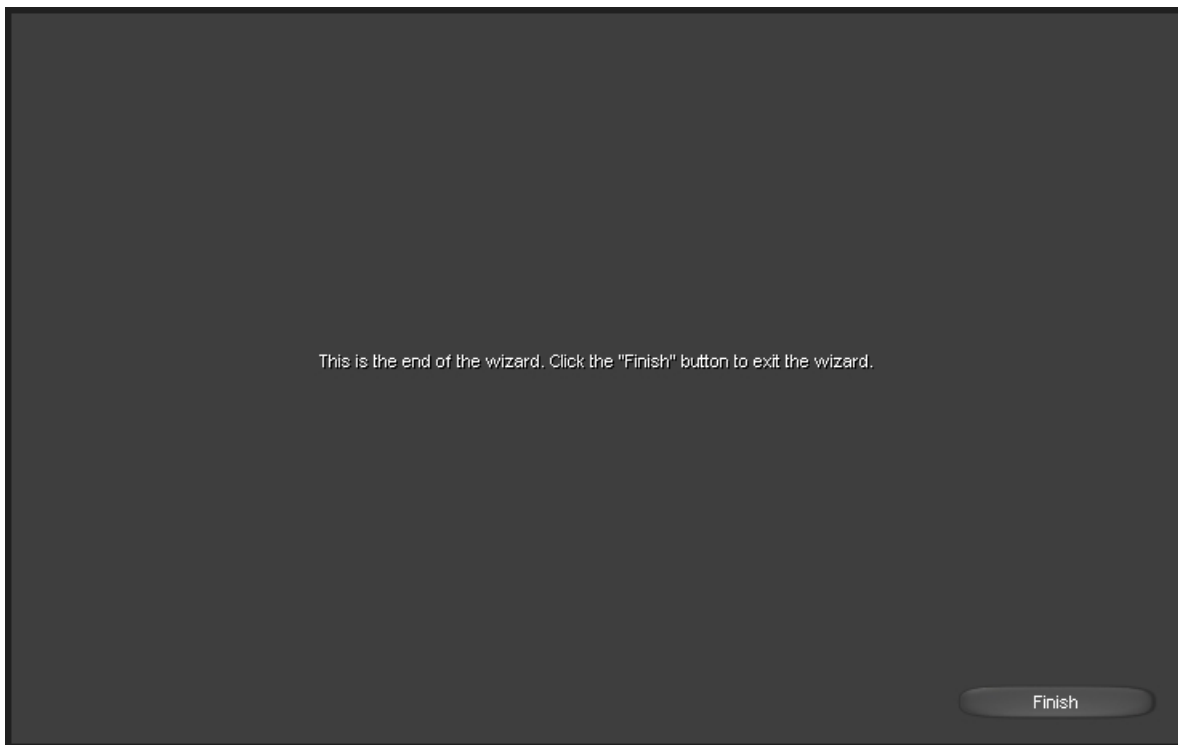
It is also possible to add one user with preview and playback rights here. To add the user, check the **Add viewer user account now** option and fill out the following fields:

- **Login** – the login using which the user will log into the system.
- **Password** – the password for the login.
- **Confirm password** – password confirmation. The fields **Password** and **Confirm password** must be identical.
- **Name** – first name of the user.
- **Surname** – last name of the user.

Clicking the **Next step** button will save the data and show the next step of the wizard.

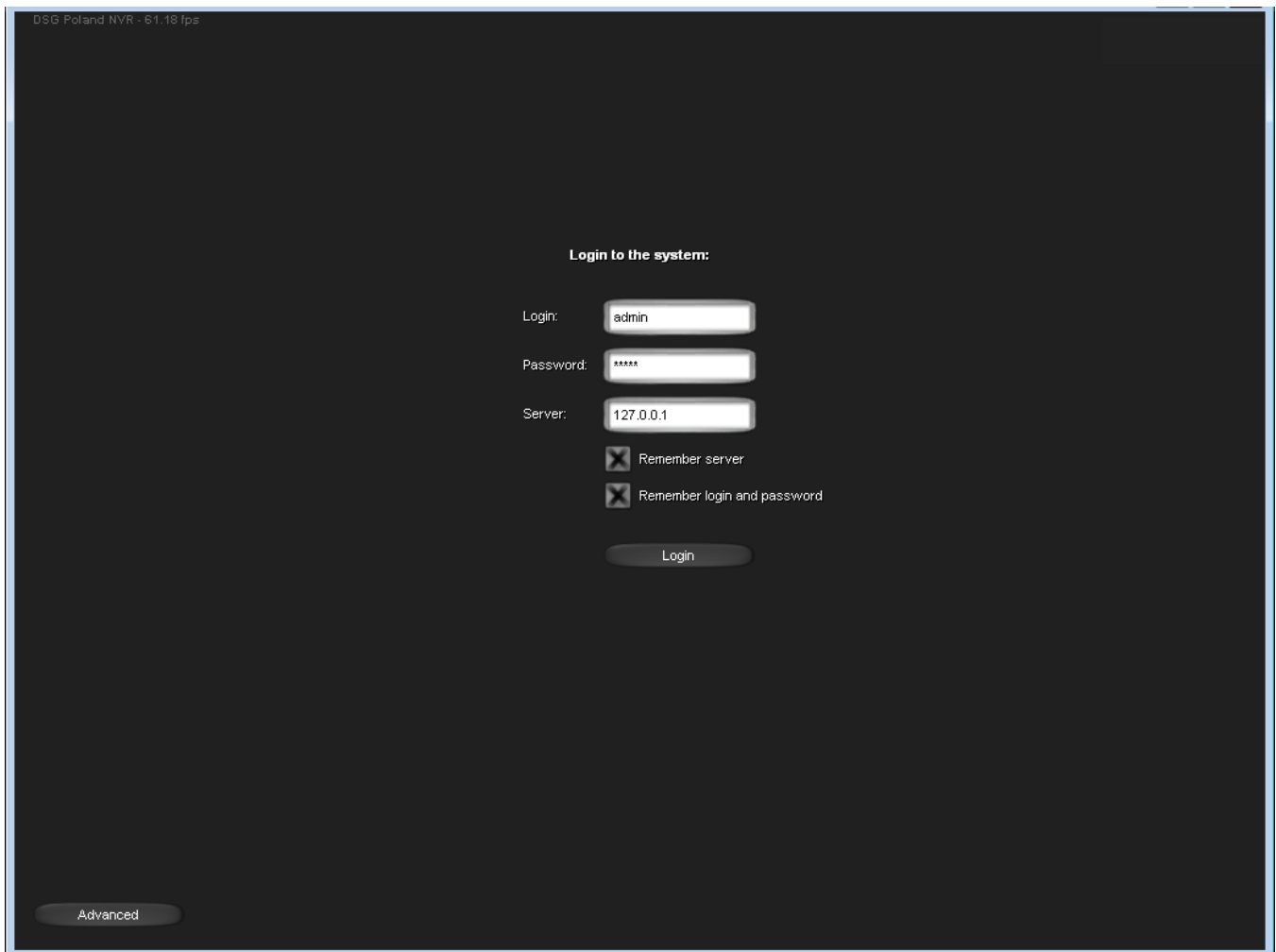
Clicking the **Close** button will cause the wizard to close (all remaining steps will be cancelled).

2.1.6 Finish



This is the last window of the wizard. To exit the wizard, click the **Finish** button. The window will close and the system will restart with the new settings and the **Login window** will appear. This process can take up to a few minutes depending on the number of added cameras.

2.2 Login



DSG Poland NVR - 61.18 fps

Login to the system:

Login:

Password:

Server:

Remember server

Remember login and password

Login

Advanced

This window is used to log into the system. It appears directly after the software is started or after the user has logged out of the system. To log into the system, fill out the **Login**, **Password** and **Server** fields and press the **Login** button. The **Server** field should have the format of an IP address.

If the **Remember server** option is selected, then during the next login the **Server** field will be automatically filled out with the IP address of the server to which the last successful login took place.

If the **Remember login and password** option is selected, then during the next login the **Login** and **Password** fields will be filled out automatically with the data of the last logged in user.

The **Advanced** button opens the **Advanced login options** window.

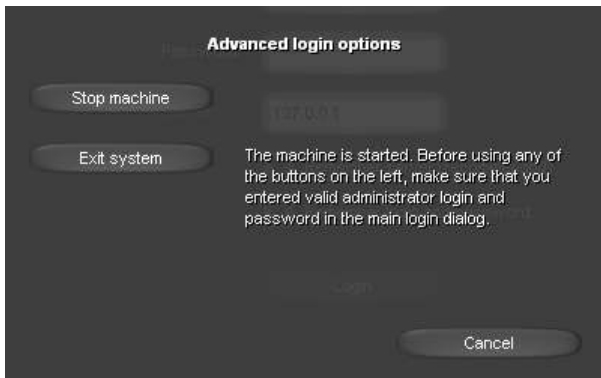
- ✓ If the **Remember server** and **Remember login and password** options are both checked, the login window will not appear after the software is restarted – the user will be logged in automatically
- ✓ The default password for the administrator account (login: **admin**) is **admin**.
- ✓ After a successful login, an appropriate dialog will be displayed. For the recording server, it is the **Settings** dialog. For the monitor server, it is the **Monitor display** dialog. For the client workstation it is the **Preview** dialog.

The following are the requirements for automatic login for server components of the system:

- The **Server** field should have the value of the IP address of the physical machine serving as the central SQL configuration database server.
- For the recording server, it is required that the **Remember server** option is checked. Even if the **Remember login and password** option is not checked, recording will resume on recording server restart.
- For the monitor server, it is required that both the **Remember server** and **Remember login and password** options are checked.

For the client workstation, these options can be used freely. The server components will try to automatically login to the database server each 30 seconds if the connection is unsuccessful.

