



TruVision 360° Camera Configuration Manual

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Content

Introduction 3

Checking your web browser security level 3

Accessing the camera over the internet 5

Overview of the camera web browser 5

Camera configuration 7

Local configuration 7

Configuration 8

Defining the system time 9

Defining RS-485 settings 10

Defining 360° settings 11

Configuring network settings 13

Defining recording parameters 17

Configuring the video image 19

Defining how information is displayed 22

Configuring privacy mask 23

Motion detection alarms 24

Tamper-proof alarms 26

Exception alarms 27

Snapshot parameters 27

Configuring NAS settings 28

Formatting the storage devices 29

Defining a recording schedule 30

Camera management 33

User management 33

Defining RTSP authentication 35

Defining IP Address Filter 35

Defining Security Service 37

Restoring default settings 37

Importing/exporting a configuration file 38

Upgrading the firmware 38

Rebooting the camera 38

Camera operation 39

Logging on and off 39

Live view mode 39

Playing back recorded video 40

Searching event logs 42

Operating PTZ control 44

Index 47

Introduction

This manual explains how to configure the camera over the network with a web browser.

TruVision IP cameras can be configured and controlled using Microsoft Internet Explorer (IE) and other browsers. The procedures described use Microsoft Internet Explorer (IE) web browser.

Checking your web browser security level

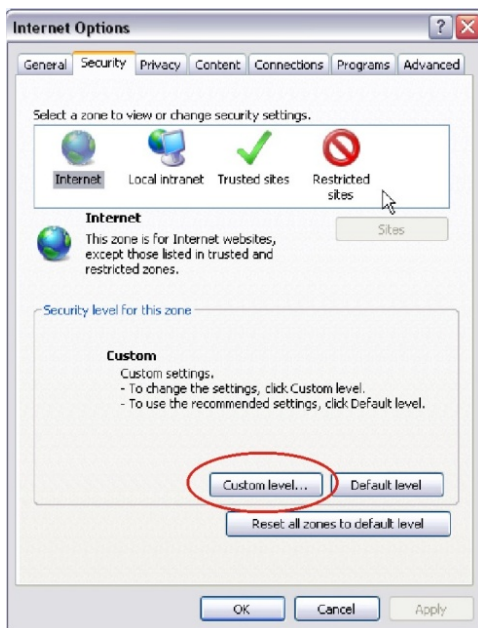
When using the web browser interface, you can install ActiveX controls to connect and view video using Internet Explorer. However, you cannot download data, such as video and images due to the increased security measure. Consequently you should check the security level of your PC so that you are able to interact with the cameras over the web and, if necessary, modify the Active X settings.

Configuring IE ActiveX controls

You should confirm the ActiveX settings of your web browser.

To change the web browser's security level:

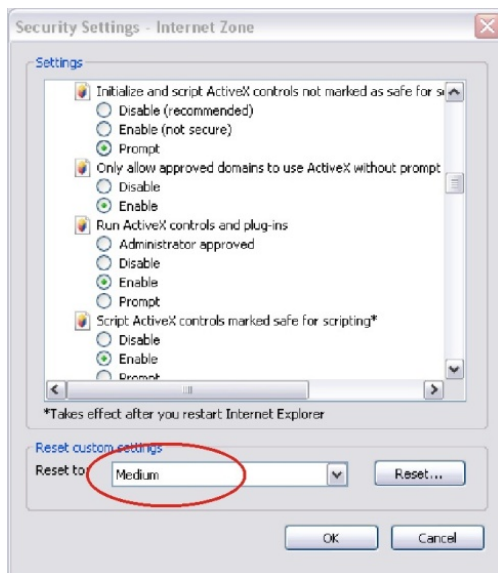
1. In Internet Explorer click **Internet Options** on the **Tools** menu.
2. On the **Security** tab, click the zone to which you want to assign a web site under "Select a web content zone to specify its security settings".
3. Click **Custom Level**.



4. Change the **ActiveX controls and plug-ins** options that are signed or marked as safe to **Enable**. Change the **ActiveX controls and plug-ins** options that are unsigned to **Prompt** or **Disable**. Click **OK**.

- OR -

Under **Reset Custom Settings**, click the security level for the whole zone in the **Reset To** box, and select **Medium**. Click **Reset**.



Then click **OK** to the Internet Options Security tab window.

5. Click **Apply** in the **Internet Options Security** tab window.

Windows 7 and 8 users

Internet Explorer for Windows 7 and Windows 8 operating systems have increased security measures to protect your PC from any malicious software being installed.

To have complete functionality of the web browser interface with Windows 7 and Windows 8, do the following:

- Run the Browser interface as an administrator in your workstation
- Add the camera's IP address to your browser's list of trusted sites
- To avoid compatibility problems with your browser, add the camera IP address to the browser compatibility view.

To add the camera's IP address to Internet Explorer's list of trusted sites:

1. Open Internet Explorer.
2. Click **Tools**, and then **Internet Options**.
3. Click the **Security** tab, and then select the Trusted sites icon.
4. Click the **Sites** button.
5. Clear the "Require server verification (https:) for all sites in this zone box" checkbox.
6. Enter the IP address in the "Add this website to the zone" field.
7. Click **Add**, and then click **Close**.
8. Click **OK** in the Internet Options dialog window.
9. Connect to the camera for full browser functionality.

To add the camera's IP address to Internet Explorer's compatibility view:

1. Open Internet Explorer.
2. If using Internet Explorer 11, click **Compatibility view** and then **Add**.

– Or –

If using Internet Explorer 10 or below, click **Tools > Compatibility View Settings** and then **Add**.

Accessing the camera over the internet

Use the web browser to access and configure the camera over the internet.

It is recommended that you change the administrator password once the set up is complete. Only authorized users should be able to modify camera settings. See "User management" on page 33 for further information.

To access the camera online:

1. In the web browser enter the camera's IP address (default is 192.168.1.70). Use the tool, *TruVision Device Finder*, enclosed on the CD to find the IP address of the camera.

The Login dialog box appears.

Note: Ensure that the Active X controls are enabled.

2. Enter your user name and password.

User name: admin

Password: 1234

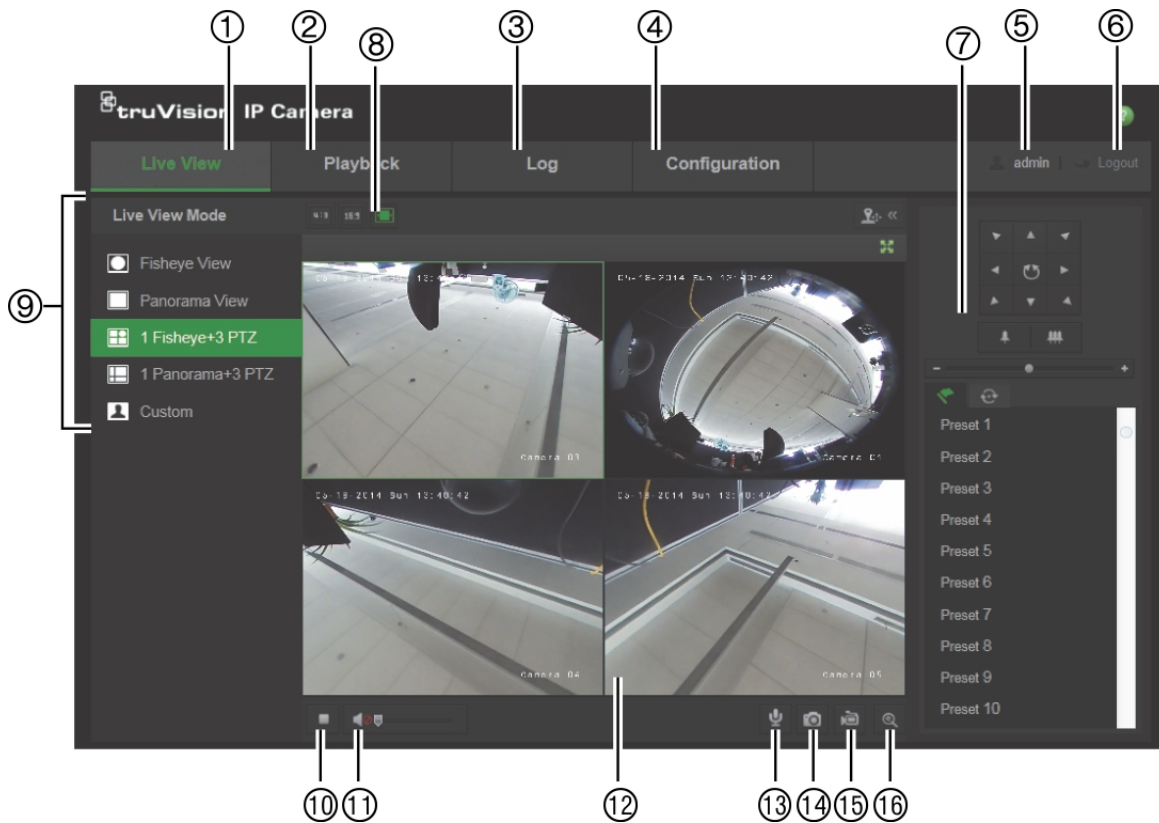
3. Click **Login**. The web browser window appears in live view mode.

Overview of the camera web browser

The camera web browser lets you view, record, and play back recorded videos as well as manage the camera from any PC with Internet access. The browser's easy-to-use controls give you quick access to all camera functions. See Figure 1 on page 6.

If there is more than one camera connected over the network, open a separate web browser window for each individual camera.

Figure 1: Browser interface (Live view shown)



Parameters	Description
1. Live View	Click to view live video.
2. Playback	Click to playback video.
3. Log	Click to search for event logs. There are three main types: Alarm, Exception, and Operation.
4. Configuration	Click to display the configuration window for setting up the camera.
5. Current User	Display current user logged on.
6. Logout	Click to log out from the system. This can be done at any time.
7. PTZ Controls	Control pan, tilt, zoom actions, set up presets and tour.
8. Aspect Ratio	Choose the aspect ratio (4x3, 16x9 or auto).
9. Live View Mode	Choose live view mode among 360°, panorama, and (or) PTZ mode.
10. Start/stop Live View	Click to start/stop live view.
11. Audio	Adjust volume.
12. Viewer	View live video. Time, date and camera name are displayed here.
13. Bidirectional Audio	Enable/disable bidirectional audio
14. Capture	Click to take a snapshot of the video. The snapshot will be saved to the default folder in JPEG format.
15. Start/stop Recording	Click to record live video.
16. Digital Zoom	Click to enable digital zoom.

Camera configuration

This chapter explains how to configure the cameras through a web browser.

Once the camera hardware has been installed, configure the camera's settings through the web browser. You must have administrator rights in order to configure the cameras over the internet.

The camera web browser lets you configure the camera remotely using your PC. Web browser options may vary depending on camera model.

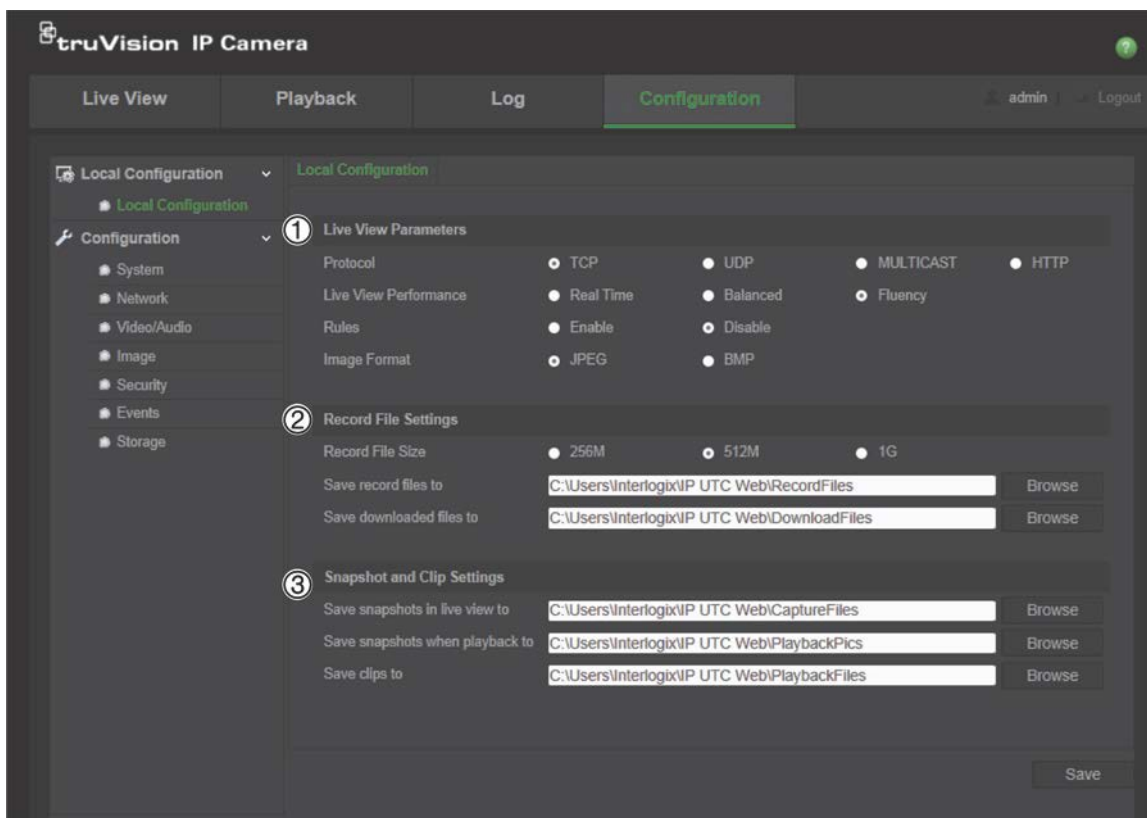
There are two main folders in the configuration panel:

- Local configuration
- Configuration

Local configuration

Use the Local Configuration menu to manage the protocol type, live view performance and local storage paths. In the Configuration panel, click **Local Configuration** to display the local configuration window. See Figure 2 below for descriptions of the different menu parameters.

