Network Cameras

User Manual

Thank you for purchasing our product. If there are any questions, or requests, please do not hesitate to contact the dealer.

Notice

- The contents of this document are subject to change without prior notice. Updates will be added to the new version of this manual. We will readily improve or update the products or procedures described in the manual.
- Best effort has been made to verify the integrity and correctness of the contents in this document, but no statement, information, or recommendation in this manual shall constitute formal guarantee of any kind, expressed or implied. We shall not be held responsible for any technical or typographical errors in this manual.
- The illustrations in this manual are for reference only and may vary depending on the version or model. So please see the actual display on your device.
- This manual is a guide for multiple product models and so it is not intended for any specific product.
- Due to uncertainties such as physical environment, discrepancy may exist between the actual values and reference values provided in this manual. The ultimate right to interpretation resides in our company.
- Use of this document and the subsequent results shall be entirely on the user's own responsibility.

Conventions

Document Conventions

Convention	Description
Boldface font	Commands, keywords, parameters and GUI elements such as window, tab, dialog box, menu, button, etc.
Italic font	Variables for which you supply values.
>	Separate a series of menu items, for example, **Device Management** > **Add Device**.

Symbols

| Symbol	Description
⚠️ **WARNING!**	Contains important safety instructions and indicates situations that could cause bodily injury.
ⓘ **CAUTION!**	Means reader be careful and improper operations may cause damage or malfunction to product.
📝 **NOTE!**	Means useful or supplemental information about the use of product.

Contents

1 Network Connection

Before accessing a network camera (also known as IP Camera or IPC) from a PC, you need to connect the network camera to the PC directly with a network cable or via a switch or router.
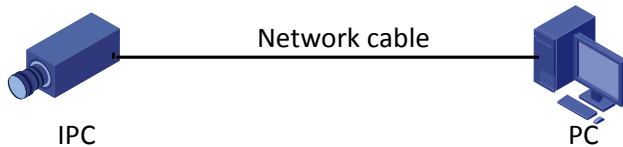
Use a Shielded Twisted Pair (STP) cable to connect the network interfaces of the network camera and the PC. To make a network cable, see Appendix Making Network Cables.
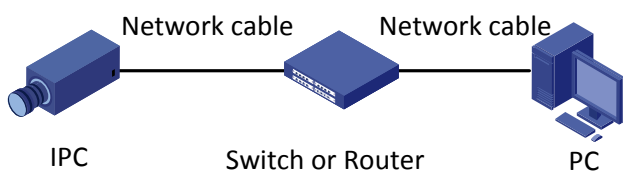
Use Shielded Twisted Pair (STP) cables to connect the network interfaces of the camera and the switch or router. To make a network cable, see Appendix Making Network Cables.

2 Login

Preparation

After you have completed the installation in accordance with the quick guide, connect the camera to power to start it. After the camera is started, you can use a Web browser to manage and maintain the camera.

The following takes Windows 7.0 and Internet Explorer as an example.

Check before login

- The camera is operating correctly.
- The network connection between the PC and the camera is normal.
- The PC is installed with Internet Explorer 8.0 or higher.
- (Optional) The resolution is set to 1440 x 900.

Add the IP address as a trusted site
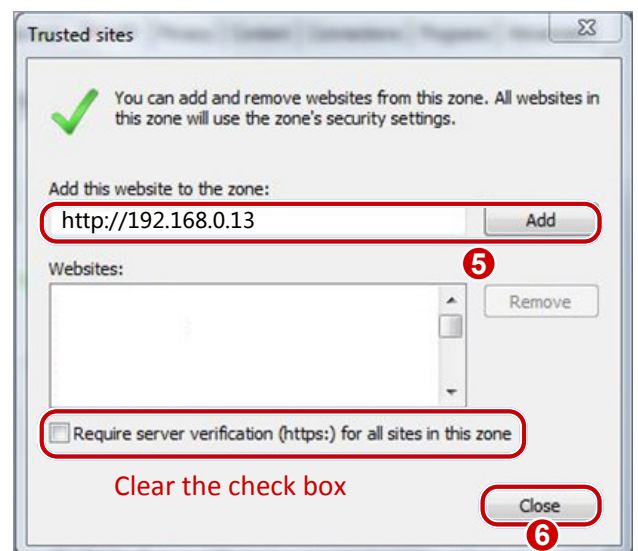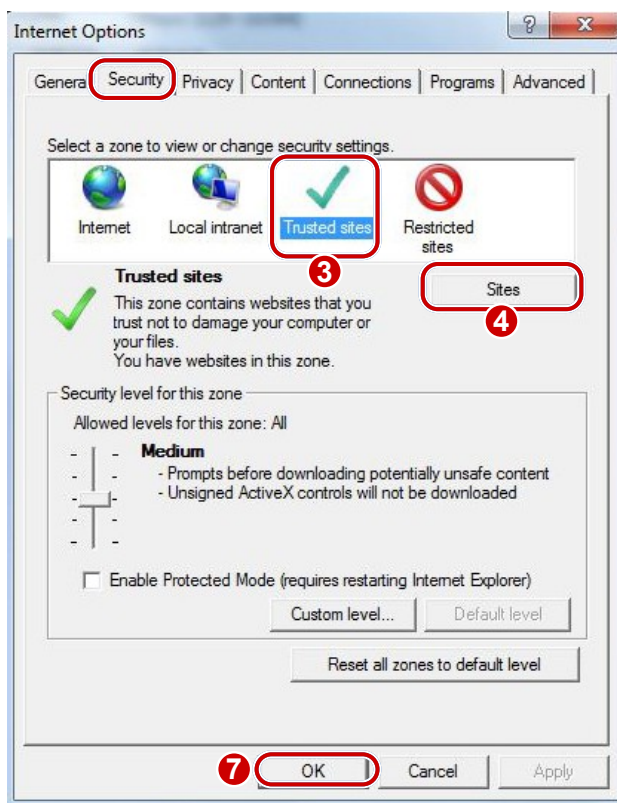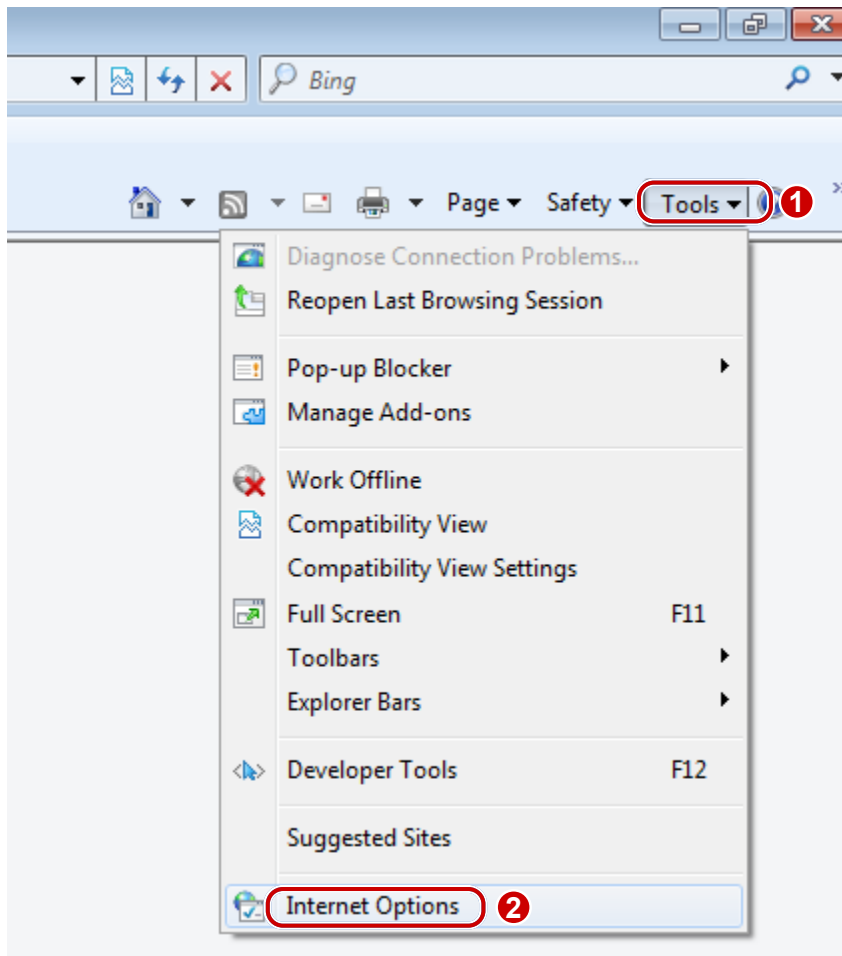
(Optional) Modify user access control settings