2.2.1 Advanced login options



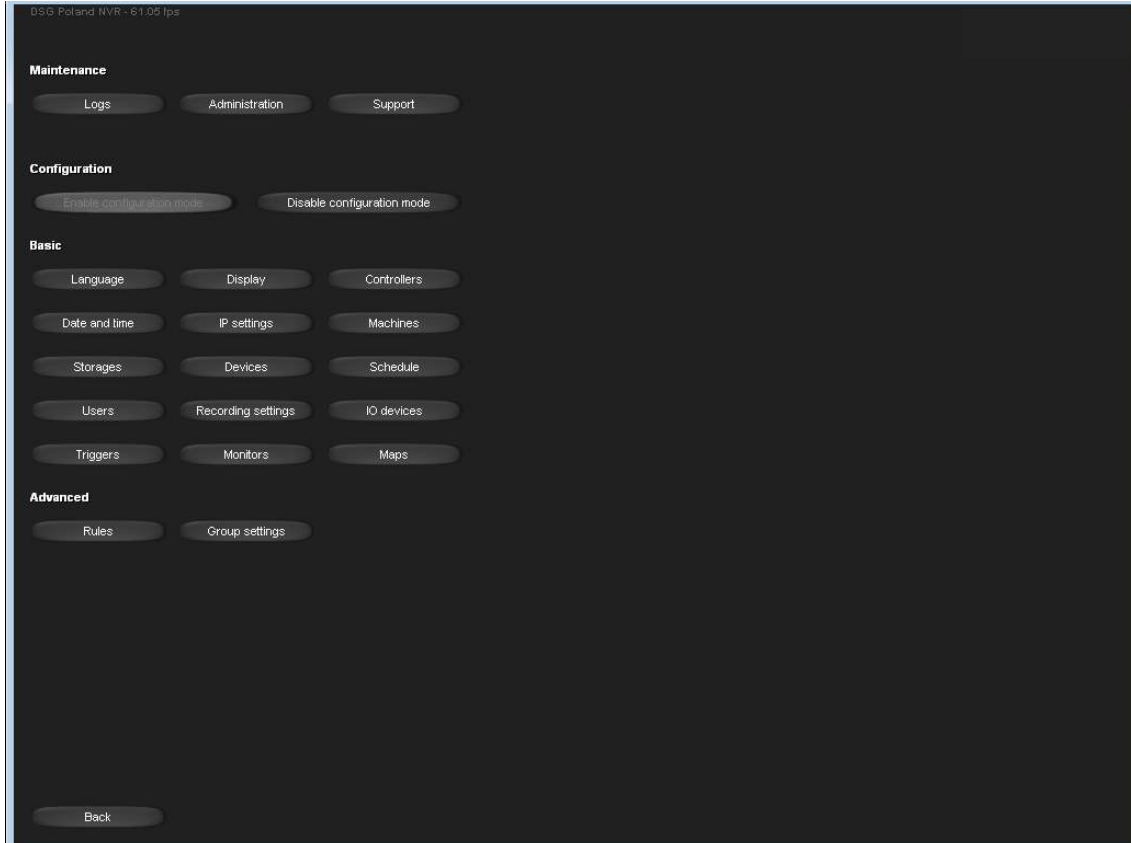
This window is used for basic maintenance functions.

The **Stop machine** stops the running component, this requires administrator login and password entered in the login window to work.

The **Exit system** button exits the software.

The **Cancel** button closes the window and displays the main login window.

2.3 Settings



This window is used for the system configuration and is available on the recording server software.

The maintenance functions are always available, but to be able to change any of the configuration functions described below, go into the configuration mode by clicking the **Enable configuration mode** button. Turning this mode on stops recording on the recording server used. To resume full operation and recording, the configuration mode has to be disabled using the **Disable configuration mode** button.

The **Maintenance** functions are: **Logs**, **Administration** and **Support**.

The **Basic** configuration functions are: **Language**, **Display**, **Controllers**, **Date and time**, **IP settings**, **Machines**, **Storages**, **Devices**, **Schedule**, **Users**, **Recording settings**, **IO devices**, **Triggers** (not covered by this manual), **Monitors** and **Maps**.

The **Advanced** configuration functions are **Rules** and **Group settings** (these are not covered by this manual and using them is only recommended for advanced users or with cooperation with the manufacturer).

2.3.1 Element management panel



In most windows, the same **element management panel** is used.

Click the **Add** button to add a new element. Click the **Edit** button to edit the element selected in the element list. Click the **Delete** button to delete the element selected in the element list. Click the **Save** button to save the newly added or edited element.

Additionally, all configuration windows have the **Back** button which goes back to the main **Settings** window.

2.4 Maintenance

This section covers the maintenance functions of the system.

2.4.1 Logs

This function is covered in the separate “Operation manual”.

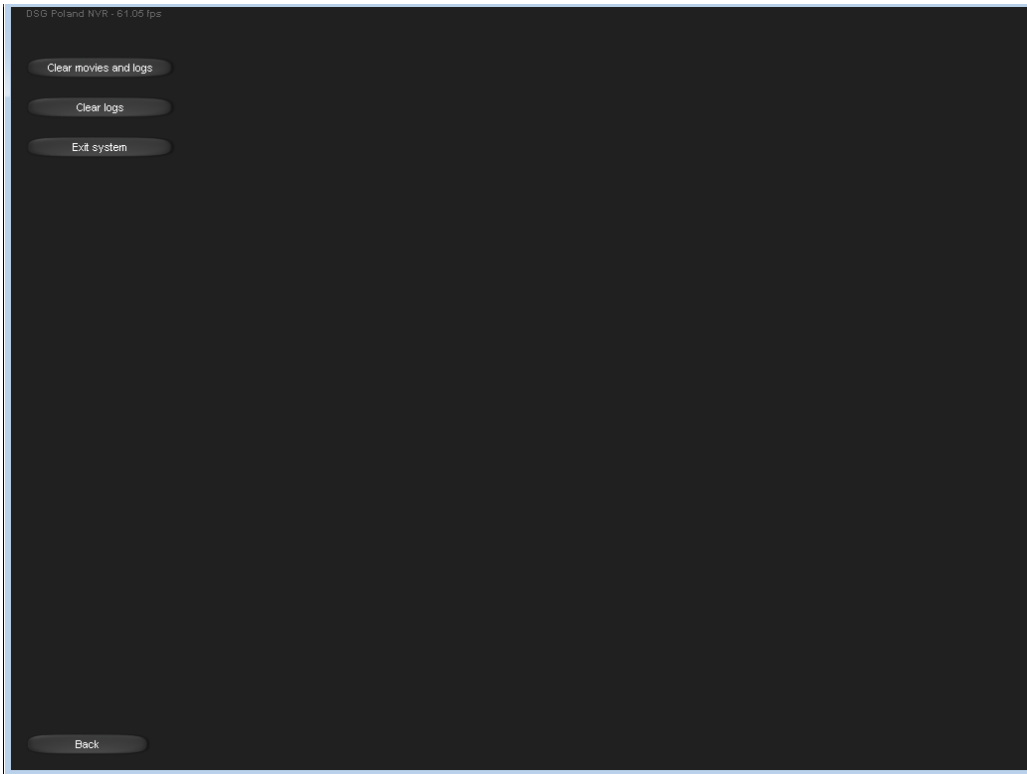
2.4.2 Administration

This window is used for software administration.

Click the **Clear movies and logs** button to clear all logged events and recordings on the recording server.

Click the **Clear logs** button to clear logged events using a date filter.

Click the **Exit system** button to exit the software.



2.4.3 Support

This function is covered in the separate “Operation manual”.

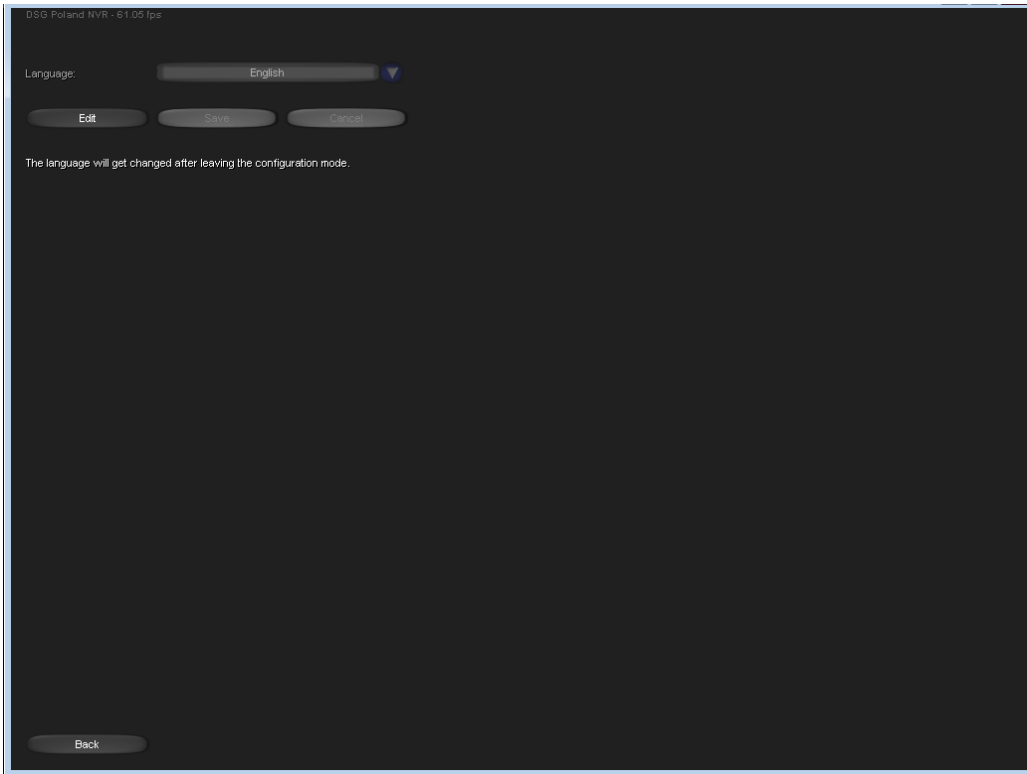
2.5 Basic configuration

This section describes the basic configuration functions of the system.

