2018

BEWARD IP Visor Software

Operation User Manual

Contents

Please, read this Manual before using BEWARD IP Visor software.

Some parts of the Manual, as well as menus of the application, could be changed without reasonable notice.

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Chapter 1. General Information

1.1. BEWARD IP Visor Overview

This manual contains information about installation and setting of the BEWARD IP Visor software that is used for making a video surveillance system based on IP cameras and IP servers.

ATTENTION!

Read this manual carefully before using the software! Incorrect installation or setting may cause malfunction of the software as well as the whole video surveillance system!

IP cameras are video surveillance cameras which have a built-in web server, a network interface and which are connected to the Ethernet networks.

Video servers digitize an analogue video signal and transmit it over IP networks, providing remote access to a real-time video stream through the local area network or Internet. The video stream can be watched using a web browser or by means of a BEWARD IP Visor software.

BEWARD IP Visor is feature-rich software for controlling centralized and remote video surveillance systems, which can be consist of up to 36 devices, including IP cameras and IP servers.

1.2. Advantages of IP Video Surveillance Systems

IP surveillance by means of IP cameras or IP servers replaces analogue surveillance systems and DVR systems. However, existent networks TCP/IP Ethernet are used for video surveillance needs. It helps to unify a net infrastructure and allows a customer to avoid costs of wiring separate cable lines.

IP systems have a variety of advantages in comparison with traditional analogue systems:

- **More effective network's infrastructure using**

  Surveillance systems which are based on IP technology don't need a layer of expensive coaxial cable as in analogue systems but use "twisted pair" cable or wireless communication systems for a connection. Using the "twisted pair" also means an absence of separate wire connection that is necessary for a transmission of control signals and energizing of a video camera. Furthermore, where laying cables are expensive or not practicable, wireless Wi-Fi technologies could be used.

- **Openness and compatibility**

  In distinction from traditional analogue systems that represents "black boxes" and being closed technical decisions, equipment of IP surveillance systems is based on open standards that allow using equipment of different manufacturers in one surveillance system,

for instance, switchboards, routers, servers and applicable software. All these considerably reduce surveillance systems' cost and increase its technical specification.

- **Network convergence using**

  Many organizations as a rule use only Ethernet (based on IP protocol) networks for various data transmission that makes their control more effective and economically profitable.

- **Easy system integration**

  IP surveillance technology is an open, easy integrated platform. Because the integration of systems becomes a more and more important requirement, there must be assurance that systems of control access, conditioning, managing, applets and other systems could be easily and effective integrated into a whole system.

- **Remote access ability**

  It is possible to get access to an image of any camera or displaying recorded video in real time from any place in the world with by means of wire or wireless net connection.

- **Expandability**

  If necessary, IP networks make possible to expand security surveillance system easily. In case of an additional video camera needs to be used, it is just connected to a local network and it is ready to work. Besides, it is possible not just to add cameras but increase a volume of data's storage by spreading information through the entire network. IP networks are possible to support a multiply subscriber's access to the same information at the same time.

- **Intelligent processing of video image**

  A variety of built-in functions allows the IP camera to make decisions such as when to trigger alarm, when it is necessary to send a video, and even control the frequency and quality of transmitting video (it depends on a channel width). In this way, a video access and making decisions becomes better because of the basing on IP surveillance systems.

- **Reliability**

  An ability of data's transmission using an IP protocol makes possible to use external data storage units, to realize reservation of the data, to use server and archive architectures. In case of using standard server and network equipment, the time of changing damaged devices is much less than in case of using analogue equipment. The software makes possible to observe the surveillance system's condition in real time and inform about different problems. Moreover, an arrangement of reserve power supply is much easier than in case of analogue systems.

- **Quality of image**

  Modern IP systems use H.264 (MPEG-4 Part10) video compression format that allows using the network more effectively in comparison with Motion JPEG or MPEG-4 format. User gets the most qualitative image in conditions of using limit capacity channels. Furthermore, the space of hard drive is consumed slowly than in case of the codec of the previous generation.

- **Noise resistance**

  Working with surveillance systems makes obviously that a process of installation and checking of such system is quite long and demands a lot of efforts. Quite often a noise appears in the image after the first start due to influence of some other electric devices. Removing the noise is always a difficult process. The process of installation and checking becomes faster with IP cameras because they are exposed to noises less than other cameras.

1.3. System Requirements

Supported operation systems

Windows 7 SP1, Windows 8, Windows 8.1, Windows 10.

Minimal PC requirements

CPU: 2.0 GHz or higher.

RAM: 2 GB.

Sound card: is necessary in case of using a microphone or speakers (for feedback function), or alarm sounds.

Video card: compliant with DirectX 9; 128 MB memory size.

Network interface controller: 100 Mbit/s transfer rate.

Chapter 2. Introduction to BEWARD IP Visor

The professional IP systems software BEWARD IP Visor provides the following essential mostly used functions:

1. Simultaneous watching video image from 36 cameras at resolution up to 1920x1080 and up to 25 fps on each channel.

2. All necessary settings are available in the main window of the application.

3. The operator can move the channel windows with a mouse and change the following parameters on the screen:

- Camera name;
- Camera number;
- Current date and time;
- Full screen mode on / off.

4. Alarm signals:

- Alarm frame, sound notification or pop-up window can be used to attract operator's attention when an alarm event happens.

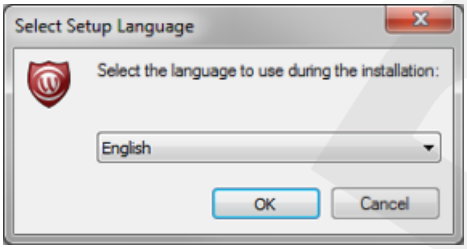
5. General features:

- Displaying camera settings;
- Different modes of displaying cameras;
- Arrangement of cameras according to user's need;
- Different resolution monitors are supported (4:3, 16:9, 16:10);
- Brightness, contrast, hue and saturation adjustment;
- Video stream settings;
- Quick image print function;
- Camera network settings;
- PTZ-camera control with application tools;
- PTZ-camera control with a joystick;
- Running the presets of a PTZ-camera on alarm.

Chapter 3. BEWARD IP Visor Installation

Step 1: insert the disc with the BEWARD IP Visor software into the CD/DVD-ROM computer drive.

Step 2: open the disc using the File Explorer and run the installation program. The window of language selection will appear (*Pic. 3.1*). Select the language you prefer from the list and click **[OK]**.

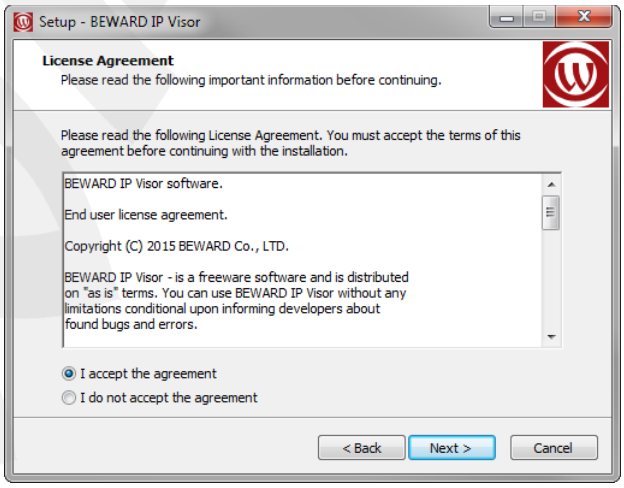


Pic. 3.1

Step 3: click **[Next >]** in the Setup window to continue installation (*Pic. 3.2*).

Step 4: read carefully a License Agreement (*Pic. 3.3*). Choose **"I accept the agreement"** and click **[Next >]**.

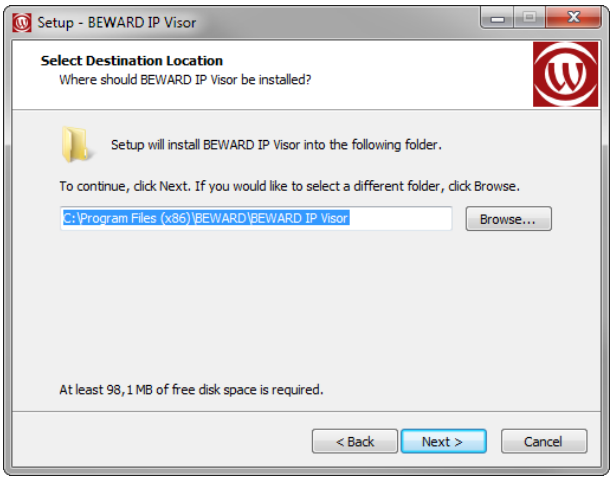
Pic. 3.2



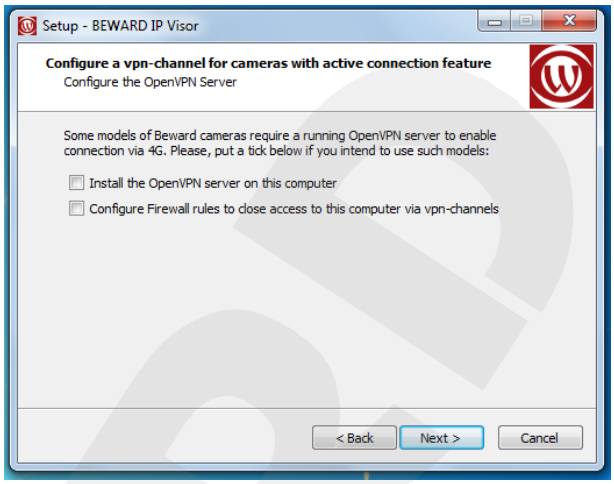
Pic. 3.3

Step 5: click **[Browse...]** (*Pic. 3.4*) to select a destination folder (take into account the free space required for installation). Click **[Next >]**.

Step 6: if you intend to use devices, which support active 4G-connection (e.g. cameras B1510-4G or B2710-4G), you might need a VPN-server. The BEWARD IP Visor installation program will offer you to install an OpenVPN server and configure Windows Firewall rules (*Pic. 3.5*). Select **"Install the OpenVPN server on this computer"** and **"Configure Firewall rules to close access to this computer via vpn-channels"** if you plan to use active 4G-connection.



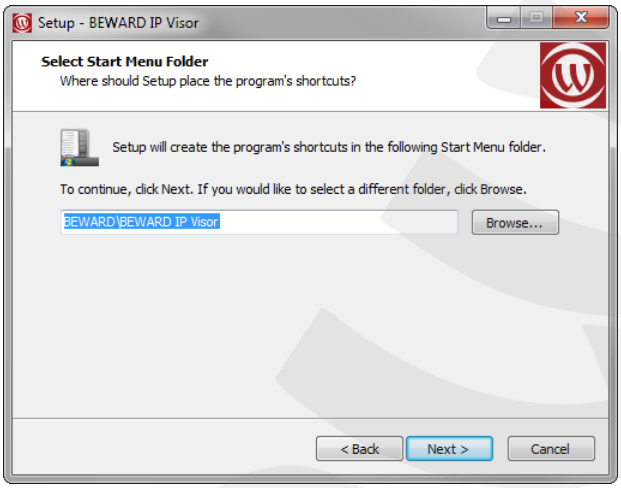
Pic. 3.4



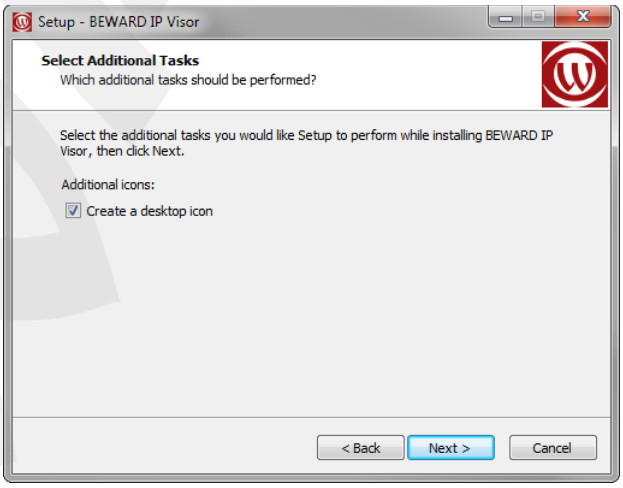
Pic. 3.5

Step 7: select a folder in the "Start" menu for program shortcut (*Pic. 3.6*). Click **[Browse…]** to select another folder. Then, click **[Next >]** to continue.

Step 8: if necessary, create a desktop shortcut, selecting **"Create a desktop icon"** (*Pic. 3.7*). Click **[Next >]** to continue.

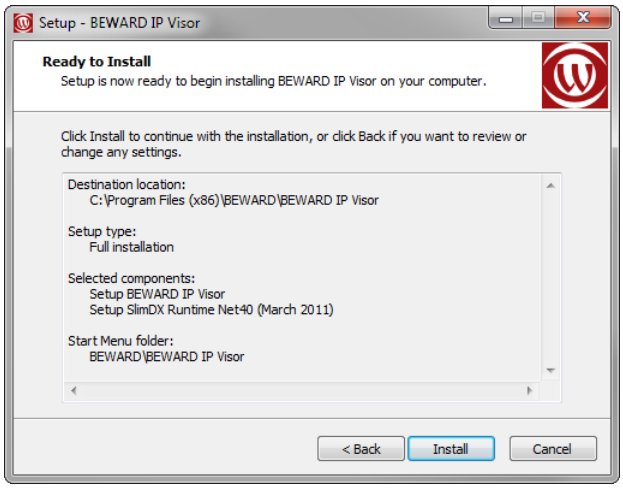


Pic. 3.6

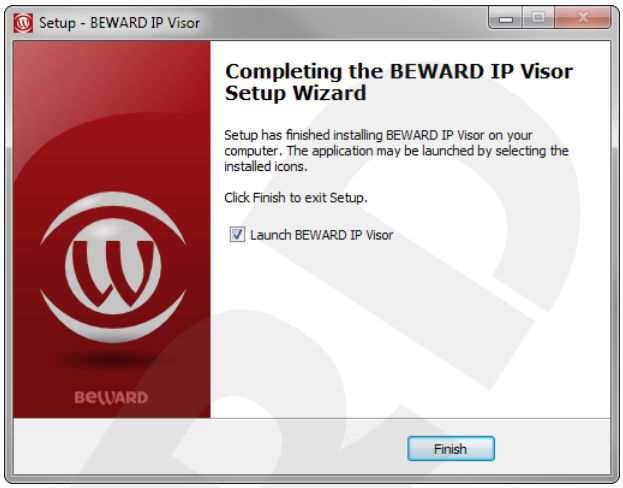


Pic. 3.7

Step 9:click **[Install]** in the next window (*Pic. 3.8*). If necessary, click **[< Back]** to change installation settings were specified previously.



Pic. 3.8



Pic. 3.9

Step 9: click **[Finish]** to complete the installation and close the Setup program (*Pic. 3.9*). Run the application using one of the created shortcuts.

Chapter 4. Application Main Window

Run the application, using one of the shortcuts created during the installation. The main window will be opened (*Pic. 4.1*).

Pic. 4.1

This window contains settings to control all functions of video surveillance system. The biggest part of the space of the application main window is a *video stream displaying area*, which is divided into several *channel windows*.

A clock and a *PTZ-control bar* (see Chapter 6) are situated along the right side of the window.

There are several buttons in the lower left corner of the application main window. These are *audio control buttons* (see paragraph 4.2) and *screen division mode buttons* (buttons for dividing the video stream displaying area into channel windows; see paragraph 4.1).

And there are the following *system menu buttons* in the lower right part of the application main window: **[User]**  , **[Log]**  , **[Player]**  , **[Event Settings]**  , **[Application Settings]**  . Clicking these buttons you open new menu windows which allow you to set up application configuration, change parameters of the events, work with an application Event Log and open a built-in player. These functions will be described further in the present Manual.

The **[Minimize]** and **[Exit]** buttons are situated in the lower right corner of the application main window:

[Minimize]: click it to hide the application main window to the notification area of the Windows taskbar.

[Exit]: click it to exit the application.

BEWARD IP Visor runs a special tool to control its correct closing as you click the **[Exit]** button.

4.1. Screen Division Mode Buttons

The buttons for dividing the video stream displaying area into channel windows in different ways are situated in the lower left part of the BEWARD IP Visor main window. To enlarge some window to its maximum size, click it twice with the left mouse button (a single window mode will be enabled in this case). Double-click it again to return the window to its previous size.

Screen division mode buttons for 5:4 aspect ratio monitors

 1 channel window

 Division into 4 channel windows

 Division into 6 channel windows

 Division into 9 channel windows

 Division into 10 channel windows

 Division into 16 channel windows

 Division into 25 channel windows

 Division into 36 channel windows

 Division into 13 channel windows

 Division into 17 channel windows

 Full screen mode

 User division mode

Screen division mode buttons for 16:10 and 16:9 aspect ratio monitors

 1 channel window

 Division into 3 channel windows

 Division into 6 channel windows

 Division into 8 channel windows

 Division into 9 channel windows

 Division into 12 channel windows

 Division into 18 channel windows

 Division into 21 channel windows

 Division into 24 channel windows

 Division into 36 channel windows

 Full screen mode

 User division mode

You can arrange channel windows as you need in every screen division mode, moving them with a mouse. Just click the window you need and hold the mouse button pressed; then move the mouse and the window to a new place.

The **[User division mode]** button applies a channel windows grid created by the user with the **View Manager** tool (see paragraph 5.4.1).

If the **[User division mode]** button is pressed, and you change the group or the display (see paragraph 5.4), then the grid, which was created for them, is set automatically. If the grid was not created, then the 1 channel window mode  is set for these group and monitor.

4.2. Audio Control Buttons

There are the following two audio control buttons to the right of the screen division mode buttons: **[Audio on]**  and **[Talk mode on]**  . These buttons allow choosing (enable / disable) one of two audio data transmission modes: *one-way audio mode* or *two-way audio mode ("Talk" mode)*.

NOTE!
The **[Audio on]** and **[Talk mode on]** buttons can be only used in case of these functions are supported by the device.

One-way audio mode: pressing the **[Audio on]** button you can receive an audio stream from a camera and hear the sound using the speakers connected to your PC.

Two-way audio mode ("Talk" mode): pressing the **[Talk mode on]** button you can not only receive an audio stream from a camera and hear the sound using the speakers connected to your PC, but also transmit sound from your PC microphone to the speakers connected to the camera audio output.

4.3. Door Station Control

When a video surveillance system includes door stations, two additional buttons appear in the main window of BEWARD IP Visor to the right of audio control buttons to control the intercoms.

NOTE!
Door stations, or intercoms, are devices of B series, such models as DS03M, DS03MP.

[Talk mode on]: click to enable two-way audio transmission between the operator and a door station.