Before you access the camera, follow the steps to set **User Account Control Settings** to **Never notify**.
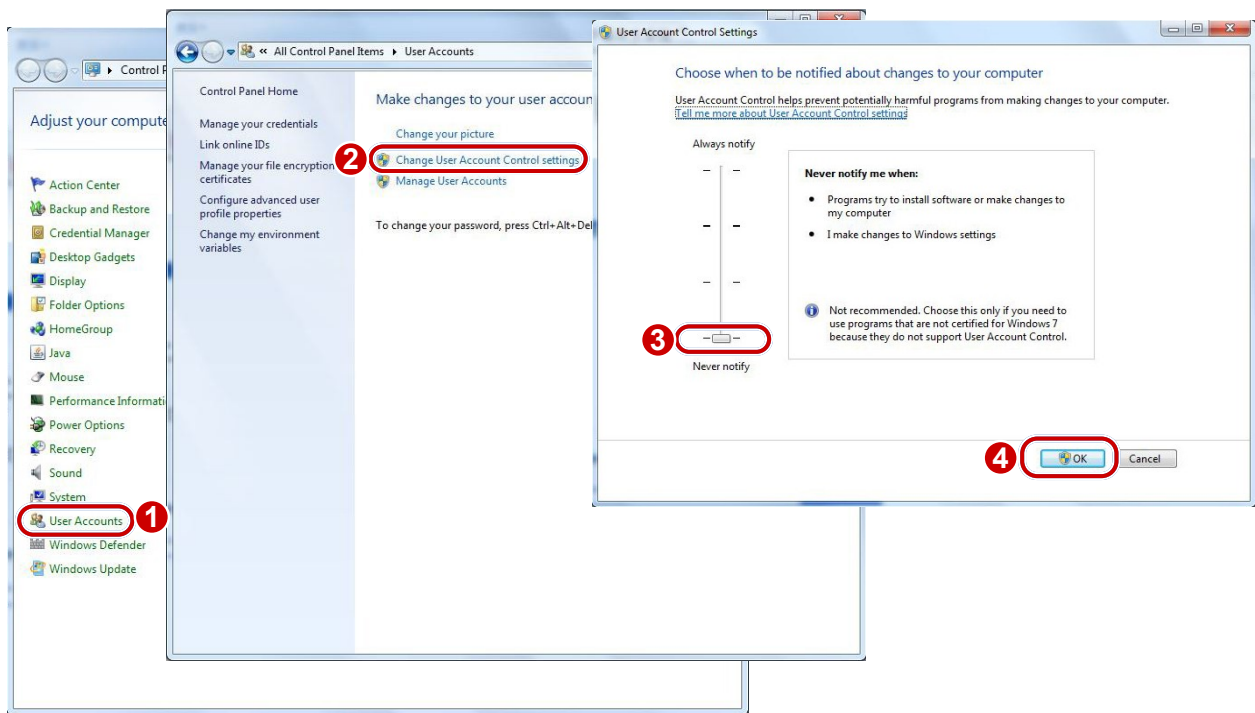
Logging In to the Web Interface

The default static IP address of the camera is 192.168.0.13, and the default subnet mask is 255.255.255.0.

DHCP is turned on by default. If a DHCP server is used in the network, the IP address of your camera may be assigned dynamically, and you need to use the correct IP address to log in. Use the EZManager client to view the dynamic IP address of your camera. .

The following takes IE as an example to describe the login procedure.

1. Type the correct IP address of your camera in the address bar and then press **Enter**.
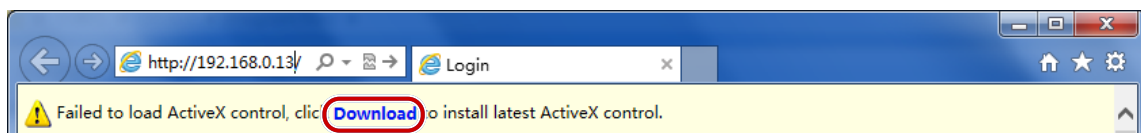
2. If you log in for the first time, follow system prompts and install the ActiveX. You need to close your browser to complete the installation.

![note icon] **NOTE!**

To manually load the ActiveX, type http://*IP address*/ActiveX/Setup.exe in the address bar and press **Enter**.

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3. Enter the username and password, and then click **Login**. For the first login, use the default username "admin" and password "123456" or "admin".

-   If you log in with **Live View** selected, live video will be displayed when you are logged in. Otherwise, you need to start live video manually in the live view window.

-   If you log in with **Save Password** selected, you do not need to enter the password each time when you log in. To ensure security, you are not advised to select **Save Password**.

- To clear the **Username** and **Password** text boxes and the **Save Password** check box, click **Reset**. Other settings, such as **Live View**, will not be affected.

Introduction to the Web Interface

By default the live view window is displayed when you are logged in to the Web interface. The following shows an example.
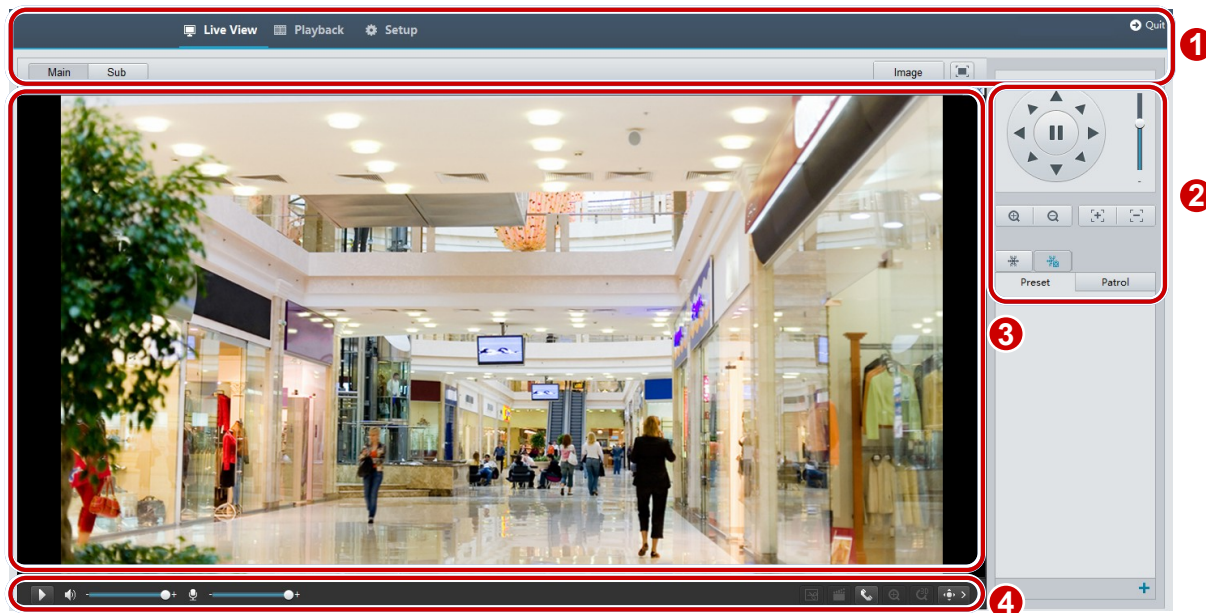
No.	Description
1	Menu
2	PTZ control area ***Note:*** *This area is available for PTZ dome cameras and PTZ cameras.*
3	Live view pane
4	Live view toolbar

📝 **NOTE!**

- The displayed live view interface, parameters displayed and value ranges may vary with models. Please see the actual Web interface for details.
- The parameters that are grayed out cannot be modified. For the actual settings, see the Web interface.
- It is recommended that you change the password when you are logged in the first time. For details about how to change a password, see Changing the Password.

3 Initial Configuration

You are recommended to complete the following configuration after you are logged in.

Item	Description
1) Setting the IP Address	Configure the IP address and network parameters as planned.
2) Logging out of the Web interface and logging in again with the new IP address	-
3) Setting the System Time	Set the correct system time.
4) (Optional) Setting Servers	Set correct information about the servers.
5) Setting the OSD	Set the information to be displayed with video on the screen, for example, time.
6) (Optional) Adding a User	Add an administrator or operator as required.

Configure other parameters as required after you have completed the proceeding configuration.

Setting the IP Address

Modify communication settings such as the IP address for the camera so that the camera can communicate with other devices.

📝 **NOTE!**

- After you have changed the IP address, you need to use the new IP address to log in.
- The configurations of DNS (Domain Name System) server are applicable when the device is accessed by domain name.

Static Address

1. Click **Setup** > **Common** > **TCP/IP**.
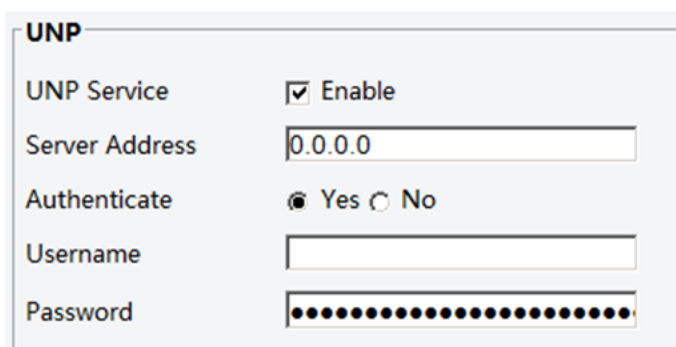
IP Obtain Mode	Static IP
IP Address	208.208.105.199
Subnet Mask	255.255.255.0
Default Gateway	208.208.105.1
MTU	1500
DNS	
Preferred DNS Server	114.114.114.114
Alternate DNS Server	114.114.115.115
Port Type	Copper Port
Operating Mode	Auto-negotiation

2. Select **Static IP** from the **IP Obtain Mode** drop-down list.
3. Enter the IP address, subnet mask, and default gateway address. Make sure that the IP address of the camera is unique in the network.
4. Click **Save**.

If a gatekeeper or firewall is used in the network, Universal Network Passport (UNP) can be used to interconnect the network, and the UNP server will assign an IP address to the connected cameras.

1. Select **Enable** for UNP Service.

2. In the **Server Address** text box, enter an IP address for the UNP server. Select **Yes** to enable authentication, and then set the username and password for UNP authentication.

3. Click **Save**.

📝 **NOTE!**

This function is not supported by some models, please see the actual model for details.

PPPoE

If the camera is connected to the network through Point to Point Over Ethernet (PPPoE), you need to select PPPoE as the IP obtainment mode.

1. Click **Setup** > **Common** > **TCP/IP**.

2. Select **PPPoE** from the **IP Obtain Mode** drop-down list.
3. Enter the username and password provided by your internet Service Provider (ISP).
4. Click **Save**.

DHCP

The Dynamic Host Configuration Protocol (DHCP) is enabled by default when the camera is delivered. If a DHCP server is deployed in the network, the camera can automatically obtain an IP address from the DHCP server.

To manually configure DHCP, follow the steps below:

1. Click **Setup** > **Common** > **TCP/IP**.

2. Select **DHCP** from the **IP Obtain Mode** drop-down list.
3. Click **Save**.

Setting the System Time

You can use the following methods to adjust the system time of your device.

Manually Setting or Synchronizing the System Time

1. Click **Setup** > **Common** > **Time**, and then click the **Time** tab.

2. Select **Enable** for **Client Time Synchronization**.
3. Set the correct time zone and system time. You may also click **Sync with Computer Time** to synchronize the time settings of your camera with that of your PC.
4. Click **Save**.