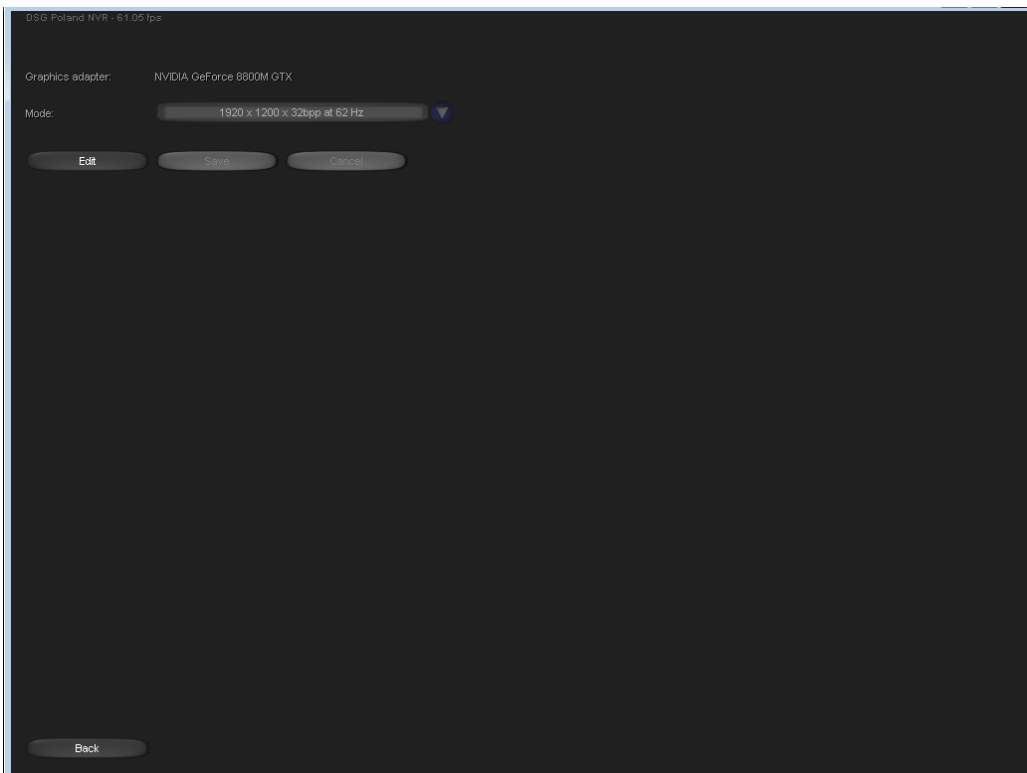
2.5.1 Language

This window is used to manage language settings. To show this window, click the **Language** button in the **Settings** window.

Current settings are shown in **Language** field. Changes can be made after clicking the **Edit** button. Available options are displayed in the list. To change the language, choose it from the list and click the **Save** button. The language will get changed after leaving the configuration mode.



2.5.2 Display



This window is used to manage screen settings. To show this window, click the **Display** button in the **Settings** window.

Current screen settings are shown in **Mode** field. Changes can be made after clicking the **Edit** button. Available modes are displayed in the list. To change the mode, choose it from the list and click the **Save** button. A new window will appear. To accept changes press **OK** and the new settings will be saved. If no choice is made within 10 seconds, the last screen mode is restored.

2.5.3 Controllers



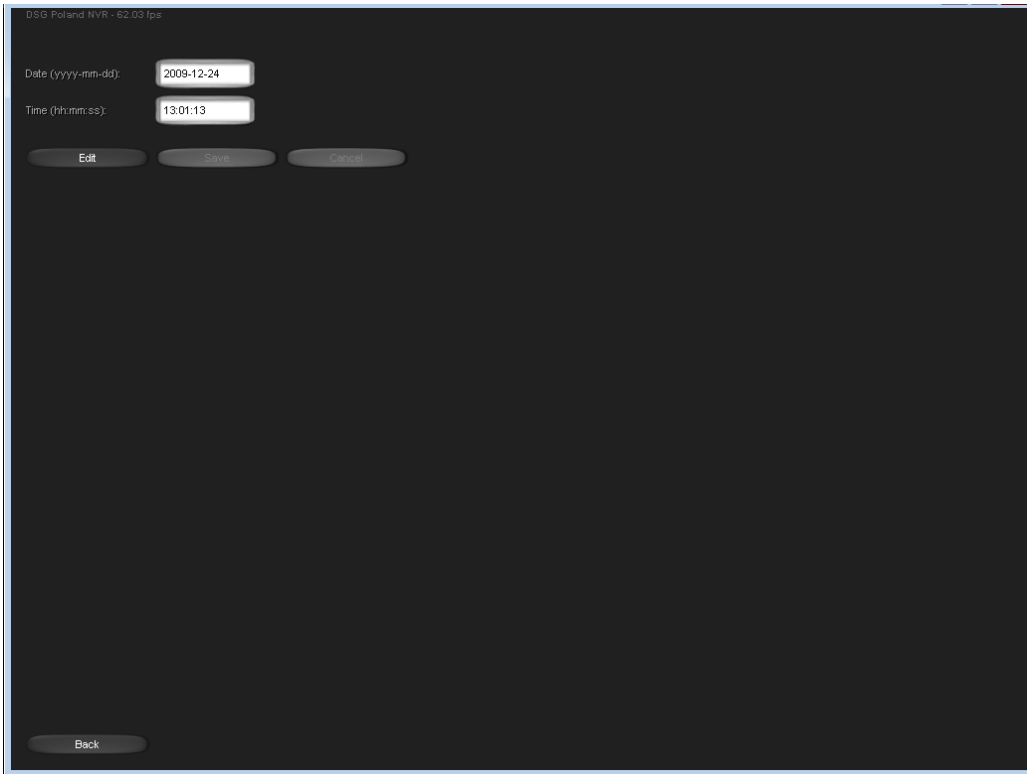
This window is used to manage mouse and joystick speed settings, which is useful when using the PTZ modes. To show this window, click the **Controllers** button in the **Settings** window.

Current settings are shown by the slider positions. Changes can be made after clicking the **Edit** button. Moving the slider to the right sets the speed level higher, moving to the left – lower. To accept changes press the **Save** button.

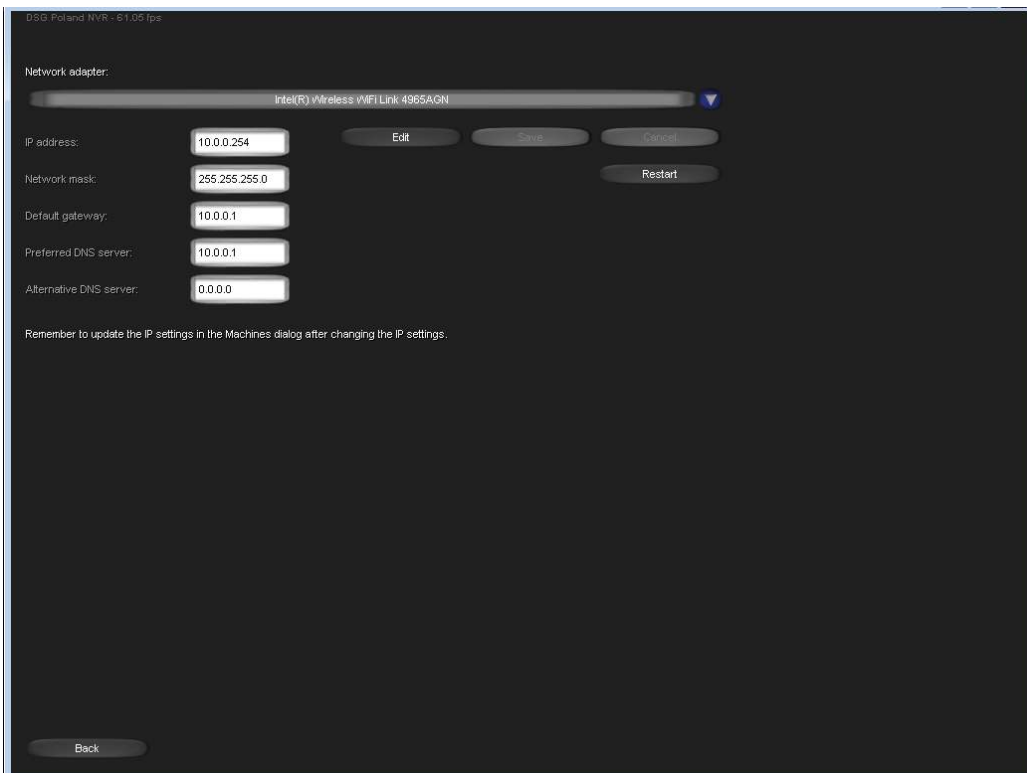
2.5.4 Date and time

This window is used to manage date and time settings. To show this window, click the **Date and time** button in the **Settings** window.

Current settings are shown in two fields. Changes can be made by clicking the **Edit** button. Date should be entered in the following format: yyyy-mm-dd. Time should be entered in the following format: hh:mm:ss. To accept changes press the **Save** button.



2.5.5 IP settings

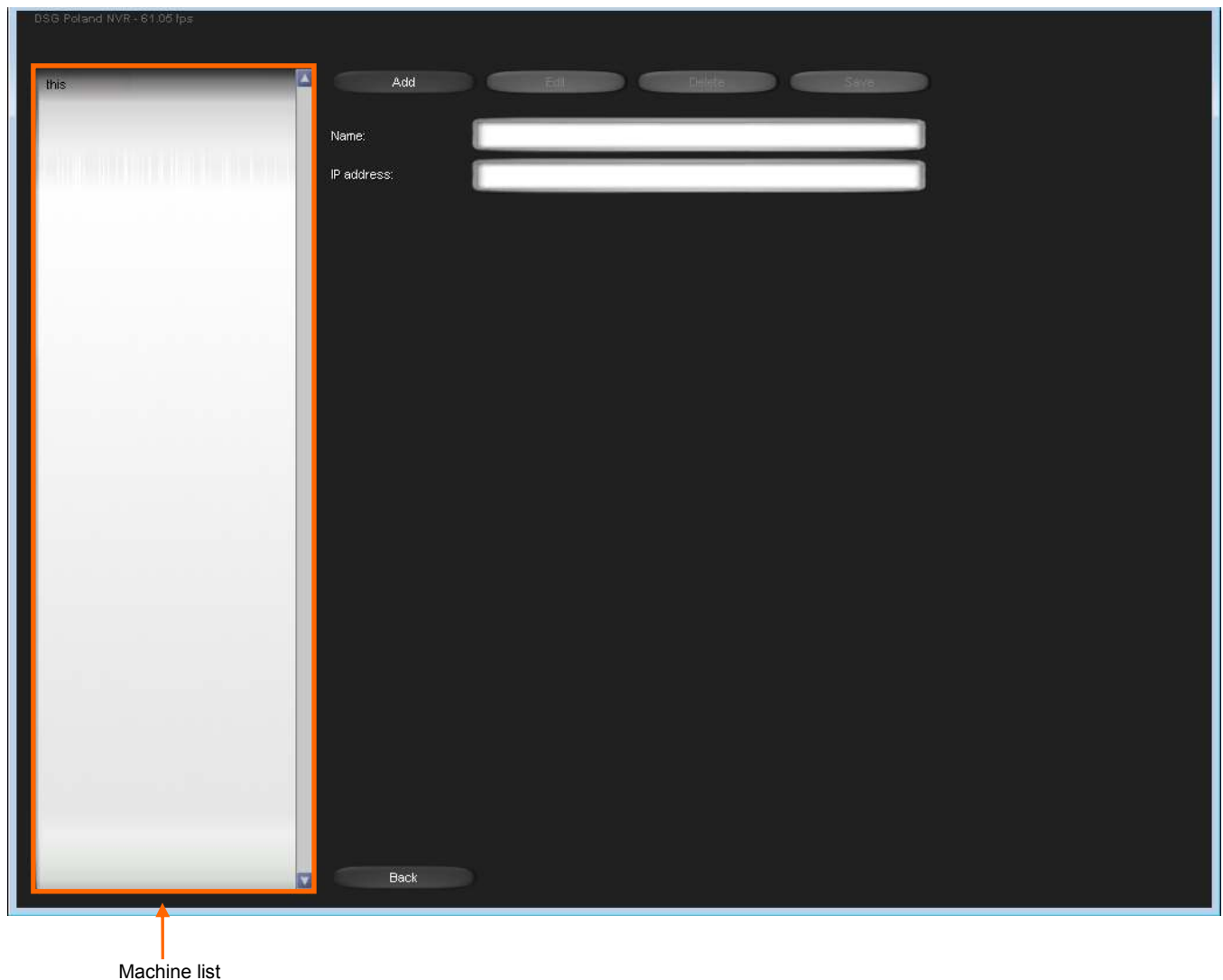


This window allows user to manage settings of network adapters installed in the system. To show this window, click the **IP settings** button in the **Settings** window.