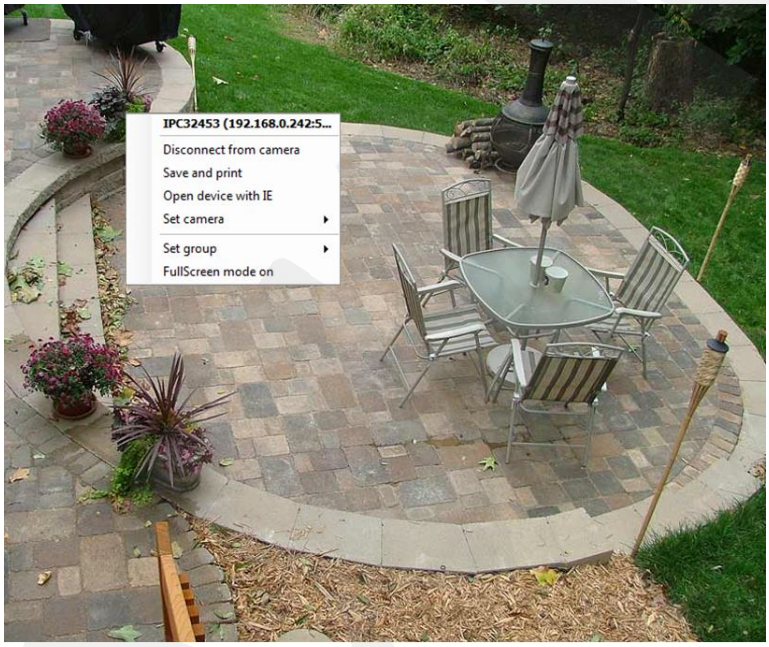
[Open the door]: click to open the door by sending a command to the door lock controller.

ATTENTION!

When the “Talk” mode is used by some client connected to the door station, the others can’t use it. In this case they are notified that device is not available by a pop-up message.

4.4. Screen Context Menu

Right-click on the video image from a camera in the channel window to open a screen context menu:



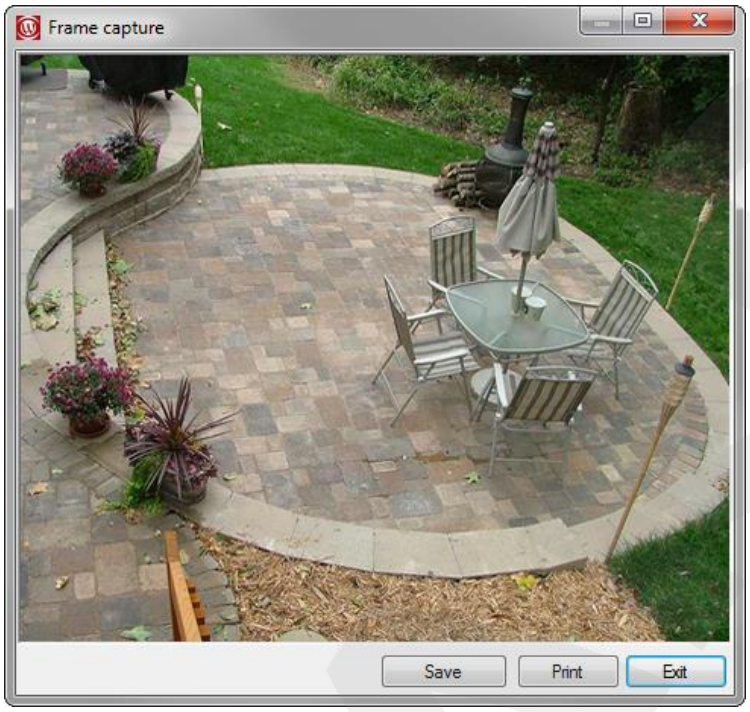
Pic. 4.2

This menu contains the following items:

Disconnect from / Connect to camera: if you choose “Disconnect from camera” the video image will disappear from the channel window, but the camera will not be removed from the application list of added devices and it can be connected back at any time.

Save and print: choose this item to save the current snapshot of the camera video image as a JPEG file or send it for printing.

A window with the snapshot is opened after you click “Save and print” (*Pic. 4.3*).



Pic. 4.3

A destination folder for saving snapshots can be once specified in the settings of BEWARD IP Visor (see paragraph 5.1.6). If the folder is not specified you need select it or create a new one in a File Explorer window opened after clicking the **[Save]** button.

If you need to print the current snapshot, click **[Print]**, set printing parameters in an opened window and click **[OK]**.

Open device with IE: choose this item to open Web User Interface of the camera in Internet Explorer.

Set camera: use this item to set displaying a video image from another camera in the current channel window. For example, it can be helpful when you want to divide the video stream displaying area into 4 channel windows having 5 or more cameras. So, using "Set camera" function, you can switch between the cameras staying in 4-windows division mode.

Set group: use this item to set displaying video images from cameras of another group.

NOTE!
"Set group" item is available when two and more groups of devices are created and there is at least one device in each one.

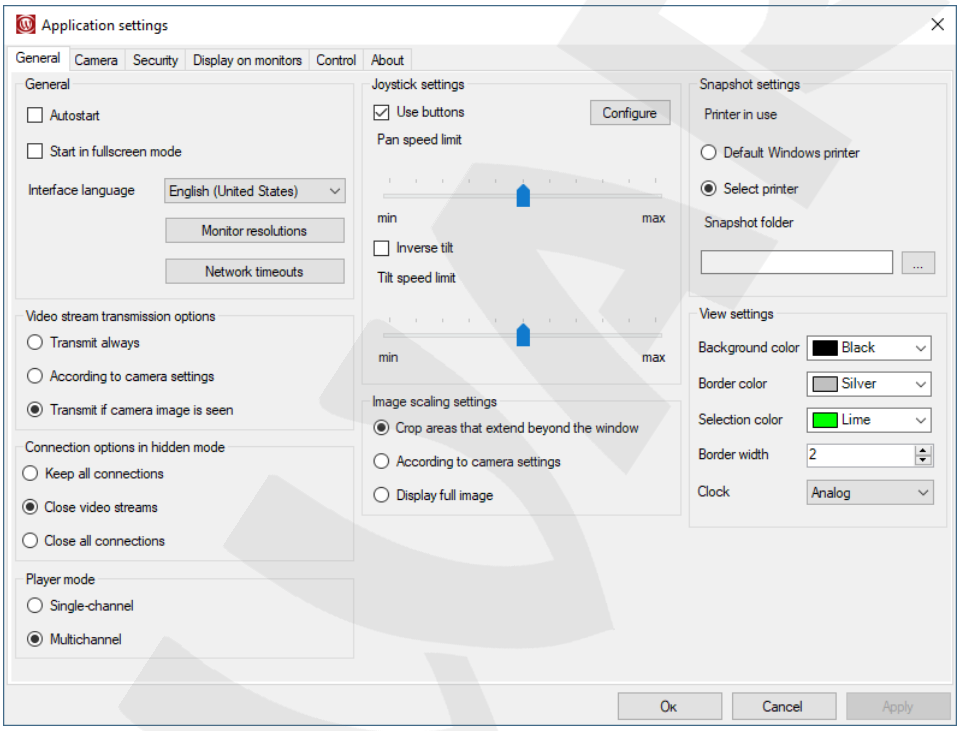
FullScreen mode on: choose this item to hide the tool bars of the application main window and expand the video stream displaying area to a full screen. Choose **"FullScreen mode off"** item in the context menu or press **[Esc]** on your keyboard to disable the Full Screen mode.

Chapter 5. "Application Settings" Menu

Click the **[Application Settings]**  button in the lower right part of the application main window if you want to set up application configuration. The window shown on the *Picture 5.1* will be opened.

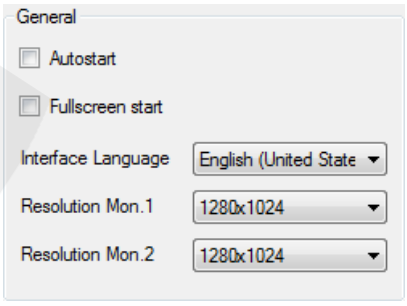
5.1. "General" Tab

The "General" tab contains settings which determine how BEWARD IP Visor starts, how its main window looks, application operation with some external devices and others.



Pic. 5.1

5.1.1. "General" Group-Box



Pic. 5.2

Autostart: put a tick to allow BEWARD IP Visor to start with the operation system (after the user authorization).

Fullscreen start: put a tick to allow BEWARD IP Visor to start in the Full Screen mode (the tool bars of the application main window are hidden and the video stream displaying area is expanded to a full screen).

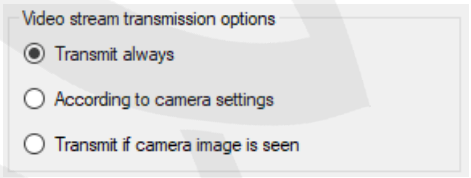
NOTE!
Choose "FullScreen mode off" item in the context menu or press **[Esc]** on your keyboard to disable the Full Screen mode.

Interface Language: choose the language you want the application interface be in.

Resolution Mon. 1: use the present drop-down list to change a main window resolution in accordance with the graphic adapter resolution that is set for a monitor 1. The following resolutions are available: 1024x600, 1024x768, 1152x864, 1280x1024, 1280x720, 1280x768, 1280x800, 1360x768, 1440x900, 1600x900, 1600x1200, 1680x1050, 1920x1080.

Resolution Mon. 2: use the present drop-down list to change a main window resolution in accordance with the graphic adapter resolution that is set for a monitor 2. The following resolutions are available: 1024x600, 1024x768, 1152x864, 1280x1024, 1280x720, 1280x768, 1280x800, 1360x768, 1440x900, 1600x900, 1600x1200, 1680x1050, 1920x1080.

5.1.2. "Video Stream Transmission Options" Group-Box



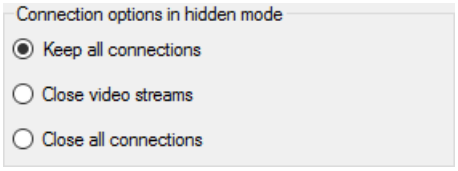
Pic. 5.3

Transmit always: choose this option to keep all cameras connected to the application, so a video image appears faster after changing the screen division mode or the group of added devices.

According to camera settings: choose this option to set transmission of the video streams of cameras according to their specific settings (see paragraph 5.2.4);

Transmit if camera image is seen: choose this option to not keep cameras connected to the application if their video images are not displayed; as a result, the image appears slower after changing the screen division mode or the group of added devices, but a network load is decreased.

5.1.3. "Connection Options in Hidden Mode" Group-Box



Pic. 5.4

- **Keep all connections**: choose this option to keep all cameras, whose images are displayed in the application window, connected to the application when you hide its window; in this case a network and CPU load is not decreased, but a video image appears without delay after maximizing the window.
- **Close video streams**: choose this option to stop transmitting video and audio streams from cameras whose images are displayed in the application window when you hide it; in this case a network and CPU load is decreased significantly, but a video image appears with some delay after maximizing the window. In addition, when the application window is hidden, the actions, which were set for alarm events, remain enabled.
- **Close all connections**: choose this option to not keep cameras, whose images are displayed in the application window, connected to the application when you hide its window; in this case a network and CPU load is decreased maximally, but a video image appears with a maximal delay as well after maximizing the window. The actions, which were set for alarm events, are also disabled when the application window is hidden.

5.1.4. "Player Type" Group-Box

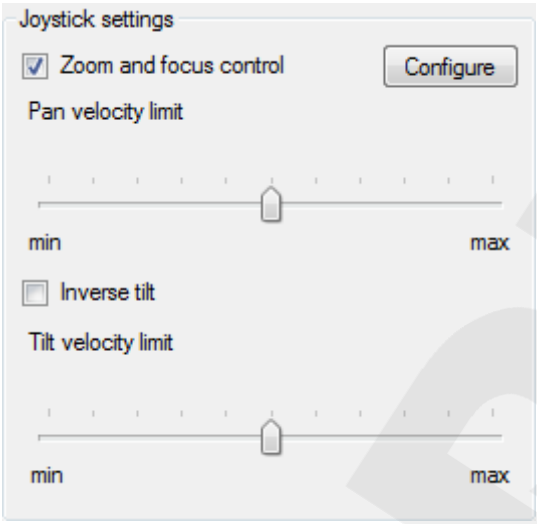
Pic. 5.5

Single-channel: choose it to have an opportunity to watch a video record from an only one camera at once in a built-in player.

Multichannel: choose it to have an opportunity to watch a video record from 16 cameras at once in a built-in player.

5.1.5. "Joystick Settings" Group-Box

BEWARD IP Visor allows controlling a PTZ-camera with a standard USB-joystick. Here you can set its parameters.



Pic. 5.6

ATTENTION!

After you connected a joystick to your PC you need calibrate it by means of Windows, otherwise the device can work incorrectly.

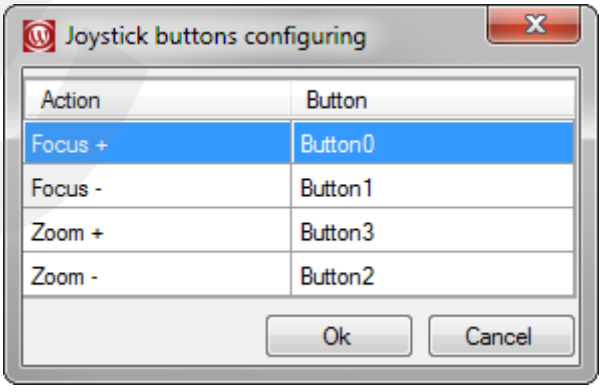
Zoom and focus control: put a tick to control the zoom and focus of a PTZ-camera using buttons of the joystick.

Pan velocity limit: set a limit of a horizontal rotation velocity of a PTZ-camera which can be reached by moving the joystick maximum left or right.

Tilt velocity limit: set a limit of a tilt velocity of a PTZ-camera which can be reached by moving the joystick maximum forward or backward.

Inverse tilt: put a tick to enable an inverse tilt motion of the camera.

[Configure]: click it to assign particular functions to the joystick buttons in the new opened window (*Pic. 5.7*).

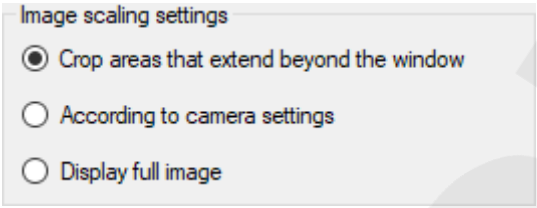


Pic. 5.7

To assign functions do as follows: click the name of the button you want to change and then press the required button of the joystick.

Click **[Ok]** after the setting.

5.1.6. "Image Scaling Settings" Group-Box



Pic. 5.8

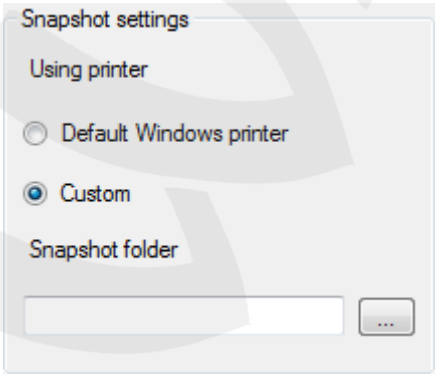
Here you can set the way a video image from a camera is displayed in the channel window of the video stream displaying area.

Crop areas that extend beyond the window: in this case a video image is cropped in accordance with the size of the channel window.

Match camera settings: in this case a video image is adjusted according to the camera settings.

Display full image: in this case a full video image is displayed in the channel window.

5.1.7. "Snapshot Settings" Group-Box



Pic. 5.9

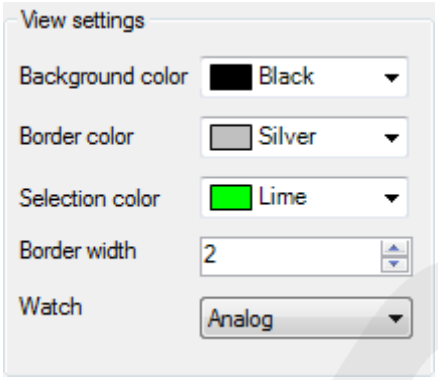
Here you can set the type of the device you want to use for printing snapshots as well as choose the folder for saving them as files.

Default Windows printer: use this setting to print snapshots by means of the printer that is set by default in Windows without displaying a window where it is possible to choose another printer.

Custom: use this setting to have an opportunity to choose the printer you want to use for printing snapshots in an additionally opened window.

Snapshot folder: specify the folder where snapshots will be saved in.

5.1.8. "View Settings" Group-Box



Pic. 5.10

Background color: use the present drop-down list to change the color of the empty channel windows.

Border color: use the present drop-down list to change the color of the channel window borders in the video stream displaying area.

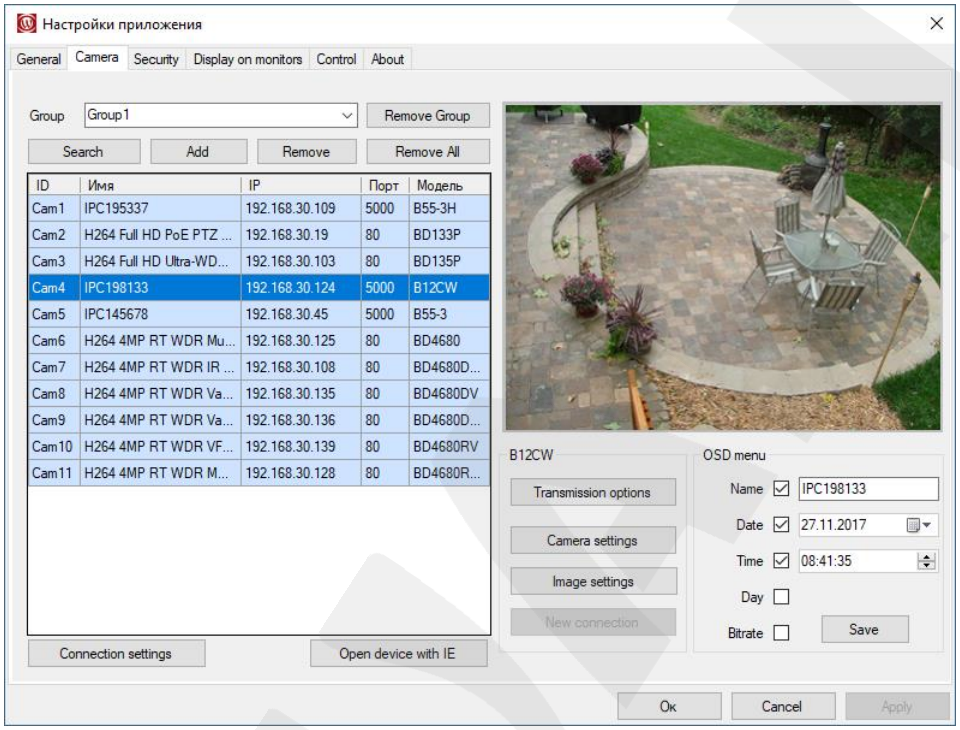
Selection color: use the present drop-down list to change the color of the active channel window frame.

Border width: enter the width of the window borders and also the frame width in the current field.

Watch: use the present drop-down list to change the type of the clock in the main application window. You can set a classic clock with hour, minute and second hands, or a digital clock which will be displayed at the bottom of the main window between the groups of buttons. The digital clock also displays a date in comparison with the classic one.