Synchronizing with the NTP Server

1. Click **Setup** > **Common** > **Time**, and then click the **Time** tab.

2. Select **Enable** for **NTP**, and then enter the IP address of the NTP server.
3. Click **Save**. The camera will periodically synchronize time with the NTP server.

Setting the DST

1. Click **Setup** > **Common** > **Time**, and then click the **DST** tab.

2. Select **Enable DST**, set the start time, end time, and DST bias.

3. Click **Save**.

Setting Servers

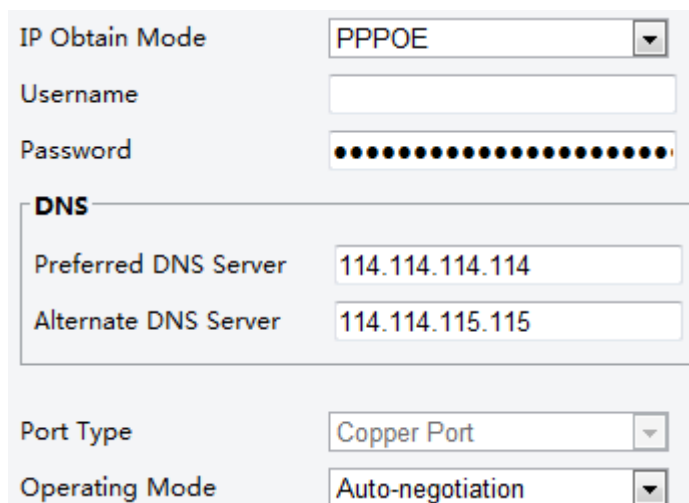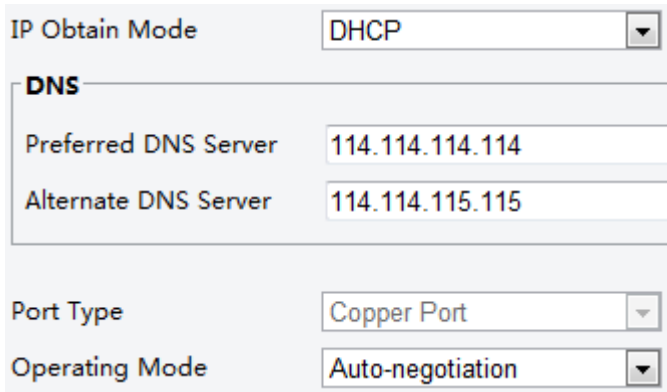📝 **NOTE!**

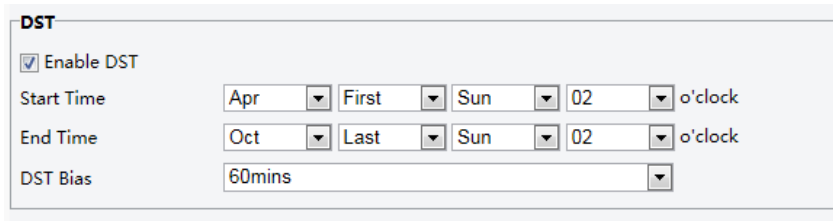This function is not supported by some models, please see the actual model for details.

If the camera is managed by a central server, you need to configure the server related parameters.

For details about how to use the BM server, see Memory Card Storage.
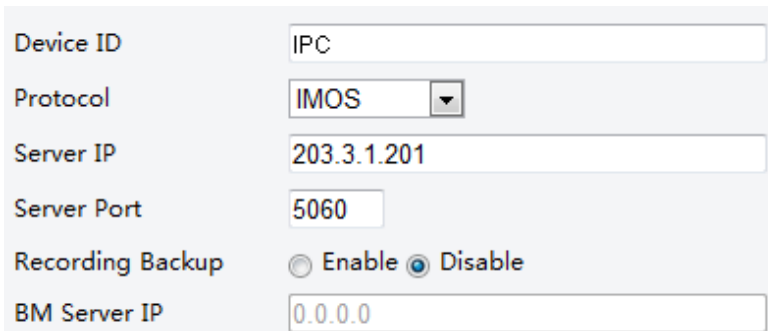
ⓘ **CAUTION!**

- If the device ID, protocol or server IP is changed, the camera will restart, and the login password for admin and the system time will be updated as the settings on the central management server. In addition, all settings, except the following, will be restored to factory defaults: network interface card, server, image, OSD, privacy mask, custom information, and ROI.
- Registration will fail if the device ID is different from that stored on the central management server. You need to restart the camera in order for the registration to succeed.
- If the camera operates independently, select **None** for **Protocol**.

Connect via the IMOS protocol

1. Click **Setup** > **Common** > **Server**, and then click the **Management Server** tab.

2. In the **Device ID** text box, enter an ID that is unique in the network.

3. Select **IMOS** from the **Protocol** drop-down list.

4. Enter the correct IP address and port number for the central management server.

5. Click **Save**.

Connect via other protocols

1. Click **Setup** > **Common** > **Server**, and then click the **Management Server** tab.

Device ID	IPC
Protocol	Other ▾ VISS ▾
Password	••••••••••••••••
Video Channel ID	
Device Name	
Server ID	iccsid
Server IP	203.3.1.201
Server Port	5060
Recording Backup	○ Enable ● Disable
BM Server IP	0.0.0.0

2. In the **Device ID** text box, enter an ID that is unique in the network.

3. Select **Other** from the **Protocol** drop-down list.

4. Set other parameters for the server. The following table describes some major parameters.

Parameter	Description
VISS	Protocol used to connect to the VISS platform.
Password	Password used to access the central management server.
Device Name	Name of the network camera.
Server ID	ID of the central management server.
Server IP, Server Port	IP address and port number of the central management server.

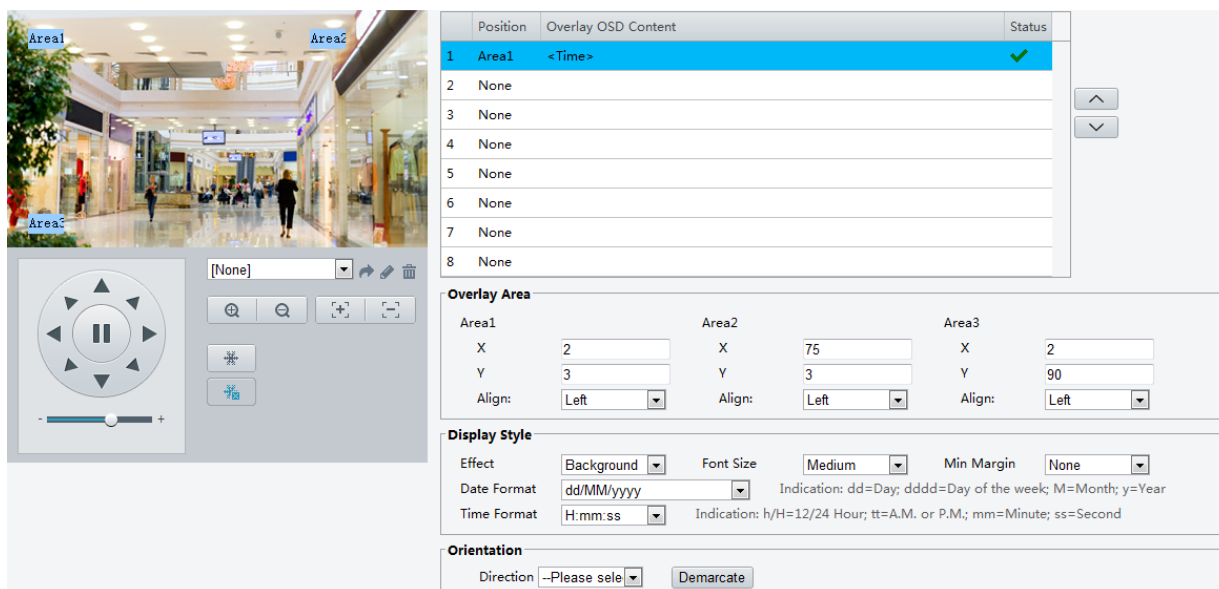5. Click **Save**.

Setting the OSD

On Screen Display (OSD) is the text displayed on the screen with video images and may include time and other customized contents.

📝 **NOTE!**

This function may vary with models, please see the actual Web interface for details.

1. Click **Setup** > **Common** > **OSD**.

2. Select the position and content of the OSD.

- Position: Click the desired box in the **Live View** area. After the cursor shape is changed, click and hold the button to move the box to the desired position. To set the position precisely, use the X and Y coordinates under **Overlay Area**.

- Overlay OSD Content: The drop-down list provides **Time**, **Preset** and **Serial Info**. You may also select **Custom** and enter the content you want.

- After you have set the position and OSD content, the ✔ symbol appears in the **Status** column, which means that the OSD is set successfully. You may set multiple lines of contents for each area and use ∧ and ∨ to adjust the sequence of display.

3. After you have completed the settings, a message appears to indicate the successful settings.

You may right-click in the preview pane and then choose to view in full screen mode or at an aspect ratio. You may also double-click the preview pane to enter or exit full screen mode.

To cancel OSD for an area, clear the OSD content in the **Overlay OSD Content** column or select **None** in the **Position** column.

The following shows an example time OSD.

User Management

Adding a User

There are two types of users in the system:

- Administrator: referred to as "admin" in this manual. The default name of the administrator is admin, which cannot be modified. Admin has full permission and can manage all users and devices. Only one admin user is allowed in the system.
- Common user: referred to as "user" in this manual. User only has permission to play live and recorded video. Up to five common users are allowed in the system.
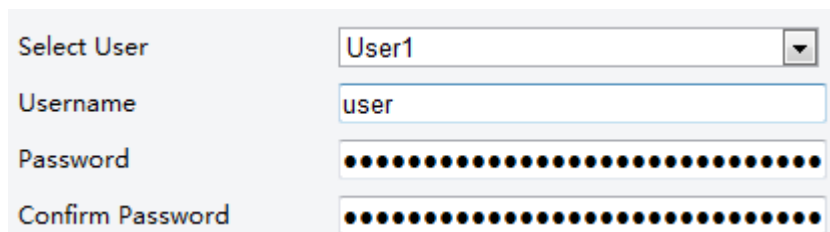
1. Click **Setup** > **Common** > **User**.