To change settings of a network adapter, select it from the **Network adapter** list and click **Edit**. Enter the new settings in the edit fields: **IP address**, **Network mask**, **Default gateway**, **Preferred DNS Server**, **Alternative DNS Server** and then click **Save**. The network adapter will be automatically restarted with the new settings. To manually restart the network adapter, click the **Restart** button. To cancel editing of the network adapter, click the **Cancel** button.

After changing the IP address, make sure to update the IP address of the machine in the **Machines** configuration window.

2.5.6 Machines

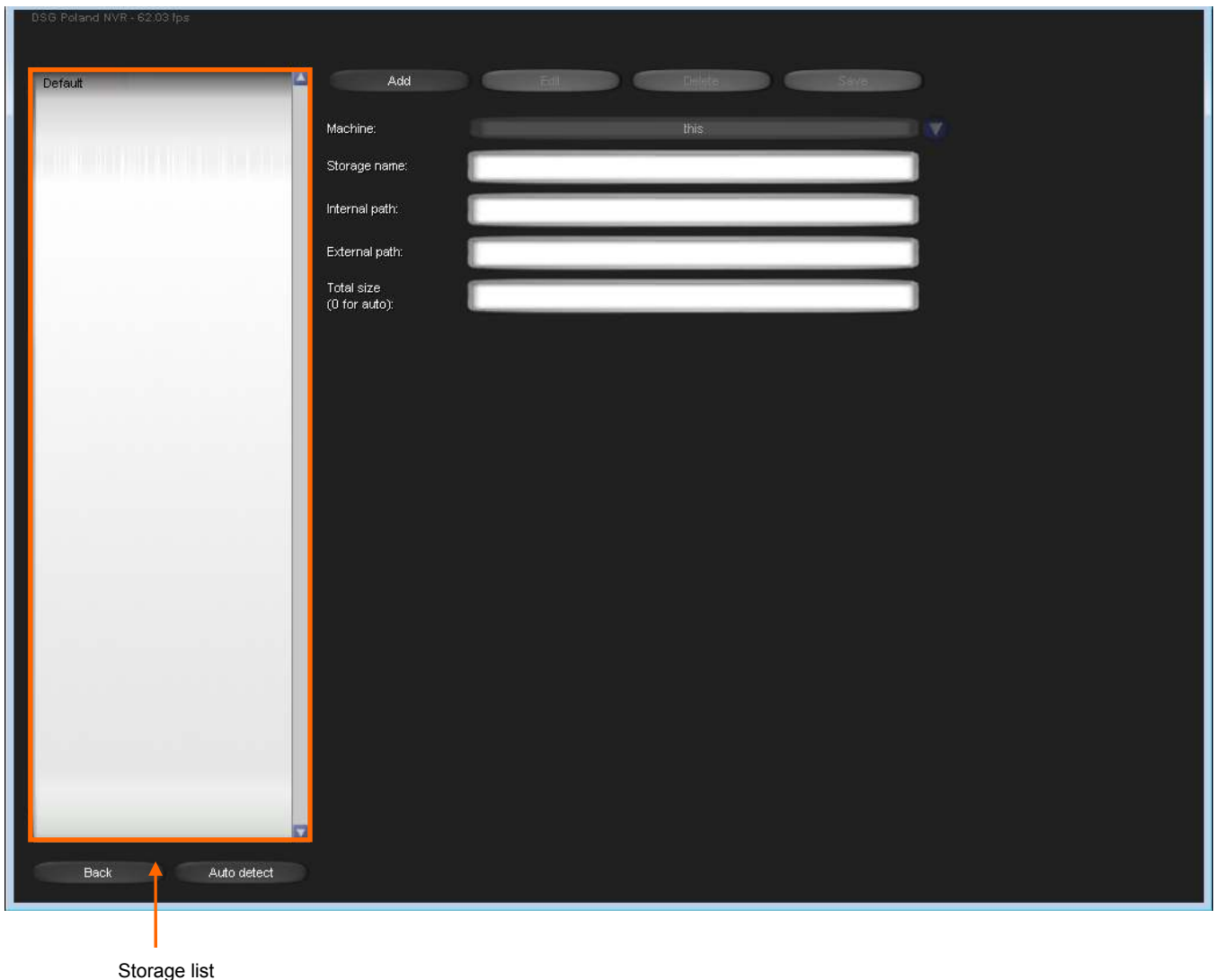


This window is used for management of recording servers. To show this window, click the **Machines** button in the **Settings** window.

The **Machine list** contains all recording servers. Clicking on an element causes its parameters to be displayed in the edit fields (**Name**, **IP address**).

To add a new machine, click the **Add** button on the **element management panel**, fill out the edit fields and then click the **Save** button. The newly added machine will appear in the **Machine list**.

2.5.7 Storages



This window is used for management of storage volumes (hard drives, disk arrays etc.) on which data is recorded. For the recording to be possible on each recording server, there needs to be at least one available storage volume associated to it in the system. To show this window, click the **Storages** button in the **Settings** window.

The **Storage list** contains all storage volumes added to the system. Clicking on an element causes its parameters to be displayed in the edit fields.

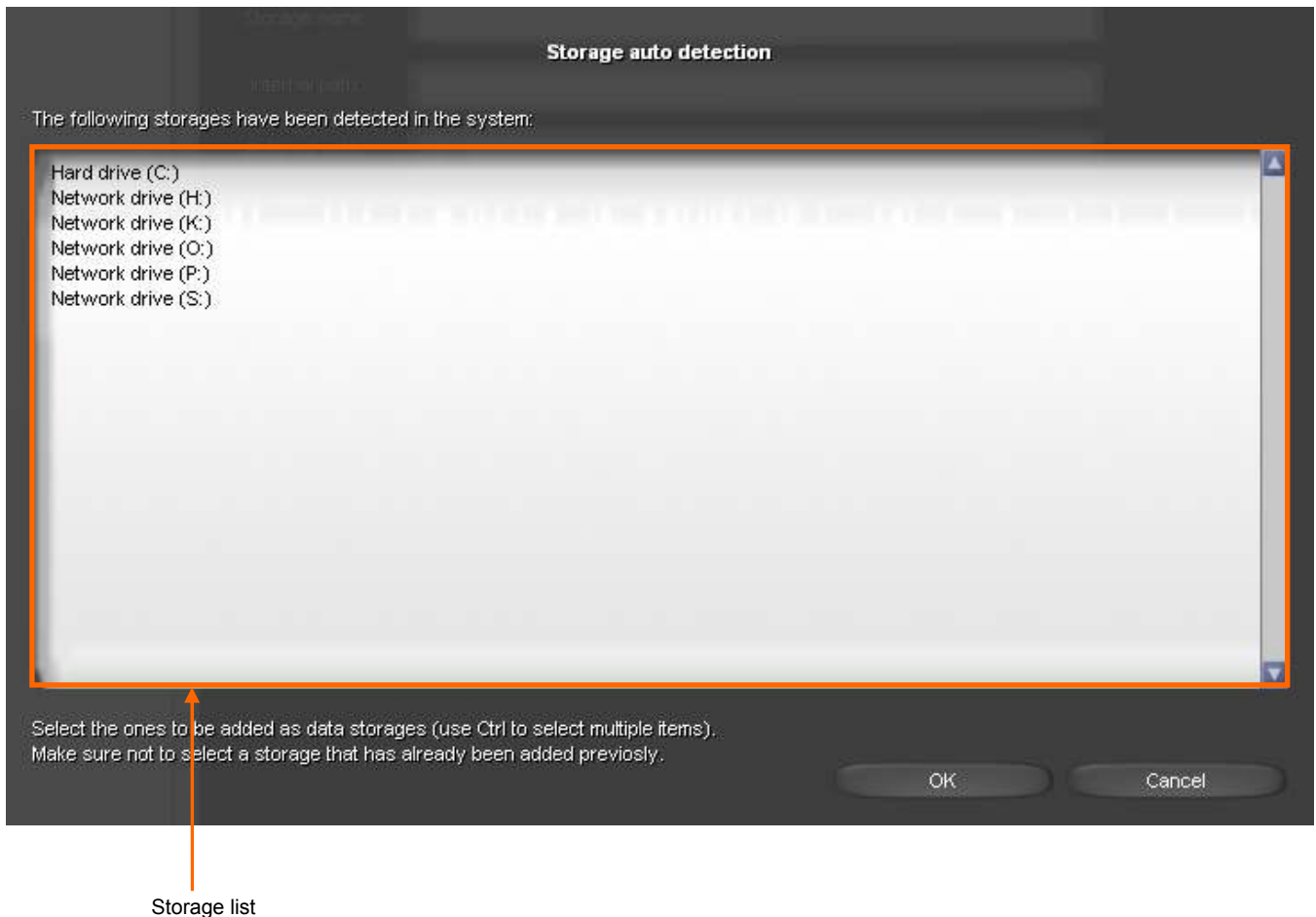
To add a new storage volume, click the **Add** button on the **element management panel**, fill out the edit fields describing the volume and then click the **Save** button. The newly added storage volume will appear in the **Storage list**. Alternatively, you can use automatic detection by clicking the **Auto detect** button.