5.2. “Camera” Tab

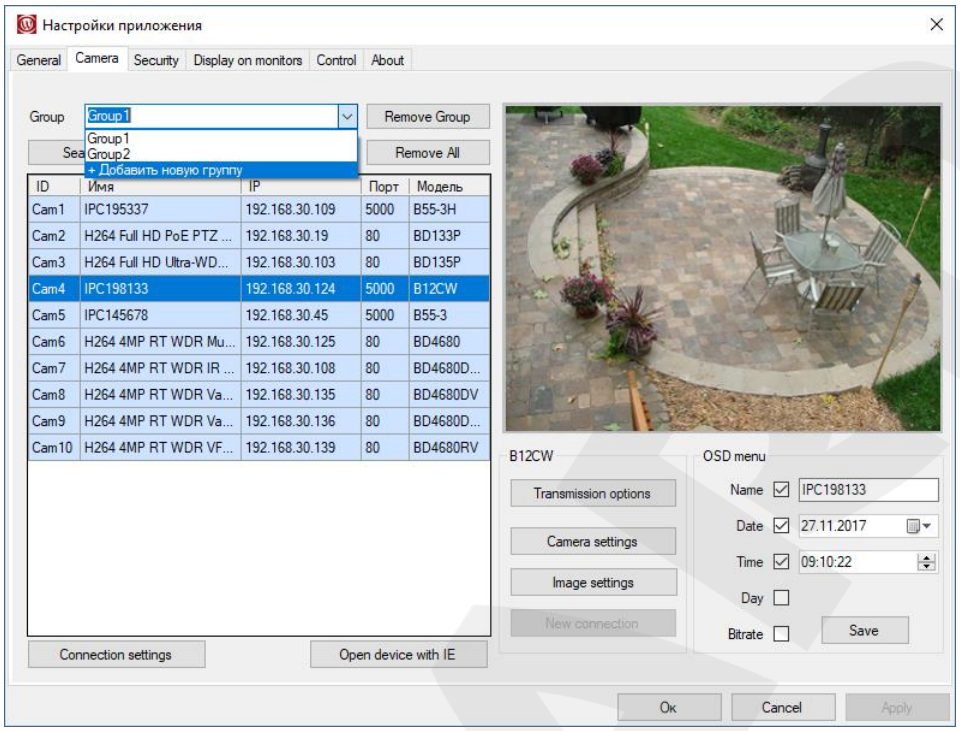
On the “Camera” tab (*Pic. 5.11*) you can add devices to BEWARD IP Visor, dividing them into groups, change their settings and remove them from the application. You can also change video image parameters such as brightness, contrast and others.



Pic. 5.11

5.2.1. Making Groups of Devices

It can be very useful for operating devices you add to the application to divide them into groups. Open the **“Group” drop-down list** to make a new group and click **“+ Add new group”**. You can make up to 20 groups.



Pic. 5.12

You can change the name of the group in the text field of the **"Group" drop-down list**. By default, the names are "Group1", "Group2" etc.

If you need to remove some group, choose it in the list and click the **[Remove Group]** button.

NOTE!

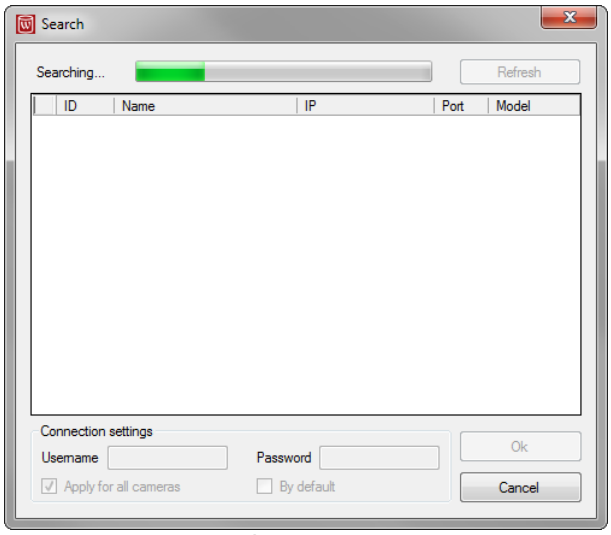
When you choose another group, a video stream will be disconnected only if **"Transmit if camera image is seen"** is enabled (see paragraph 5.1.2).

ВНИМАНИЕ!

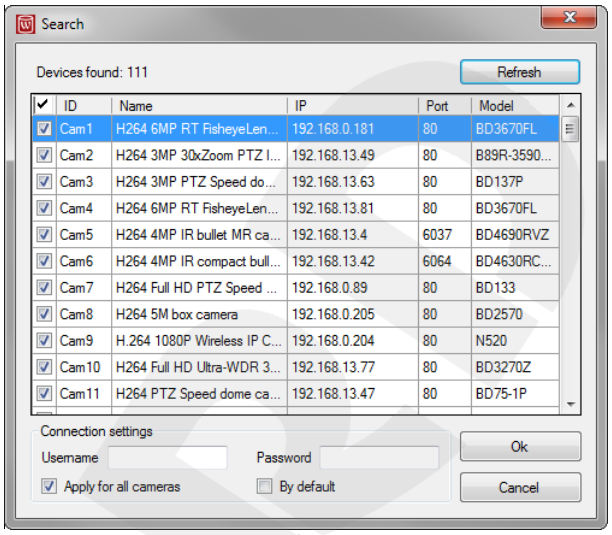
The actions on the alarm events are only displayed/performed for the devices from the group which is currently selected by the user and, consequently, which is displayed in the application main window. However, the call notification, popup window are displayed and the sound notification is performed for the door stations in any way.

5.2.2. Addition of Devices

Click the **[Search]** button to find all available devices in your local network (*Pic. 5.13*). The result of this automatic search is a list of devices with their names, IP addresses and other information (*Pic. 5.14*).



Pic. 5.13



Pic. 5.14

Choose with ticks in the left column the devices you want to add in the group (*Pic. 5.14*).

Enter the username and password in the corresponding text fields for each device. You can click the check box **"By default"** and the fields will be filled in with **"admin"** / **"admin"** automatically. You can also click the check box **"Apply for all cameras"** to apply the entered data to all devices in the list.

NOTE!

To apply the username and password to several devices, choose them with a mouse, pressing keyboard's buttons **[Ctrl]** or **[Shift]**, and enter the data.

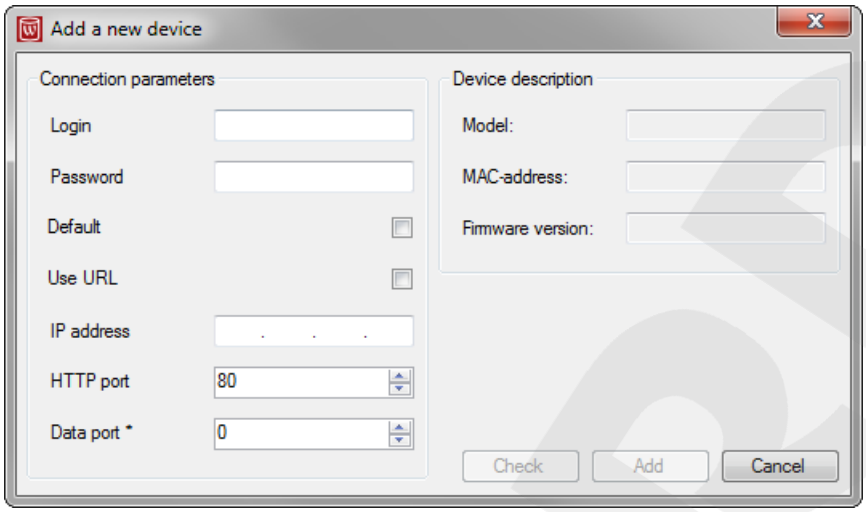
ATTENTION!

A UPnP support setting needs to be enabled in all versions of the OS Windows (excepting Windows 7 and Vista) for the automatic search of N series cameras.

The **[Refresh]** button (*Pic. 5.14*) in the upper right corner of the **"Search"** window allows you to perform the search procedure again.

Click the **[Ok]** button to add the chosen devices in the group or **[Cancel]** to close the **"Search"** window.

Click the **[Add]** button (*Pic. 5.11*) to add a device manually. This function is useful when some devices can't be found by the automatic search, for example, when they are in Internet. After pressing the **[Add]** button, the following window will appear:



Pic. 5.15

Login, **Password**: enter username and password in these text fields to get access to the device.

Default: click this check box and the fields above will be filled in with **"admin"** / **"admin"** automatically as well as the IP address will become **"0.0.0.0"** and the HTTP port will be changed to **80** (if a previous value differed).

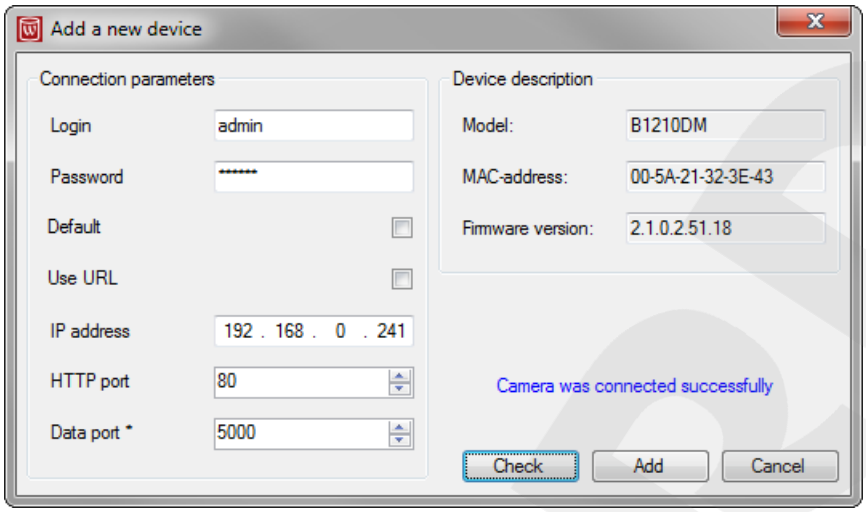
Use URL: this option allows you to add the device using its URL address.

IP address: enter the IP address of the device.

HTTP port: enter the HTTP port of the device.

Data port: this port has the default value of **"5000"** for B series devices, but it is necessary to leave **"0"** for other devices.

When the all connection parameters are specified, click the **[Check]** button to start connecting to the device (to stop connecting, click the **[Stop]** button). If the connection is established, you will see **"Camera was connected successfully"** above the buttons and the fields of the device description will be filled in (*Pic. 5.16*).



Pic. 5.16

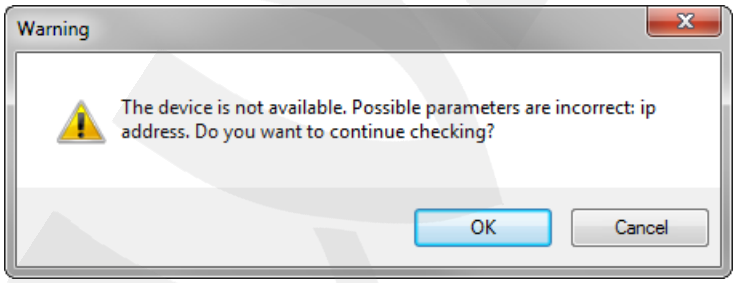
Model: this field displays a model of the connected device.

MAC-address: this field displays a MAC-address of the connected device.

Firmware version: this field displays a version of connected device's firmware.

Click the **[Add]** button to add the device in the group or **[Cancel]** to close the **"Add a new device"** window.

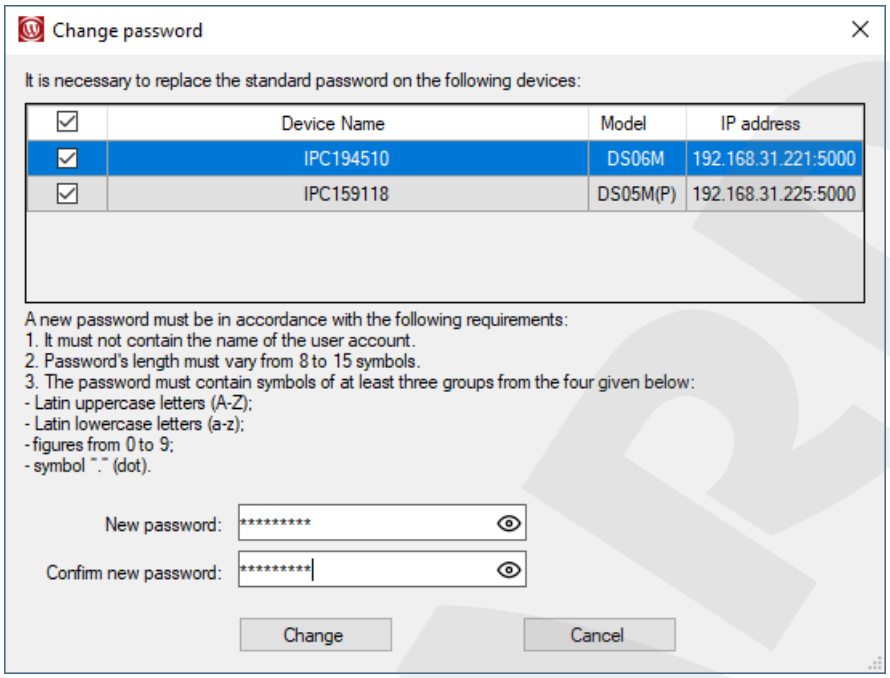
If the device is not available, the following notification will appear:



Pic. 5.17

To continue the connection check, click **[OK]**. To return to entering the connection parameters, click **[Cancel]**.

In case of adding door stations with the default password the following window appears:



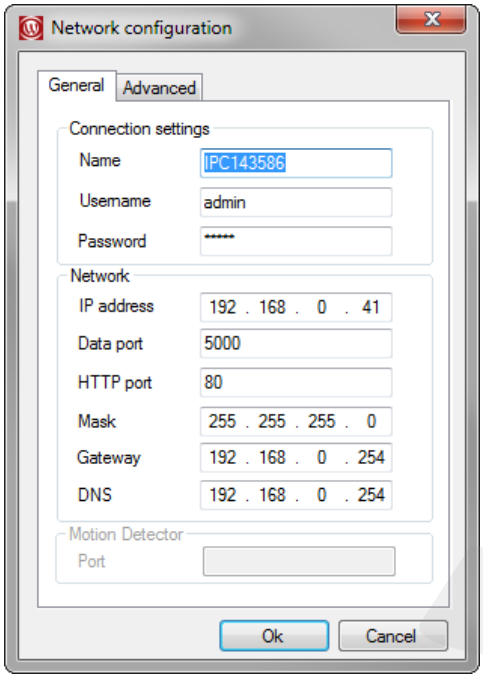
Pic. 5.18

Here you need to choose the devices which you want to add to the application and change their default password. The devices not chosen with a tick are not added to the application.

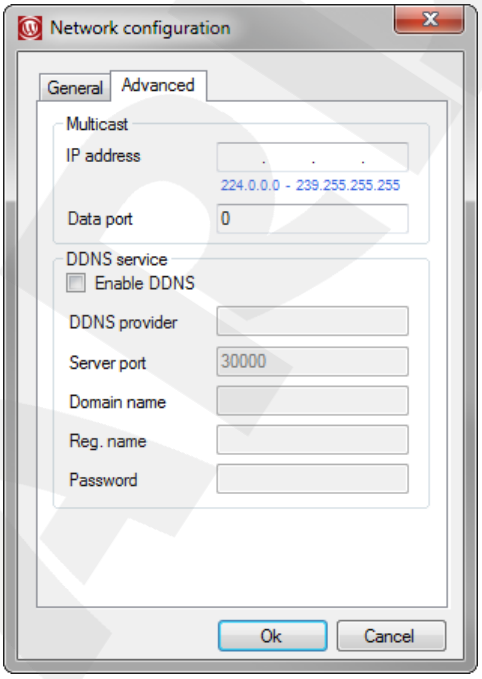
If you need to remove some camera from the application click the **[Remove]** button. If you need to remove all cameras click the **[Remove All]** button.

5.2.3. Connection Settings of Added Devices

Click the **[Connection settings]** button on the "Camera" tab to open a window with connection parameters of a camera or a video server. The window contains two tabs, "General" and "Advanced" (*Pic. 5.19, 5.20*).



Pic. 5.19



Pic. 5.20

General: here you can change parameters such as name, IP address, data port, HTTP port of the device, network mask, gateway and DNS server address. Note that you can't change the username and password of the device, entering some values in the corresponding text fields; these two parameters are used for the current connection.

You need to specify a motion detection port if you want to use a motion detection function of the camera which is connected behind NAT, and it is impossible to use a standard port for the forwarding.

NOTE!
The motion detector port can be only specified for cameras of N- and BD-series.

Advanced: use this tab if you need to set up some additional function, for example, operation with a DDNS service.

NOTE!
The "Advanced" tab is only available for B-series cameras.

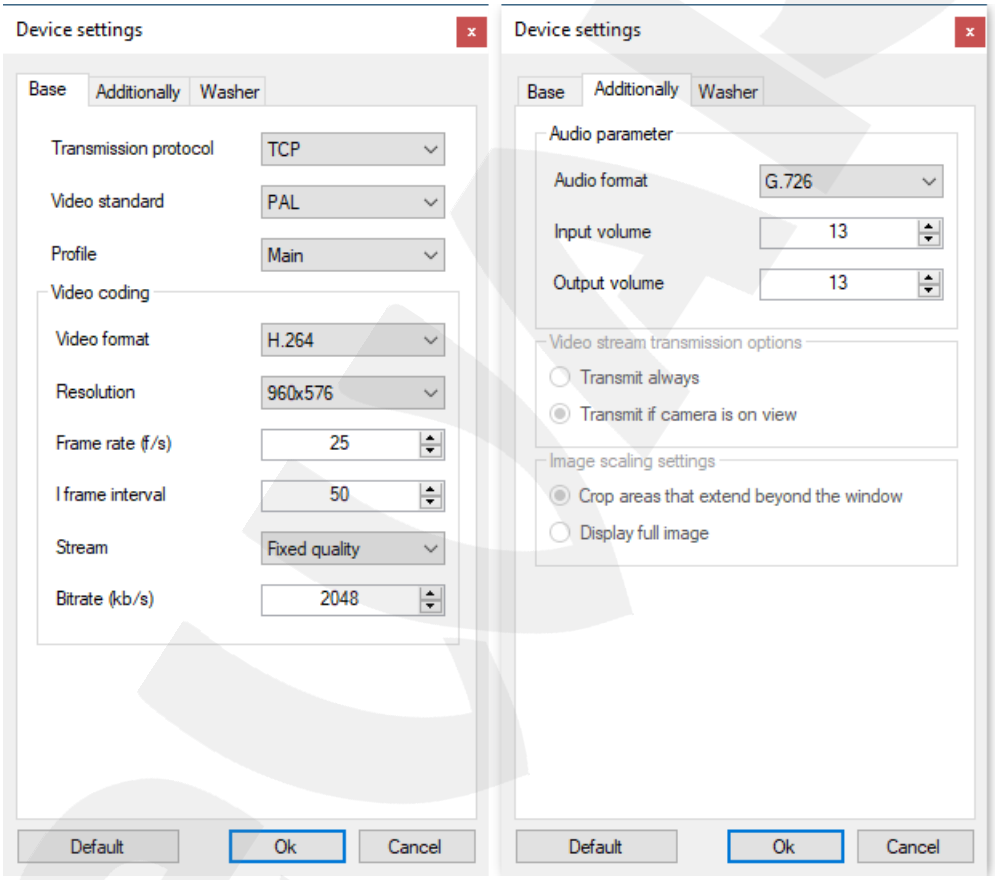
5.2.4. Camera Video Settings

Choose profile: use this drop-down list which is situated above the **[Connection settings]** button to choose one of available video profiles of the current device.