Figure 2: Local Configuration window

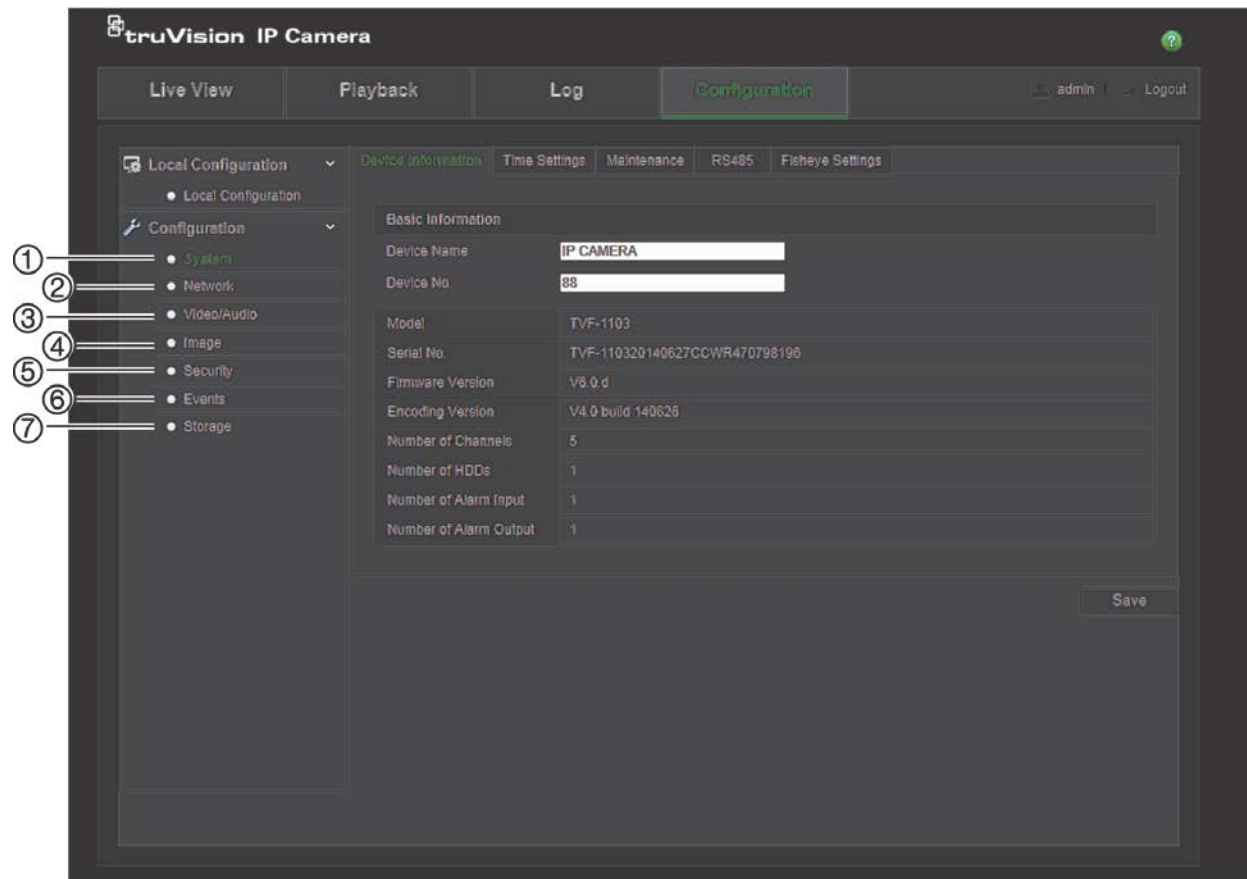


Parameters	Description
1. Live View Parameters	
Protocol	Specifies the network protocol used. Options include: TCP, UDP, MULTICAST and HTTP. TCP: Ensures complete delivery of streaming data and better video quality, yet the real-time transmission will be affected. UDP: Provides real-time audio and video streams. HTTP: Allows the same quality as of TCP without setting specific ports for streaming under some network environments. MULTICAST: It's recommended to select MCAST type when using the Multicast function.
Live View Performance	Specifies the transmission speed. Options include: Real Time, Balanced or Fluency.
Rules	Enable this option to detect real-time alarm such as motion detection. The area which detected the alarm will be highlighted as green.
Image Format	Specifies the snapshot format as JPEG or BMP.
2. Record File Settings	
Record File Size	Specifies the maximum file size. Options include: 256 MB, 512 MB, and 1G.
Save Record Files to	Specifies the directory for recorded files.
Save Downloaded Files to	Specifies the directory for downloaded files.
3. Picture and Clip Settings	
Save Snapshots In Live View To	Specifies the directory for saving snapshots in live view mode.
Save Snapshots When Playback To	Specifies the directory for saving snapshots in playback mode.
Save Clips To	Specifies the directory for saving video clips in playback mode.

Configuration

Use the **Configuration** panel to configure the camera system, network, video audio, alarms, users, transactions and other parameters such as upgrading the firmware. See Figure 3 on page 9 for descriptions of the configuration folders available.

Figure 3: Configuration panel (Device Information window selected)



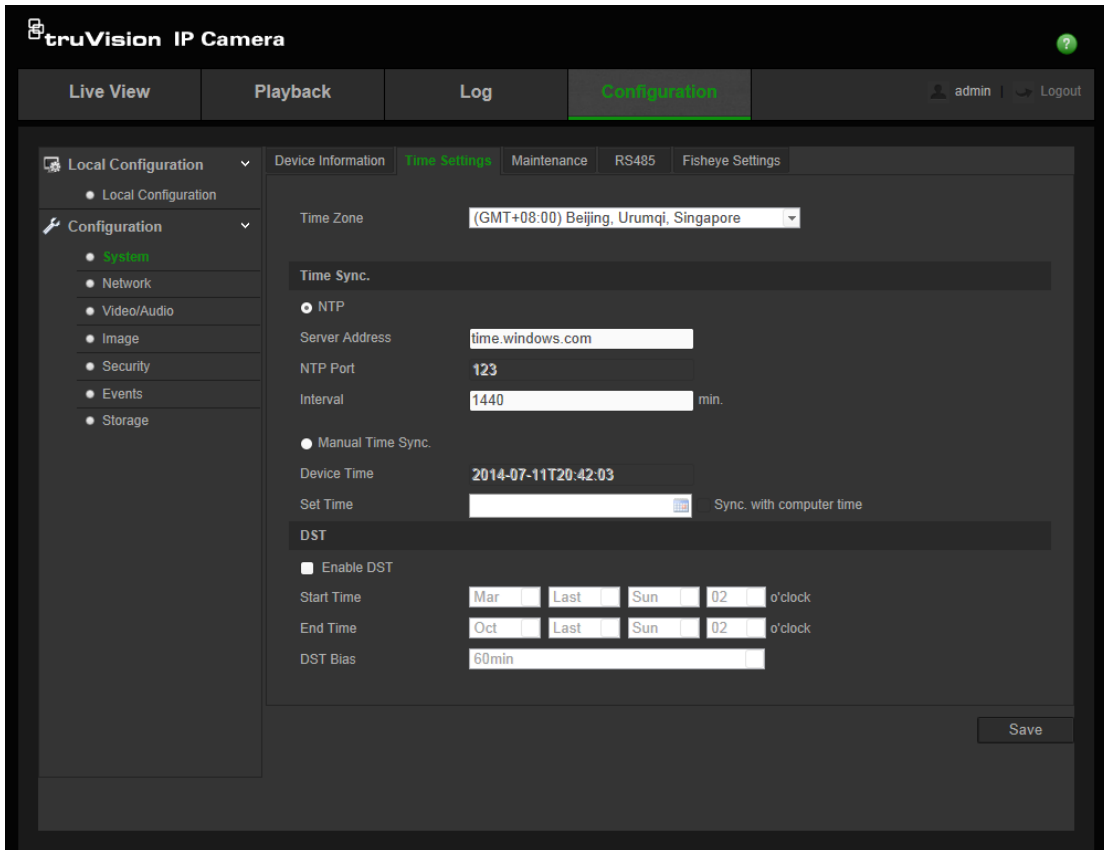
Parameters	Description
1. System	Displays the basic device information including serial number and the current firmware version, time settings, maintenance, and serial port parameters.
2. Network	Defines the network parameters required to access the camera over the internet.
3. Video/Audio	Defines recording parameters.
4. Image	Defines the image parameters, OSD settings, overlay text and privacy mask.
5. Security	Defines who can use the camera, their passwords and access privileges, RTSP authentication, IP address filter and telnet access.
6. Events	Defines motion detection, tamper-proof, alarm input/output, exception and snapshot configuration.
7. Storage	Defines recording schedule, storage management and NAS configuration.

Defining the system time

NTP (Network Time Protocol) is a protocol for synchronizing the clocks of network devices, such as IP cameras and computers. Connecting network devices to a dedicated NTP time server ensures that they are all synchronized.

To define the system time and date:


1. Click **Configuration > System > Time Settings**.



2. From the **Time Zone** drop-down menu, select the time zone that is the closest to the camera's location.
3. Under **Time Sync**, check one of the options for setting the time and date:

Synchronize with an NTP server: Check the **NTP** enable box and enter the server NTP address. The time interval can be set from 1 to 10080 minutes.

- Or -

Set manually: Enable the **Manual Time Sync** function and then click  to set the system time from the pop-up calendar.

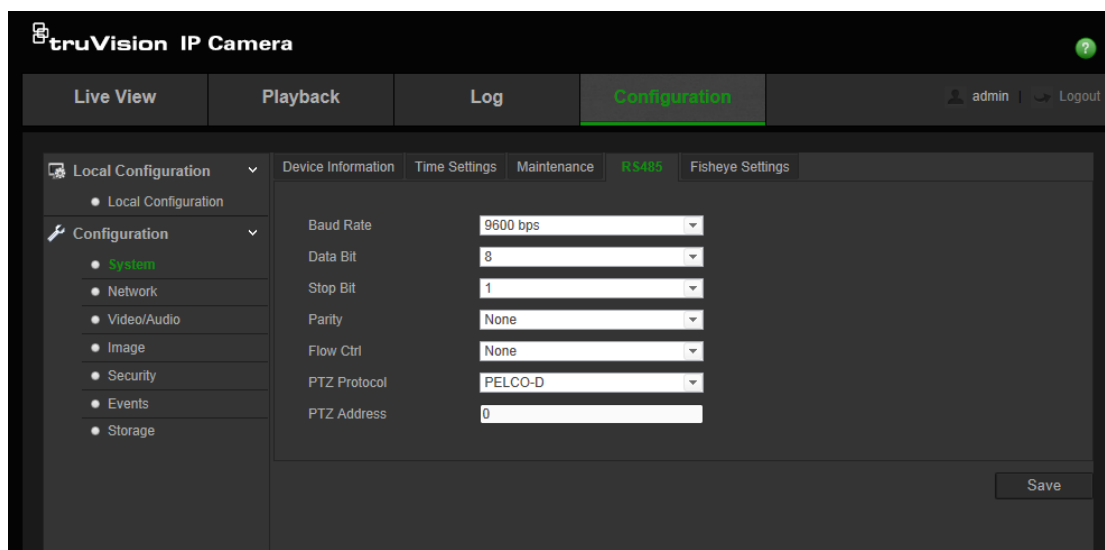
Note: You can also check the **Sync with computer time** checkbox to synchronize the time of the camera with the time of your computer.
4. Check **Enable DST** to enable the DST function, and set the start and end dates of the DST period.
5. Click **Save** to save changes.

Defining RS-485 settings

The RS-485 serial port is used to control extra devices that support the 485 protocol (Pelco D or Pelco P), such as PTZ devices, lighting devices or other devices. You can also connect it to an analog PTZ camera, using a 360° camera to control PTZ movement.

You need to configure these parameters before connecting the camera to any devices.

Figure 4: RS-485 Settings window



To set up RS-485 settings:

1. Click **Configuration > System > RS485**.
2. Select the RS-485 port parameters.

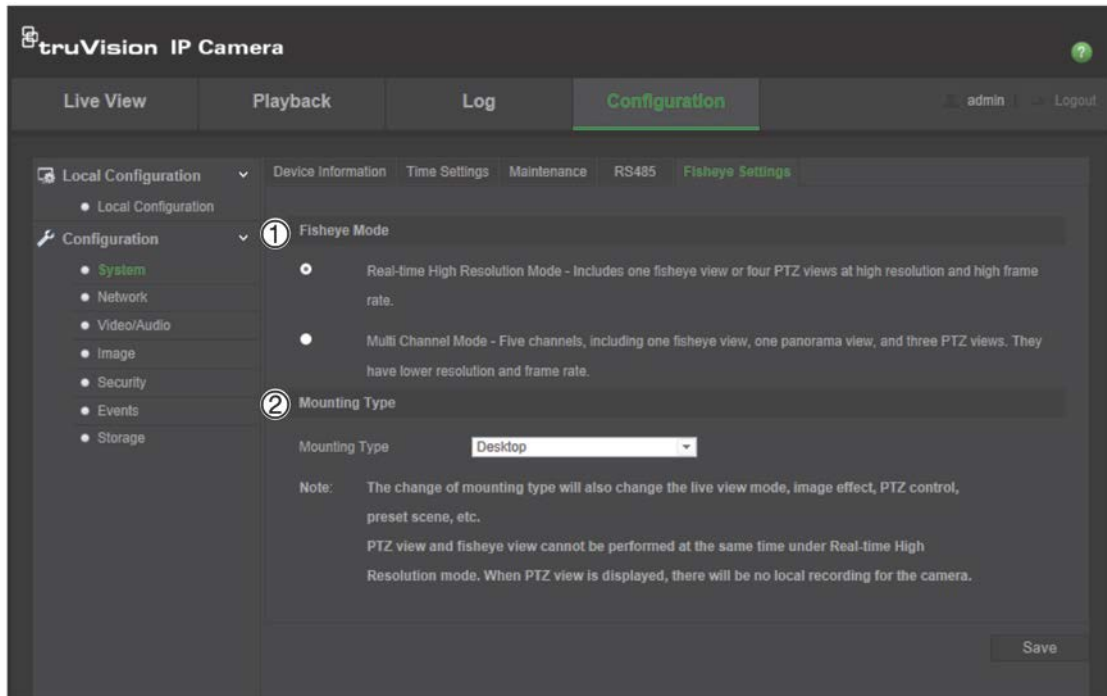
Note: The Baud Rate, PTZ Protocol, and PTZ Address parameters should be exactly the same as the PTZ camera parameters.

3. Click **Save** to save changes.

Defining 360° settings

The 360° Settings configuration enables you to select the real-time mode, and the mounting type, etc.