The edit fields describing the storage volume are:

- **Machine** – the recording server to which the storage volume is associated (only this recording server will record data to the storage volume).
- **Storage name** – name of the storage volume.

- **Internal path** – the internal storage volume path. This is the path allowing read/write access and is used by the recording server associated to the storage volume for recording data from cameras. Example path: D:\Recording
- **External path** – the external (network) storage volume path. This is the path allowing read access to the storage. This path is used for playback of recordings and is not used for recording. Example path: \\10.0.0.1\D\$\Recording
- **Total size** – storage volume size in bytes. If this value is 0 (zero), the system will gather the storage size automatically (the 0 value can be used for local drives, USB storage, USB hard drives, mounted NAS volumes but cannot be used with network drives).

2.5.7.1 Storage auto detection



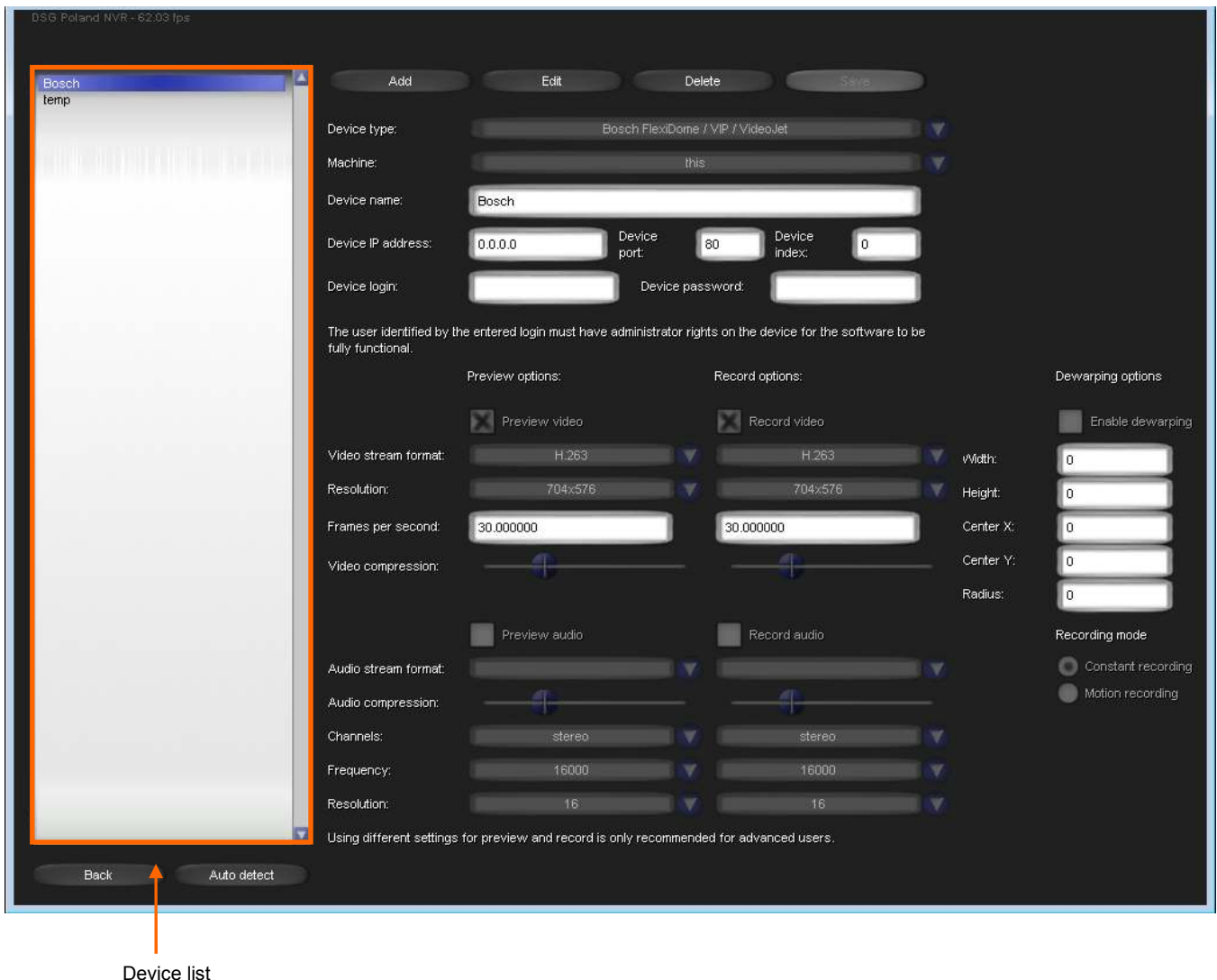
Automatic detection of storage volumes allows fast detection of all storage volumes attached to the physical machine. To open the storage auto detection window, go to the **Settings** window, next to **Storages** and then click the **Auto detect** button.

The **Storage list** contains all storage volumes that the system detected.

Clicking the **OK** button will cause the storage volumes selected in the **Storage list** to be added to the system, allowing recordings to be stored on them. After that the window will be closed. When adding network drives, it is necessary to set their sizes manually in the **Storages** window.

Clicking the **Cancel** button will close the window and go back to the **Storages** window.

2.5.8 Devices



This window is used for management of devices (cameras) and their settings. To show this window, click the **Devices** button in the **Settings** window.

The **Device list** contains all storage volumes added to the system. Clicking on an element causes its parameters to be displayed in the edit fields.

To add a new device, click the **Add** button on the **element management panel**, fill out the edit fields describing the device and then click the **Save** button. The newly added device will appear in the **Camera list**. Alternatively, you can use automatic detection by clicking the **Auto detect** button.

The basic edit fields describing the device are:

- **Device type** – type of the device (this list contains all device types supported by the system).
- **Machine** – the recording server which will record data from this camera and manage it.
- **Device name** – name of the device which will appear in camera lists in the system.
- **Device IP address** – IP address of the device.
- **Device port** – port number of the device.

- **Device login** – login name of the user having administrative privileges on the camera (it is set in the camera settings, usually **root** or **admin**).
- **Device password** – password for the user identified by the login in the **Device login** field (it is set in the camera settings).

Other fields are used for settings related to data being recorded and previewed. If the camera type supports multiple simultaneous streams effectively with different parameters, the control set is divided into two columns (**Preview options** and **Record options**). Otherwise, there is only one column (**Preview/Record options**), which sets the same parameters for both preview and record. The controls are:

- **Preview/Record video** – if this option is checked, the video from the camera will be previewed/recorded.
- **Video stream format** – video format in which the camera sends data for preview/recording.
- **Resolution** – resolution in which the video will be previewed/recorded.
- **Frames per second** – frames per second of the video which will be previewed/recorded.
- **Video compression** – compression level of the previewed/recorded video (the higher the compression level is, the lower the image quality is, but the recording time is higher and network bandwidth is lower).
- **Preview/Record audio** – if this option is checked, the audio from the camera will be previewed/recorded.
- **Audio stream format** – audio format in which the camera sends data for preview/recording.
- **Audio compression** – compression level of the previewed/recorded audio (the higher the compression level is, the lower the sound quality is, but the recording time is higher and network bandwidth is lower).
- **Channels** – channel number of the audio. Available options are **Mono** and **Stereo**.
- **Frequency** – frequency of the played/recorded audio. The higher the frequency is, the better the sound quality is.
- **Resolution** – audio resolution.

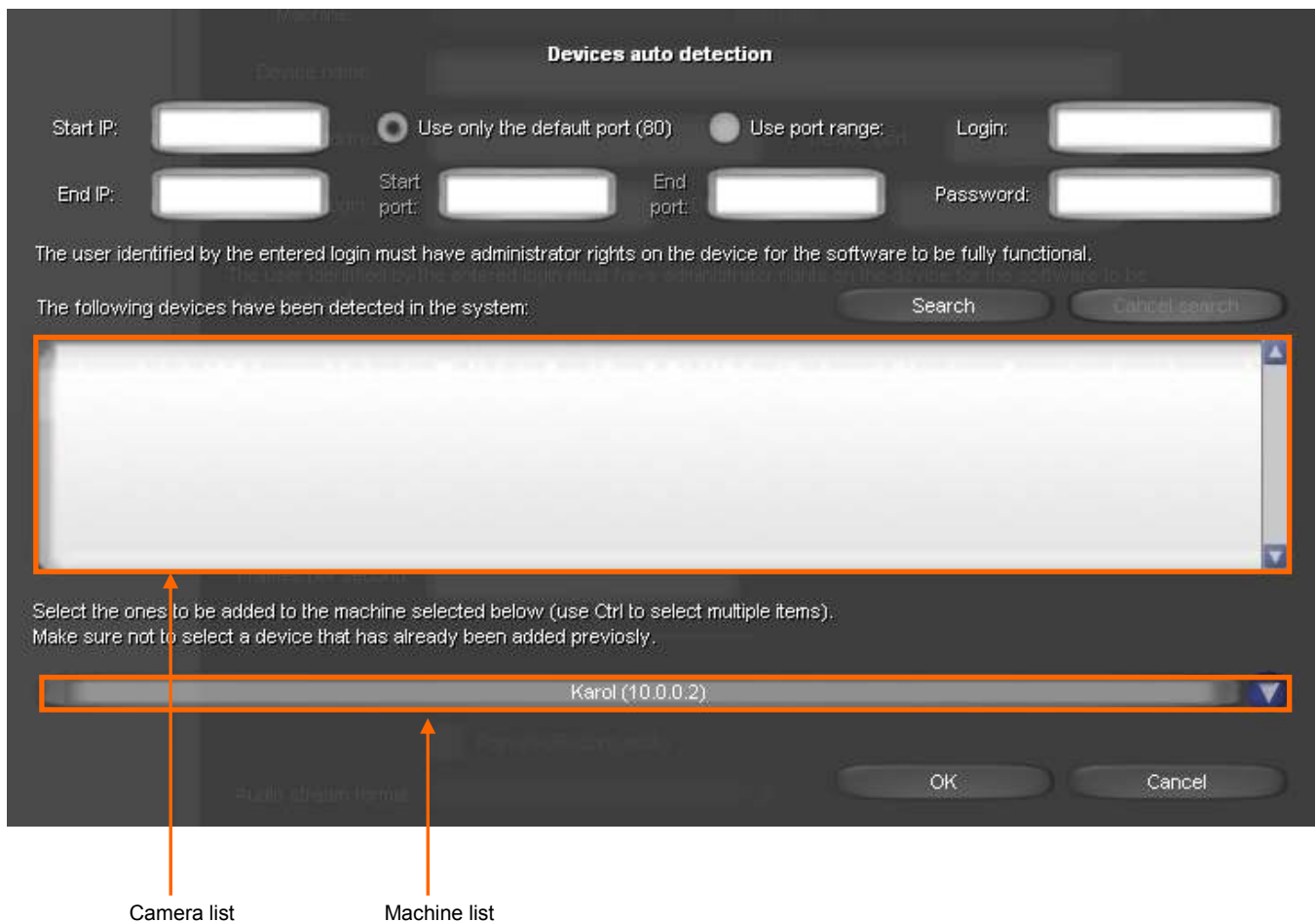
Another set of fields is associated with 360 degree dewarping:

- **Enable dewarping** – if this option is checked, 360 degree dewarping will be enabled for the camera.
- **Width** – width of the full fisheye image.
- **Height** – height of the full fisheye image.
- **Center X** – the X coordinate of the center of the fisheye circle.
- **Center Y** – the Y coordinate of the center of the fisheye circle.
- **Radius** – the radius of the fisheye circle.