Click the **[Camera settings]** button on the "Camera" tab to open a window with different parameters of a video stream transmitting from the camera. The window looks differently depending on the series of the device.

B-series camera video settings

The window of B-series cameras parameters looks as follows:



Pic. 5.21

The content of the tabs depends on functions a device supports. That is why the tabs may look differently for different cameras.

All parameters which can be displayed in this window are given below.

The "Base" tab can contain the following parameters:

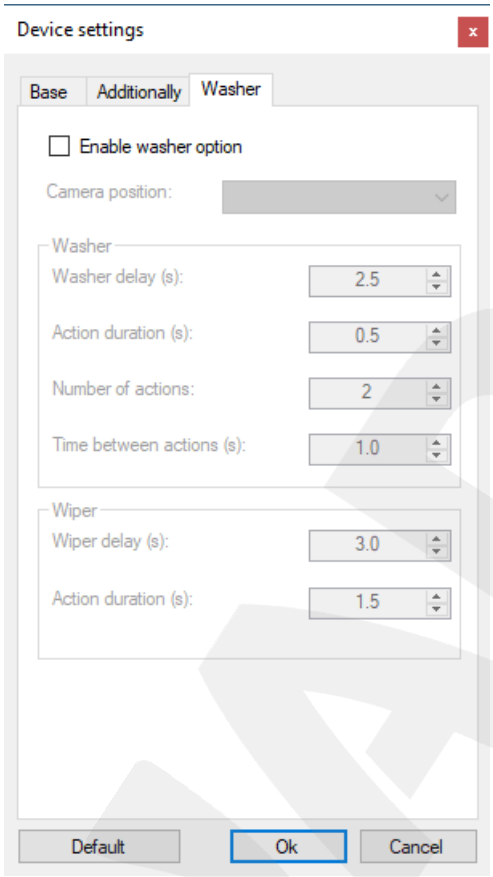
- **Transmission protocol**: choose a network protocol which will be used for data exchange between a device and the software.
- **Video standard**: choose an encoding system for the broadcast of a video signal.
- **Profile**: choose the type of a video stream.

- **Video format**: choose a video coding format.
- **Resolution**: choose a video image resolution.
- **Frame rate**: set the number of frames per second; the maximum value can vary, depending on the resolution.
- **I-frame interval**: set the interval between I-frames in a video stream; the less this interval the bigger a web traffic and, although, the less a delay in case of network errors.
- **Stream**: choose a constant bitrate stream type (CBR) or variable bitrate stream type (VBR).
- **Bitrate**: set a bitrate value; it depends on the model of a device and on the video format.
- **Quality / Deviation** (if the CBR is chosen): choose a degree of video image quality or limits of deviation of the bitrate.
- **Encoder mode**: this parameter determines the priority of the quality or the frame rate. You can choose the priority of the fixed frame rate at the changeable quality or vice versa.

The "Additionally" tab can contain the following parameters:

- **Source**: choose the type of a sound source for the camera – "Microphone", "Line in" or just "Disable".
- **Audio format**: choose the format of an audio stream.
- **Sampling rate**: the rate of processing an audio signal; increasing the rate leads to better sound quality.
- **Audio bitrate**: audio data transmission bitrate; depends on the audio format.
- **Input volume**: set a volume level of the input audio signal.
- **Output volume**: set a volume level of the output audio signal.
- **[Default]**: click this button to set all parameters on the current tab to default values.

The **"Washer" tab** contains settings for cameras with an option of washing housing glass:

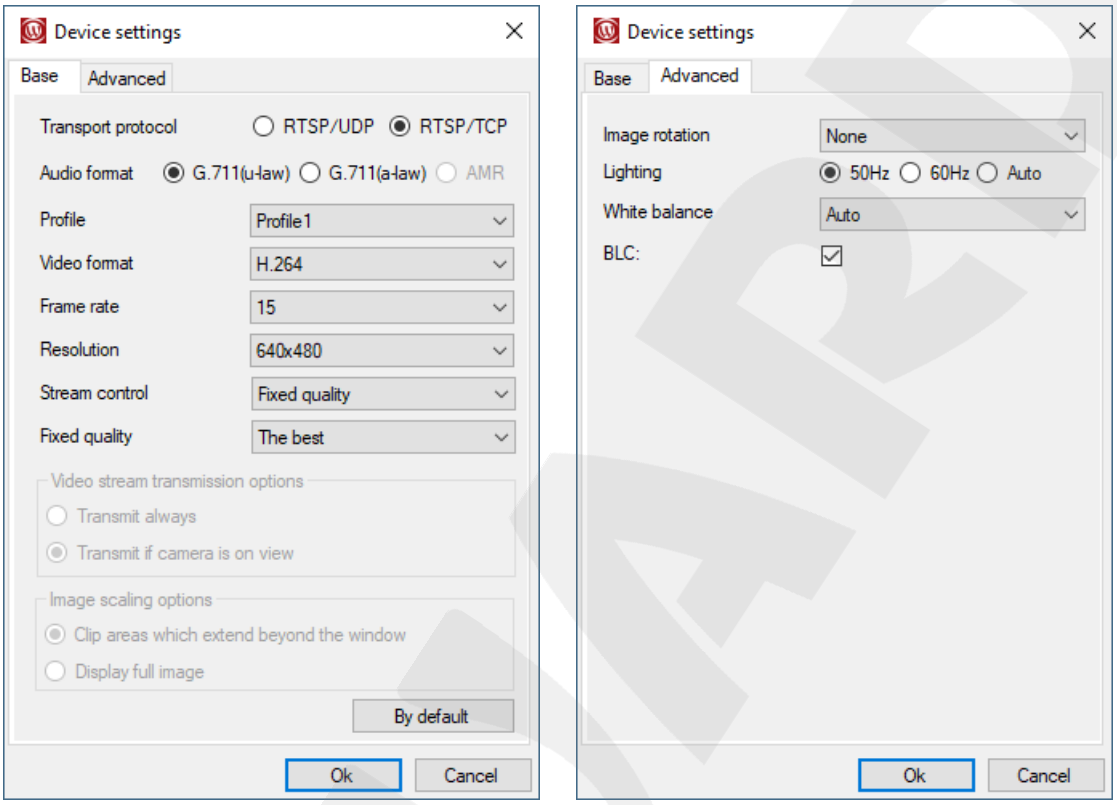


Pic. 5.22

To save new settings click **[Ok]**. To close the window without saving click **[Cancel]**.

N-series camera video settings

The parameter window for N-series cameras looks as follows ("Base" tab and "Advanced" tab):



Pic. 5.23

"Base" tab:

- **Transport protocol**: two values are available – "RTSP/UDP" and "RTSP/TCP".
- **Format video**: the following video formats, which can be used for the camera video stream, are available – H.264, MPEG-4, M-JPEG.
- **Format audio**: here you can choose an audio format which can be used for the camera audio stream.
- **Frame rate**: choose the number of frames per second.
- **Resolution**: choose a video image resolution supported by the camera.
- **Flow control**: the following values are available – "Fixed quality", "Fixed bitrate" and "Auto". When you choose "Fixed quality" you can select a degree of video image quality in the drop-down list below. When you choose "Fixed bitrate" you can select an exact value of bitrate in the drop-down list below.
- **Video stream display settings**: available when "According to camera settings" is selected on the "General" tab (see paragraph 5.1.2).

[Default]: click this button to set all parameters on the current tab to default values.

To save new settings click **[Ok]**. To close the window without saving click **[Cancel]**.

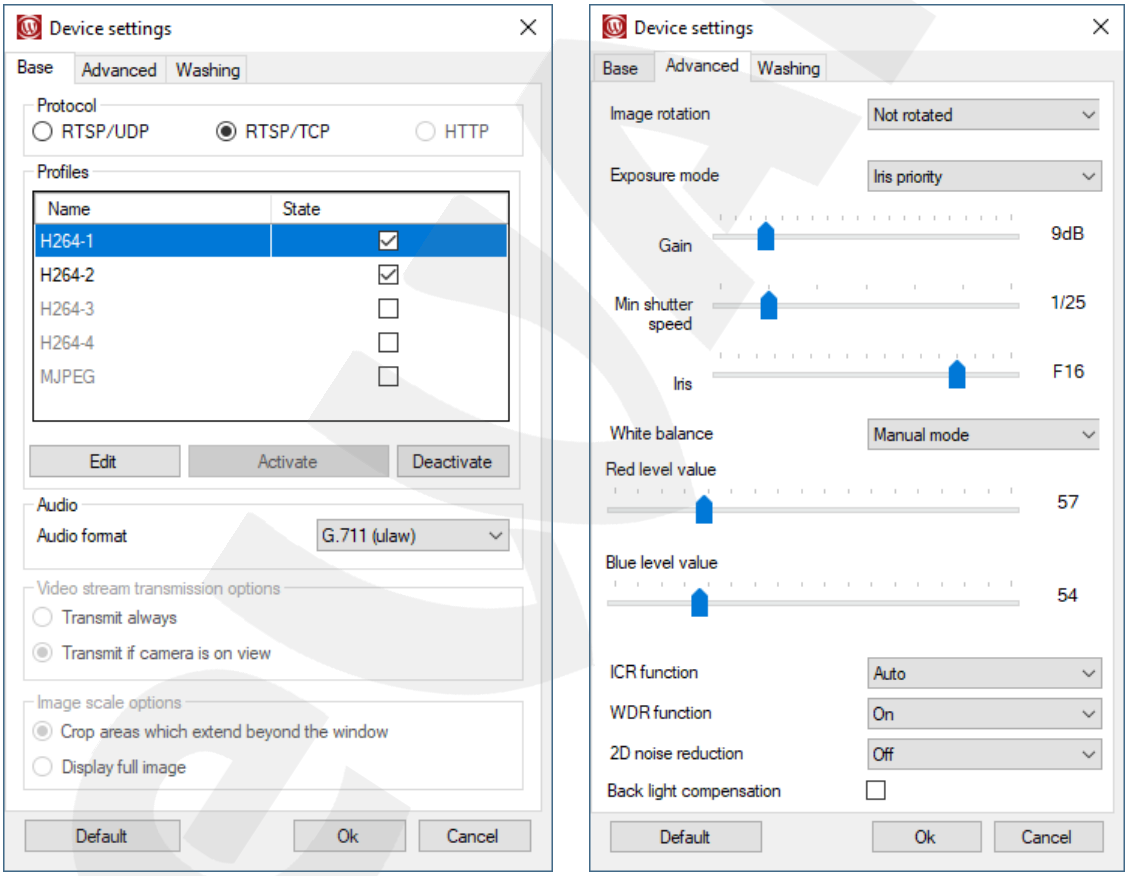
"Advanced" tab:

- **Image flip**: choose one of the available image orientation modes.
- **Lighting**: this parameter is used for synchronization with the external light source. If the parameter is set incorrectly the video image will blink.
- **White balance**: choose the value in accordance with light conditions in a surveillance area.
- **BLC**: enable/disable back light compensation option.

To save new settings click **[Ok]**. To close the window without saving click **[Cancel]**.

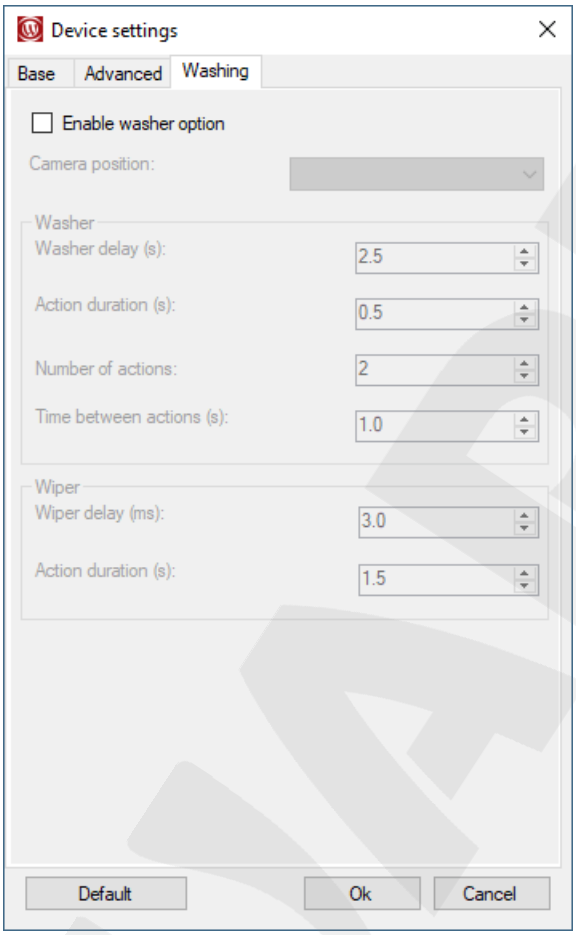
BD-series camera video settings

The parameter window for BD-series cameras may contain the following tabs:



Pic. 5.24

The **"Washing" tab** contains settings for cameras with an option of washing housing glass (*Pic. 5.25*).



Pic. 5.25

The settings on this tab are the same as on the corresponding tab for the B series.

The content of the tabs depends on functions a device supports. That is why the tabs may look differently for different cameras.

All parameters which can be displayed in this window are given below.

"Base" tab:

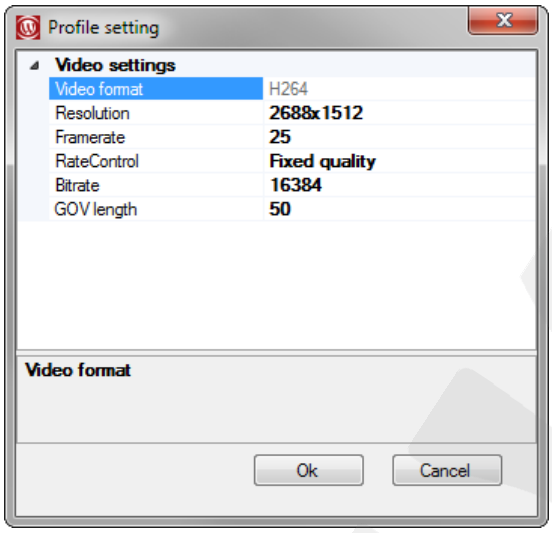
- **Transport protocol**: three values are available – "RTSP/UDP", "RTSP/TCP" and "HTTP". There are H.264, MPEG-4 (only for BD3070) and H.264 video formats available for the RTSP protocol. The MJPEG video format is only available for the HTTP protocol.

Data packets are delivered without a notification when using the "RTSP/UDP" protocol. In contrast to that, data packets are delivered with a notification when using the "RTSP/TCP" protocol and this helps to prevent their loss. It is recommended to use the "RTSP/TCP" protocol.

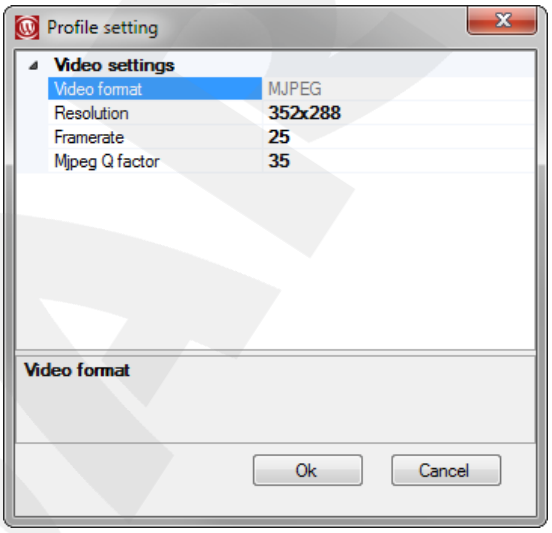
- **Format video**: choose a video format which can be used for the camera video stream.
- **Audio format**: choose an audio format which can be used for the camera audio stream.
- **Resolution**: choose the video image resolution. It depends on the type of a device and its parameters.

- **Frame rate**: choose the number of frames per second; it depends on a device model.
- **Fixed bitrate**: choose a constant value of the video stream bitrate.
- **Portrait Mode**: enable displaying a video image from the camera in the portrait mode.

The current profile is marked with a tick. If you want to use another profile, you need to enable it at first, choosing it and clicking **[Activate]**. Click **[Deactivate]** to disable profiles you don't use if necessary. Click **[Edit]** to change profile settings. H264 profile has a parameter window shown on the *Picture 5.26*; MJPEG profile has a parameter window shown on the Picture 5.27.



Pic. 5.26



Pic. 5.27

- **Video format**: video coding format which is used for the camera video stream.
- **Resolution**: choose a video image resolution; it depends on a device type.
- **Framerate**: choose the number of frames per second; it depends on a device model.
- **RateControl** (*Pic. 5.26*): the following values are available – "Fixed quality" and "Fixed bitrate".
- **Bitrate** (*Pic. 5.26*): choose an exact value of bitrate.
- **GOV length** (*Pic. 5.26*): the GOV length determines how many frames of the one type (I or P) are sent before the next type is sent. Setting the GOV-length to a high value saves considerably on bandwidth, but there may be noticeable image decay.
- **Mjpeg Q factor** (*Pic. 5.27*): the Q factor determines a relation between MJPEG video data quality and a data compression ratio. These two are inversely proportional.

The "Advanced" tab can contain the following parameters:

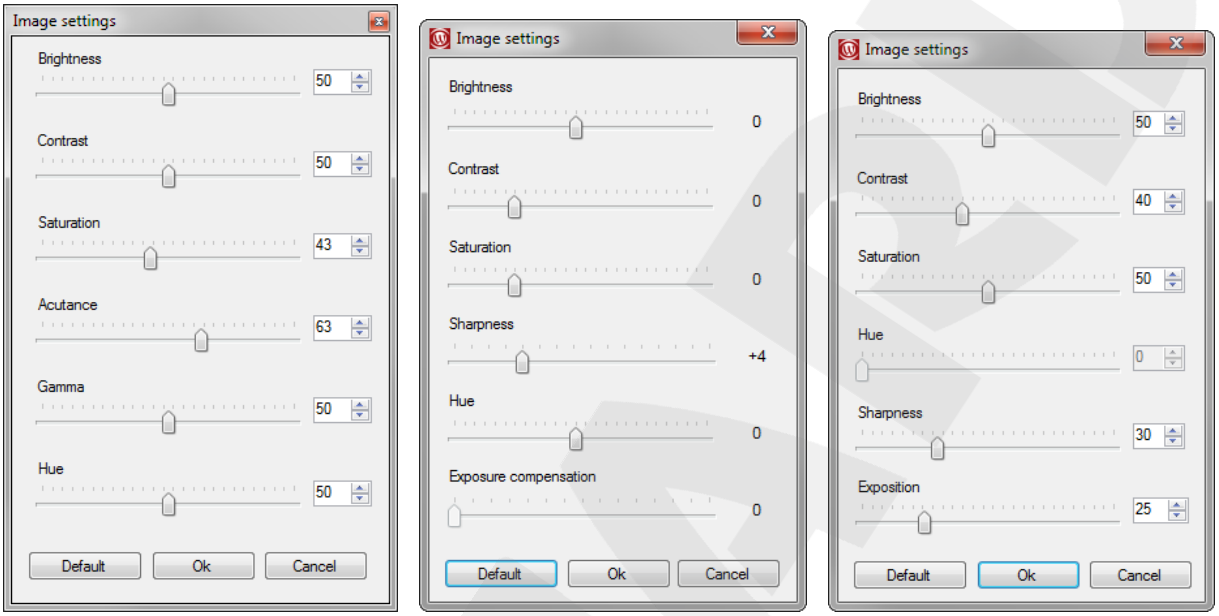
- **Image rotation**: choose the way a video image needs to be positioned.
  - **Portrait mode**: enabling the option rotates the video image 90 degrees (only one of two options, "Portrait mode" and "Image rotation", can be used at one time).