Figure 5: 360° Settings window



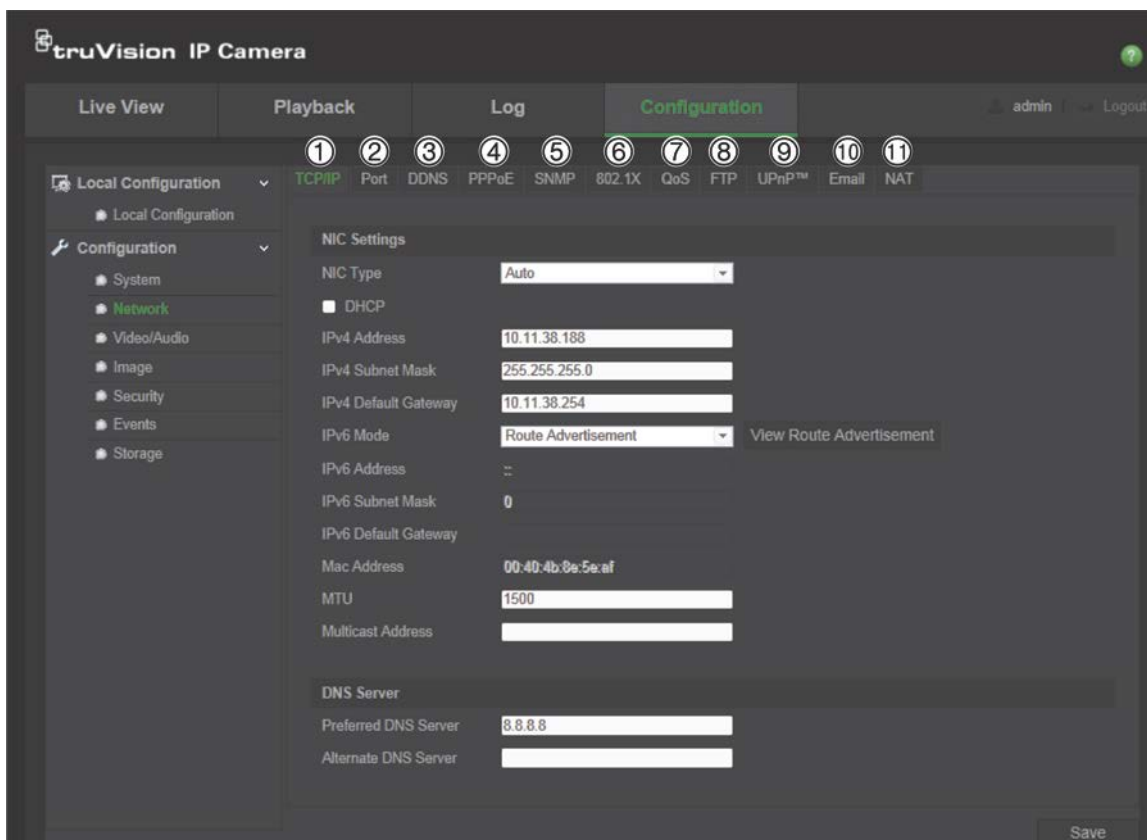
Parameters	Description
1. 360° Mode	<p>Real-time High Resolution Mode When you choose this option, the camera will support one 360° view or four PTZ views, with high resolution and high frame rate.</p> <hr/> <p>Multi Channel Mode When you choose this option, the camera will support one 360° view, one panoramic view, and three PTZ views at the same time.</p>
2. Mounting Type	<p>Select the camera mounting type: Ceiling, Desktop, or Wall.</p> <p>Note: Changing the mounting type will change the live view mode, image effect, PTZ control, preset scene and other parameters.</p>

Note: PTZ view and 360° view cannot be performed at the same time under “Real-time High Resolution” mode. When PTZ view is displayed, there will be NO local recording in the camera SD card or NAS.

Configuring network settings

Accessing the camera through a network requires that you define certain network settings. Use the “Network” folder to define the network settings. See Figure 6 below for further information.

Figure 6: Network window (TCP/IP window shown)



Parameters	Description
1. TCP/IP	<p>NIC Type: Specifies the NIC type. Default is Auto. Other options include: 10M Half-dup, 10M Full-dup, 100M Half-dup and 100M Full-dup.</p> <p>DHCP: Enable to automatically obtain an IP address and other network settings from that server.</p> <p>IPv4 Address: Specifies the IPv4 address of the camera.</p> <p>IPv4 Subnet Mask: Specifies the IPv4 subnet mask.</p> <p>IPv4 Default Gateway: Specifies the IPv4 gateway IP address.</p> <p>IPv6 Mode: Specifies the IPv6 mode, including Manual (Static), Automatic (DHCP) and Neighbor Discovery (Router Advertisement).</p> <p>IPv6 Address: Specifies the IPv6 address of the camera.</p> <p>IPv6 Subnet Prefix Length: Specifies the IPv6 prefix length.</p> <p>IPv6 Default Gateway: Specifies the IPv6 gateway IP address.</p> <p>MTU: Specifies the valid value range of MTU. Default is 1500.</p> <p>Multicast Address: Specifies a D-class IP address between 224.0.0.0 to 239.255.255.255. Only specify this option if you are using the multicast function. Some routers prohibit the use of multicast function in case of a network storm.</p> <p>DNS server: Specifies the DNS server for your network.</p>

Parameters	Description
2. Port	<p>HTTP Port: Specifies the port used for the Internet Explorer (IE) browser. Default value is 80.</p> <p>RTSP Port: Specifies the RTSP port. The default port number is 554.</p> <p>HTTPS Port: Specifies the HTTPS port. The default port number is 443.</p> <p>Server Port: Specifies the SDK port. The default port number is 8000.</p>
3. DDNS	Specifies the IP server, DynDNS and ezDDNS.
4. PPPoE	Use this option to retrieve a dynamic IP address.
5. SNMP	Enable SNMP to get camera status and parameters related information.
6. 802.1.X	When the feature is enabled, the camera data is secured and user authentication is needed when connecting the camera to the network.
7. QoS	Enable to solve the network delay and network congestion by configuring the priority of data sending.
8. FTP	Specifies the FTP address and folder to which snapshots of the camera can be uploaded.
9. UPnP	Enable and set the friendly name detected.
10. Email	Specifies the email address to which messages are sent when an alarm occurs.
11. NAT	Specifies port mapping mode.

To define the TCP/IP parameters:

1. Click **Configuration > Network > TCP/IP**.
2. Configure the NIC settings, including the NIC Type, IPv4 settings, IPv6 settings, MTU settings, and Multicast Address.
3. If the DHCP server is available, check **DHCP**.
4. If the DNS server settings are required for some applications (e.g., sending email), you should configure the **Preferred DNS Server or Alternate DNS Server**.
5. Click **Save** to save changes.

To define the port parameters:

1. Click **Configuration > Network > Port**.
2. Set the HTTP port, RTSP port, HTTPS port and Server port of the camera.

HTTP Port: The default port number is 80, and it can be changed to any port No. which is not occupied.

RTSP Port: The default port number is 554. It can be changed to any port number in the range from 1 to 65535.

HTTPS Port: The default port number is 443. It can be changed to any port number that is not occupied.

Server Port: The default server port number is 8000. It can be changed to any port number in the range from 2000 to 65535.

3. Click **Save** to save changes.

To define the DDNS parameters:

1. Click **Configuration > Network > DDNS**.
2. Check **Enable DDNS** to enable this feature.
3. Select **DDNS Type**. Two options are available: DynDNS and IP Server.
 - **DynDNS:** Enter the user name and password registered to the DynDNS web site. The domain name is that of the DynDNS web site.
 - **ezDDNS:** Enter the host name, it will automatically register it online.
 - **IP Server:** Enter the address of the IP Server.
4. Click **Save** to save changes.

To define the PPPoE parameters:

1. Click **Configuration > Network > PPPoE**.
2. Check **Enable PPPoE** to enable this feature.
3. Enter User Name, Password, and Confirm password for PPPoE access.
4. Click **Save** to save changes.

To define the SNMP parameters:

1. Click **Configuration > Network > SNMP**.
2. Select the corresponding version of SNMP: v1, v2c or v3.
3. Configure the SNMP settings. The configuration of the SNMP software should be the same as the settings you configure here.
4. Click **Save** to save changes.

Note: Before setting the SNMP, please download the SNMP software and manage to receive the camera information via SNMP port. By setting the Trap Address, the camera can send the alarm event and exception messages to the surveillance center. The SNMP version you select should be the same as that of the SNMP software.

To define the 802.1X parameters:

1. Click **Configuration > Network > 802.1X**.
2. Check **Enable IEEE 802.1X** to enable the feature.
3. Configure the 802.1X settings, including EAPOL version, user name, and password. The EAPOL version must be identical with that of the router or the switch.
4. Click **Save** to save changes.

Note: The switch or router to which the camera is connected must also support the IEEE 802.1X standard, and a server must be configured. Please apply and register a user name and password for 802.1X in the server.

To define the QoS parameters:

1. Click **Configuration > Network > QoS**.
2. Configure the QoS settings, including Video / Audio DSCP, Event / Alarm DSCP and Management DSCP. The valid value range of the DSCP is 0-63. The larger the DSCP value is, the higher the priority is.
3. Click **Save** to save changes.

Note: QoS (Quality of Service) can help solve the network delay and network congestion by configuring the priority of data sending.

To define the FTP parameters:

1. Click **Configuration > Network > FTP**.
2. Configure the FTP settings, including server address, port, user name, password, directory, and upload type.

Anonymous: Check the checkbox to enable the anonymous access to the FTP server.

Directory: In the Directory Structure field, you can select the root directory, Main directory and Subdirectory. When the Main directory is selected, you have the option to use the Device Name, Device Number or Device IP for the name of the directory; and when the Subdirectory is selected, you can use the Camera Name or Camera No. as the name of the directory.

Upload type: To enable uploading the snapshots to the FTP server.

3. Click **Save** to save changes.

To define the UPnP parameters:

1. Click **Configuration > Network > UPnP**.
2. Check the checkbox to enable the UPnP function. The name of the device when detected online can be edited.
3. Click **Save** to save changes.

Note: The UPnP protocol allows devices to connect seamlessly and to simplify the implementation of networks in the home and corporate environments. With the function enabled, you do not need to configure the port mapping for each port, and the camera is connected to the Wide Area Network (WAN) via the router.

To set up the Email parameters:

1. Click **Configuration > Network > Email**.

2. Configure the following settings:

Sender: The name of the email sender.

Sender's Address: The email address of the sender.

SMTP Server: The SMTP Server IP address or host name.

SMTP Port: The SMTP port. The default is 25.

Enable SSL: Check the checkbox to enable SSL if it is required by the SMTP server.

Attached Image: Check the checkbox of **Attached Image** if you want to send emails with attached alarm images.

Interval: This is the time between two actions of sending attached images.

Authentication: If your email server requires authentication, check this checkbox to use authentication to log in to this server. Enter the login user name and password.

Receiver: The name of the user to be notified.

Receiver's Address: The email address of user to be notified.

3. Click **Save** to save changes.

To set up the NAT parameters:

1. Click **Configuration > Network > NAT**.

2. Check the checkbox to enable the NAT function.

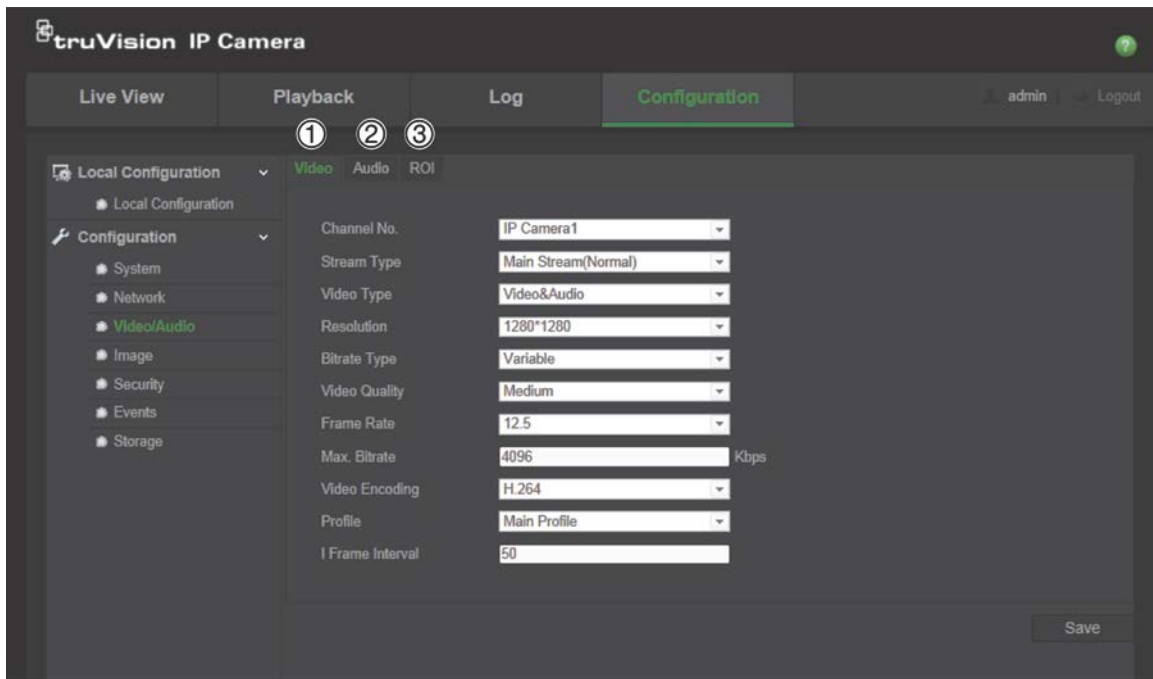
3. Select **Port Mapping Mode** to be Auto or Manual. When you choose Manual mode, you can set the external port as you want.

4. Click **Save** to save changes.

Defining recording parameters

You can adjust the video and audio recording parameters to obtain the picture quality and file size best suited to your needs. See Figure 7 on page 18 for the video and audio recording options that you can configure for the camera.