Select User	User1
Username	
Password	••••••••••••••••••••••••••••••••
Confirm Password	••••••••••••••••••••••••••••••••

2. Select the desired user type from the drop-down list.
3. Enter the username and password for the user.
4. Click **Save**.

Changing the Password

Only admin can change passwords. Changing the username or password for a user when the user is still logged in will force the user to log out. The user must use the new username or password to log in.

1. Click **Setup** > **Common** > **User**.

Select User	User1
Username	user
Password	••••••••••••••••••••••••••••••••
Confirm Password	••••••••••••••••••••••••••••••••

2. Select the user from the drop-down list.
3. Enter the new password.
4. Click **Save**.

Deleting a User

Only admin can delete users. Deleting a user when the user is still logged in will force the user to log out. A deleted user cannot log in.

1. Click **Setup** > **Common** > **User**.

Select User	User1
Username	user
Password	••••••••••••••••••••••••••••••
Confirm Password	••••••••••••••••••••••••••••••

2. Select the user from the drop-down list.

3. Clear the content in the **Username** text box.

4. Click **Save**.

4 Live View

Live view means playing live video (real-time audio and video) received from a camera in a pane through the Web interface.

If you log in with the **Live View** check box selected, live video appears by default when you are logged in. You may double-click the pane to enter or exit full screen mode.
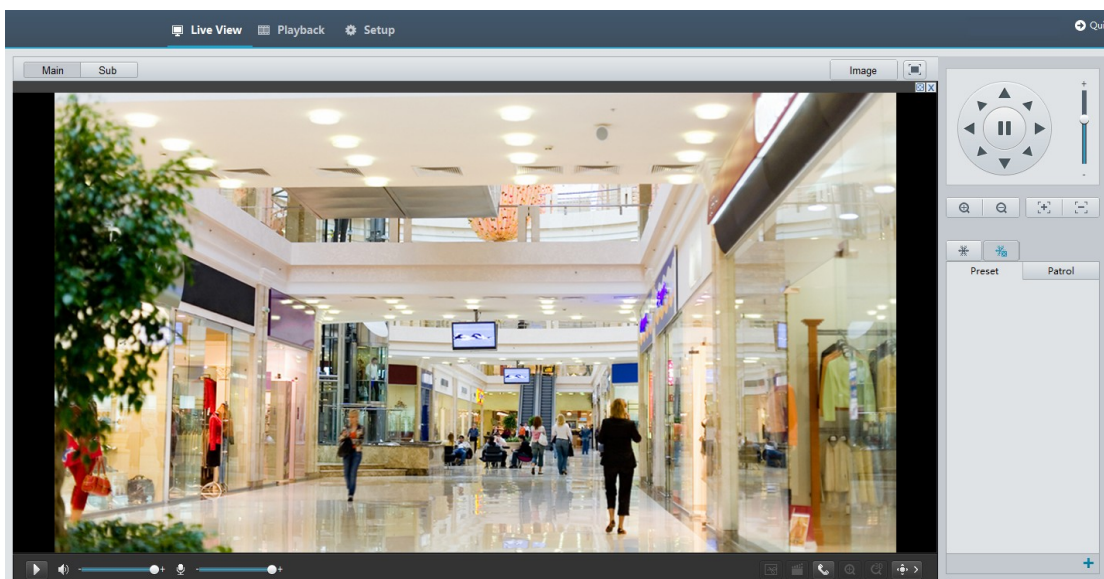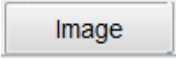
Live View Toolbar

> 📝 **NOTE!**
>
> The supported live view operations may vary with camera model. For the operations that your camera supports, see the Web interface.

Icon	Description
▶ / ■	Play/stop live video.
🔊 ——●+	Adjust the output volume for the media player on the PC.
🎤 ——●+	Adjust the microphone volume on the PC during audio communication

Icon	Description
	between the PC and the camera.
	Take a snapshot of the current image displayed on the PC. *Note: The path for saving snapshots are set in* **System Configuration**.
/	Start/stop local recording. *Note: The path for saving local recordings is set in* **System Configuration.**
/	Start/stop audio communication between the PC and the camera.
/	Start/stop digital zoom. For more details , see <u>Using Digital Zoom</u>.
/	Start/stop 3D positioning. For more details, see <u>Using 3D Positioning</u>.
/	Show/hide the PTZ control panel.
	Reset the packet loss rate to zero. *Note: After you move the mouse cursor on a live view pane, this button appears on the floating toolbar.*
Image	Click this button to open the image setting page.
	Display in full screen mode.
Main Sub Third	Select a live video stream that the camera supports: main stream, sub stream or third stream.

📝 **NOTE!**

You may right-click a live view pane and use the pop-up menu. Some of the menu items are described as follows:

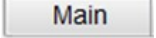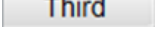- Aspect Ratio: Set the ratio of images displayed in the pane. For example, to display high-definition images in the original 16:9 mode, select **Aspect Ratio** > **Scale**; To display by pane size, select **Aspect Ratio** > **Stretch**. To display by original image size, select **Aspect Ratio** > **Original**.
- Video Effects: Set video parameters for live video in the pane to improve image quality.
- System Configuration: Set local parameters of the PC.

Viewing Certain Area of Images

Digital zoom and 3D positioning allow you to get more details of certain part of images.

Using Digital Zoom

1. On the **Live View** page, click [icon] on the toolbar.

2. Click and hold the mouse button, and then drag from the top down to specify an area.

3. To restore the original image size, click in the enlarged area, or drag from the bottom top.

4. To exit, click .

Using 3D Positioning

 NOTE!

This function is available only for network PTZ cameras and network box cameras equipped with motorized zoom lens and PTZ. Please see actual models for details.

1. On the **Live View** page, click on the toolbar.
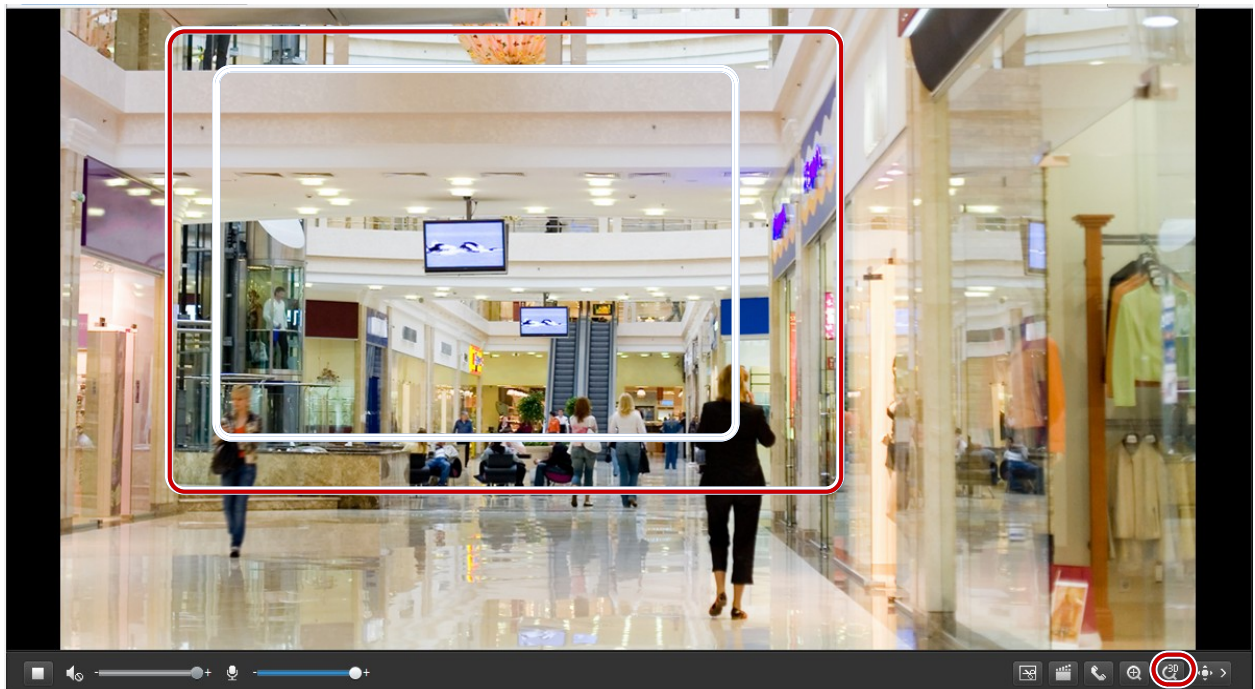
2. Click and hold the mouse button, and then drag from top down to specify an area.

3. To exit, click .

Adjusting Video Effects
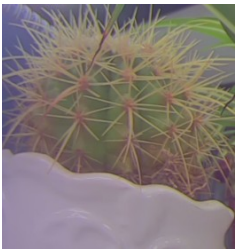
Adjust video effects for live video in a pane to get better image quality. Video effects of recordings are not affected.
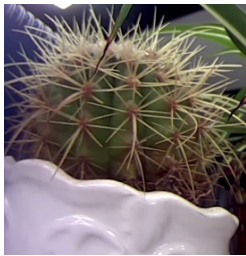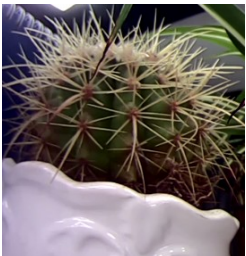
1. On the **Live View** page, right-click and then select **Video Effects** from the pop-up menu.
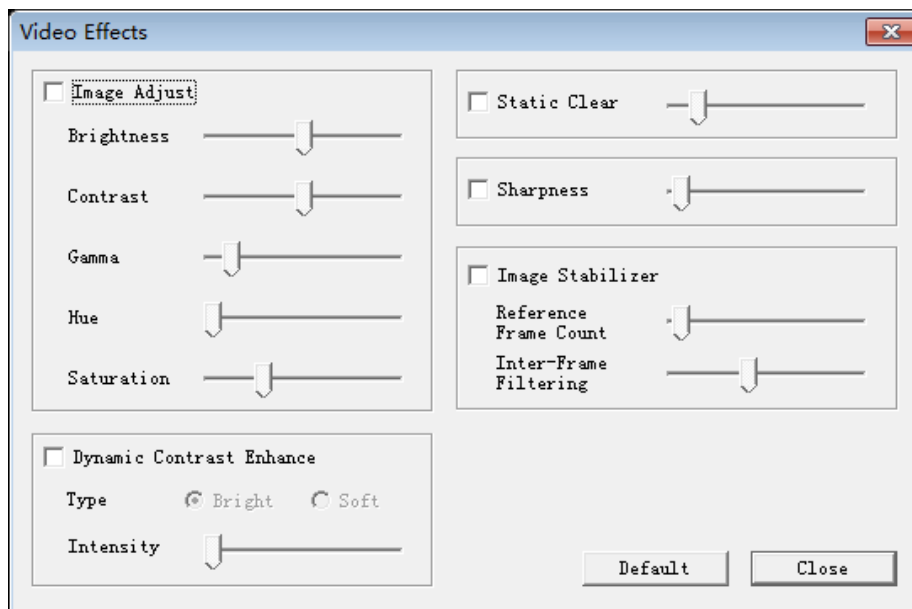
2. Modify the settings as required.