- **Exposure**: set a digital shutter operation mode.
  - **auto**: automatic control of the shutter speed. Setting manually a minimum level of the shutter speed is available;
  - **auto iris**: a luminous flux is set by the iris of the camera lens;
  - **manual**: set a shutter speed from 1 to 15 using the slider;
  - **fixed shutter**: set a fixed shutter speed from 1/10000 to 1 second using the slider;
  - **shutter priority**: the iris value is automatically controlled according to the shutter speed specified manually;
  - **iris priority**: the shutter speed is automatically controlled according to the iris value specified manually;
  - **P-iris priority**: the shutter speed is automatically controlled according to the iris value specified manually with high accuracy;
  - **hardware WDR mode**: a Wide Dynamic Range mode is used when there are both very bright and very dark areas simultaneously in the field of view of the camera;
  - **WDR RSS mode**: an improved hardware WDR mode;
  - **flicker reduction**: the camera synchronizes the frame rate with the power line frequency (50 or 60 Hz) to avoid an effect of flickering.
- **White balance**: choose the white balance mode in accordance with light conditions in a surveillance area.
- **IR function**: choose the infra-red filter operation mode.
- **ICR function**: increasing photosensitivity in low light conditions.
- **WDR function**: enable wide dynamic range function if necessary.
- **2DNR**: a function of noise reduction on every single frame;
- **3DNR**: a function of noise reduction where analyzing previous frames helps to avoid loss of image sharpness.
- **BLC**: a Back Light Compensation mode is used when the object of video surveillance is situated in front of extensive light source.
- **ePTZ**: digital emulation of the Pan-Tilt-Zoom mechanism; using this function a user can move some video image area without distortion (the function is only available for the cameras with a wide-angle lens (FishEye)).

[Default]: click this button to set all parameters on the current tab to default values.
To save new settings click **[Ok]**. To close the window without saving click **[Cancel]**.

5.2.5. Image Settings

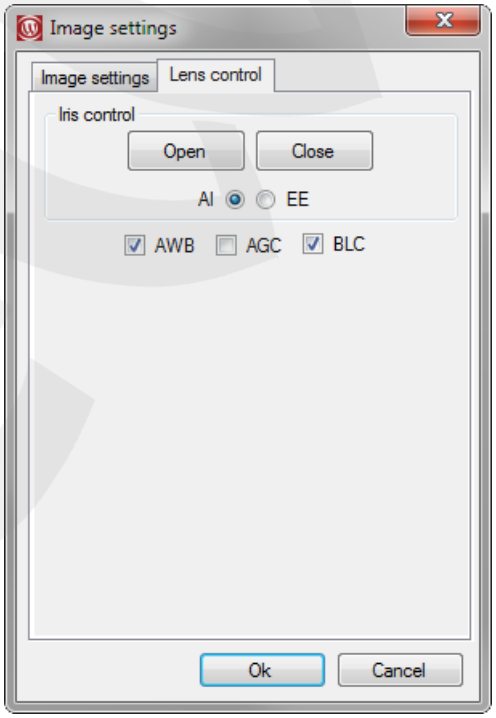
Click the **[Image settings]** button on the "Camera" tab to open a window with video image parameters such as brightness, contrast, saturation (or color level), hue etc. The window may contain different parameters depending on the series or the model of a device:



Pic. 5.28

Click the **[Default]** button to set all the parameters to default values.

A "Lens control" tab is also available for the B1000 series cameras:



Pic. 5.29

[Open], [Close]: the buttons allow the user to open and close the lens auto adjustable iris.

AI: in this mode the luminous flux is controlled by the lens with the auto adjustable iris.

EE: in this mode the electronic shutter is automatically controlled in accordance with the luminous flux level, which is determined using a camera sensor.

AWB: auto white balance.

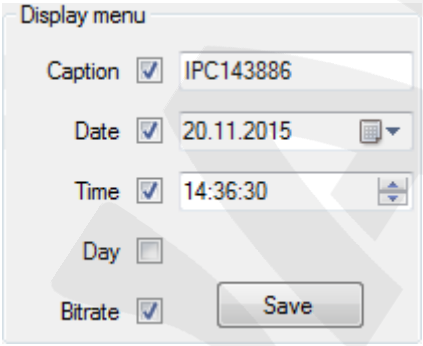
AGC: auto gain control.

BLC: back light compensation.

To save new settings click **[Ok]**. To close the window without saving click **[Cancel]**.

5.2.6. Display Menu

Use this menu (*Pic. 5.30*) which is situated on the "Camera" tab under live video stream window to set up different OSD (On-Screen Display) information. This information displays over the video image.



Pic. 5.30

Caption: put a tick to make display a device name which you can enter in the text field to the right.

Date: put a tick to make display a date which you can set in the field to the right.

Time: put a tick to make display a time which you can set in the field to the right.

NOTE!
For the N and BD series cameras the computer time is displayed over the video image but not the time of the camera.

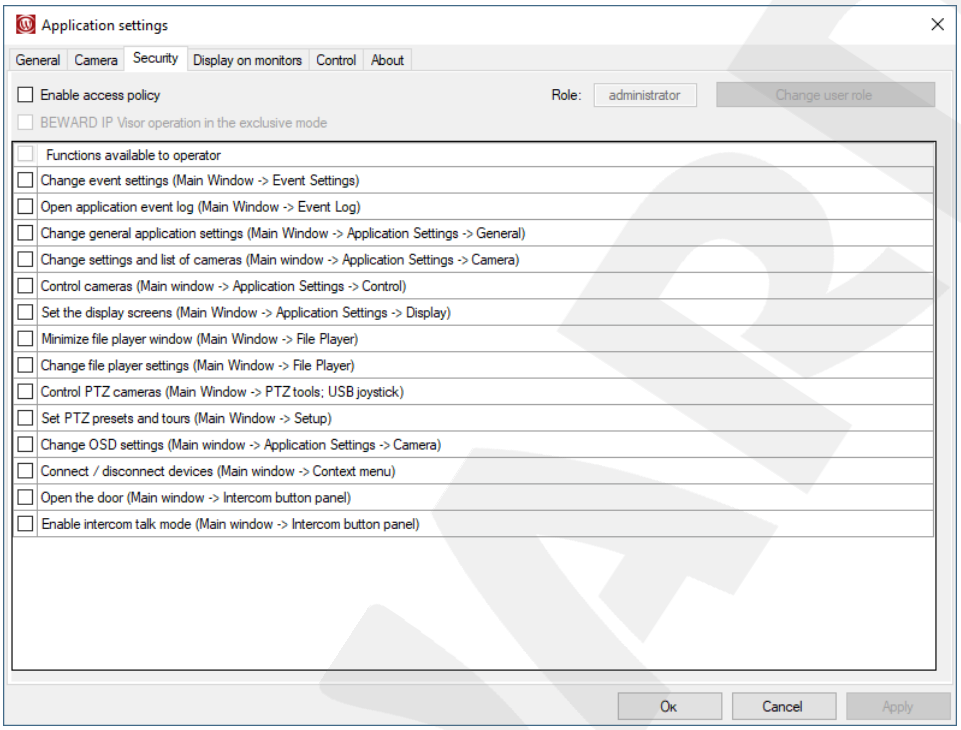
Day: put a tick to make display a day of the week.

Bitrate: put a tick to make display current values of bitrate and framerate.

Click **[Save]** to apply new settings.

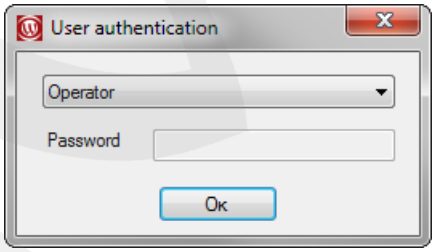
5.3. "Security" Tab

The "Security" tab (*Pic. 5.31*) is used for enabling and setting rules of application access policy. By default and when you run BEWARD IP Visor first time the rules are disabled.



Pic. 5.31

If the access policy option is turn on the application will operate under control of one of two user roles – "Administrator" or "Operator". The role can be chosen in the window shown on the *Picture 5.32* when the application starts.



Pic. 5.32

5.3.1. "Administrator" Role

A user authorized as "Administrator" has access to all application functions. For authorization you need enter and confirm the administrator password which you specified when you were enabling the access policy option.

The administrator controls settings of the "Operator" role; for example, he can specify a password for the operator and allow/deny him access to different application functions.

[Working Beward IP Visor in monopoly mode]: a user being "Administrator" can enable this option to prevent the operator running other applications.

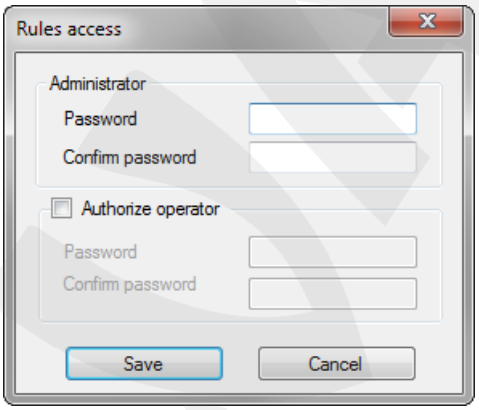
NOTE!

In this case the following hotkeys are unavailable: Win, Ctrl+Esc, Win+D, Win+E, Win+R, Win+F, Win+M, Win+Tab, Win+Shift+Tab, Alt+Tab, Alt+Shift+Tab, Ctrl+Win+Tab, Shift+Tab, Alt+Esc and the Task Manager.

5.3.2. "Operator" Role

The "Operator" role has a limitation of application operation, including addition / removing of devices and their advanced configuration. By default the functions in the list on the "Security" tab are not available for the operator. Each function has a description and a path to the window where the limitation is (in brackets). The administrator can give access to some or to the all functions in the list.

When you enable the application access policy option you need enter and confirm the administrator password and do the same for the "Operator" role if necessary in the following window:



Pic. 5.33

If the operator password is not specified, the "Operator" role will be activated automatically without appearing the window shown on *Picture 5.32* when BEWARD IP Visor will be started.

ATTENTION!

It is recommended to specify the operator password to prevent starting the application by unauthorized users.

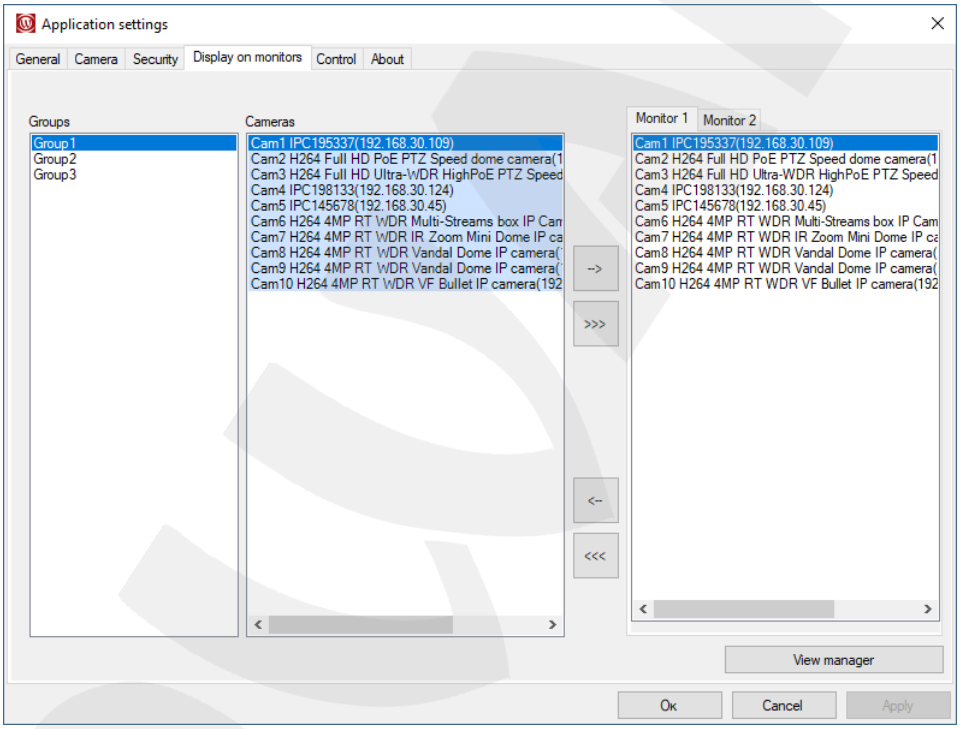
Passwords must contain from 6 to 12 symbols; a font size is important. Click **[Save]** after entering the passwords.

5.4. “Display on monitors” Tab

The “Display on monitors” tab (*Pic. 5.34*) is used for distribution devices added to the application among displays of monitors of your PC. The tab includes three lists (from the left to the right): a list of groups of devices, a list of devices from the each group and a list of devices added to a specific monitor display (the tabs “Display 1”, “Display 2” etc., depending on the number of the monitors). There are four buttons between the last two lists which are used for moving the devices between the lists.

ATTENTION!

The second tab (and possible next ones) is available when the second monitor is connected to the PC.



Pic. 5.34

For user convenience, the devices displayed on a monitor 1 are highlighted with blue, the devices displayed on a monitor 2 are highlighted with lilac and the devices displayed on both monitors are highlighted with pale green.

To add a device to the specific monitor choose the corresponding tab in the right list, choose the device and click  . To add all devices from the current group click  .

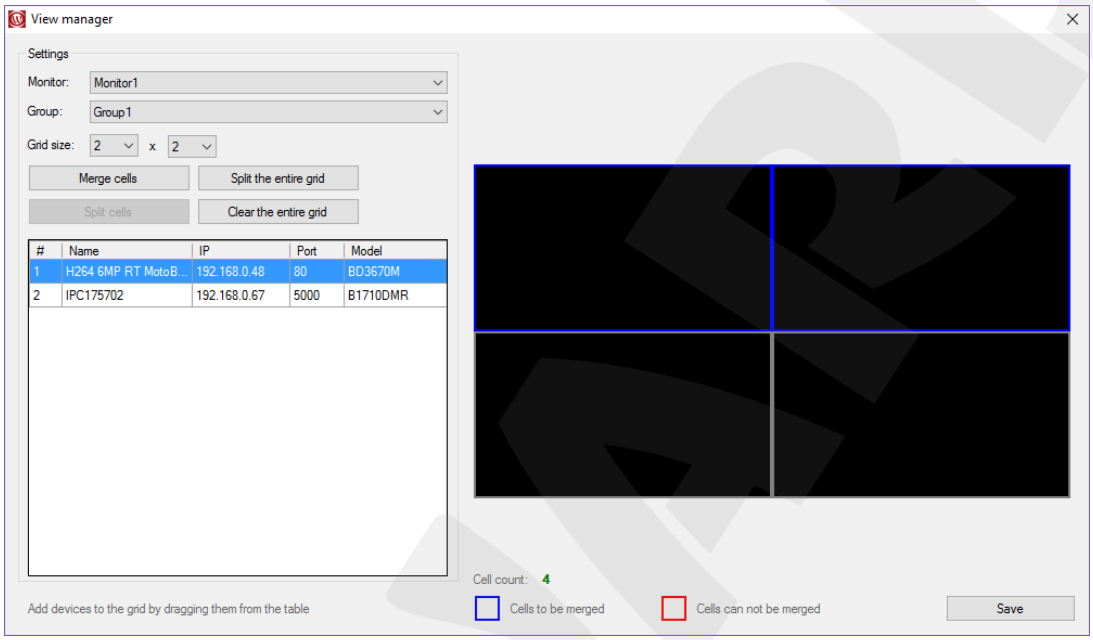
To remove a device from the specific monitor choose the corresponding tab in the right list and the device on it, and click  . To remove all devices from the current monitor click  .

Click **[Ok]** to save the changes.

5.4.1. View Manager

The View Manager is a function of the BEWARD IP Visor application which you can use for dividing a screen area into the channel windows (see paragraph 4.1) in a way you prefer.

Use the **[View Manager]** button on the "Display on monitors" tab (*Pic. 5.34*) to open the View Manager window (*Pic. 5.35*).



Pic. 5.35

There are grid settings in the left side of the window, and there is an area, where you can see results of your setting, in the right side of the window (a result view area).

The grid settings are the following:

Monitor: choose a monitor in the list your grid will be used for. The number of monitors is automatically determined by the system. The devices table, which is situated in the left lower corner of the window, is changed depending on the monitor you choose. You can add devices to monitors on the "Display on monitors" tab (see above).

Group: choose a group in the list your grid will be used for. The devices table is also changed depending on the group you choose. You can create groups and add devices to them on the "Camera" tab (see paragraph 5.2).

Grid size: set the size of the grid using two drop-down lists. The first list contains the numbers of grid cells in a column; the second one contains the numbers of the cells in a row.

[Merge cells]: click this button to merge the cells, which were previously chosen with a blue frame in the result view area (see below).

[Split cells]: click this button to split the cells previously merged, firstly choosing them with a blue frame in the result view area (see below).

[Split the entire grid]: click this button to split all the cells previously merged in the result view area.

[Clear the entire grid]: click this button to remove all the added devices from the grid (see below).

Devices table: this table contains devices which can be added to the grid in accordance with the group and the monitor you have chosen. The addition of devices is performed by dragging them with the mouse: click the device you need, hold the left mouse button pressed, drag the device to an empty cell of the grid in the result view area. Each device can be only added to the one cell. If you didn't add all devices from the table to the grid, they will be added automatically and in order as you will click the **[Save]** button.

All actions you do setting the grid (choosing its size, merging/splitting cells, adding/removing devices) are real-time displayed in the result view area.

That area has an aspect ratio in accordance with the monitor you choose and its resolution (you can set the monitor resolution on the "General" tab (see paragraph 5.1)).

You can choose the cells, holding pressed the left mouse button, or clicking them one by one, holding pressed the <Ctrl> button of the keyboard.

Cell color indication:

- blue – a cell is chosen, chosen cells can be merged;
- red – chosen cells cannot be merged;
- grey – a cell is not chosen.