Figure 7: Video/Audio Settings menu (Video window shown)



Parameter	Description
1. Video	<p>Channel No.: Specifies the different stream, such as 360° and PTZ views.</p> <hr/> <p>Stream Type: Specifies the streaming method used.</p> <hr/> <p>Video Type: Specifies the stream type you wish to record. Select Video Stream to record video stream only. Select Video&Audio to record both video and audio streams,</p> <hr/> <p>Resolution: Specifies the recording resolution. A higher image resolution provides a higher image quality but also requires a higher bit rate. The resolution options listed depend on the type of camera and on whether main or sub stream is being used. Note: Resolutions can vary depending on the camera model.</p> <hr/> <p>Bitrate Type: Specifies whether variable or fixed bit rate is used. Variable produces higher quality results suitable for video downloads and streaming. Default is Constant.</p> <hr/> <p>Video Quality: Specifies the quality level of the image. It can be set when variable bit rate is selected. Options include: Lowest, Lower, Medium, Higher and Highest.</p> <hr/> <p>Frame Rate: Specifies the frame rate for the selected resolution. The frame rate is the number of video frames that are shown or sent per second. Note: The maximum frame rate depends on the camera model and selected resolution. Please check the camera specifications in its datasheet.</p> <hr/> <p>Max bit rate: Specifies the maximum allowed bit rate. A high image resolution requires that a high bit rate must also be selected.</p> <hr/> <p>Video Encoding: Specifies the video encoder used.</p> <hr/> <p>Profile: Different profile indicates different tools and technologies used in compression. Options include: High Profile, Main Profile and Basic Profile.</p>

Parameter	Description
	I Frame Interval: A video compression method. It is strongly recommended not to change the default value, 50.
2. Audio	Audio Encoding: G.711ulaw, G.711alaw, MP2L2 and G.726 are optional. Audio Input: Only "MicIn" is selectable for the built-in microphone. Input Volume: Specifies the volume from 0 to 100.
2. ROI	Enable to assigns more encoding resource to the region of interest to increase the quality of the ROI whereas the background information is less focused.

To set up ROI parameters:

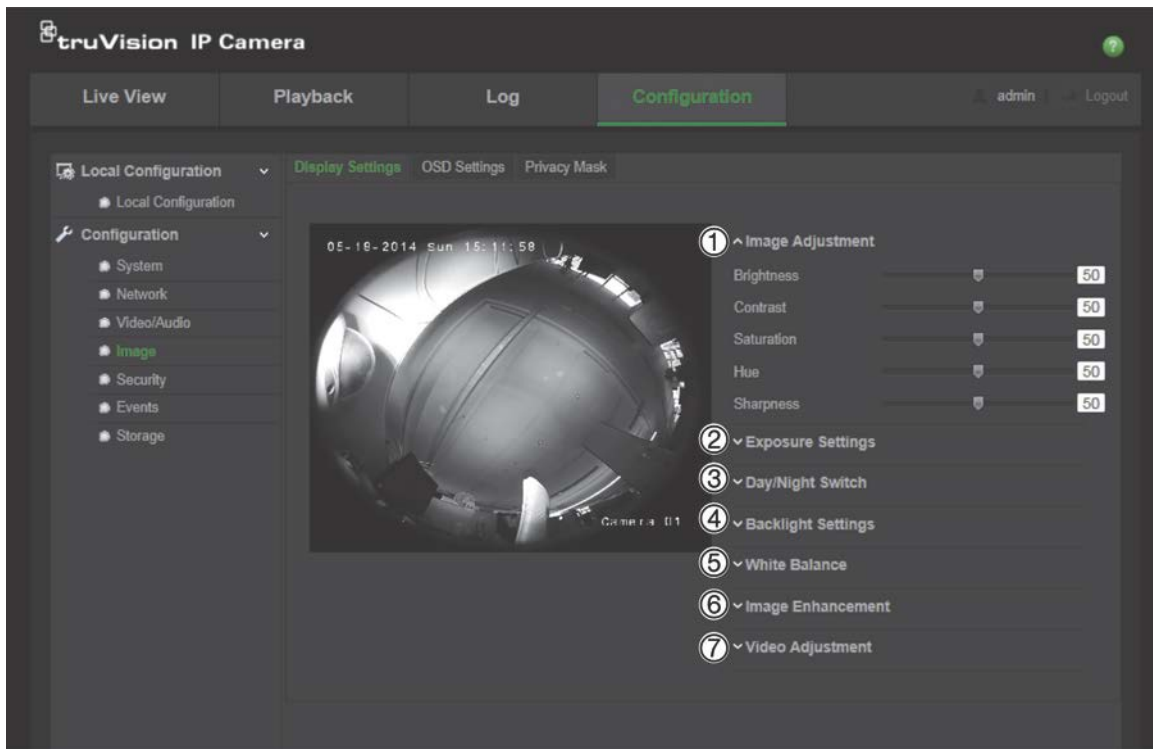
1. Click **Configuration > Video/Audio > ROI**.
2. Select the channel from the drop-down list.
3. Draw the region of interest on the image. Up to four regions can be drawn.
4. Choose the stream type to set the ROI encoding.
5. Enable **Fixed Region** to manually configure the area.
 - Region No.:** Select the region.
 - ROI Level:** Choose the Image Quality Enhancing level.
 - Region Name:** Set the region name you want.
6. Click **Save** to save changes.

Configuring the video image

You may need to adjust the camera image depending on the camera model or location background in order to get the best image quality. You can adjust the brightness, contrast, saturation, hue, and sharpness of the video image.

Use this menu to also adjust camera behavior parameters such as exposure time, iris mode, video standard, day/night mode, image flip, WDR, digital noise reduction, and white balance. See Figure 8 on page 20 for more information.

Figure 8: Camera image settings menu



Parameter	Description
1. Image Adjustment	
Brightness, Contrast, Saturation, Hue, Sharpness	Modifies the different elements of picture quality by adjusting the position of the values for each of parameter.
Iris Mode	There is one setting, Manual.
2. Exposure Settings	
Exposure Time	The exposure time controls the length of time that the aperture is open to let light into the camera through the lens. Select a higher value if the image is dark and a lower value to see fast moving object.
Gain	Select the value to adjust the image brightness.
3. Day/Night Switch	
Day/Night Switch	Defines whether the camera is in day or night mode. The day (color) option could be used, for example, if the camera is located indoors where light levels are always good. Options: Day: Camera is always in day mode. Night: Camera is always in night mode. Auto: The camera automatically detects which mode to use. Schedule: The camera switches between the day mode and the night mode according to the configured time period. Triggered by Alarm Input: The camera switches to the day mode or the night mode after the alarm is triggered.

Parameter	Description
Sensitivity	If you choose Auto Day/Night switch, you can choose the sensitivity value from 0 to 7. The higher the value, the easier it is for the mode to switch.
Filtering Time	Only available when Auto D/N switch mode is selected. The filtering time refers to the interval time between the day/night switch. You can set it between 5 and 120 s.
Smart IR	The intensity of a camera's infrared LEDs is automatically adjusted depending on an object's distance from the camera so that the infrared does not overexpose the object. When enabled, it can avoid over exposure when an object is close to the camera.
IR Light	Select On/OFF to enable/disable IR. Enable: the IR LEDs will be On when the camera enters night mode. Disable: the IR LEDs will be Off when the camera enters night mode Note: The IR LEDs are always Off in Day mode.

4. Backlight Settings

BLC Area	This function improves image quality when the background illumination is high. It prevents the object in the image from appearing too dark. Options are: Off, Up, Down, Left, Right, and Center.
WDR	When enabled, this feature (wide dynamic range) allows you to see details of objects in shadows or details of objects in bright areas of frames that have high contrast between light and dark areas.

5. White Balance

White Balance	White balance (WB) tells the camera what the color white looks like. Based on this information, the camera will then continue to display all colors correctly even when the color temperature of the scene changes such as from daylight to fluorescent lighting, for example. Select one of the options: AWB1: White balance is determined automatically. MWB: Manually adjust the color temperature to meet your own requirements. Locked WB: Locks the WB to the current environment color temperature. Incandescent Lamp: For use with incandescent lighting. Warm Light Lamp: For use where the indoor light is warm. Natural Light: For use with natural light. Fluorescent Lamp: For use where there are fluorescent lamps installed near the camera.
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6. Image Enhancement

Digital Noise Reduction	Digital noise reduction (DNR) reduces noise, especially in low light conditions, to improve image performance. Options include: Normal Mode, Expert Mode, or Off.
Noise Reduction Level	Only available in Normal Mode. Set the level of noise reduction in Normal Mode. A higher value has a stronger noise reduction. Default is 50.
Time/Space DNR Level	Set the level of noise reduction level in Expert Mode. Note: If you set a higher value, the image may not be clear.

Parameter	Description
Grey Scale	You can choose the range of the grey scale as [0 to 255] or [16 to 235].

7. Video Adjustment

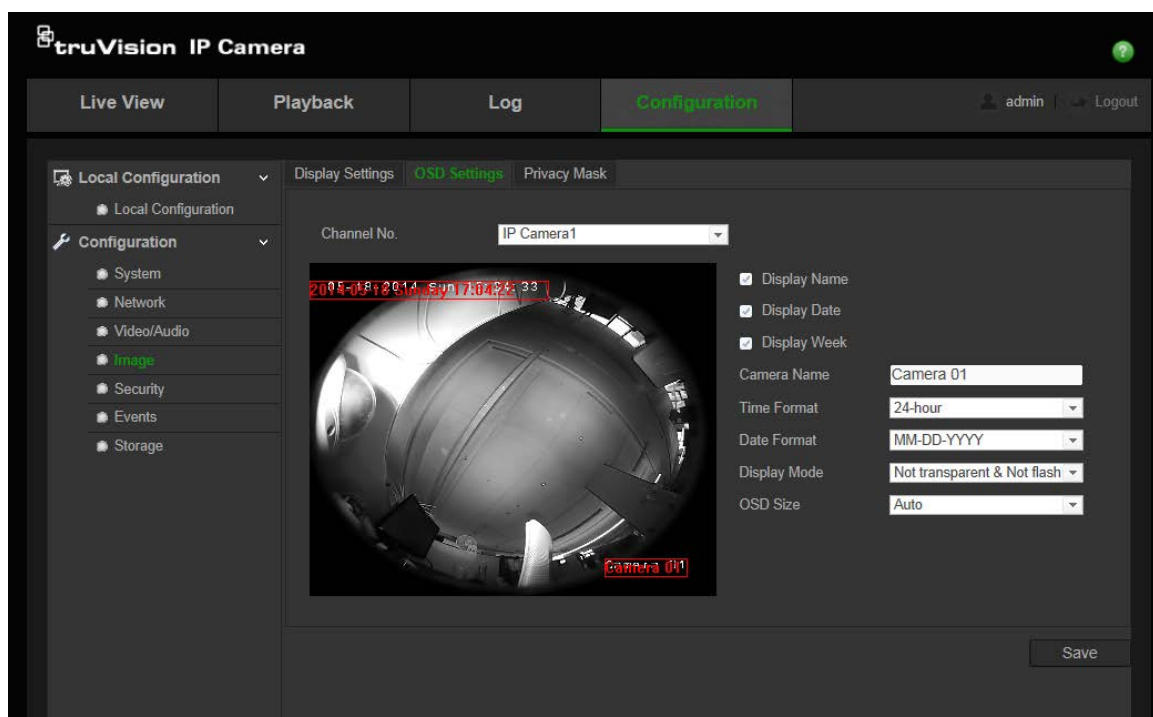
Video Standard	50 Hz and 60 Hz are selectable. Choose according to the different video standards; normally 50 Hz for PAL standard and 60 Hz for NTSC standard.
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Note: Not all models support all these parameters settings.

Defining how information is displayed

In addition to the camera name, the camera may also displays the system date and time on screen. You can also define how the text appears on screen.

Figure 9: OSD settings menu



To position the date/time and name on screen:

1. Click **Configuration > Image > OSD Settings**.
2. Check the **Display Name** box to display the camera's name on screen. You can modify the default name in the text box of **Camera Name**.
3. Check the **Display Date** box to display the date/time on screen.
4. Check the **Display Week** box to include the day of the week in the on-screen display.
5. In the **Camera Name** box, enter the camera name.
6. Select the time format from the **Time Format** list box.
7. Select the date format from the **Date Format** list box.

8. Select a display mode for the camera from the **Display Mode** list box. Display modes include:
 - **Transparent & Not flashing.** The image appears through the text.
 - **Transparent & Flashing.** The image appears through the text. The text flashes on and off.
 - **Not transparent & Not flashing.** The image is behind the text. This is default.
 - **Not transparent & Flashing.** The image is behind the text. The text flashes on and off.
9. Select the **OSD size** that you want.
10. Click **Save** to save changes.

Note: If you set the display mode as transparent, the text varies according the scenery. With some scenes, the text may be not clear.

Configuring privacy mask

Privacy masks let you conceal sensitive areas (such as neighboring buildings) to protect them from view on the monitor screen and in the recorded video. The masking appears as a blank area on screen. You can create up to four privacy masks per camera.

Figure 10: Privacy mask menu



To add privacy mask area:

1. Click **Configuration > Image > Privacy Mask.**
2. Check the **Enable Privacy Mask.**
3. Click **Draw Area.**

4. Click and drag the mouse in the live video window to draw the mask area.
Note: You are allowed to draw up to 4 areas on the same image.
5. Click **Stop Drawing** to finish drawing, or click **Clear All** to clear all of the areas you set without saving them.
6. Click **Save** to save changes.

Motion detection alarms

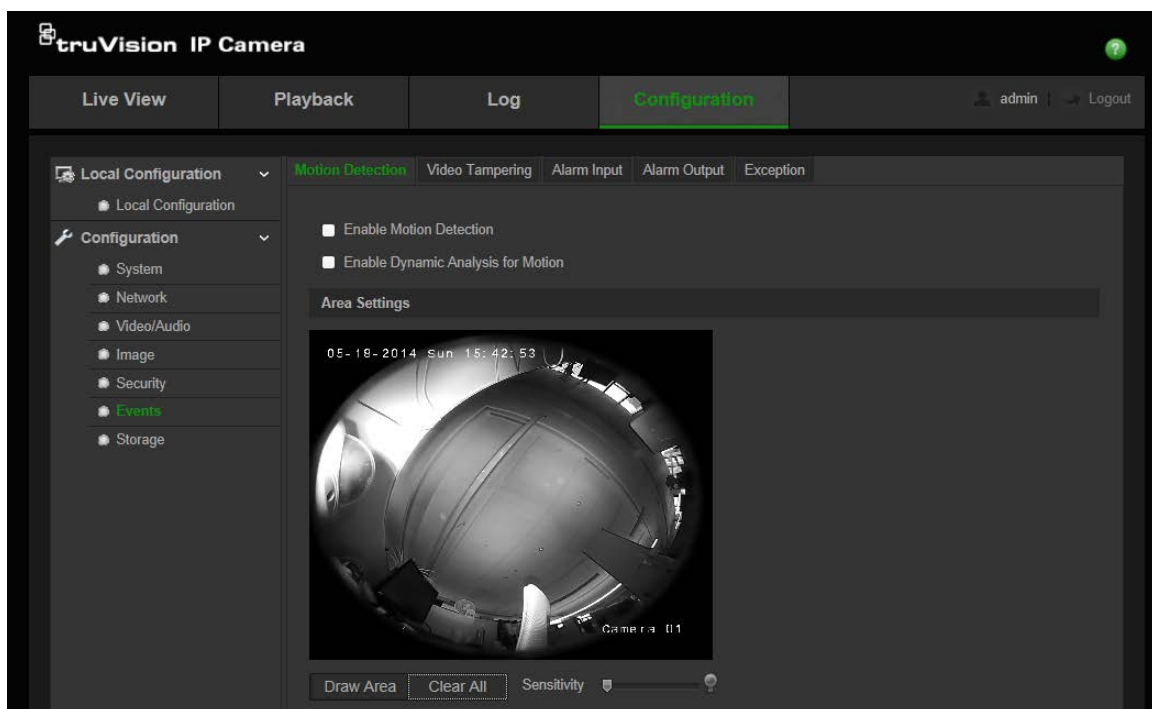
You can define motion detection alarms. A motion detection alarm refers to an alarm triggered when the camera detects motion. However, the motion alarm is only triggered if it occurs during a programmed time schedule.