The last set of fields is associated with the recording mode:

- **Constant recording** – if this option is selected, the data from the camera is recorded constantly by the associated recording server.
- **Motion recording** – if this option is selected, the data from the camera is only recorded when motion is detected in the video.

2.5.8.1 Device auto detection



This window is used for fast detection of cameras connected to the network. To open the device auto detection window, go to the **Settings** window, next to **Devices** and click the **Auto detect** button.

To start the search, fill out all search parameter fields (see below) and click **Search**. The search will begin and if a camera is found, it will appear in the **Camera list**. To cancel search while it is in progress, use the **Cancel search** button.

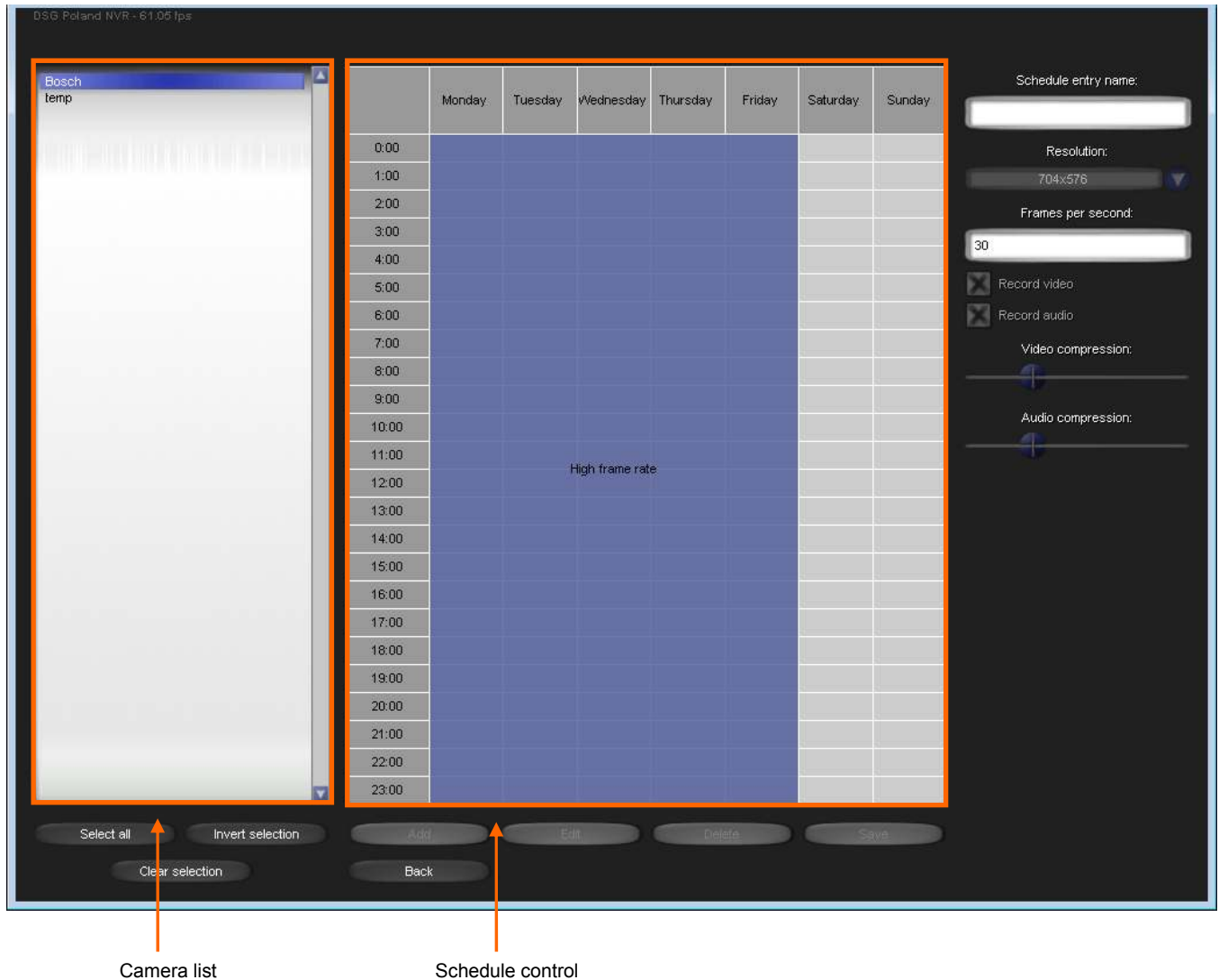
The parameter fields in this window are:

- **Start IP** – the IP address at which the search will start (e.g. 192.168.0.1).
- **End IP** – the IP address at which the search will finish (e.g. 192.168.0.20).
- **Use only the default port (80)** – if this option is selected, the cameras will be detected only at the default port 80.
- **Use port range** – selecting this option allows you to specify the port range at which the cameras will be detected.
- **Start port** – the port at which the search will start (e.g. 80).
- **End port** – the port at which the search will end (e.g. 82).
- **Login** – the login of the user having administration privileges on the camera (it is set in the camera settings, usually **root** or **admin**).
- **Password** – password for the user identified by the login in the **Login** field (it is set in the camera settings)
- **Machine list** – the recording server to which the added cameras will be associated.

To add detected cameras to the system (after the search has finished), select them in the **Camera list** and then click **OK** which will add the cameras, with their default settings, to the selected recording server and the close the window. To change their settings manually, use the **Devices** window.

Clicking the **Cancel** button will close the window and go back to the **Devices** window.

2.5.9 Schedule



This window is used for management of the recording schedule. It allows you to set recording parameters of the cameras on an hour-by-hour basis. For example, it is possible to set a camera to record only 10 frames per second in 320x240 on Mondays between 01:00 and 06:00. In other times the camera can record 30 frames per second in 800x600. To show this window, click the **Schedule** button in the **Settings** window.

The **Camera list** contains all devices in the system.

The **Schedule control** shows the weekly schedule along with entries for each camera and sets of cameras.

To show schedule entries for cameras, select them in the **Camera list**. If an entry was added to a camera set consists of more than one camera, it will only be shown when the exact same set is selected.

To add a new entry to the schedule, select the cameras for which the entry will work in the **Camera list** (multiple cameras can be selected using the Ctrl button). Next select the time frame on the **Schedule control**, click the **Add** button on the **element management panel**, fill out the fields describing the entry and then click the **Save** button. The newly added entry will appear in the **Schedule control** as a blue area. The **Add** button will be enabled only if both the cameras and time frame are selected.

To edit an entry, select the camera/cameras in the **Camera list** for which the entry was created, click on the entry in the **Schedule control** (the entry will get a bold blue frame), click on the **Edit** button on the **element management panel**, change the edit fields describing the entry and then click the **Save** button.

To delete an entry, select the camera/cameras in the **Camera list** for which the entry was created, click on the entry in the **Schedule control** (the entry will get a bold blue frame) and then click the **Delete** button on the **element management panel**.

The parameter fields in this window are:

- **Schedule entry name** – the name of the schedule entry.
- **Resolution** – video resolution for the entry.
- **Frames per second** – frames per second for the entry.
- **Record video** – video recording. If this option is checked, video from the selected cameras will be recorded in the entry.
- **Record audio** – audio recording. If this option is checked, audio from the selected cameras will be recorded in the entry.
- **Video compression** – compression level of the video from the selected cameras. Higher compression level will allow more recording time, but with lower quality.
- **Audio compression** – compression level of the audio from the selected cameras. Higher compression level will allow more recording time, but with lower quality.

To select all cameras in the **Camera list**, click the **Select all** button. To invert the selection in the **Camera list**, click the **Invert selection** button. To clear the selection in the **Camera list**, click the **Clear selection** button.

Clicking on the day header allows to select all hours of the day. Clicking on the hour header allows to select this hour for all days. To select a time frame, move the mouse over the **Schedule control**, push the left mouse button down and drag the mouse while keeping the button down.

2.5.10 Users

This window is used for management of users and their access rights to the system. To open this window, click the **Users** button in the **Settings** window.

The **User list** lists all users added to the system.

To add a new user, click the **Add** button on the **element management panel**, fill out the edit fields describing the user and then click on the **Save** button. The newly added user will appear in the **User list**.

To edit a user, select him/her on the **User list** by clicking on him/her, click the **Edit** button on the **element management panel**, change his/her data in the edit fields describing the user and then click the **Save** button.

The **User roles list** list roles assigned for the user. Possible values are:

- **Administrator** – administrative rights. Users having this role have access rights for full system management (administration, preview and playback for all cameras).
- **Viewer** – preview rights. Users having this role cannot do system management. They can only preview and playback data from selected cameras.

A user can be assigned more than one role, so he/she can have both **Administrator** and **Viewer** rights. To select more than one role on the **User roles list**, select them while holding the Ctrl button down.

The **Device permissions list** lists devices that the user has access to.

A user can have access to more than one device. To select more than one device on the **Device permissions list**, select them while holding the Ctrl button down.

The parameter fields in this window are:

- **Login** – login of the user (name which the user uses to log into the system).
- **Password** – password of the user.
- **Confirm password** – confirmation of the password. Required for verification purposes. The fields **Password** and **Confirm password** must have the same value.
- **Name** – first name.
- **Surname** – last name.
- **Phone** – phone number.
- **Phone 2** – second phone number.
- **E-mail** – e-mail address.
- **Address** – contact address.