There is also a **context menu** in the result view area, which is opened by clicking with the right mouse button on the grid. The menu contains the following three items:

Merge cells: unite the cells (if it is possible).

Split cell: split the chosen cell.

Remove device: remove a device from the chosen cell.

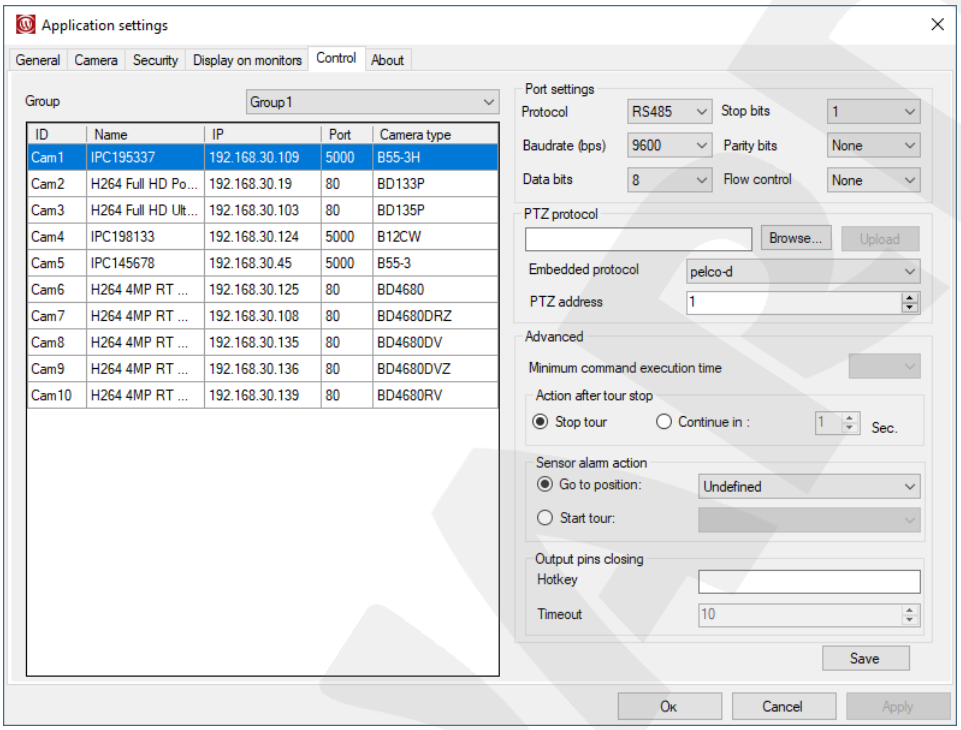
[Save]: click this button to save the changes you made.

Make sure that you don't exceed the maximal number of the video channels (35) before saving the grid. Otherwise, the changes are not saved, and a special pop-up notification appears.

A successful saving is also confirmed with a pop-up notification.

5.5. "Control" Tab

This tab is used for setting parameters of IP PTZ-cameras or IP video servers, which have analog PTZ-cameras connected to them (*Pic. 5.36*).



Pic. 5.36

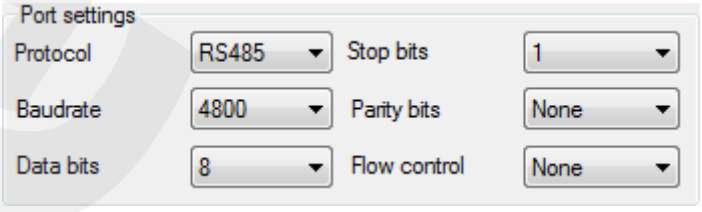
Choose the device for setting in the list to the left.

NOTE!

For setting the presets of PTZ-cameras see the paragraph 6.2.

5.5.1. Port Settings

Use this group of parameters to set the device connection port (*Pic. 5.37*).



Pic. 5.37

Protocol: choose a data transfer protocol.

Baudrate: set a data transmission rate (bps).

Data bits: set the amount of the data bits for each transmitting or receiving symbol.

Stop bits: set the interval between transmitting symbols.

Parity bits: choose the method of finding transmission errors.

Flow control: choose the way to control a data stream.

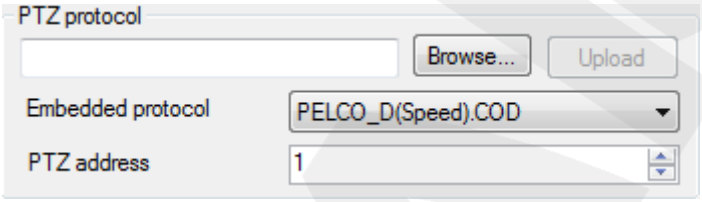
Click **[Save]** to apply new settings.

ATTENTION!

The parameters of a PTZ-camera and an IP video server must be the same; otherwise you can't control a PTZ-camera.

5.5.2. PTZ Protocol

Use this group of parameters to upload (if necessary) and set a protocol of data transmission between the PTZ-camera and the server (*Pic. 5.38*).



Pic. 5.38

Click **[Browse]**, select the protocol you need and click **[Upload]**.

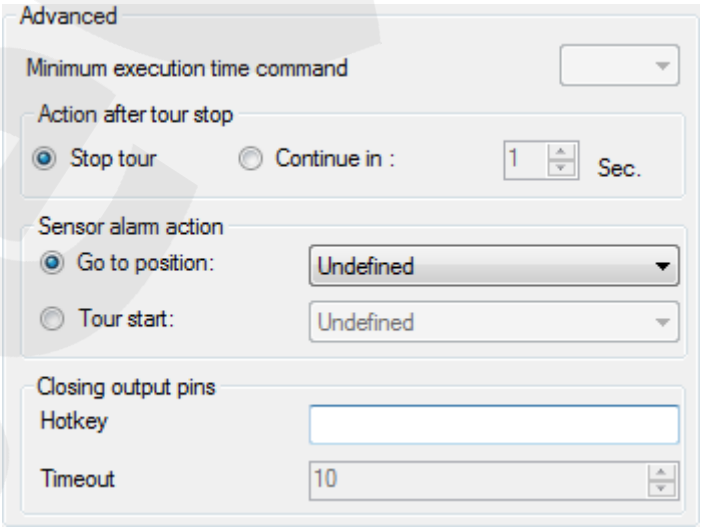
Embedded protocol: here is the protocol(s) embedded into the device.

PTZ address: assign the address to a PTZ-camera (it depends on parameters of the camera).

Click **[Save]** to apply new settings.

5.5.3. Advanced

Use this group of parameters to set some functions of PTZ-cameras (*Pic. 5.39*).



Pic. 5.39

Minimum execution time command: a minimum time interval between the acts of sending pan-tilt mechanism control commands. The interval needs to be increased when the camera is situated far from operator's PC. The default value (and also the minimum one) is 250 ms, the maximum value is 650 ms.

Action after tour stop: choose what action the PTZ-camera must do after it stops performing the tour. You can choose "Stop tour" (no action) or "Continue in" and specify the time in seconds to the right.

Sensor alarm action: choose what action the PTZ-camera must do on sensor alarm trigger – to go in a specific position or to perform a specific tour (the position and/or tour must be previously set by the user).

Closing output pins: here you can specify a hotkey or a combination of two keys for quick closing the camera output pins. For this purpose click the field and press the key or two keys on your keypad. In the "Timeout" field specify the time which need be passed since the last key pressing till an automatic opening of the pins.

Confirm new settings, clicking **[Ok]**, or cancel them, clicking **[Cancel]**.

5.6. "About" Tab

This tab contains information of the BEWARD IP Visor version, support service e-mail address, registered trademarks and the rights of the use and distribution of the software.

Chapter 6. Operation with PTZ-cameras

The BEWARD IP Visor software provides different tools for PTZ-camera control: manual camera motion, zoom and focus control, presets and tours, motion speed control.

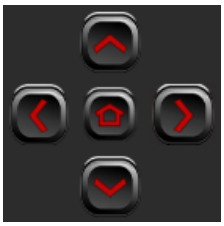
6.1. Manual Camera Control

A PTZ-control bar (*Pic. 6.1*) is situated along the right side of the main application window.

Left-click the channel window of the PTZ-camera you need to make it active and, consequently, ready for controlling.

Pic. 6.1

You can control camera motion both with a joystick and using the arrow buttons on the PTZ-control bar (*Pic. 6.2*).



Pic. 6.2

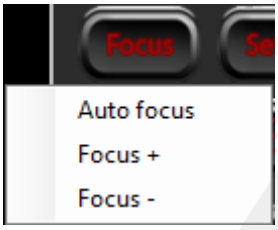
Use the following buttons for controlling an IR light function, brush and washer options:

Pic. 6.3

Use the following buttons for zoom control:

Pic. 6.4

For focus control click the **[Focus]** button, the following context menu will appear:



Pic. 6.5

[Focus +], **[Focus -]**: use these menu items to adjust the focus manually click by click.

[Auto focus]: click this menu item to enable automatic focus setting.

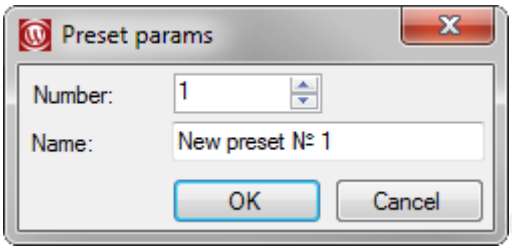
6.2. Setting the Presets

A preset of the PTZ-camera is a combination of its settings such as a position, zoom and focus values, using for more flexible and effective camera control and saving by the operator in advance. Some name or button is assigned to the specific preset so it can be called by one click.

Click the **[Setup]** button to adjust the presets. The following window will appear:

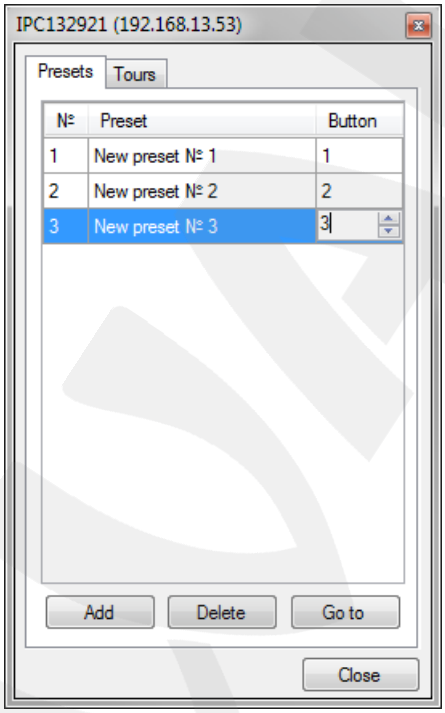
Pic. 6.6

[Add]: put the camera in the position you need and click this button. Enter the number and name of the preset in the new window and click **[OK]** (*Pic. 6.7*).



Pic. 6.7

The new preset will be added in the list (*Pic. 6.8*). Every preset can be called by clicking a quick-call button (see paragraph 6.4). To assign one of the buttons to the preset click the corresponding cell in the “Button” column of the table and enter the number of the button (*Pic. 6.8*).



Pic. 6.8

To change the name of a preset double-click it, enter a new name in the opened window and click **[OK]**.

[Delete]: select in the list the preset you need to remove and click this button. Confirm or cancel your decision in the opened window.

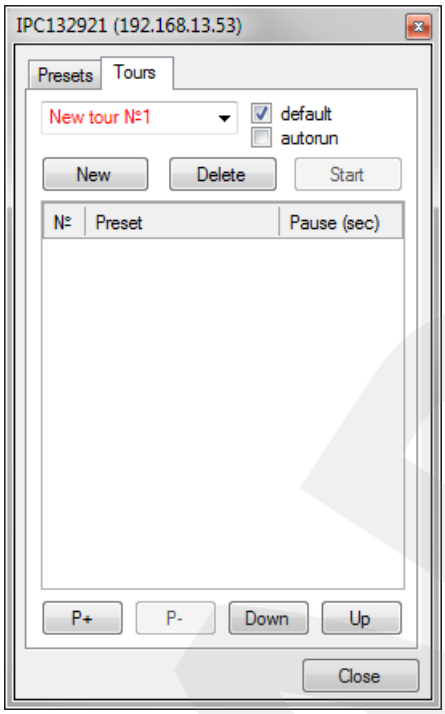
[Go to]: select in the list the preset you need to call and click this button.

6.3. Setting the Tours

A tour is a useful function of the PTZ-camera when it automatically moves between several presets previously set by the operator, staying in each position for the time also set by the operator.

Set all the necessary presets as it is described above before creating the tour.

Click the **[Setup]** button and choose the “Tours” tab to adjust the tours (*Pic. 6.9*).



Pic. 6.9

[New]: click this button to create a new tour. Enter tour's name in the opened window and click **[OK]**. The new tour will be added in the drop-down list.

[Delete]: select in the drop-down list the tour you need to remove and click this button. Confirm or cancel your decision in the opened window.

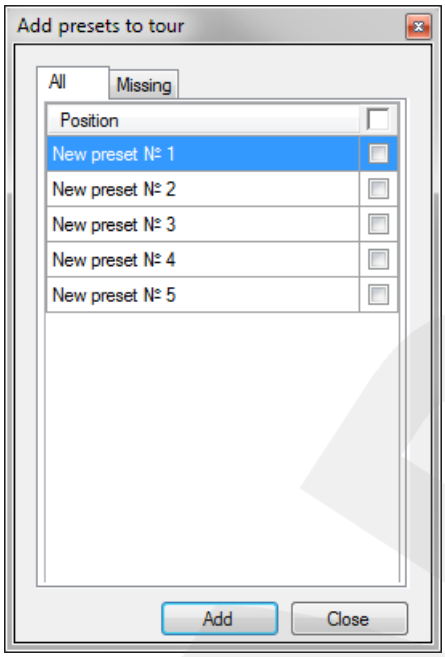
Default: the first tour you add automatically becomes the tour by default (for the current camera). If you want to change the tour by default select the one you need in the drop-down list and mark "default" with a tick. The name of the default tour has a red color in the drop-down list.

NOTE!

The tour by default is used for a Group Tour function (see below).

Autorun: select the tour you need in the drop-down list and mark "autorun" with a tick to run this tour right after the application start.

[P+]: click this button to add presets in the tour; the following window will appear:



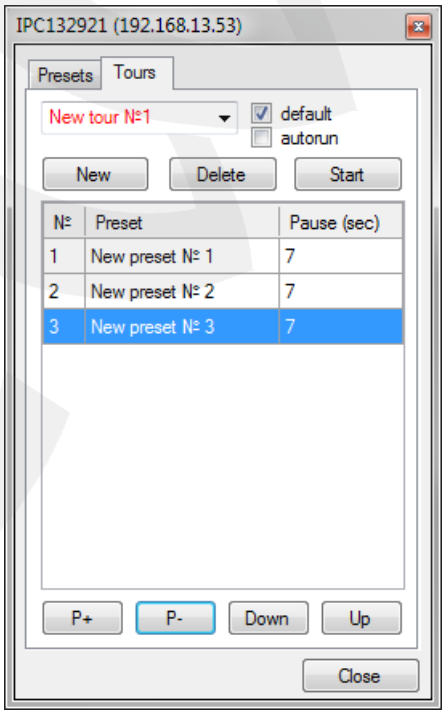
Pic. 6.10

The “All” tab contains all the presets available for addition in the current tour.

The “Missing” tab contains the presets which are not included in the current tour.

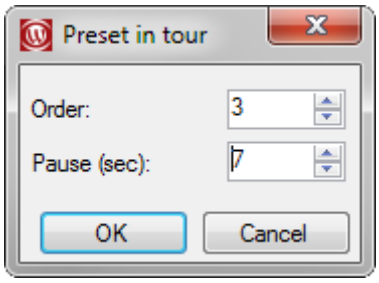
Mark necessary presets with ticks on the “All” tab and click **[Add]**.

[P-]: select the preset you need to remove from the tour and click this button (*Pic. 6.11*). Confirm or cancel your decision in the opened window.



Pic. 6.11

You can change the time which the camera stays in every position (“Pause”) as well as the order of presets in the tour. Double-click the necessary line of the list to get access to these settings (*Pic. 6.11, 6.12*).



Pic. 6.12

Enter the values you need and click **[OK]** (*Pic. 6.12*). The minimum “Pause” value is 2 sec.

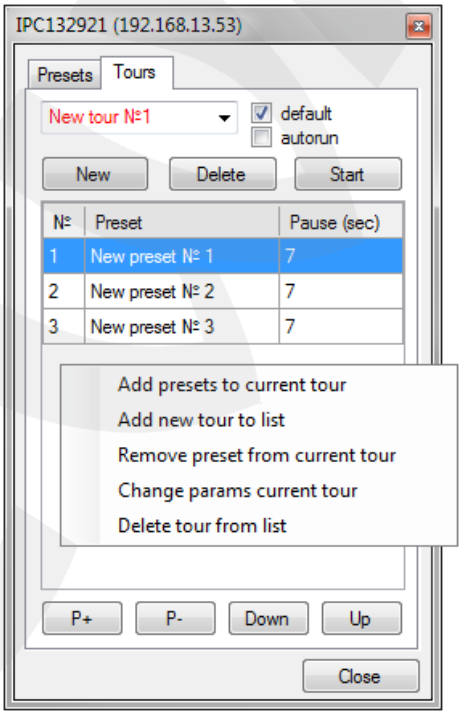
You can also change the order of presets in the tour using the buttons **[Down]** and **[Up]** (*Pic. 6.11*).

[Start]: click this button to run the current tour (*Pic. 6.11*).

NOTE!

There is a **[Tour]** button on the PTZ-control bar which can be also used for running tours (see paragraph 6.4).

Context menu: right-click in the list of presets to call a context menu (*Pic. 6.13*).



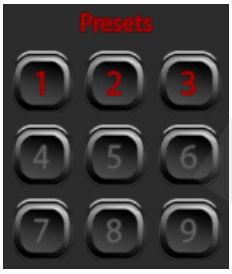
Pic. 6.13

Using this menu you can change all the settings described above and also change the name of the existed tour (“Change params current tour”).

6.4. Preset Quick-Call Buttons, [Tour] and [Tour Group] Buttons

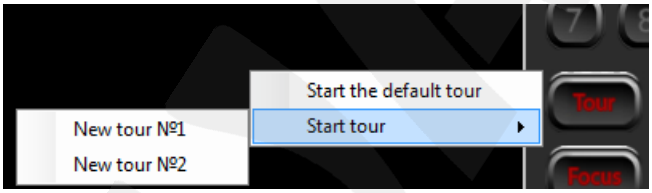
When the presets and tours are created and saved you can run them using specific buttons on the PTZ-control bar (*Pic. 6.1*).

Preset Quick-Call Buttons: use these buttons (*Pic. 6.14*) to call necessary presets with one click. For information on how to assign the buttons to the presets please refer to the paragraph 6.2.



Pic. 6.14

[Tour]: click this button to run one of the tours you set before. The following context menu will appear:



Pic. 6.15

You can run the default tour or another one from the list. To stop running the tour, click the **[Tour]** button again.