3. To restore the default settings, click **Default**.

The following table describes some major parameters.

Item	Description
Brightness	Set the degree of brightness of images. Low brightness High brightness
Contrast	Set the degree of difference between the blackest pixel and the whitest pixel. Low contrast High contrast
Gamma	Auxiliary function for adjusting brightness and contrast.
Hue	Overall tendency of colors in an image. Normal hue Other hue
Saturation	The amount of a hue contained in a color. Low saturation High saturation
Dynamic Contrast Enhance	Used to improve gradation of image. You can choose the Bright mode or Soft mode and then adjust the intensity.

Item	Description
	  Off On: Bright mode On: Soft mode
Static Clear	Intended for static images to improve image quality.
Sharpness	Contrast of boundaries of objects in an image. Low sharpness High sharpness
Image Stabilizer	Used to reduce the noise level at night and improve images.

Configuring System Parameters

Set local parameters for your PC.

> **NOTE!**
>
> This function may vary with models, please see the actual Web interface for details.

1. On the **Live View** page, right-click the pane and then select **System Configuration** from the pop-up menu. The **System Configuration** dialog box is displayed.

2. Modify the settings as required. The following table describes some major parameters.

Parameter		Description
Video Param	Processing Mode	• Real Time Prior: Recommended if the network is in good condition. • Fluent Prior: Recommended if you want less time lag for live video. • Ultra-low Delay: Recommended if you want the minimum time lag for live video.
	Video Pixel Format	Set the video format for images on the PC client. *Note: It is recommended to choose **YUV420** if the graphic card of your PC supports it. **RGB32** is only supported by some low-version graphic cards.*
	Transmission	Set the protocol used to transmit media streams to be decoded by the PC. *Note: After you change this setting, live video will pause and then restore using the new transmission protocol.*
Record and Snapshot	Recording	• Subsection By Time: Duration of recorded video for each recording file on the computer. For example, 2 minutes. • Subsection By Size: Size of each recording file stored on the computer. For example, 5M.
	Record Overwrite	• Overwrite: When the assigned storage space on the computer is used up, the camera deletes the existing recording files to make room for the new recording file. • Full Stop: When the assigned storage space on the computer is full, recording stops automatically.

3. Click **OK**.

5 Video Playback and Download with Edge Storage

📝 **NOTE!**

- Edge storage refers to recording video to the memory card of a frontend device (mostly a camera). Local recording refers to recording video to a local PC client.
- Before you play back video with edge storage, check that the camera has been installed with a memory card and storage has been configured.
- This function is not supported by some models, please see actual models for details.

Video Playback

1. Click **Playback** on the home page.

2. Select the date from the calendar.
3. Click **Query**.
4. Under **Results**, double-click the time period to start playing the recording.

Download

1. Click **Setup** > **Storage** > **Record Download.**

2. Search for video within a specified period. The results will be shown in a list.

3. Select your video and click **Download**. The video will be downloaded to your local path from the memory card (local path can be changed in **System Configuration**).

4. Click **Open Folder** to show the folder where the downloaded video is saved.

6 PTZ Control

This function is available only for the PTZ dome cameras or a box camera installed on a Pan/Tilt motor.

📝 **NOTE!**

- Some of the lens control functions are applicable to cameras equipped with motorized lens.
- The PTZ control buttons may vary with camera model. For the PTZ control buttons that your camera supports, see the Web interface.

PTZ Control Toolbar

Item	Description
Preset	Select a preset and then click 🔄. The PTZ camera goes to the selected preset. To add a preset, click ➕. To delete a preset, click 🗑.
Patrol	Select a patrol route and then click ▶ to start patrol. • To edit a patrol route, click ✏. • To add a patrol route, click ➕. • To delete a patrol route, click 🗑.
	Adjust the moving speed of the PTZ camera.

Item	Description
	Control the direction of the PTZ camera and release the control.
	Turn on or off IR. Turn on or off the wiper. Turn on or off the heat. Turn on or off the illuminator. Turn on or off snow control.
	Adjust camera focus.
	Adjust camera zoom.
	Turn on or off defog.
	Increase or decrease iris diameter.
	Shortcut keys for PTZ control. After the mouse cursor changes to one of these shapes in live view, click and hold the left mouse button to operate the PTZ camera. ***Note:*** ● *Only PTZ dome cameras and PTZ cameras support this function.* ● *These buttons are unusable when you are using 3D positioning or digital zoom.*
	Shortcut keys for zooming in or out in live view. Scroll the wheel forward to zoom in or backward to zoom out. ***Note:*** *Only cameras with motorized zoom lens support this function.*

Setting Patrol by Presets

Setting Presets

On the **Preset** tab, you can manage presets or perform certain control operations to the PTZ camera. For more details, see PTZ Control Toolbar.

Add a preset

1. On the **Live View** page, click **Preset** on the control panel.
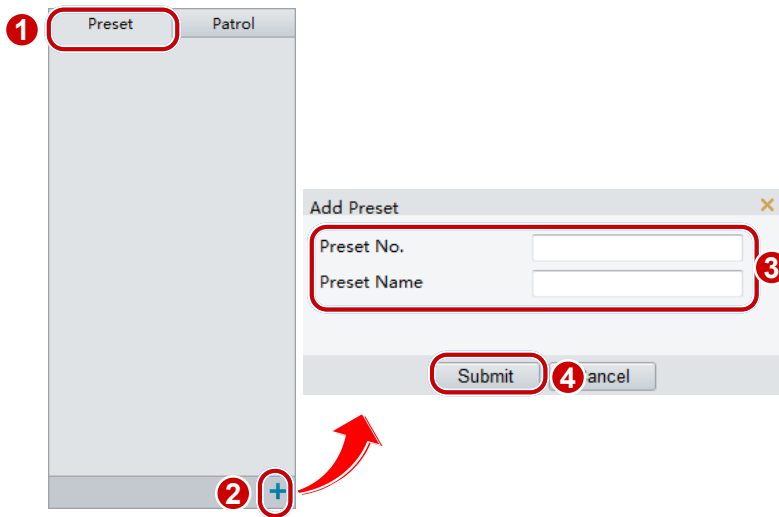
2. Adjust the PTZ camera so it goes to the intended position and then click ✛ to add it as a preset. Enter a number and name for the preset and then click **Submit**.

Go to a preset

1. On the **Live View** page, click **Preset** on the control panel.
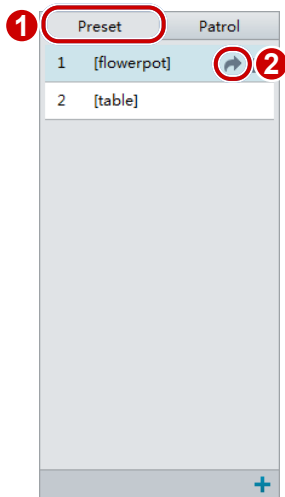
2. Click ↱ for a preset. The PTZ camera goes to the selected preset.

Delete a preset

1. On the **Live View** page, click **Preset** on the control panel.
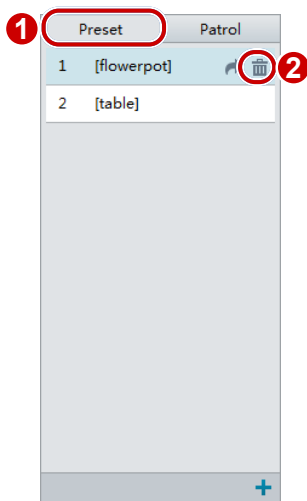
2. Click 🗑 for a preset and then confirm the delete.

Setting Patrol

A patrol route is the track by which a PTZ camera follows when moving from a preset to the next. The length of time that a PTZ camera stays at each preset is configurable. Multiple patrol routes are allowed for a PTZ camera.

Patrol actions include going to a preset and staying at the preset for a certain amount of time before going to the next. You can set the rotation direction, zoom, rotation speed, patrol time, and stay time. The system records the route and adds it to the action list. You may select **Keep Rotating** so the PTZ camera follows the same route and patrols repeatedly.