Select the level of sensitivity to motion as well as the target size so that only objects that could be of interest can trigger a motion recording. For example, the motion recording is triggered by the movement of a person but not that of a cat.

You can define the area on screen where the motion is detected, the level of sensitivity to motion, the schedule when the camera is sensitive to detecting motion as well as which methods are used to alert you to a motion detection alarm.

You can also enable dynamic analysis for motion. When there is motion, the area will be highlighted as green.

Figure 11: Motion detection menu



Defining a motion detection alarm requires the following tasks:

1. **Area Settings:** Define the on-screen area that can trigger a motion detection alarm and the detection sensitivity level.
2. **Arming Schedule:** Define the schedule during which the system detects motion.

3. **Recording schedule:** Define the schedule during which motion detection can be recorded. See “Defining a recording schedule” on page 30 for further information.
4. **Linkage:** Specify the method of response to the alarm.

To set up motion detection:

1. Click **Configuration > Events > Motion Detection**.

2. Check the **Enable Motion Detection** box.

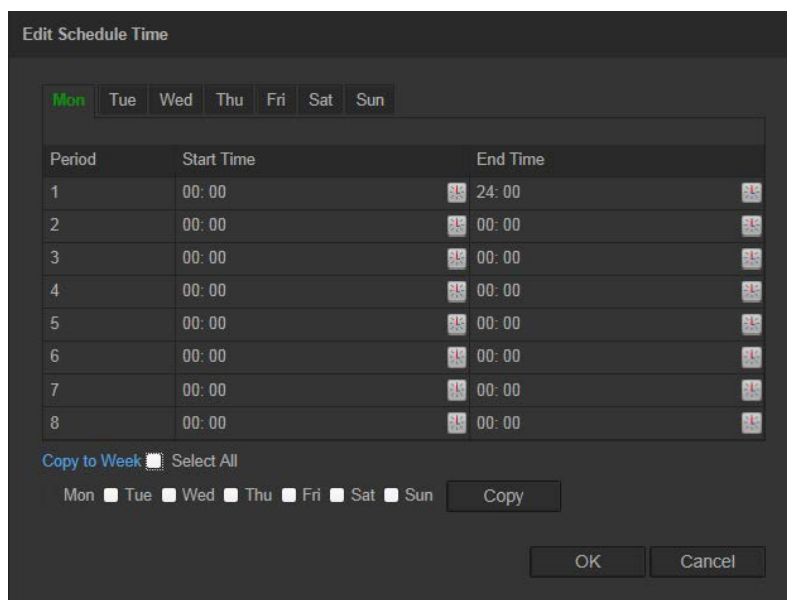
Check **Enable Dynamic Analysis for motion** if you want to see motion real-time.

Note: Deselect the “Enable Motion Detection” option to disable the motion detection alarm.

3. Click **Draw Area**. Click and drag the mouse on the live video image to draw an area sensitive to motion detection.

Note: You can draw up to 8 motion detection areas on the same image.

4. Click **Stop Drawing** to finish drawing. Click **Clear All** to delete all areas marked and restart drawing.
5. Move the **Sensitivity** slider to set the sensitivity of the detection. All areas will have the same sensitivity level.
6. Click **Edit** to edit the arming schedule. See the picture below for the editing interface of the arming schedule.



7. Choose the day and click to set the detailed time period. You can copy the schedule to other days.
8. Click **OK** to save changes.
9. Specify the linkage method when an event occurs. Check one or more response methods for the system when a motion detection alarm is triggered.

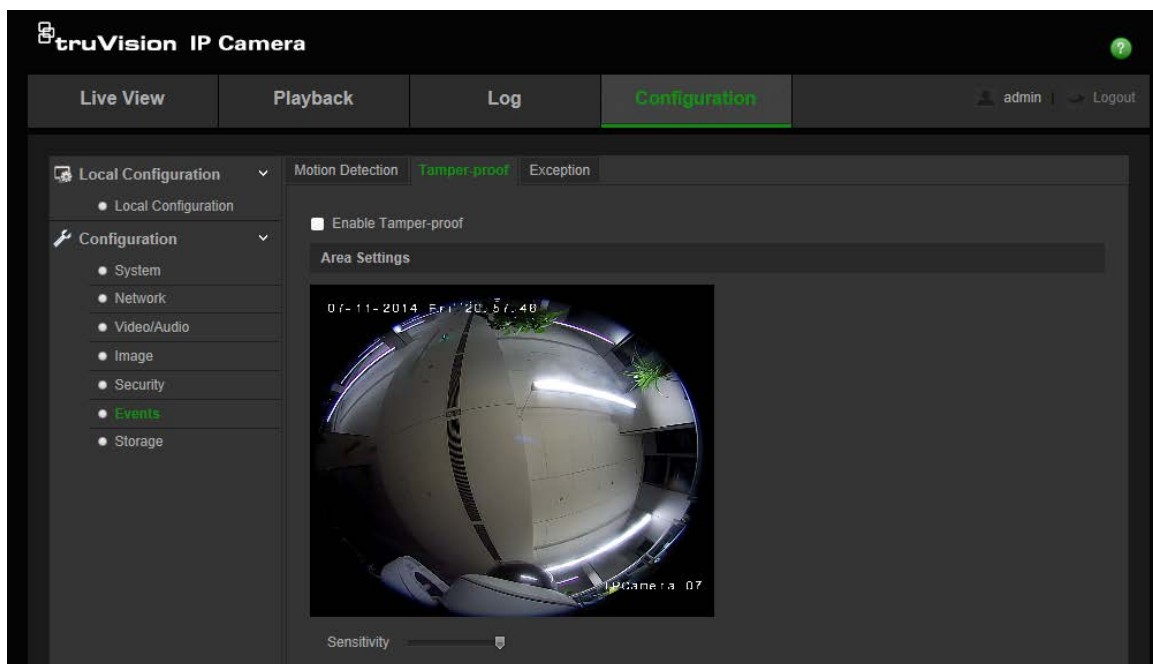
Notify Alarm Recipient	Send an exception or alarm signal to remote management software when an event occurs.
Send Email	Sends an email to a specified address when there is a motion detection alarm.
Upload Snapshot	Capture the image when an alarm is triggered and upload the picture to NAS or FTP server.
Trigger Channel	Triggers the recording to start in the camera.

10. Click **Save** to save changes.

Tamper-proof alarms

You can configure the camera to trigger an alarm when the lens is covered and to take an alarm response action.

Figure 12: Tamper-proof menu



To set up tamper-proof alarms:

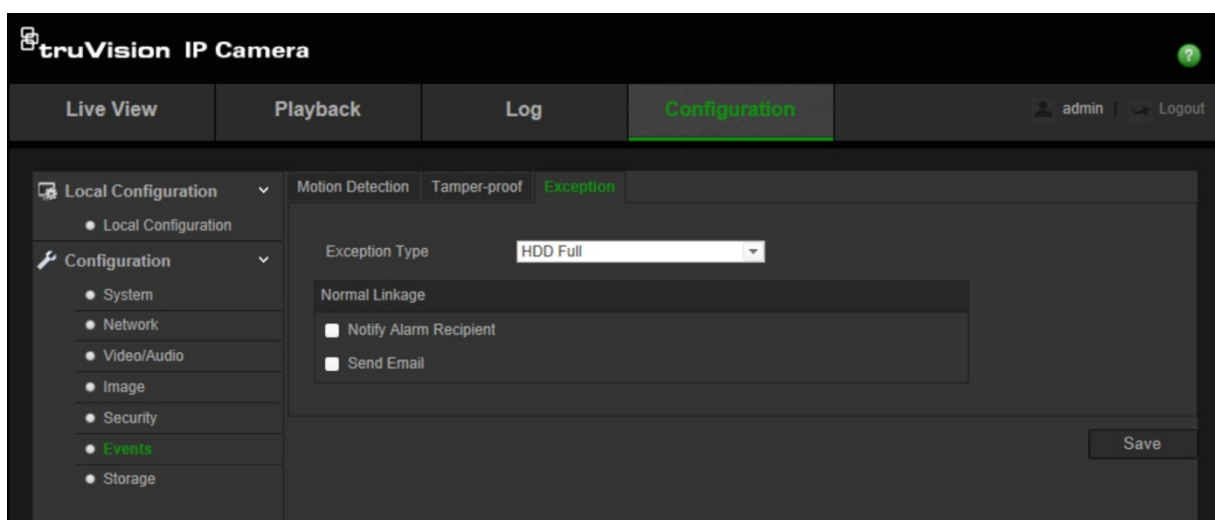
1. Click **Configuration > Events > Tamper-proof**.
2. Check the **Enable Tamper-proof** box.
3. Move the **Sensitivity** slider to set the sensitivity of the detection.
4. Click **Edit** to edit the arming schedule for tamper-proof alarms. The arming schedule configuration is the same as that for motion detection. See “To set up motion detection” for more information.
5. Check the checkbox to select the linkage method taken for the tamper-proof.
6. Click **Save** to save changes.

Exception alarms

You can set up the camera to notify you when irregular events occur and how you should be notified. These exception alarms include:

- **HDD Full:** All recording space of NAS is full.
- **HDD Error:** Errors occurred while files were being written to the storage, no storage or storage had failed to initialize.
- **Network Disconnected:** Disconnected network cable.
- **IP Address Conflicted:** Conflict in IP address setting.
- **Invalid Login:** Wrong user ID or password used to login to the cameras.

Figure 13: Exception menu



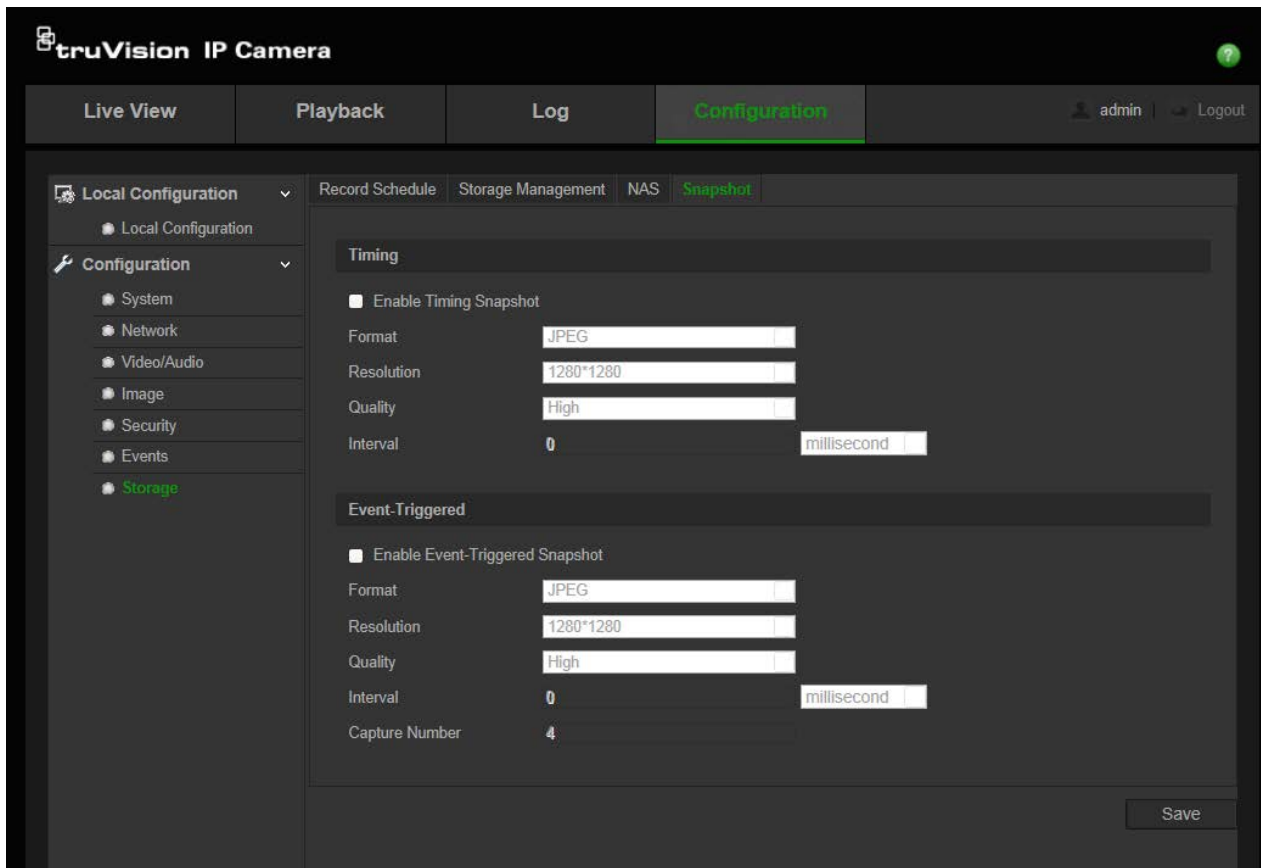
To define exception alarms:

1. Click **Configuration > Events > Exception**.
2. Under **Exception Type**, select an exception type from the drop-down list.
3. Check the checkbox to select the desired linkage method.
4. Click **Save** to save changes.

Snapshot parameters

You can configure scheduled snapshots and event-triggered snapshots. The captured snapshots can be stored in the SD card (if supported) or the NAS. You can also upload the snapshots to an FTP server.

Figure 14: Snapshot menu



Note: If you have configured the FTP settings and check **Upload Picture** in the FTP window, the snapshots will be uploaded to the FTP. If you also check **Upload Snapshot** for motion detection or alarm input, the snapshots will be uploaded to the FTP when motion detection or an alarm input is triggered.