[Tour Group]: if there are several PTZ-cameras in your video surveillance system and each of them has a tour by default, you can run all of them at once, clicking this button.

Chapter 7. Setting up active 4G-connection

The essence of an active 4G-connection is that a device initiates the connection to client software by itself. Such a connection scheme needs a mediator on the client side and that is a VPN server. In case all settings are correct (devices are configured, the VPN server is set up and running, the Firewall is configured) devices are added to the software via active connection the same way as the other ones are, using an automatic device search or manually (you need to know device VPN IP-addresses in this case).

ATTENTION!

In case of troubles with the devices connected via active 4G-connection, first of all, check the SIM-card balance, whether you have any internet traffic left.

To connect and set up the devices refer to their user manuals (all necessary user manuals you can find on http://www.beward.net/ or on the disc from the device package contents).

The steps below need to be done to ensure that all the settings on the client side are made correctly.

Step 1

A VPN server needs to be run on the client PC (the OpenVPN server is included in the BEWARD IP Visor installer (see *Pic. 3.5*). You can check if it is run going to: *This PC* → *Manage* → *Services*. There you need to find the OpenVPN Service.

If the OpenVPN Service is absent, it needs to be installed (for this purpose it is recommended to use the BEWARD IP Visor installer).

If the service is not running, it needs to be started. An OpenVPN Service Startup type needs to be “Automatic”. In case the type is different, you can change it, using the service properties (right click on the service name and select “Properties” in the context menu).

Step 2

BEWARD IP Visor interoperates with the OpenVPN server through the “beward-openvpn-status.log” file. This file must be located in the OpenVPN install folder (usually *“C:\Program Files (x86)\OpenVPN\log”* for 64-bit versions of Windows and *“C:\Program Files\OpenVPN\log”* for 32-bit versions). This file must contain descriptions of the clients currently connected to the OpenVPN server (see *Pic. 7.1*). If this file is absent, empty or does not contain any client descriptions (highlighted with grey on the picture), restart the OpenVPN Service.

```
1  OpenVPN CLIENT LIST
2  Updated,Thu Jul 06 07:39:33 2017
3  Common Name,Real Address,Bytes Received,Bytes Sent,Connected Since
4  BewardVPNClient,192.168.30.175:4066,4701,3715,Thu Jul 06 07:39:20 2017
5  BewardVPNClient,192.168.30.163:62581,260635,3715,Thu Jul 06 07:39:18 2017
6  ROUTING TABLE
7  Virtual Address,Common Name,Real Address,Last Ref
8  10.2.1.3,BewardVPNClient,192.168.30.175:4066,Thu Jul 06 07:39:26 2017
9  10.2.1.2,BewardVPNClient,192.168.30.163:62581,Thu Jul 06 07:39:27 2017
10 GLOBAL STATS
11 Max bcast/mcast queue length,2
12 END
```

Pic. 7.1

Step 3

The BEWARD IP Visor installation program offers to configure Firewall rules to close access to the client computer via VPN-channels (see *Pic. 3.5*). If this option was chosen during the installation process, the installer should have added the following four inbound Firewall rules (if it was not done earlier):

Windows Firewall rules for correct operation of the BEWARD IP Visor

№	Name	Action	Program	Local address	Protocol	Local port	Remote port
1	BewardVPNServer	Block	Any	10.2.1.0/24	TCP	Any	Any
2	BewardVPNServer	Block	Any	10.2.1.0/24	UDP	Any	1-1899, 1901-65535
3	BewardVPNServer	Allow	Any	Any	TCP	1201	Any
4	BewardIPVisor	Allow	Path[1]	10.2.1.0/24	UDP	Any	1900

[1] – a path to the BEWARD IP Visor executable.

These rules are needed for BEWARD IP Visor to work properly with devices, added via the active connection.

You can check whether the needed rules exist, having a look at the Windows Firewall Advanced settings (*Control Panel → Windows Firewall → Advanced settings → Inbound rules*).

ATTENTION!

If some Firewall rules are in conflict with ones given in the table above, correct operation of BEWARD IP Visor with the devices added via the active connection is not possible.

If you need to change a VPN IP-address range ("server" parameter) or a port, used by the OpenVPN server for accepting inbound connection requests ("port" parameter), then you need to edit its configuration file "beward-server.ovpn". This file is located in the OpenVPN install folder (usually *"C:\Program Files (x86)\OpenVPN\config"* for 64-bit versions of Windows and *"C:\Program Files\OpenVPN\config"* for 32-bit versions) and can be opened in the "Notepad" application.

ATTENTION!

Make a backup of the OpenVPN configuration file before editing it. Restart the OpenVPN Service after editing this file.

VPN IP-address range changing requires the "Local address" parameter to be changed in the rules 1, 2 and 4 of the Windows Firewall for correct operation of the BEWARD IP Visor (see the table above).

Port changing requires the "Local port" parameter to be changed in the rule 3.

Adding to the BEWARD IP Visor application the devices connected via active 4G-connection, it is important to keep in mind that VPN IP-addresses of the devices can change, when they are disconnected from the VPN server. So any of them may get a different VPN IP-address when reconnecting to the VPN server for any reason (OpenVPN service restart, device reboot, network errors).

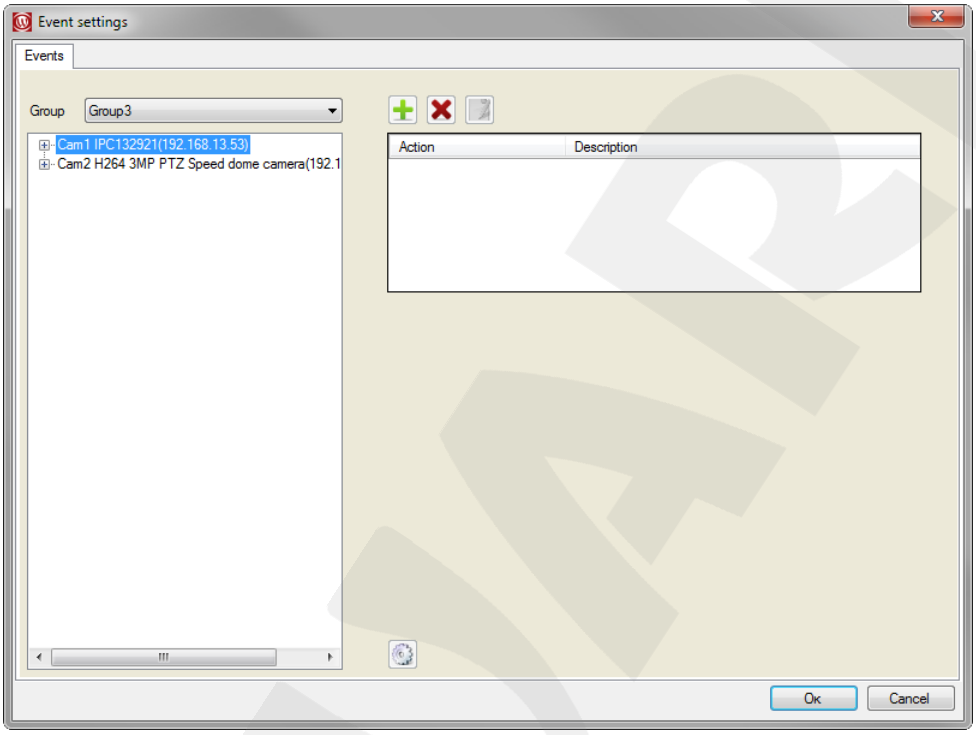
It is recommended to assign different main network interface (usually LAN) IP-addresses to the devices connected via the active connection, before adding them to the application. These addresses will be shown in the application in parenthesis next to the VPN IP-addresses for convenience.

ATTENTION!

For correct operation of BEWARD Record Center this recommendation is obligatory, because exactly these LAN IP addresses are used when creating record directory names.

Chapter 8. “Event Settings” Menu

Click the **[Event Settings]**  system menu button in the lower right part of the application main window to open a new window (*Pic. 8.1*), where you can set different alarm events and actions to react as these events happen.



Pic. 8.1

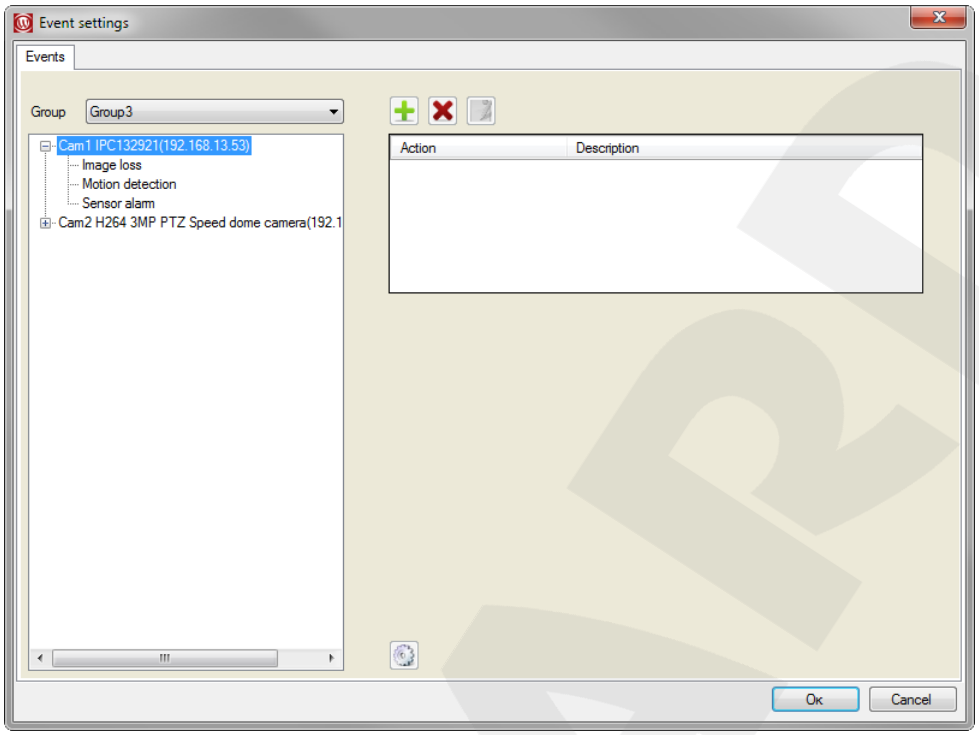
The window may be divided into two parts. At the left side you can choose devices added in the application and several alarm events which are available for the each device. At the right side you can set the actions for the events.

8.1. Events and Actions

Step 1: choose the device you need from the list at the left side of the window. Double-click device’s name or click **[⊞]** to open the drop-down list of available alarm events (*Pic. 8.2*). The following kinds of events are available in the present version of BEWARD IP Visor: “Image loss”, “Motion detection”, “Sensor alarm”.

NOTE!

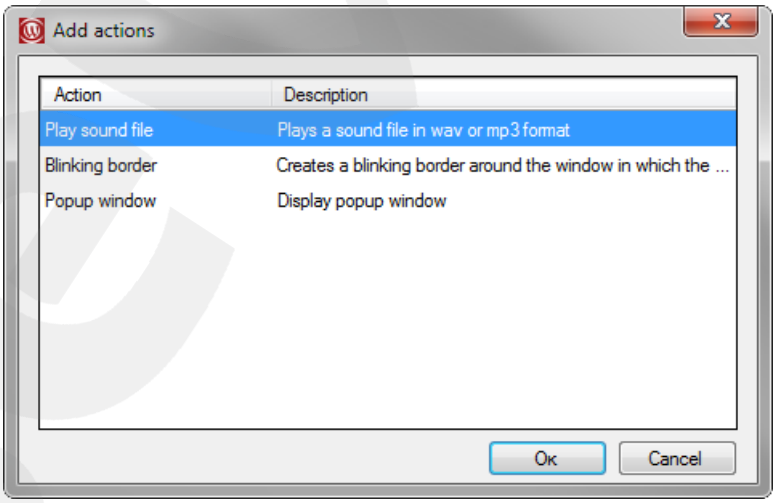
An “Intercom call button” event is available instead of the “Sensor alarm” one for the door stations.



Pic. 8.2

Step 2: choose the necessary event and click  . Choose an action you want to add in the opened window (*Pic. 8.3*). The following kinds of actions are available in the present version of BEWARD IP Visor: "Play sound file", "Blinking border", "Popup window", "Call notification".

NOTE!
The "Call notification" action is available only for the door stations.

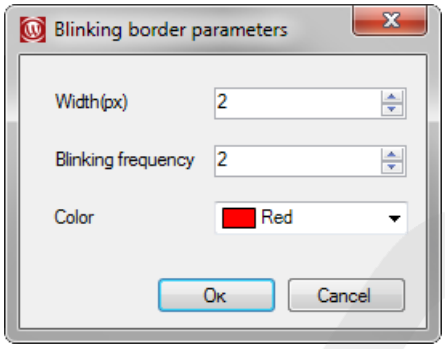


Pic. 8.3.

Step 3: confirm your choice clicking **[Ok]**.

Step 4: set parameters of the action in the next window. Each action has its own parameters. They are described further in the present Manual.

Blinking border: the parameters of the "Blinking border" action are set in the following window:



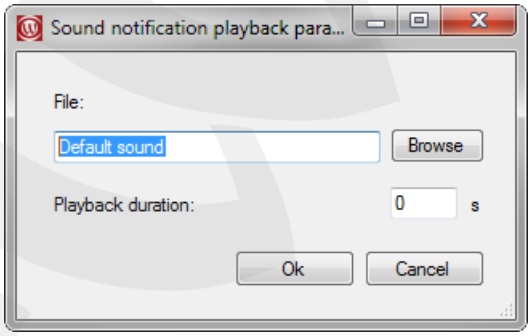
Pic. 8.4

The border of the camera channel window starts blinking when the corresponding event happens. You can change the following border's parameters:

- **Width**: the width of the border in pixels;
- **Blinking frequency**: the frequency of the border blinking;
- **Color**: the color of the active border.

Click **[Ok]** to save the changes.

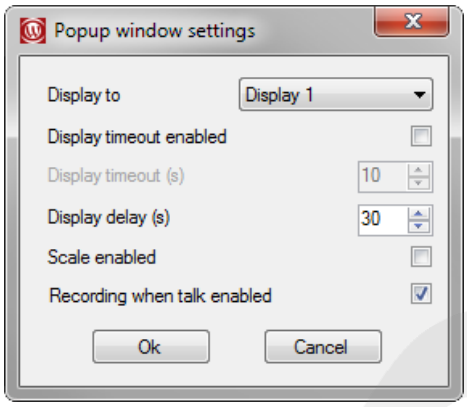
Play sound file: the parameters of the "Play sound file" action are set in the following window:



Pic. 8.5

An audio file is played when the corresponding event happens. You can upload a *.wav or an *.mp3 audio file and specify its playback duration in sec.

Popup window: the parameters of the "Popup window" action are set in the following window:



Pic. 8.6

A popup window with the video image from the camera is displayed when the corresponding event happens. You can change the following action's parameters:

- **Display to**: choose the monitor for displaying the window.
- **Display timeout enabled**: put a tick and specify a **display timeout** in seconds in the field below to make the popup window be displayed during this time. If this option is disabled, the popup window will be displayed until the motion/sensor detection will stop triggering and then it will be closed in accordance with the value of the **display delay** (see below) and whether the detection will trigger again or not.
- **Display timeout (s)**: specify the time in seconds to make the popup window be automatically closed after this time passed (first, you need enable the option above putting a tick in the check box).
- **Display delay (s)**: specify the time in seconds to make the popup window be automatically closed after this time passed and the motion/sensor detection stopped triggering (available if the "Display timeout" option is disabled).
- **Scale enabled**: put a tick to provide scaling the popup windows depending on the number of the cameras which raised the alarm. For example, if one camera raises the alarm, the popup window will be maximized at the full screen; 2-4 cameras – 1/4 of the full screen; 5-9 cameras – 1/9 of the full screen.
- **Recording when talk enabled**: put a tick to provide video and audio recording by means of the **Record Center** software when the enabling the two-way audio mode in **IP Visor** (see paragraph 4.2).

ATTENTION!
This option is only available when the Beward Record Service is run on the same PC and the "Record on two-way audio activation" option is enabled. (see the BEWARD Record Center Software Operation User Manual).

An alarm event popup window is given on the *Picture 8.7*.

Pic. 8.7

Under the video image you can see the date and time of an alarm event and its source. There are audio control buttons in the window. Their functions were described previously in the present Manual (see paragraph 4.2).

ATTENTION!

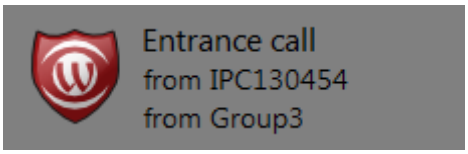
The popup window cannot be closed while the **[Talk mode on]** button is pressed, even if the "Display timeout" or "Display delay" time has already passed.

Use the button to close the camera output pins.

NOTE!

For the door stations use the button to open a door lock.

Call notification: this notification (*Pic. 8.8*) appears when pressing the Call button on the door station. The "Call notification" action is available instead of the "Popup window" action. The popup window appears when clicking this notification.



Pic. 8.8

By default, the following actions are set for the "Intercom call button" event of a door station: "Blinking border", "Play sound file" and "Call notification".

8.1.1. Removing the Actions

Choose the action you need to remove and click the **[Remove]** button. Then confirm or cancel your decision in the opened window.

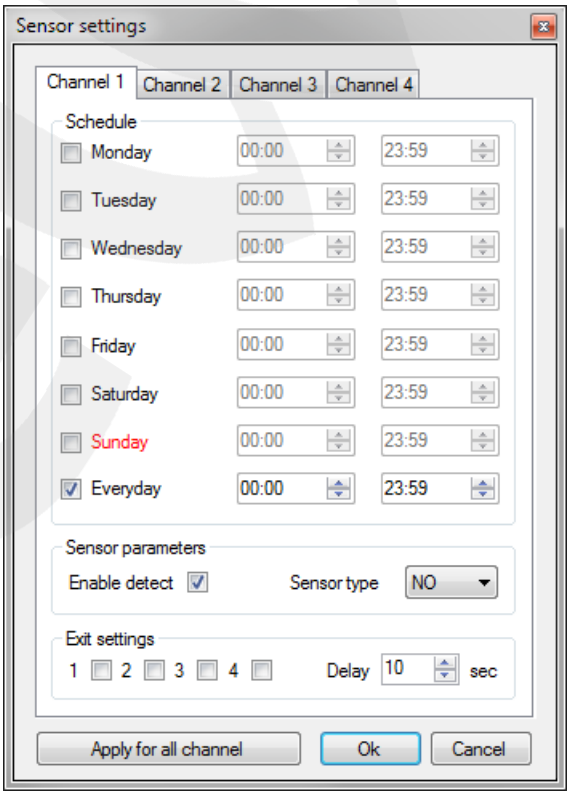
8.1.2. Changing Parameters of the Actions

Use the **[Edit]** button to change parameters of the action. You can also just double-click the name of the action to open its parameter window (see above). Click **[Ok]** to save the changes.

You can look at how each action works, pressing the **[Test]** button.