Add a patrol route

1. On the **Live View** page, click **Patrol** on the control panel.
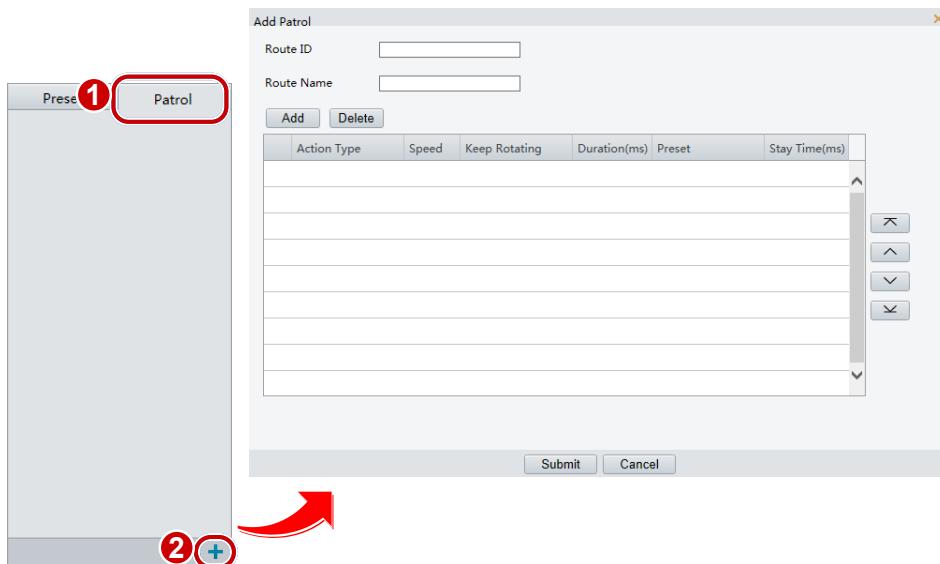
2. Click ➕.
3. On the **Add Patrol** page, enter the route ID and name, and then click **Add** to add a patrol action. Use the buttons to adjust the sequence of the actions.

Patrol actions include:

• Go to a preset and stay for a certain amount of time before going to the next preset.

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- Rotate at the set speed in the set direction for a certain amount of time, zoom, stay at a set position for a certain amount of time, or patrol repeatedly if **Keep Rotating** is selected.

It is recommended that the first action type is **Go to Preset**.

4. Click **Submit**.

Record a patrol route

1. On the **Live View** page, click **Patrol** on the control panel.
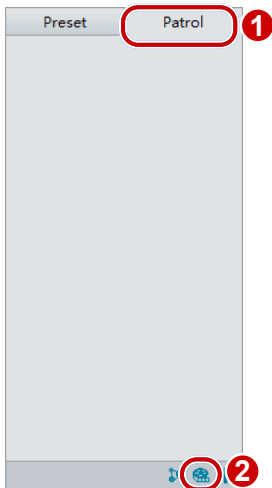
2. Click to start recording the patrol route. You can adjust the direction and zoom of the camera during the recording. The system records the motion and track of the camera and adds them to the action list.

3. Click to stop recording. In the dialog box that appears, edit the recorded route as required and then click **Submit**.

Make a patrol plan

1. On the **Live View** page, click **Patrol** on the control panel.
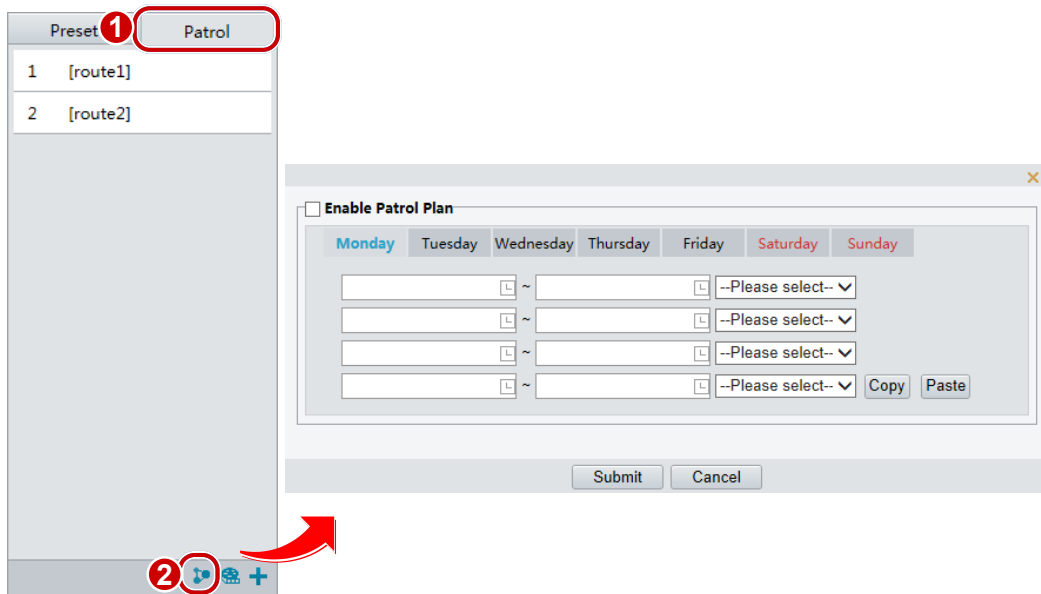
2. Click ⬚. The page for setting patrol plans is displayed.

3. Set the correct patrol time and route.

4. Select **Enable Patrol Plan**.

5. Click **Submit**.

Start a patrol route

After you have added a patrol route, select the patrol route to start patrol.

1. On the **Live View** page, click **Patrol** on the control panel.
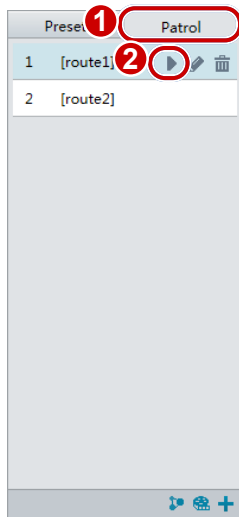
2. Click ▶ for the patrol route you want to start.

Edit a patrol route

1. On the **Live View** page, click **Patrol** on the control panel.
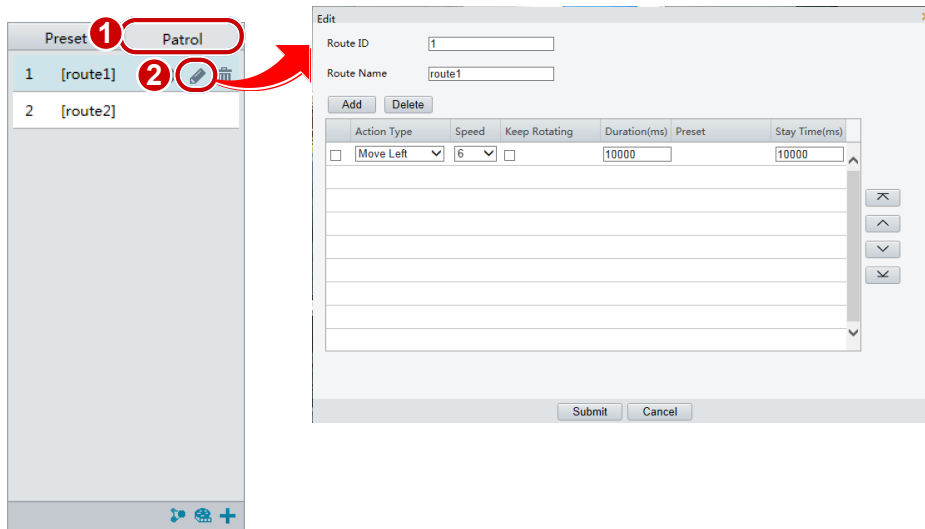
2. Click ✏ for the patrol route you want to edit and modify the settings as required.

Delete a patrol route

1. On the **Live View** page, click **Patrol** on the control panel.
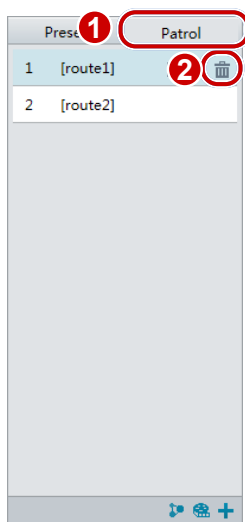
2. Click 🗑 for the patrol route you want to delete and then confirm the delete.

Setting Home Position

PTZ camera will return to home position if no operation is made within a specified period.

📝 **NOTE!**

This function is available for network PTZ cameras only.

1. Click **Setup** > **PTZ** > **Home Position**.

2. Select the desired preset as the home position and set the time. To add a preset, see Add a preset.

3. Click **Save**.

7 Image Configuration

Click **Setup** > **Image** > **Image**.

Scene Management

Set image parameters to achieve the desired image effects based on live video in different scenes.

If auto-switching is enabled, the camera can switch to the scene automatically when the condition for switching to a non-default scene is met. Otherwise, the camera remains in the default scene. When auto-switching is not enabled, the camera remains in the current scene.

Setting the Default Scene

1. Click **Scenes**.

2. Select a scene and then click ![pin icon] to set it as the default scene. You may also modify image settings based on the scene.

> 📝 **NOTE!**
>
> - If Auto Switching is enabled (scene settings will be unavailable), the device will switch between the set scenes. If not, the device will stay at the current scene. The device will stay at default scenes unless the non-default scenes are triggered.
> - If multiple non-default scenes are triggered, then the device will switch to the scene with the minimum number (starts from 1 to 5).

Setting other Scenes

1. Click **Scenes**.

2. Select a scene that is not the default, and then set scene switching parameters. The following table describes some major parameters.

Column	Description
Current	Displays the scene that is being used. ***Note:***

Column	Description
	• *Select an option button to switch to the scene and display the corresponding image parameters for the scene.* • *The camera switches the current scene automatically when **Enable Auto Switching** is selected.*
Scene name	Name of the current scene. The device provides several preset scene modes. When you select a scene, the corresponding image parameters are displayed. You can adjust image settings according to actual needs. • **Common**: recommended for outdoor scenes • **Indoor**: recommended for indoor scenes • **License Plate**: recommended for plate snapshot on roads • **High Sensitivity**: recommended for scenes with low light • **Highlight Suppression**: recommended to reduce intense car light • **Custom**: name of custom scenes
Auto Switching	Indicates whether to add a scene to the auto-switching list. ***Note:*** *If **Auto Switching** is selected, the system switches to a scene automatically when the condition for switching to the scene is met. By default the auto-switching list includes the default scene.*
Setup	Click 🔳 to set conditions for auto-switching, including schedule, illumination, and current elevation (angle between the PTZ and the horizontal direction). It means that auto-switching is triggered only when illumination and the current elevation during the set time period meet the set conditions. A condition is invalid if both the start and end values are set to 0.