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Admin Admin

Add Edit Delete Save

Login: admin

Password: *****

Confirm password: *****

Name: Admin

Surname: Admin

Phone: -

Phone 2: -

E-mail: -

Address: -

User roles: Administrator
Viewer

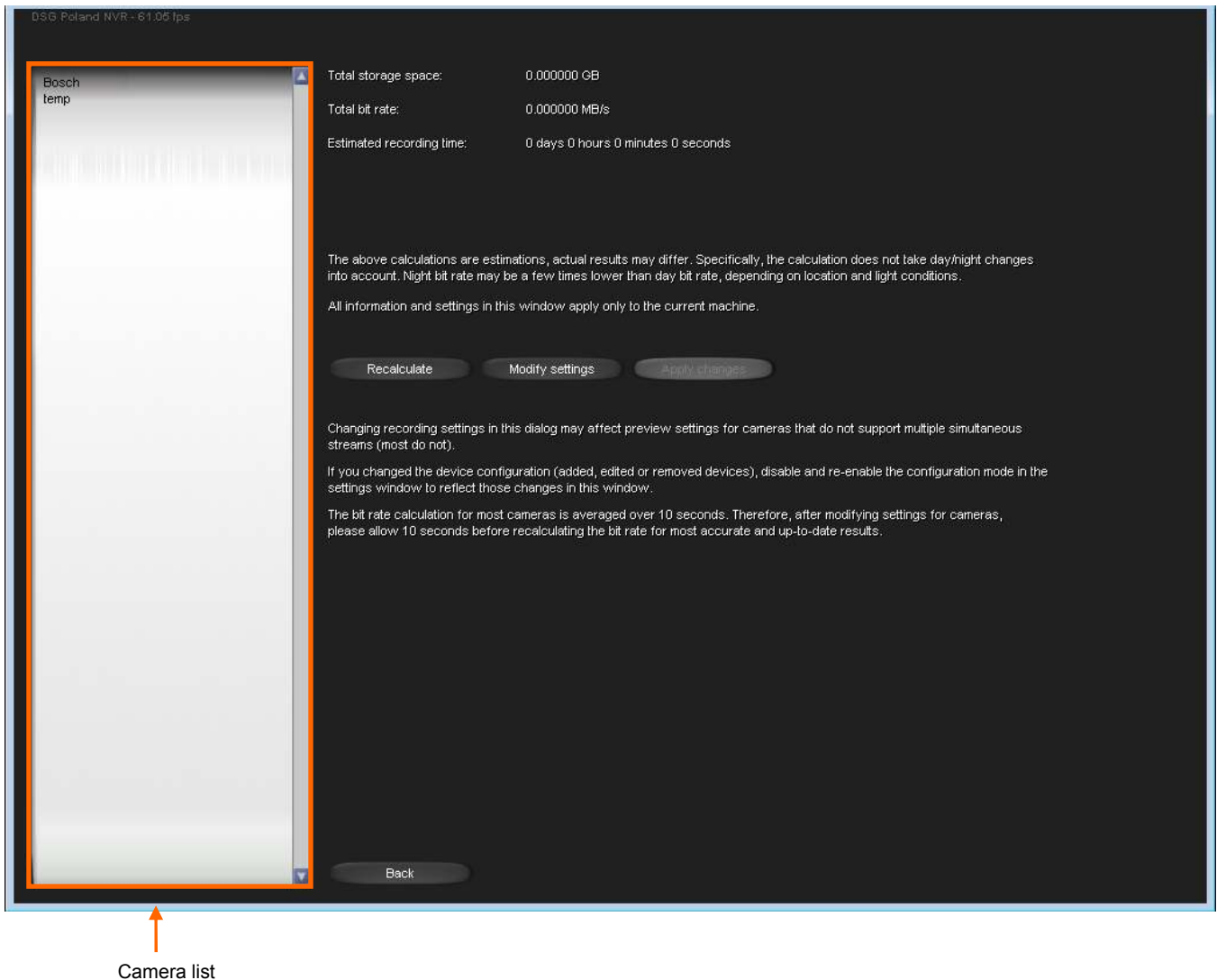
User will be granted the viewer role if no role is selected.

Device permissions: Bosch
temp

Back

↑
User list

2.5.11 Recording settings



This window is used for changing camera parameters quickly in a way that allows the highest possible recording time on the used storage with reasonable quality. To go to this window, click the **Recording settings** button in the **Settings** window.

After opening this window, the bit rate, storage space and estimated recording time (with current camera parameters) calculation will begin. This process can take up to a few minutes depending on the number of cameras.

The **Camera list** lists all cameras associated with the recording server.

The **Total storage space** field gives the total space on all storage volumes associated with the recording server.

The **Total bit rate** field gives the total bit rate of cameras associated with the recording server.

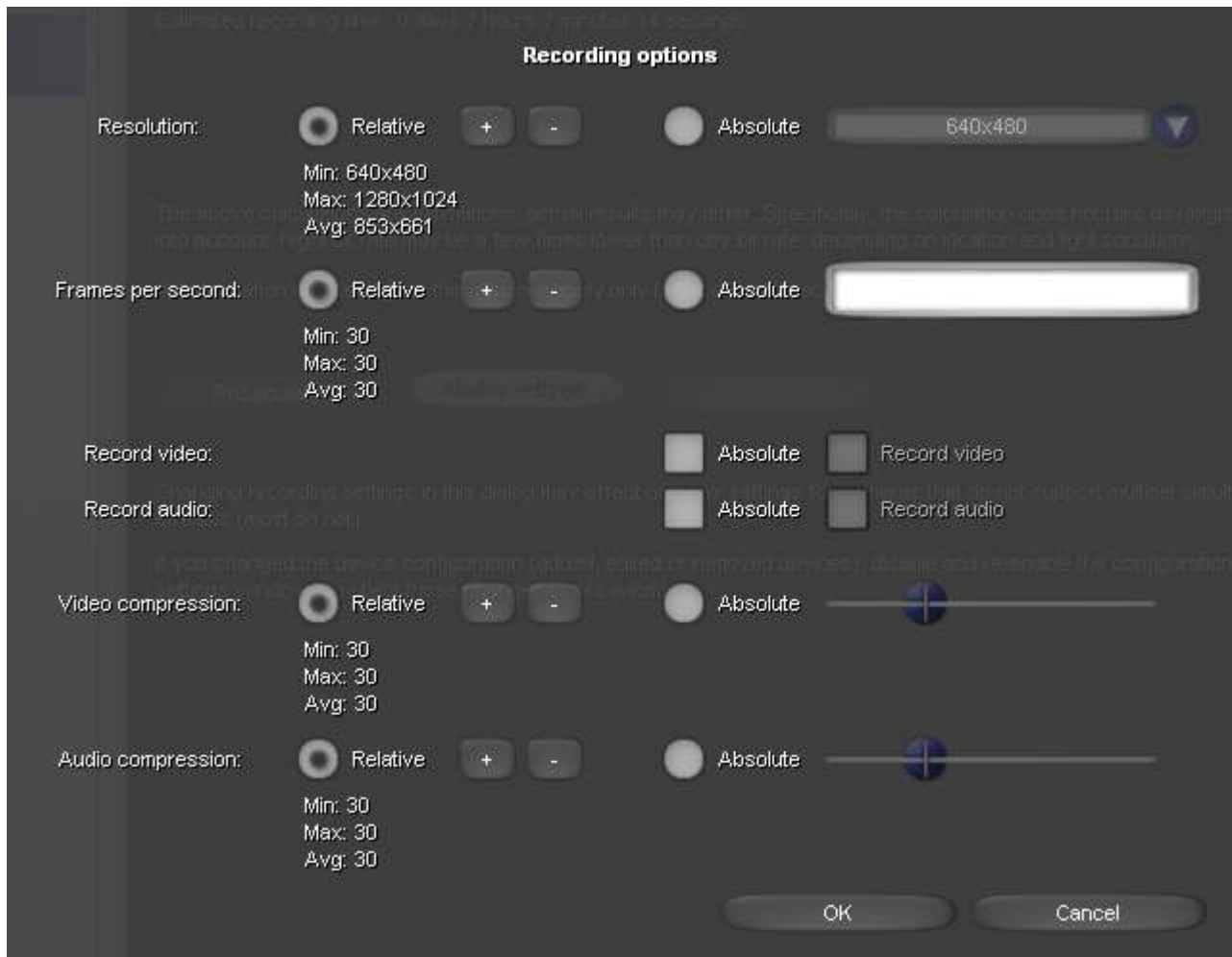
The **Estimated recording time** field gives an estimated recording time for which the total space on storage associated with the recording server will last for all cameras associated with the recording server (with their current settings).

Clicking the **Recalculate** button recalculates the above values (the bit rate can be different each time, because the image differs over time and is compressed differently).

The **Modify settings** button opens the **Recording options window** that is used for changing current settings for cameras selected in the **Camera list**.

The **Apply changes** button saves the current camera settings as their default recording settings.

2.5.11.1 Recording options



This window is used for fast changing of camera parameters in a way that allows user to maximize the recording time while maintaining reasonable quality. To show this window, click the **Recording settings** button in the **Settings** window, select the cameras whose parameters you want to alter in the **Camera list** and then click the **Modify settings** button.

This window allows to change the following camera parameters:

- **Resolution** – resolution of the video sent by the cameras. The label underneath shows the current minimal, maximal and average resolution of the selected cameras.
- **Frames per second** – frames per second of the video sent by the cameras. The label underneath shows the current minimal, maximal and average frame rate of the selected cameras.
- **Record video** – selecting this field will cause the video to be recorded from all selected cameras. Leaving this option not selected will cause the video to not be recorded from all selected cameras.
- **Record audio** – selecting this field will cause the audio to be recorded from all selected cameras. Leaving this option not selected will cause the audio to not be recorded from all cameras.

- **Video compression** – compression level of the video sent by the cameras. The label underneath shows the current minimal, maximal and average compression level of the selected cameras.
- **Audio compression** – compression level of the audio sent by the cameras. The label underneath shows the current minimal, maximal and average compression level of the selected cameras.

The above parameters can be altered in two ways:

- **Relative** – for each camera – change a setting to a lower level (by clicking the “-“ button) or higher level (by clicking the “+” button) than the current settings. To change a parameter relatively, select the **Relative** option next to it.
- **Absolute** – for all cameras. Setting the **Absolute** option next to a parameter allows to set the same parameter value for all selected cameras.

The **Record video** and **Record audio** parameters can only be changed absolutely. If these parameters are not set, the selected cameras will not have this option changed (recording will stay switched on the cameras which had it switched on previously and the cameras which had it switched off previously will stay switched off).

Clicking the **OK** button will change the parameters of the selected cameras and go back to the **Recording settings** window. After closing this window, the calculation of bit rate, storage space and estimated recording time will begin again with the new settings. This process can take up to a few minutes, depending on the number of cameras in the system.