To set up snapshots:

1. Click **Configuration > Events > Snapshot**.
2. Check **Enable Timing Snapshot** to enable continuous snapshots. Check the **Enable Event-triggered Snapshot** to enable event-triggered snapshots.
3. Select the desired quality of the snapshot.
4. Set the time interval between two snapshots.
5. Click **Save** to save changes.

Configuring NAS settings

You can use a network storage system (NAS) to remotely store recordings

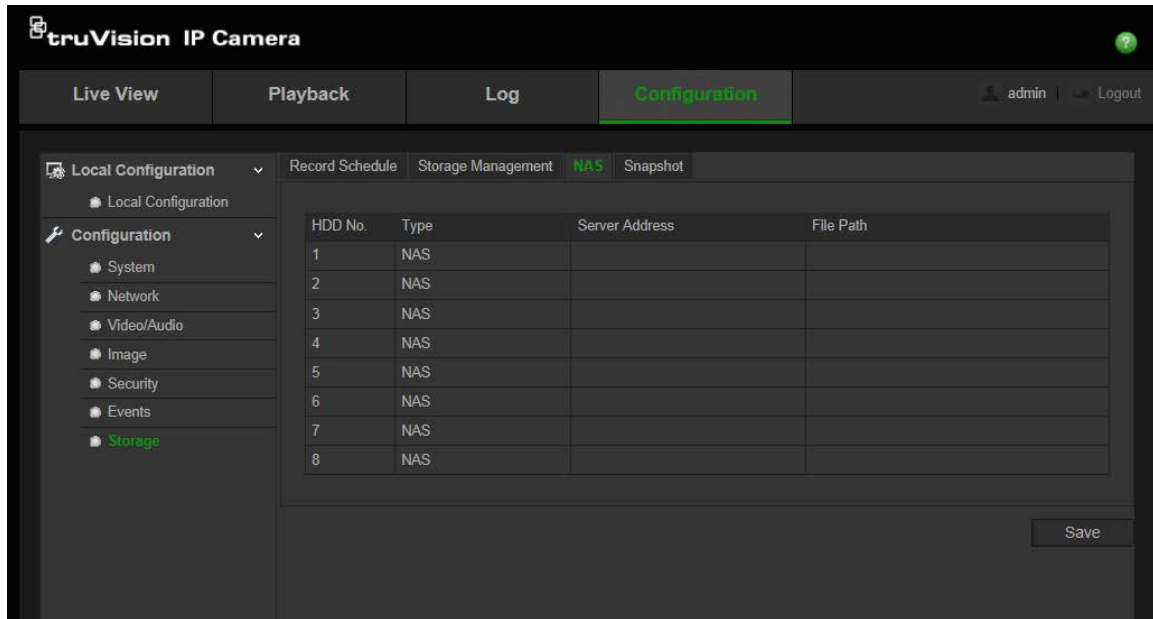
To configure record settings, please ensure that you have the network storage device within the network.

The NAS disk should be available within the network and correctly configured to store the recorded files, log files, etc.

Notes:

1. Up to eight NAS disks can be connected to the camera.
2. The recommended capacity of NAS should be between 9G and 2T as otherwise it may cause formatting failure.

Figure 15: NAS menu



To set up a NAS system:

1. Click **Configuration > Storage > NAS**.
2. Enter the IP address of the network disk, and the NAS folder path.
3. Click **Save** to save changes.

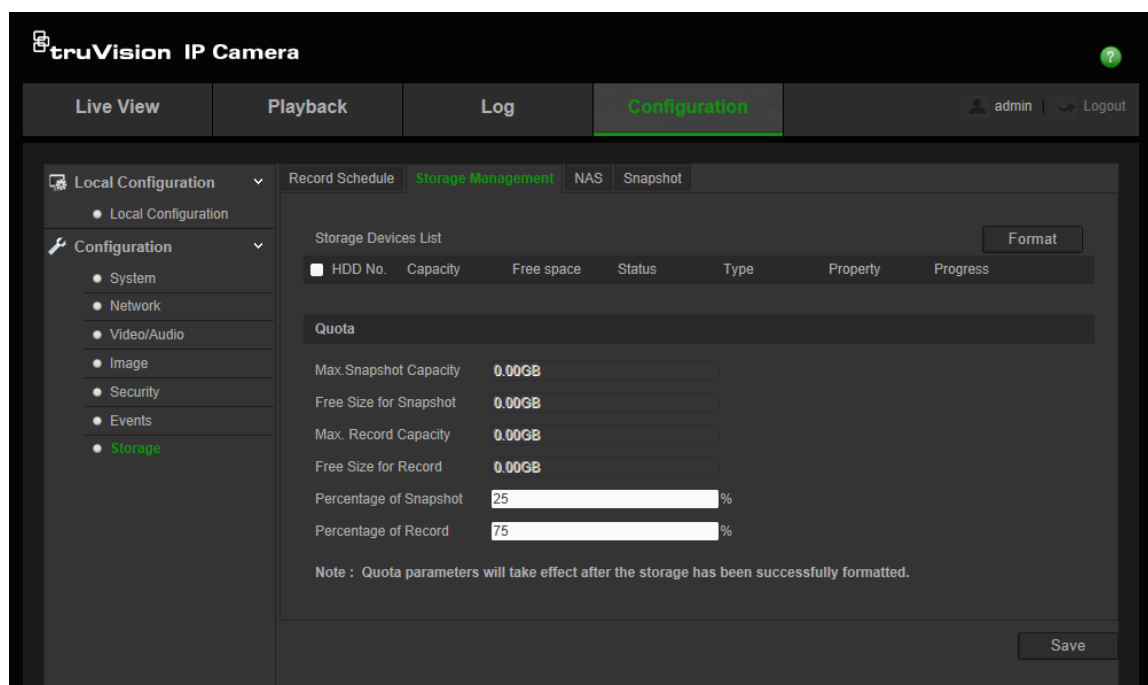
Formatting the storage devices

Use the storage management window to display the capacity, free space available, and the working status of the HDD of the NAS and the SD card in the camera. You can also format these storage devices.

Before formatting the storage device, stop all recording. Once formatting is completed, reboot the camera as otherwise the device will not function properly.

If Overwrite is enabled, the oldest files are overwritten when the storage becomes full.

Figure 16: Storage Management menu



To format the storage devices:

1. Click **Configuration > Storage > Storage Management**.
2. Check the **HDD No.** tab to select the storage.
3. Click **Format**. A window appears to check your formatting permission.
4. Click **OK** to start formatting.

To define the quota for record and snapshots:

1. Input the quota percentage for picture and for record.
2. Click **Save** and refresh the browser page to activate the settings.

Defining a recording schedule

You can define a recording schedule for the camera in the “Record Schedule” window. The recording is saved on to the SD card or NAS in the camera. The camera’s SD card provides a backup in case of network failure.

The selected recording schedule applies to all alarm types.

Pre-record time

The pre-record time is set to start recording before the scheduled time or the event. For example, if an alarm triggers recording at 10:00, and the pre-record time is set as 5 seconds, the camera starts to record at 9:59:55. The pre-record time can be configured as No Pre-record, 5 s, 10 s, 15 s, 20 s, 25 s, 30 s or not limited.

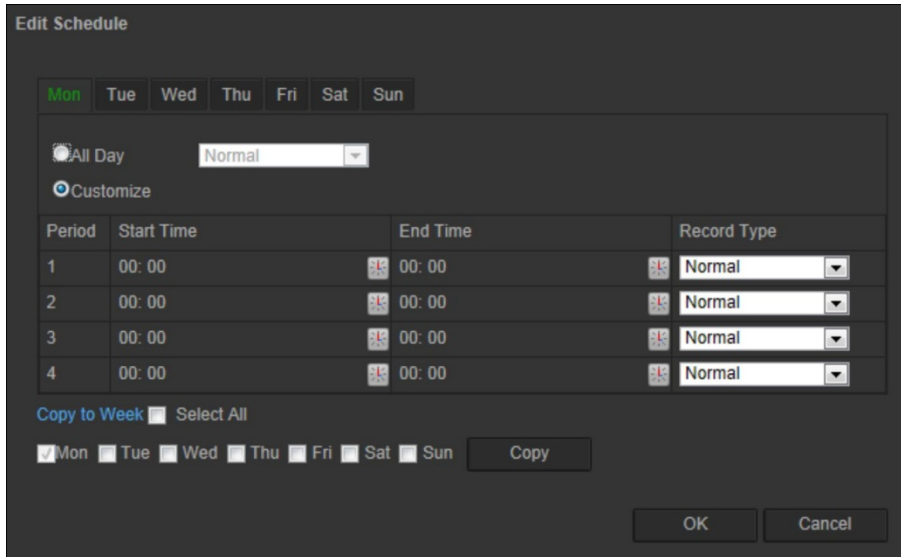
Post-record time

The post-record time is set to stop recording after the scheduled time or the event. For example, if an alarm triggered recording ends at 11:00, and the post-record time is set

as 5 seconds, the camera records until 11:00:05. The post-record time can be configured as 5 s, 10 s, 30 s, 1 min, 2 min, 5 min or 10 min.

To set up a recording schedule:

1. Click **Configuration > Storage > Record Schedule**.
2. Click the **Enable Record Schedule** box to enable recording.
Note: To disable recording, deselect the option.
3. Click **Edit** to edit the recording schedule. The following window appears:



4. Select whether the recording will be for the whole week (**All Day** recording) or for specific days of the week.

If you have selected “All day”, select one of the record types to record from the drop-down list box:

- **Normal:** This is continuous recording.
 - **Motion detection:** The video is recorded when the motion is detected.
 - **Alarm:** The video is recorded when the alarm is triggered via the external alarm input.
 - **Motion | Alarm:** The video is recorded when the external alarm is triggered or the motion is detected.
 - **Motion & Alarm:** The video is recorded when motion and alarms are triggered at the same time.
5. If you selected “Customize”, click the day of the week required and then for period 1 set the start and end times during which you want the camera to begin and end recording.

From the drop-down list box, select one of the record types to record.

Repeat for additional periods in the day. Up to eight time periods can be selected.

Note: The eight time periods cannot overlap.

6. Set the recording periods for the other days of the week if required.

Click **Copy** to copy the recording periods to another day of the week.

7. Click **OK** and **Save** to save changes.

Note: If you set the record type to “Motion detection” or “Alarm”, you must also define the arming schedule in order to trigger motion detection or alarm input recording.

Camera management

This chapter describes how to use the camera once it is installed and configured. The camera is accessed through a web browser.

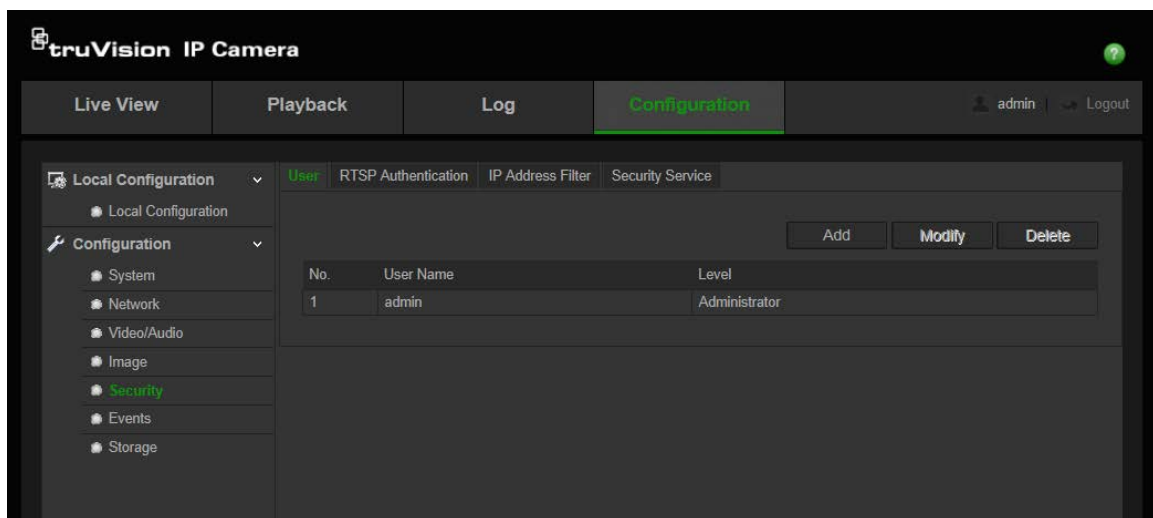
User management

This section describes how to manage users. You can:

- Add or delete users
- Modify permission
- Modify passwords

Only the administrator can manage users. When new users are added to the list, the administrator can modify permissions and password of each user. See Figure 17 below.

Figure 17: User management window



Passwords limit access to the camera and the same password can be used by several users. When creating a new user, you must give the user a password. There is no default password provided for all users. Users can not modify their password, and only the administrator can create or modify password for a user.

Note: Keep the admin password in a safe place. If you forget it, please contact technical support.

Types of users

A user's access privileges to the system are automatically defined by their user type. There are three types of user:

- **Admin:** This is the system administrator. The administrator can configure all settings. Only the administrator can create and delete user accounts. Admin cannot be deleted.

- **Operator:** This user can only change the configuration of his/her own account. An operator cannot create or delete other users.
- **Viewer:** This user has the permission of live view, playback and log search. However, they cannot change any configuration settings.

Adding and deleting users

The administrator can create up to 31 users. Only the system administrator can create or delete users.

To add a user:

1. Click **Configuration > Security > User**.
2. Select the **Add** button. The user management window appears.

3. Enter a user name. The name can have up to 16 alphanumeric characters.
4. Assign the user a password. Passwords can have up to 16 alphanumeric characters.
5. Select the type of user from the drop-down list. The options are Viewer and Operator.
6. Assign permissions to users.
7. Click **OK** to save the settings.

To delete a user:

1. Click **Configuration > Security > User**.
2. Select one user and click **Delete** button. A message box appears.

Note: Only the administrator can delete a user.

3. Click **Save** to save the changes.

Modifying user information

You can easily change the information about a user such as their name, password, and permissions.

To modify user information:

1. Click **Configuration > Security > User**.
2. Click the **Modify** button. The user management window appears
3. Change the information required.