Image Enhancement

📒 **NOTE!**

This function may vary with models, please see actual Web interface for details.

1. Click **Image Enhancement**.
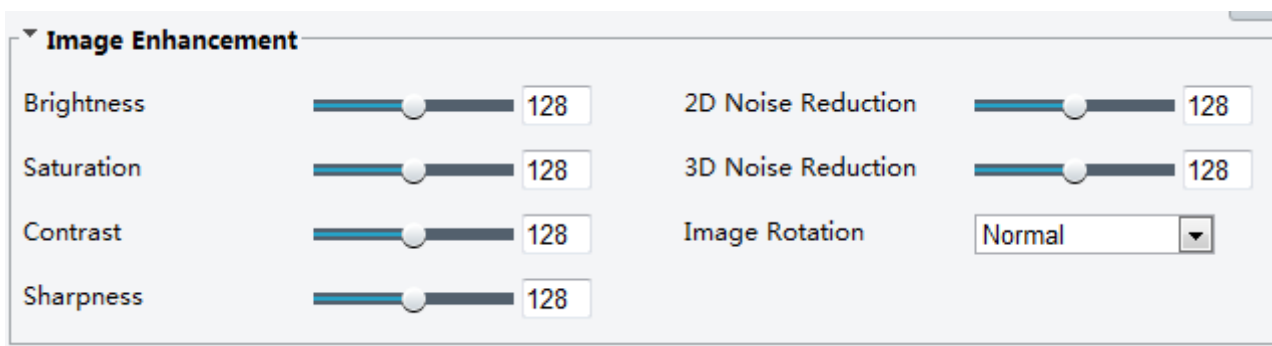
2. Use the sliders to change the settings. You may also enter values directly. The following table describes some major parameters. To compare different effects, see Adjusting Video Effects.

Parameter	Description
Brightness	The degree of image brightness.
Saturation	The amount of a hue contained in a color.

Parameter	Description
Contrast	The degree of difference between the blackest pixel and the whitest pixel.
Sharpness	Contrast of boundaries of objects in an image.
2D Noise Reduction	Reduce the noise of images. The function may cause image blurring.
3D Noise Reduction	Reduce the noise of images. The function may cause motion blur (or ghosting in some applications)
Image Rotation	• Normal: No rotation. • Flip Vertical: Flip the image vertically. • Flip Horizontal: Flip the image horizontally. • 180°: Flip the image both vertically and horizontally simultaneously. • 90° CW: Rotate the image 90° clockwise. This option applies to corridor mode.

3. To restore default settings in this area, click **Default**.

Exposure

![NOTE icon] **NOTE!**

This function may vary with models, please see actual Web interface for details.

1. Click **Exposure**.

2. Set the parameters as required. The following table describes some major parameters.

Parameter	Description
Exposure Mode	Select the correct exposure mode to achieve the desired exposure effect.
Shutter (s)	Shutter is used to control the light that comes into the lens. A fast shutter speed is ideal for scenes in quick motion. A slow shutter speed is ideal for scenes that change slowly. *Note:* • *You can set a shutter speed when **Exposure Mode** is set to **Manual** or **Shutter Priority**.* • *If **Slow Shutter** is set to **Off**, the reciprocal of the shutter speed must be greater than the*

Parameter	Description
	frame rate.
Gain (dB)	Control image signals so that the camera outputs standard video signals according to the light condition. *Note: You can set this parameter only when* ***Exposure Mode*** *is set to* ***Manual*** *or* ***Gain Priority****.*
Slow Shutter	Improves image brightness in low light conditions. *Note: You can set this parameter only when* ***Exposure Mode*** *is not set to* ***Shutter Priority*** *and when* ***Image Stabilizer*** *is disabled.*
Slowest Shutter	Set the slowest shutter speed that the camera can use during exposure. *Note: You can set this parameter only when* ***Slow Shutter*** *is set to* ***On****.*
Compensation	Adjust the compensation value as required to achieve the desired effects. *Note: You can set this parameter only when* ***Exposure Mode*** *is not set to* ***Manual****.*
Metering Control	Set the way the camera measures the intensity of light. ● Center-Weighted Average Metering: Measure light mainly in the central part of images. ● Evaluative Metering: Measure light in the customized area of images. ● Highlight compensation: Ignore the brightness of the overexposed area of images. But selecting this setting will decrease the overall brightness of the image. *Note: You can set this parameter only when* ***Exposure Mode*** *is not set to* ***Manual****.*
Day/Night Mode	● Automatic: The camera outputs the optimum images according to the light condition. In this mode, the camera can switch between night mode and day mode automatically. ● Night: The camera provides high-quality black and white images using the existing light ● Day: The camera provides high-quality color images using the existing light. ● Input Boolean: The camera switches between day mode and night mode based on the alarm input.
Day/Night Sensitivity	Light threshold for switching between day mode and night mode. A higher sensitivity means that the camera is more sensitive to the change of light and becomes more easily to switch between day mode and night mode. *Note: You can set this parameter only when* ***Day/Night Mode*** *is set to* ***Automatic.***
Day/Night Switching(s)	Set the length of time before the camera switches between day mode and night mode after the conditions for switching are met. *Note: You can set this parameter only when* ***Day/Night Mode*** *is set to* ***Automatic.***
WDR	Enable WDR to distinguish the bright and dark areas in the same image. *Note: You can set this parameter only when* ***Exposure Mode*** *is neither* ***Customize*** *nor* ***Manual*** *and when* ***Image Stabilizer*** *is disabled****.***
WDR Level	After enabling the WDR function, you can improve the image by adjusting the WDR level. *Note: Use level 7 or higher when there is a high contrast between the bright and dark areas of the scene. In the case of low contrast, it is recommended to disable WDR or use level 1-6.*

3. To restore the default settings, click **Default**.

Smart Illumination

1. Click **Smart Illumination**.

2. Select the correct IR control mode and set the parameters. The following table describes some major parameters.

Parameter	Description
Control Mode	• **Global Balanced**: The camera adjusts IR illumination and exposure to achieve balanced image effects. Some areas might be overexposed if you select this option. This option is recommended if monitored range and image brightness are your first priority. • **Overexposure Restrain**: The camera adjusts IR illumination and exposure to avoid regional overexposure. Some areas might be dark if you select this option. This option is recommended if clarity of the central part of the image and overexposure control are your first priority. • **Illumination Preset-Road**: This mode is recommended for road applications. • **Illumination Preset-Park**: This mode is recommended for applications in industrial parks. • **Manual**: This mode allows you to manually control the intensity of IR illumination.
Near-illumination Level	Set the intensity level of the near IR light. The greater the value, the higher the intensity. 0 means that the IR light is turned off. *Note:* • *You can set this parameter only when* ***Control Mode*** *is set to* ***Manual***. • *You are recommended to set this parameter first for a wide-angle scene.*
Mid-illumination Level	Set the intensity level of the mid-IR light. The greater the value, the higher the intensity. 0 means that the IR light is turned off. *Note:* • *You can set this parameter only when* ***Control Mode*** *is set to* ***Manual***. • *You are recommended to set this parameter first if the scene requires an intermediate focal length.*
Far-illumination Level	Set the intensity level of the far IR light. The greater the value, the higher the intensity. 0 means that the IR light is turned off. *Note:* • *You can set this parameter only when* ***Control Mode*** *is set to* ***Manual***. • *You are recommended to set this parameter first if the scene requires a telephoto view.*

3. To restore the default settings, click **Default**.

Focus

> ![NOTE icon] **NOTE!**
>
> This function may vary with models, please see actual models for details.

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1. Click **Focus**.
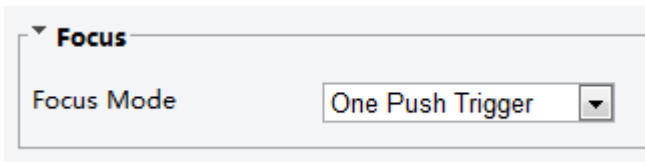
2. Select the focus mode as required.

Parameter	Description
Focus Mode	• Auto Focus: The camera focuses automatically according to the current light condition. • Manual Focus: Manually adjust camera focus as required. • One Push Trigger: The camera is triggered to focus once when rotating, zooming or going to a preset. • One Push Trigger (IR): In a low light condition such as during night hours or in a dark house, this focus mode achieves better effects with the IR light turned on.

3. To restore the default settings, click **Default**.

White Balance

White balance is the process of offsetting unnatural color cast in images under different color temperatures so as to output images that best suit human eyes.

> ![NOTE icon] **NOTE!**
>
> This function may vary with models, please see the actual Web interface for details.

1. Click **White Balance**.
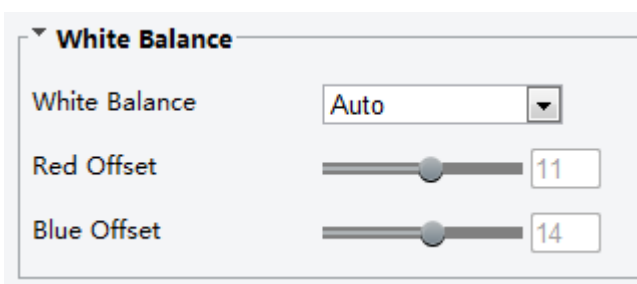
2. Select a white balance mode as required. The following table describes some major parameters.

Parameter	Description
White Balance	Adjust the red or blue offset of the image: • Auto: The camera adjusts the red and blue offset automatically according to the light condition (the color tends to be blue). • Fine Tune: Allow you to adjust the red and blue offset manually. • Sodium Lamp: The camera adjusts red and blue offset automatically according to the light condition (the color tends to be red).
Red Offset	Adjust the red offset manually.

	*Note: You can set this parameter only when **White Balance** is set to **Fine Tune**.*
Blue Offset	Adjust the blue offset manually.
	*Note: You can set this parameter only when **White Balance** is set to **Fine Tune**.*

3. To restore the default settings, click **Default**.

Defog

Use the defog function to adjust the clarity of images captured in fog or haze conditions.

1. Click **Advanced**.

2. Enable the defog function and then select a level for the scene. Level 5 achieves the maximum defog effects, and level 1 achieves the minimum.