Clicking the **Cancel** button will close the window without changing any recording parameters of the cameras.

2.5.12 IO devices

This window is used for configuration of IO devices in the system. To show this window, click the **IO devices** button in the **Settings** window.

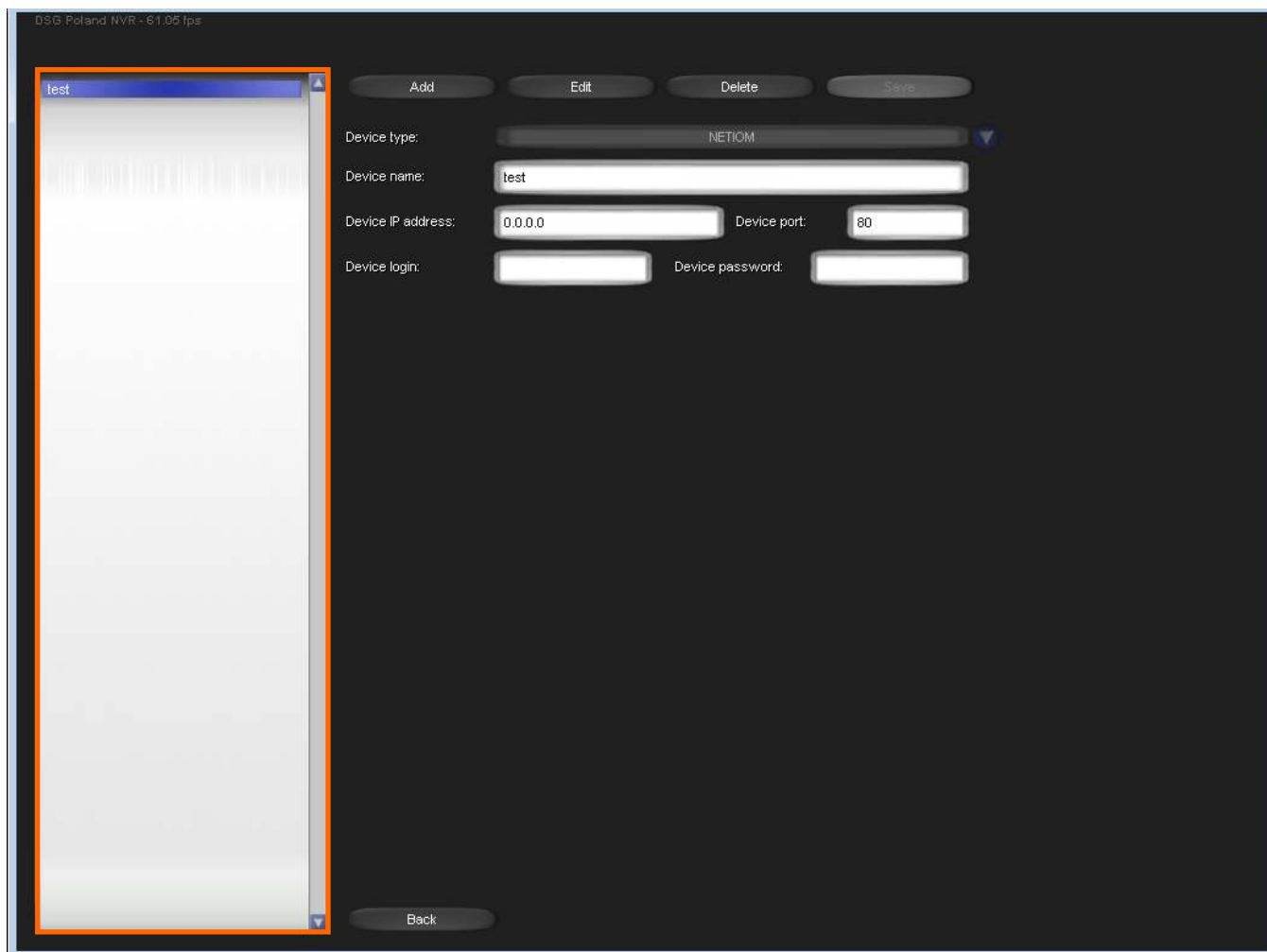
The **IO device list** lists all IO devices available in the system.

To add a new IO device, click on the **Add** button on the **element management panel** and fill out fields describing the IO device. Next, click the **Save** button. The new added IO device will appear in the **IO device list**.

To edit an IO device, select its name on the **IO device list** by clicking on it, click the **Edit** button on the **element management panel**, change data in the edit fields describing the IO device and then click the **Save** button.

The edit fields in this window are:

- **Device type** – type of the IO device.
- **Device name** – device name.
- **Device IP address** – IP address of the IO device.
- **Device port** – port number of the IO device.
- **Device login** – login name of the user having administrative privileges on the IO device (it is stored in the IO device configuration).
- **Device password** – password for the user identified by the login in the **Device login** field (it is stored in the IO device configuration).



IO device list

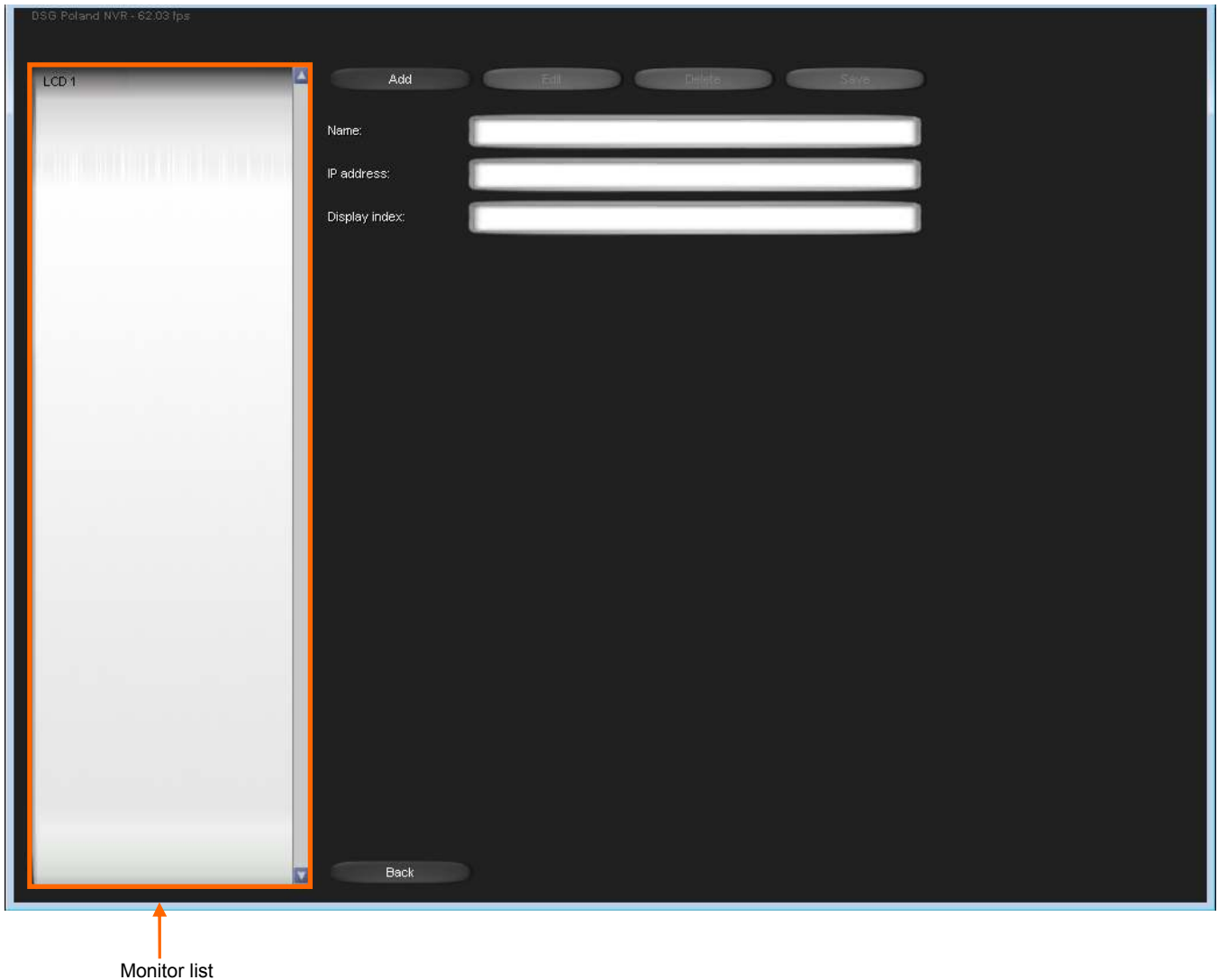
2.5.13 Monitors

This window is used for management of monitor servers. To show this window, click the **Monitors** button in the **Settings** window.

The **Monitor list** contains all monitor servers. Clicking on an element causes its parameters to be displayed in the edit fields (**Name**, **IP address**, **Display index**).

To add a new monitor, click the **Add** button on the **element management panel**, fill out the edit fields and then click the **Save** button. The newly added monitor will appear in the **Monitor list**.

The **Display index** is a zero-based index of the display on the physical monitor server machine. One monitor server can have several independent displays. To use all of them, the physical machine has to have multiple instances of the monitor server software installed and there have to be multiple entries in the **Monitor list** with all display indices.



2.5.14 Maps

This window is used for management of maps. To show this window, click the **Maps** button in the **Settings** window.

The **Map list** contains all maps in the system.

To add a new map, the **Add** button on the **element management panel**, fill out the edit fields (**Map name**, **File path**), add items to the map and then click the **Save** button. The newly added map will appear in the **Map list**.

To load a picture to serve as the map, enter its full network UNC path in the **File path** and click the **Load** button. The map can have any of the popular file formats (BMP, JPEG, GIF, PNG etc.).

To pan through the map in the **Map control** drag the mouse with the right mouse button down. To change the scale of the map, use the mouse wheel or the “+” and “-” buttons in the bottom part of the window. To select an item in the map, click on it. To move an item in the map, drag it with the mouse with the left mouse button down.

A map can contain multiple items. Each item can either be a device (camera) item or an IO device item.

To add a device item, click the **Add device** button and fill out the window fields. To add multiple device items, click the **Add multiple** button and fill out the window fields. To add an IO device item, click the **Add IO device** and fill out the window fields.

To edit a map item, select it and click the **Edit item** button.

To delete a map item, select it and click the **Delete item** button.