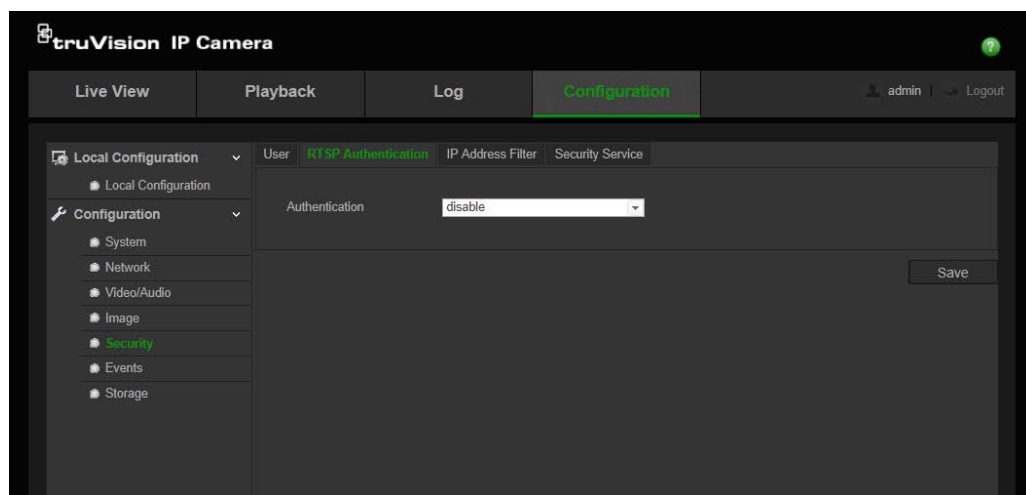
Note: The user “Admin” can only be changed by entering the admin password.

4. Click **Save** to save the changes.

Defining RTSP authentication

You can secure the data stream of live viewing.

Figure 18: RTSP Authentication window



To define RTSP authentication:

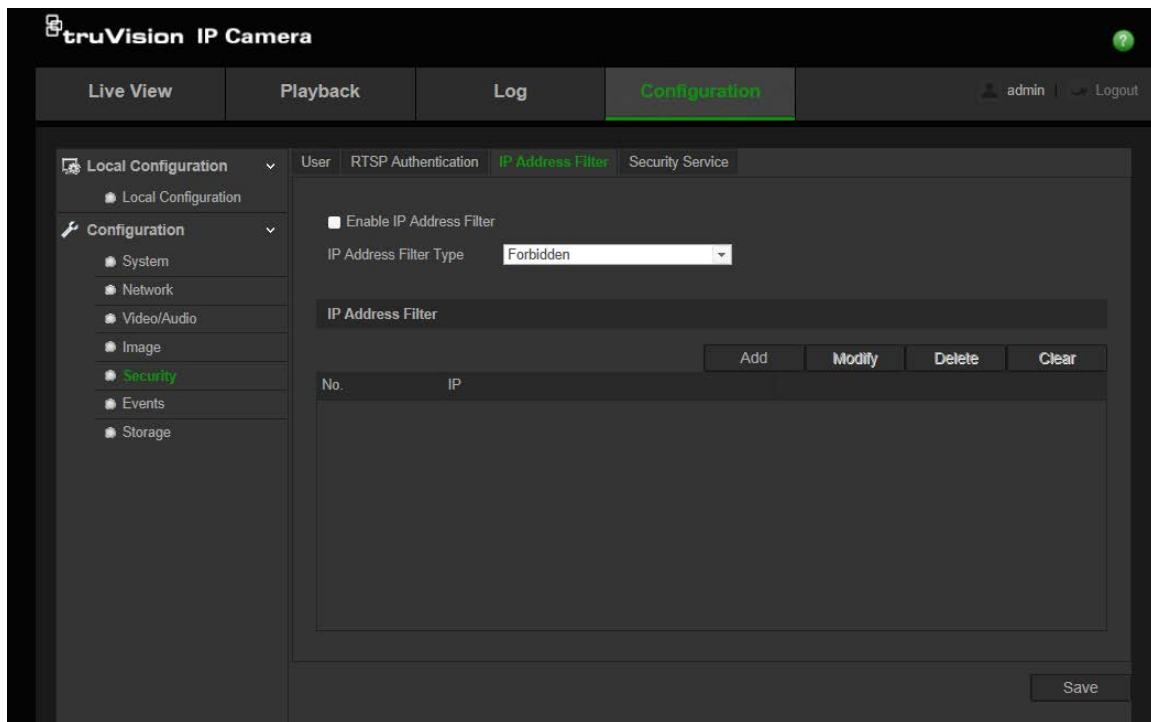
1. In the **Security** folder, click the **RTSP Authentication** tab to open its window.
2. Under **Authentication**, select **Enable** or **Disable** in the drop-down list to enable or disable the RTSP authentication.
3. Click **Save** to save the changes.

Note: If you disable "RTSP Authentication", although the user has no permission to “Remote: Live View”, he can still see the live view image.

Defining IP Address Filter

This function makes it possible for access control.

Figure 19: IP Address Filter window

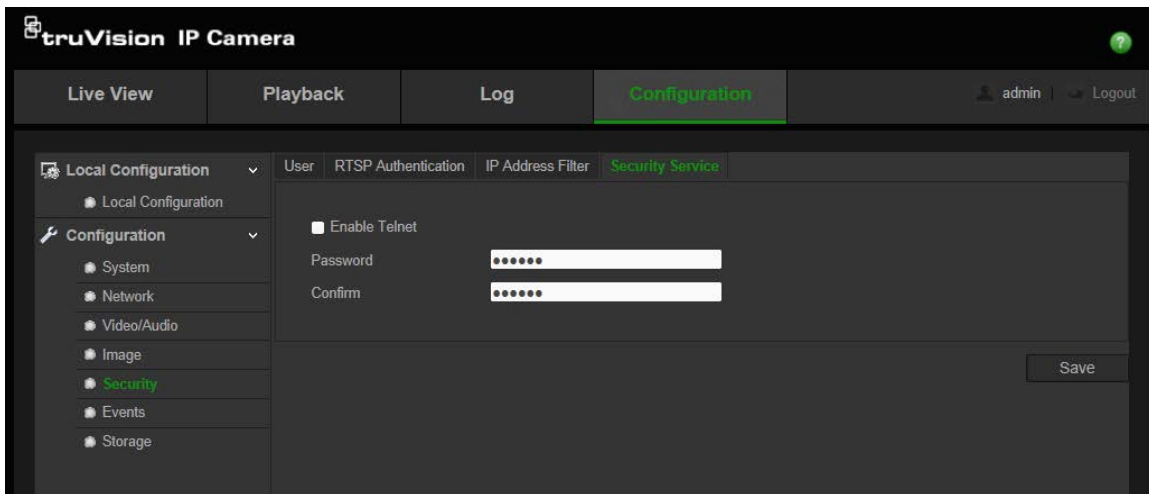


To define IP Address Filter:

1. Click **Configuration > Security > IP Address Filter**.
2. Check the checkbox of **Enable IP Address Filter**.
3. Select the type of IP Address Filter from the drop-down list, **Forbidden** or **Allowed**.
4. Click **Add** to add an IP address.
Click **Modify** or **Delete** to modify or delete the selected IP address.
Click **Clear** to delete all the IP addresses.
5. Click **Save** to save the changes.

Defining Security Service

Figure 20: Security Service window



To define Telnet:

1. Click **Configuration > Security > Security Service**.
2. Check the **Enable Telnet** checkbox.
3. Enter the Telnet password and confirm it.
4. Click **Save** to save the changes.

Note:

1. The Telnet user name is root as default, and cannot be changed.
2. The default Telnet password is “ab12!”
3. The password should be set with at least 4-character password with at least one letter and one number.

Restoring default settings

Use the Default menu to restore default settings to the camera. There are two options available:

- **Restore:** Restore all the parameters, except the IP parameters, to the default settings.
- **Default:** Restore all the parameters to the default settings.

Note: The video standard cannot be restored to default settings using **Restore** or **Default**.

To restore default settings:

1. Click **Configuration > Security > Maintenance**.
2. Click either **Restore** or **Default**. A window showing user authentication appears.
3. Enter the admin password and click **OK**.
4. Click **OK** in the pop-up message box to confirm restoring operation.

Importing/exporting a configuration file

To import/export a configuration file:

1. Click **Configuration > System > Maintenance**.
2. Click **Browse** to select the local configuration file and then click **Import** to start importing configuration file.
3. Click **Export** and set the saving path to save the configuration file.

Upgrading the firmware

The camera firmware is stored in the flash memory. Use the upgrade function to write the firmware file into the flash memory.

You need to upgrade firmware when it has become outdated. When you upgrade the firmware, all existing settings are unchanged. Only the new features are added with their default settings.

To upgrade the firmware through the web browser:

1. Download on to your computer the latest firmware from our web site at:
www.interlogix.com/video/product/
- Or -
www.utcssecurityproductspages.eu/videoupgrades/
2. Click **Configuration > System > Maintenance**.
3. Click the **Browse** button to locate the latest file on your computer.
4. Click **Update**. You will receive a prompt asking you to reboot the camera.

Rebooting the camera

The camera can be easily rebooted remotely.

To reboot the camera through the web browser:

1. Click **Configuration > System > Maintenance**.
2. Click **Browse** to select the local configuration file and then click **Import** to start importing.
3. Click the **Reboot** button to reboot the device.
4. Click **OK** in the pop-up message box to confirm reboot operation.

Camera operation

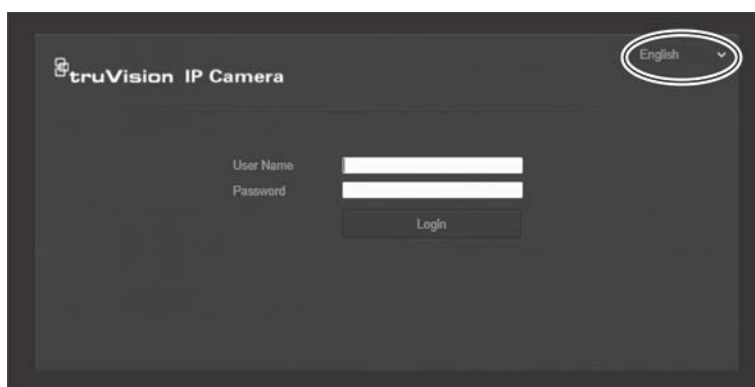
This chapter describes how to use the camera once it is installed and configured.

Logging on and off

You can easily log out of the camera browser window by clicking the Logout button on the menu toolbar. You will be asked each time to enter your user name and password when logging in.

On the upper left corner of the logon window, you can select the language of the Browser. It supports English, Chinese, Spanish, German, Russian, French, and Portuguese.


Figure 21: Login dialog box



Note: If the default admin password (1234) is not changed, there will pop-up a message reminding you to do so.

Live view mode

Once logged in, click “Live View” on the menu toolbar to access live view mode. See Figure 1 on page 6 for the description of the interface.

You can stop and start live view by clicking the Start/stop live view button  on the bottom of the window.

Record

You can record live video and stored it in the directory you have configured. In the live view window, click the **Record** button at the bottom of the window. To stop recording, click the button again.

Taking a snapshot

You can take a snapshot of a scene when in live view. Simply click the **Capture** button located at the bottom of the window to save an image. The image is in JPEG format. Snapshots are saved on the hard drive.

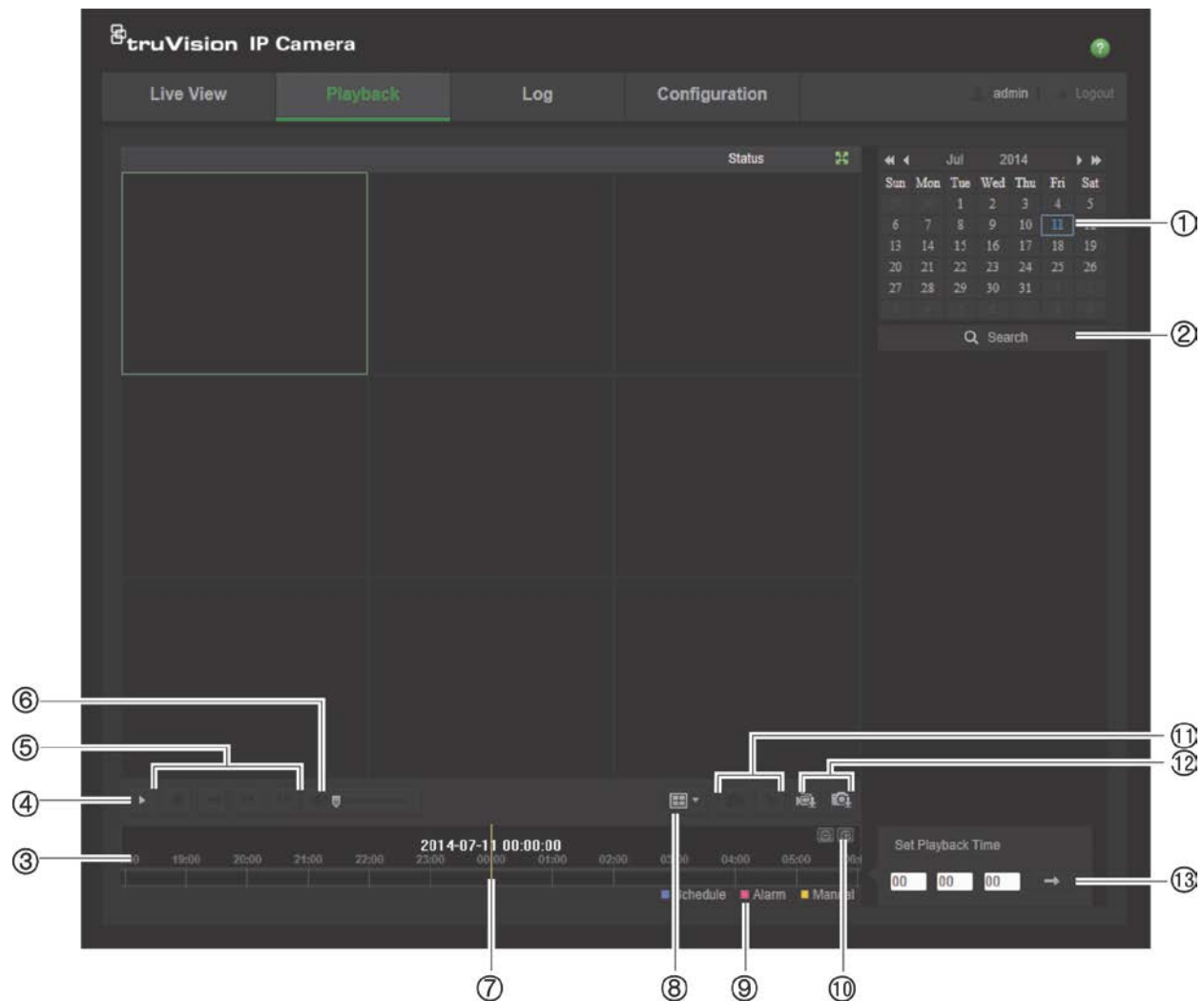
Playing back recorded video


You can easily search and play back recorded video in the playback interface.