8.2. Camera Sensor Settings

Double-click on the name of the "Sensor alarm" event (or "Intercom call button" event) to open a camera sensor settings window:



Pic. 8.9

The window contains four (or less – depending on the device model) equal tabs with the settings described below.

Using the **"Schedule"** settings group you can set time intervals for the each day of a week when the sensor may trigger.

Enable detect: put a tick to allow the sensor to trigger.

Sensor type: choose the inactive state of the device's output pins (when the alarm signal from an external device is not received):

- **NO (Normally open)**:the sensor triggers on closing the pins.
- **NC (Normally closed)**: the sensor triggers on opening the pins.

The **"Exit settings"** check boxes relate to the output pins. Mark the check boxes to close (open) the corresponding pins in case of the alarm.

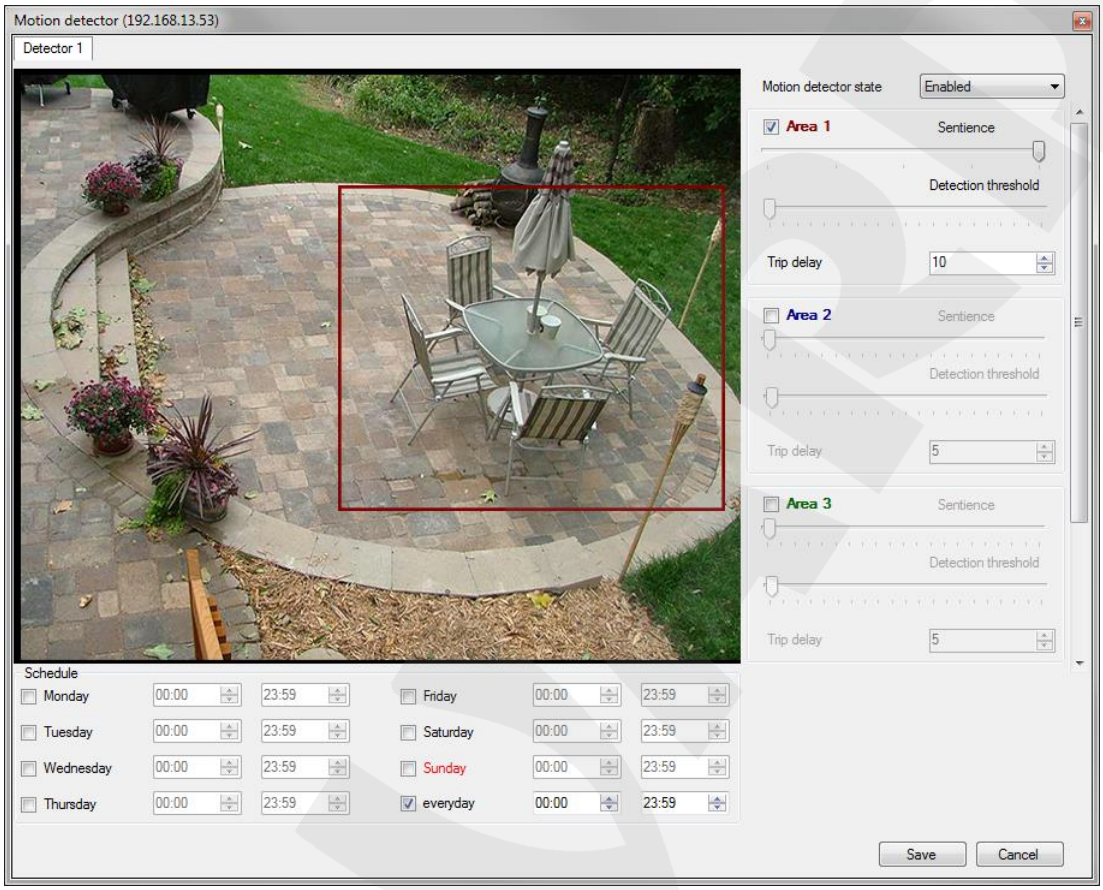
Delay: set the time of keeping the pins in the active state. As the delay time passes the pins come in the normal state.

Click **[Apply for all channels]** to apply the current channel settings to the others.

Click **[Ok]** to save the changes.

8.3. Camera Motion Detection Settings

Double-click on the name of the "Motion detection" event to open the motion detection settings window:



Pic. 8.10

Using the **"Schedule"** settings group you can set time intervals for the each day of a week when the motion detector may trigger.

Motion detector state: choose "Enabled" to allow the motion detection event to be processed.

Using the **"Area"** settings group (there can be several groups, "Area 1", "Area 2" etc., depending on the model of the device) you can set a motion detection area.

Mark some area check box and set the size of the area using a colored rectangle over the video image. Adjust the detection sensitivity for the current area using the "Sentience" slider. Adjust the detection threshold for the current area using the corresponding slider. The following values are recommended: "Sentience" – 80, "Detection threshold" – 25.

Trip delay: this parameter determines duration of the alarm after the camera stopped sending the detection signal.

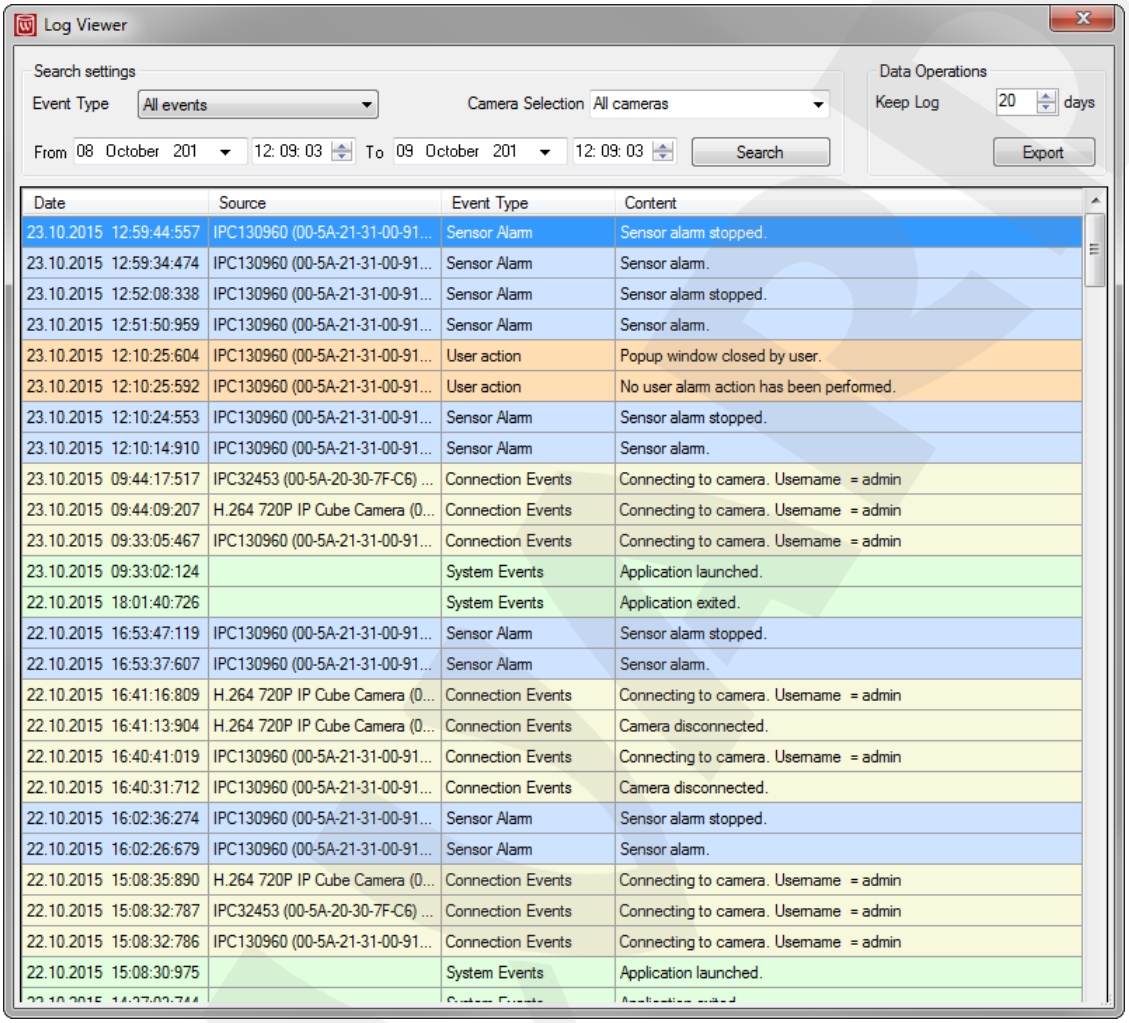
ATTENTION!

For some camera models the parameters "Sentience", "Detection threshold" and "Trip delay" are set for the all detection areas. It is possible to set a crossing of the detection areas for the N and BD series cameras. However, it is not recommended to set the areas with equal parameters and location; such areas will be defined as equal.

For the versions of BEWARD IP Visor since 1.40 and later operation with several motion detectors is supported. Different detection areas and their parameters can be set for the each detector. The corresponding action(s) ("Blinking border", "Popup window", "Play sound file") are performed in case of triggering one or several detectors.

Chapter 9. Event Log

Click the **[Log]** button in the main application window to open the following window:

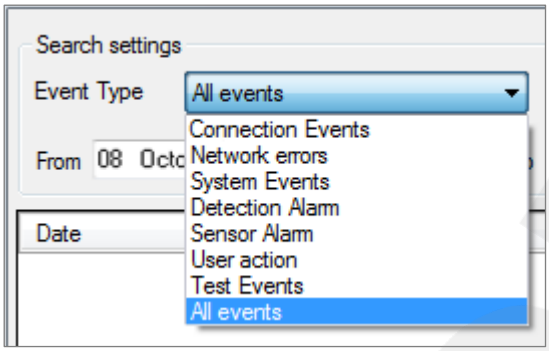


Pic. 9.1

The Event Log is used for writing down and monitoring system events which take place during application operation.

The “Search settings” group-box in the top of the window “Log Viewer” contains different tools which make search of the events more convenient.

Event Type: use this drop-down list to choose a specific type of the system events so only the events of this type would be displayed in the Log after searching. By default the “All events” type is set.



Pic. 9.2

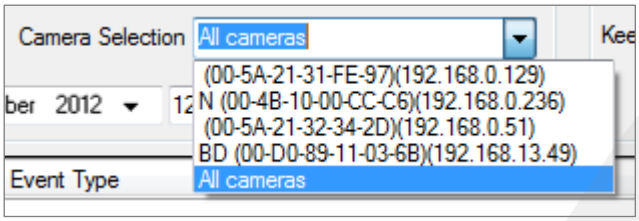
The following event types are available (*Pic. 9.2*):

1. Connection Events;
2. Network errors;
3. System Events;
4. Detection Alarm;
5. Sensor Alarm;
6. User action;
7. Test Events;
8. All Events.

Event Type	Description
Connection Events	Events of connection / disconnection of devices to the application.
Network errors	Errors that occurred during devices connection.
System Events	Events that relate to the whole system operation, such as start of the application.
Detection Alarm	Events of start and end of the alarm activated by camera motion detection.
Sensor Alarm	Events of start and end of the alarm activated by the camera sensor.
User action	Actions were done by the user, for example, in response to motion detection trigger.
Test Events	Events of the tests which are automatically run by the application.

Lines in the Log have their own color for each event type (*Pic. 9.1*).

Camera Selection: use this drop-down list to choose a specific device added to the application so only the events concerning this camera would be displayed in the Log after searching. By default the “All cameras” type is set.

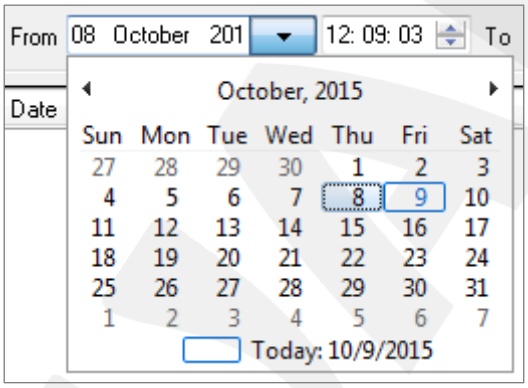


Pic. 9.3

From / To: use these date and time fields to specify a time interval for searching events.

Pic. 9.4

Click the button to open a calendar where you can pick the date you need (*Pic. 9.5*).



Pic. 9.5

[Search]: click this button to find all necessary events in accordance with the filter parameters you specified.

The “Data Operation” group-box is situated in the upper right corner of the window “Log Viewer”. Data are kept in the Log for the time that you can specify in the **“Keep Log”** field in days. The maximum term is 55 days, the minimum one is 10. To increase search speed the oldest events are automatically removed from the Log (by default, in 20 days).

[Export]: click this button to save data of the current Log as the Excel (*.xls) file in the folder you need.

ATTENTION!

Microsoft Office 2007 or higher needs to be installed to export the Log as the Excel (*.xls) file.

Chapter 10. Bug Report

The “Bug Report” application is included into the installation set of BEWARD IP Visor and it is used for collecting information on the operation errors and sending it to the Beward support service.

Run the “Bug Report” application using the shortcut which was created during the installation. A path by default: ***“Start” – “All programs” – “BEWARD” – “BEWARD IP Visor” – “Bug report BEWARD IP Visor”***. You can also click **[Report]** exactly when any error appears.

ATTENTION!

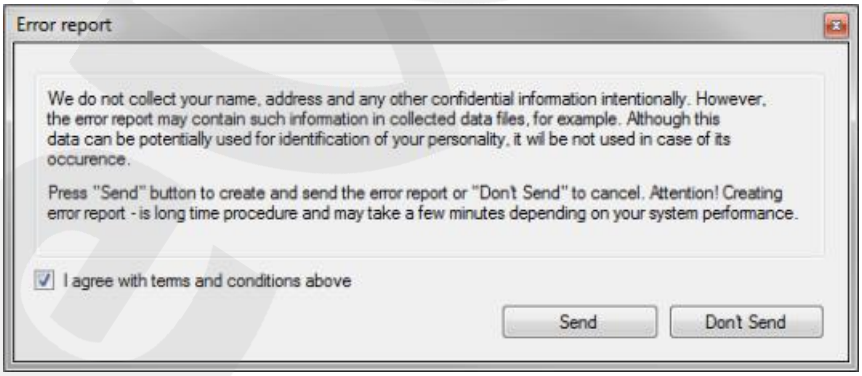
To provide correct operation of the “Bug Report” application in Windows 7, it is necessary to change when to be notified about changes to your computer to the minimum (Parameters of the user account control). Go to ***“Start” – “Control Panel” – “User Accounts” – “Change User Account Control settings”*** and move the cursor to “Never notify” in the new opened window.

NOTE!

User Account Control (UAC) is used to notify the user about changes of system parameters which require the right of the administrator. By default the UAC notifications will be displayed if there are any attempts to change computer parameters by programs.

In the first case you will see the “Error report” window. Click **[Create report]** to continue or **[Quit]** to close the application.

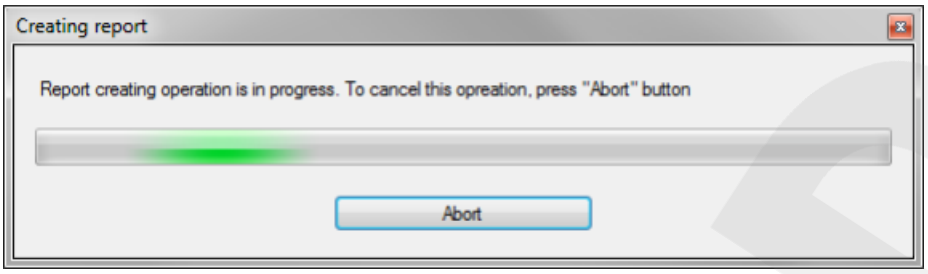
In the second case the following window will appear:



Pic. 10.1

Click the check-box if you agree with the given terms and click the **[Send]** button. Otherwise, click **[Don’t Send]** to close the “Bug Report” application.

The report will start forming after clicking the **[Send]** button (*Pic. 10.2*).



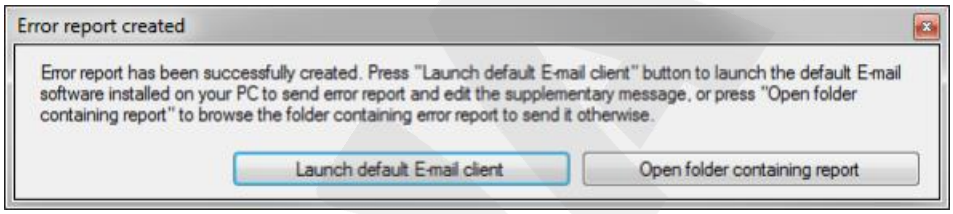
Pic. 10.2

To stop the process, click **[Abort]**.

ATTENTION!

The process of forming the bug report may last quite a long time.

The following window is opened after the bug report was created:



Pic. 10.3

Click **[Launch default E-mail client]** to run the E-mail client application you use by default. In this case a new message window will be opened. This message will be addressed to *support@beward.ru* and will include a reference to the created bug report.

ATTENTION!

The file of the created bug report is not automatically attached to the E-mail letter. So you need attach the report to the letter before sending.

Click **[Open folder containing report]** if you need to look through the created bug report. The bug report file is an archive with the *.bbr extension which contains files with settings of the database and program errors. You can open the archive using any file archiver program. If the bug report is created from the “Start” menu, the “LastError” file, which is included to the archive, will be empty.

Appendices

Appendix A. Technical Support

Bug reports and your suggestions on how we can improve our software, please, send to support@beward.ru.

Please, before contacting the support service prepare the following information:

- Exact model name and IP address of your device;
- Error messages were received since the problem appeared;
- Firmware version and name of equipment which the device operated with when the problem appeared;
- What did you do to solve the problem by yourself step by step;
- Screenshots of the settings and the connection parameters;
- Error report file, such as ErrorReport131011_170413.bbr.

The more information you can give the quicker our engineers can help you to solve the problem.

Appendix B. BEWARD IP Visor Hot Keys

<Ctrl-F>	enable/disable the full screen mode (the same result as of using the “FullScreen mode on”/“FullScreen mode off” of the screen context menu; see paragraph 4.4)
<Esc>	disable the full screen mode
<Ctrl-1> **<Ctrl-2>** **…** **<Ctrl-0>**	switch between screen division modes (see paragraph 4.1)
<Ctrl-Left> **<Ctrl-Right>** **<Ctrl-Up>** **<Ctrl-Down>**	rotate a PTZ-camera left, right, tilt it up and down
<+> **<->** **(Numeric keypad)**	increase/decrease the speed of PTZ-camera motion
<F1>	open a PDF file of the Operation User Manual
<Ctrl-D>	open the door (for door stations)

<Ctrl-T>	enable the “Talk” mode (for door stations)

Appendix C. Operation Systems Supported by BEWARD IP Visor

Windows version	Supported editions
Windows 7 SP1	Starter
	Home Basic
	Home Premium
	Professional
	Enterprise
	Ultimate
Windows 8	Professional
	Enterprise
	RT
Windows 8.1	Professional
	Enterprise
	RT
Windows 10	Home
	Professional
	Enterprise