Note: You must configure NAS or insert an SD card in the camera to be able to use the playback functions.

To search recorded video stored on the camera's storage device for playback, click **Playback** on the menu toolbar. The Playback window appears. See Figure 22 below.

Figure 22: Playback window




Name	Description
1. Search calendar	Click the day required to search.
2. Search	Start search.
3. Timeline bar	<p>The timeline bar displays the 24-hour period of the day being played back. It moves left (oldest) to right (newest). The bar is color-coded to display the type of recording.</p> <p>Click a location on the timeline to move the cursor to where you want playback to start. The timeline can also be scrolled to earlier or later periods for play back.</p> <p>Click  to zoom out/in the timeline bar.</p>

Name	Description
4. Playback button	Click to open the Playback window.
5. Control playback	Click to control how the selected file is played back: play, stop, slow and fast forward playback.
6. Audio control	Modify the audio level.
7. Time moment	Vertical bar shows where you are in the playback recording. The current time and date are also displayed.
8. Multiview	
9. Recording type	The color code displays the recording type. Recording types are schedule recording, alarms recording and manual recording. The recording type name is also displayed in the current status window.
10. Zoom in/out	Click to zoom in or out of the timeline bar.
11. Archive functions	Click these buttons for the following archive actions:  Capture a snapshot image of the playback video.  Start/Stop clipping video files.
12. Download functions	 Download video files.  Download captured images.
13. Set playback time	Input the time and click  to locate the playback point.


To play back recorded video

1. Select the date and click the **Search** button. The searched video is displayed in the timeline.
2. Click **Play** to start playback. While playing back a video, the timeline bar displays the type and time of the recording. The timeline can be manually scrolled using the mouse.


Note: You must have playback permission to playback recorded images. See “Modifying user information” on page 35 to archive recorded video files.

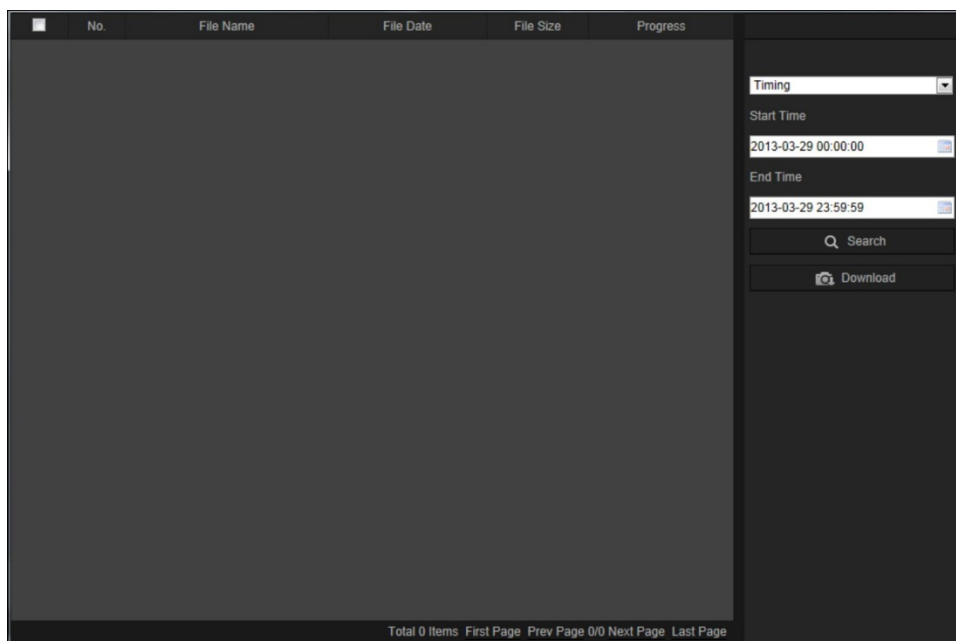
3. Select the date and click the **Search** button to search for the required recorded file.
4. Click  to search the video file.
5. In the pop-up window, check the box of the video file and click **Download** to download the video files.

To archive a recorded video segment during playback:

1. While playing back a recorded file, click  to start clipping. Click it again to stop clipping. A video segment is created.
2. Repeat step 1 to create additional segments. The video segments are saved on your computer.

To archive recorded snapshots:

1. Click  to open the snapshots search window.



2. Select the snapshot type as well as the start and end time.
3. Click **Search** to search for the snapshots.
4. Select the desired snapshots, and click **Download** to download them.

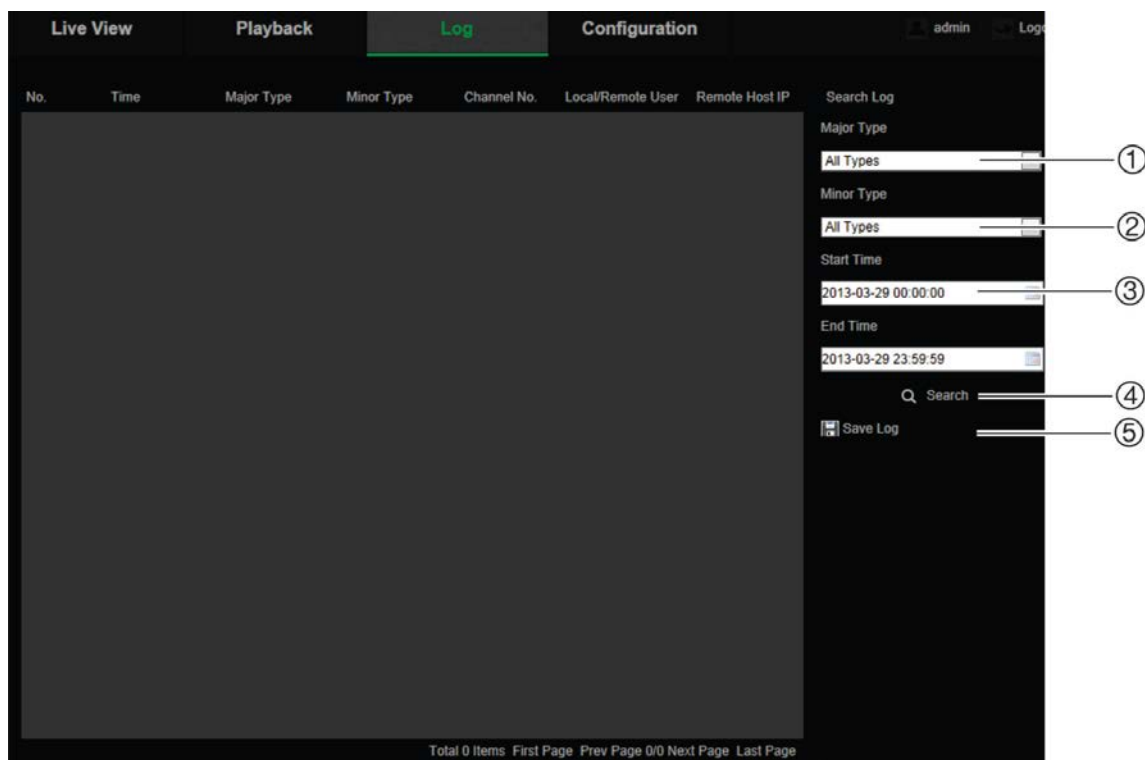
Searching event logs

You must configure NAS or insert a SD card in the dome camera to be able to use the log functions.

The number of event logs that can be stored on NAS or SD card depends on the capacity of the storage devices. When this capacity is reached, the system starts deleting older logs. To view logs stored on storage devices, click **Log** on the menu toolbar. The Log window appears.

Note: You must have view log access rights to search and view logs. See “Modifying user information” on page 35 for more information.

Figure 23: Log window



- 1. Major Type
- 2. Minor Type
- 3. Start and end search time
- 4. Start search
- 5. Save searched logs

You can search for recorded logs by the following criteria:

Major type: There are three types of logs: Alarm, Exception, and Operation. You can also search All. See Table 1 below for their descriptions.

Minor type: Each major type has some minor types. See Table 1 below for their descriptions.

Date and Time: Logs can be searched by start and end recording time.

Table 1: Types of logs

Log type	Description of events included
Alarm	Start Motion Detection, Stop Motion Detection, Start Tamper-proof, Stop Tamper-proof
Exception	Invalid Login, HDD Full, HDD Error, Network Disconnected and IP Address Conflicted
Operation	Power On, Unexpected Shutdown, Remote Reboot, Remote Login, Remote Logout, Remote Configure parameters, Remote upgrade, Remote Start Record, Remote Stop Record, Remote PTZ Control, Remote Initialize HDD, Remote Playback by File, Remote Playback by Time, Remote Export Config File, Remote Import Config File, Remote Get Parameters, Remote Get Working Status, Start Bidirectional Audio, Stop Bidirectional Audio, Remote Alarm Arming, Remote Alarm Disarming

To search logs:

1. Click **Log** in the menu toolbar to display the Log window.
2. In the Major Type and Minor Type drop-down list, select the desired option.
3. Select start and end time of the log.
4. Click **Search** to start your search. The results appear in the left window.

Operating PTZ control

In the live view interface, you can use the PTZ control buttons to realize pan/tilt/zoom control and other functions of the camera.

PTZ control panel



In live view, click   to display/hide the PTZ control panel.

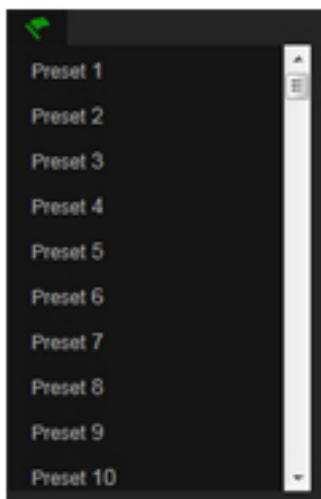
Figure 24: PTZ control panel





1. **Directional buttons:** Controls the movements and directions of the PTZ. Center button is used to start auto-pan by the PTZ dome camera.
2. **Zoom:** Adjusts zoom.
3. **PTZ movement:** Adjusts the speed of PTZ movement.


To set a preset:

1. Select a preset number from the preset list.



2. Use the PTZ directional buttons to move the camera to the desired position.
3. Click  to finish the setting of the current preset.
4. You can click  to delete the preset.

To call a preset:



1. Select a defined preset from the list.
2. Click  to call the preset.

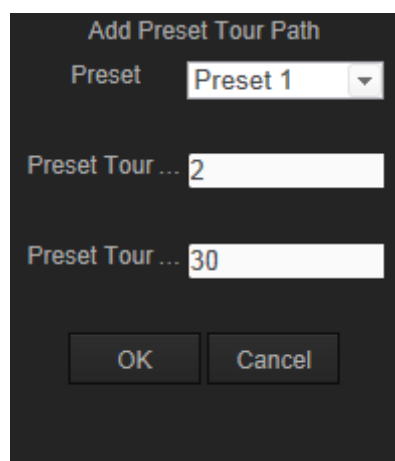
Using preset tours

A preset tour is a memorized series of preset function. The camera stays at a step for a set dwell time before moving on to the next step. The steps are defined by presets. A preset tour can be configured with up to 32 presets.

You can configure up to eight preset tours.


To set a preset tour:

1. In the PTZ control panel, click  to enter the tour settings interface.
2. Select a preset tour number from the drop-down list.
3. Click  to enter the adding interface of preset.




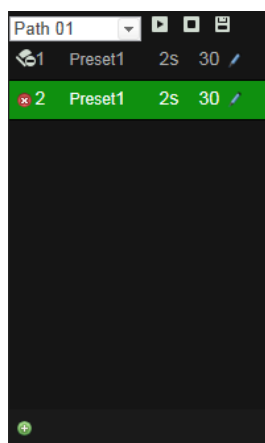
4. Configure the preset number, preset tour duration, and preset tour speed.

Preset Tour Duration	The dwell time. The length of time in seconds for which a camera stays at a preset before moving to the next preset.
Preset Tour Speed	The speed the camera moves from one preset to another.

5. Click **OK** to save a preset into the preset tour.
6. Repeat the steps from 3 to 5 to add more presets.
7. Click  to save all the preset tour settings.

To call a preset tour:

In the PTZ control panel, select a defined preset tour from the drop-down list and click  to call the preset tour.



Index

8

802.1X setup, 15

A

Alarm types
motion detection, 24

Archived files
playing back, 41

Archiving files
recorded files, 41
set up default directories, 7, 8
snapshots of recorded files, 41

Audio parameters, 17

B

Brightness setup, 20

C

Camera image
configuring, 19

Camera name
display, 22

Contrast setup, 20

D

Date format set up, 22

DDNS setup, 15

Default settings
restore, 37

Display information on-screen
set up, 22

E

Email setup, 17

Events
searching logs, 42

F

Firmware upgrade, 38

FTP setup, 16

H

Hard drive
capacity, 29
card full, 29
formatting, 29

I

IP address
finding IP address of camera, 5

L

Language
changing, 39

Live view mode
starting, 39

Logging on and off, 39

Logs
information type, 43
search logs, 42
viewing logs, 42

M

Motion detection
configuring, 24
marking the detection areas, 25, 27, 28

N

NAT setup, 17

Network protocol
setup, 7, 8

Network settings
overview of local camera parameters, 7, 8
NTP synchronization, 9

P

Passwords
modifying, 35

Playback
play back recorded files, 41
screen, 40
searching recorded video, 40

Ports setup, 14

Post-recording times, 30

PPPoE setup, 15

Pre-recording times, 30

PTZ control, 44

Q

QoS setup, 16

R

Reboot camera, 38

Recording
defining recording schedule, 30
manual recording, 39
playback, 40

- snapshots from recorded files, 41
- snapshots in live view mode, 39

Recording parameters, 17

RS-485 setup, 10

S

Saturation setup, 20

SDHC card

- capacity, 29
- card full, 29
- formatting, 29
- free space available, 29

Sharpness setup, 20

Snapshots

- archiving snapshots from recorded files, 41
- saving during live view mode, 39

Streaming

- main/sub setup, 7, 8

System time

- set up, 9

T

TCP/IP setup, 14

Text display on screen

- appearance, 22

Time format set up, 22

TruVision Device Finder, 5

U

UPnP setup, 16

User settings, 33

Users

- adding new users, 34
- deleting a user, 34
- modifying computer ID, 35
- modifying password, 35
- types of users, 33

V

Video quality, 19

W

Web browser

- accessing the camera, 5
- overview of the interface, 5

Web browser security level

- checking, 3