Defog Off   Defog On

Lighting Type

📝 **NOTE!**

This function may vary with models, please see the actual model for details.

1. Click **Advanced**.
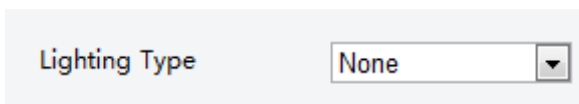
2. Select an option from the **Lighting Type** drop-down list.
3. To restore the default settings, click **Default**.

Configuring Iris and Lens

> **NOTE!**
> - This function is only supported by certain box network camera types, please see the actual model for details.
> - Please use the lens with P-Iris control mode, and connect the iris control cable to the Z/F port of the camera.

1. Click **Advanced**.

Defog	Off	Aperture Control	○ Automatic ◉ Manual
Defog Intensity	●———— 1	F-Number	————○ 100
Lens Mode	○ Z/F ◉ P-IRIS		Default

2. Modify the settings as required. The following table describes some major parameters.

Parameter	Description
Lens Mode	- Z/F: to modify focus and zoom. - P-Iris: to modify iris value.
Aperture Control	Automatically or manually adjust iris. *Note: You can set this parameter only when **Lens Mode** is set to **P-Iris**.*

3. To restore the default settings, click **Default**.

Privacy Mask

On certain occasions, you may need to set a mask area on the camera image to protect privacy, for example, the keyboard of an ATM machine. When PTZ changes its position or zooms, the Privacy Mask will be adjusted accordingly to protect the area all along.

> **NOTE!**
> This function may vary with models, please see the actual Web interface for details.

1. Click **Setup** > **Image** > **Private Mask**.
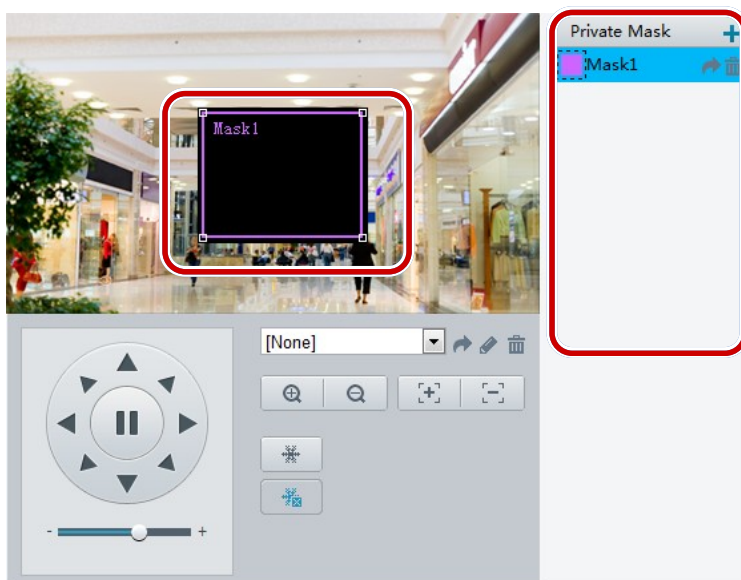
2. Click ➕ to add a privacy mask, and click 🗑 to delete a mask.

- To mask a position: Click the box (with **Mask** displayed on it) to activate the mask. After the cursor shape has changed, drag the box to the intended position.

- To mask an area: Use the mouse to draw a box on the area you want to mask.

You can right-click anywhere in the preview pane and then choose from the pop-up menu to view in full screen or at an aspect ratio. You may also double-click the preview pane to enter or exit full screen mode.

When privacy mask is configured, the intended area is blocked. The following shows an example.

8 Audio and Video Configuration

Video Configuration

You can set video parameters that your camera supports and view the current status of BNC output. If available, you may also enable sub-stream and third stream as required.

1. Click **Setup** > **Video & Audio** > **Video**.

2. Modify the settings as required. The following table describes some major parameters.

Parameter	Description
Encoding Mode	• CBR: Constant Bit Rate, which means that the camera transmits data at a constant data rate. • VBR: Variable Bit Rate, which means that the camera adjusts the bit rate dynamically according to image quality.
Frame Rate	Frame rate for encoding images. Unit: FPS (frame per second). **Note:** *To ensure image quality, note that the frame rate should not be greater than the reciprocal of shutter speed.*
Image Quality	When **Encoding Mode** is **VBR**, you can move the slider to adjust quality level for images. Moving the slider toward **Bit Rate** decreases the bit rate and may affect image quality. Moving the slider toward **Quality** increases the bit rate and improves image quality.
Smoothing	Set the extent of smoothing. Choosing **Clear** means disabling **Smoothing**. Moving the slider toward **Smooth** increases the level of smoothing but will affect image quality. **Note:** *In a poor network environment, you can enable smoothing to get more fluent video.*

3. Click **Save**.

Audio Configuration

Audio configuration means setting audio encoding parameters for your camera.

1. Click **Setup** > **Video & Audio** > **Audio**.

Audio Input	◉ On ○ Off
Input Gain	128 [0~255]
Encoding Format	G.711U ▼
Sampling Rate(KHz)	8 ▼

2. Modify the settings as required. The following table describes some major parameters.

Parameter	Description
Audio Input	No audio data will be encoded when **Off** is selected. *Note: It is recommended to select **Off** if you do not need audio. This can improve device performance to some extent.*
Input Gain	Audio signal amplification for sampling. The greater the gain, the greater amplification.

3. Click **Save**.

ROI

When Region of Interest (ROI) is enabled, the system ensures image quality for ROI first if the bit rate is insufficient.

1. Click **Setup** > **Video & Audio** > **ROI**.

2. To enable ROI, select the check box, and then use the mouse to draw an area that covers the object you want to mask.

Media Stream Configuration

You can display the established media streams from a camera. You may also set the camera so it transmits code streams by the UDP or TCP protocol to a specified IP address and port number. The settings can be saved and take effect after the camera is restarted.

> **NOTE!**
>
> This function is not supported by some models, please see the actual model for details.

1. Click **Setup** > **Video & Audio** > **Media Stream**.

2. Click ![plus icon], select a stream type, and then set the IP address and port number of the unicast or multicast group for the decoding device that receives audio and video streams from the camera.
3. To delete a stream, click ![trash icon] .
4. Click **Submit** to complete the operations.

9 Memory Card Storage

> **NOTE!**
>
> - This function is not supported by some models, and may vary with models, please see the actual model for details.
> - Edge storage is recommended when the camera operates in stand-alone mode. When the camera is managed by the central management server, you need to stop edge storage to avoid affecting the cache post recording service.
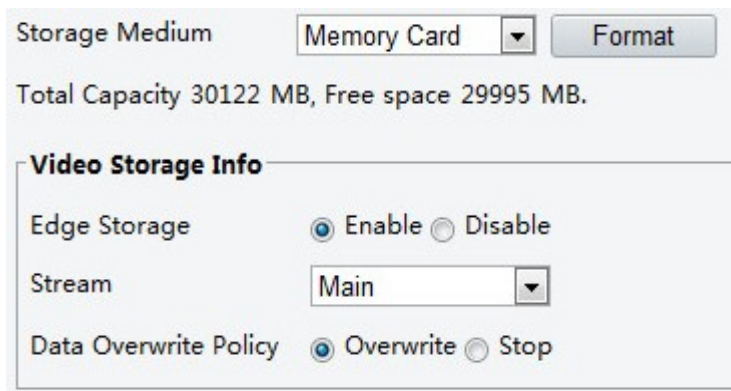
Setting Edge Storage

Edge storage is used to save video data and snapshots to the memory card directly. Edge storage is recommended when the camera is running in stand-alone mode.

Manual storage

The camera records live video repeatedly if manual storage is enabled.

1. Click **Setup** > **Storage** > **Storage**.

Storage Medium	Memory Card ▼	Format

Total Capacity 30122 MB, Free space 29995 MB.

Video Storage Info

Edge Storage	◉ Enable ○ Disable
Stream	Main ▼
Data Overwrite Policy	◉ Overwrite ○ Stop

2. Start edge storage and modify the settings as required. The following table describes some major parameters.

Parameter	Description
Storage Medium	Storage resource type. **Note:** ● *Click **Format** and then click **OK** to confirm the operation. The system will restart when the format is completed.* ● *Information about the total and free space is displayed.*
Data Overwrite Policy	● Overwrite: If there is no free space in the memory card, new data will overwrite the existing data repeatedly. ● Stop: If there is no free space in the memory card, new data will not be saved to the memory card.

3. Click **Save**.

Planned storage

If planned storage is enabled, the camera records video to the memory card during the specified periods.

1. Click **Setup** > **Storage** > **Storage**.

2. Select **Enable Plan (disable edge storage)**, and then set the periods during which the camera records video to the memory card.

3. Click **Save**.

> **NOTE!**
> - Planned storage is not effective when manual storage and planned storage are both enabled.
> - To query recordings in the memory card, see Video Playback and Download with Edge Storage.

Setting Cache Post Recording

A camera under centralized management can use the memory card as a backup storage resource of the central management server. If storage from the camera to the central storage device is interrupted due to unstable network connection, the camera automatically will start cache post recording and store videos to the memory card.

With recording backup enabled, the camera can automatically transfer the video stored in the memory card to a storage resource of the backup server in form of file when the communication between the camera and the backup server is restored.

> **NOTE!**
> Before you set cache post recording for a camera, check that:
> - The memory card is correctly installed on the camera.
> - Backup resource has been added on the central server.
> - Backup resource has been allocated for the camera.

Disable edge storage

1. Click **Setup** > **Storage** > **Storage**.

2. Set **Edge Storage** to **Disable** (which disables manual storage and planned storage), and set video capacity.

3. Click **Save**.

Set the BM server

1. Click **Setup** > **Common** > **Server**.

2. Select **Enable**, and then enter the correct IP address of the BM server.

3. Click **Save**.

10 Alarm Configuration

You can schedule alarm reporting and set actions that can be triggered by other devices so that alarms and the triggered actions can be handled in time.

Alarm reporting can be scheduled for motion detection alarm, temperature alarm, alarm input, alarm output, tampering detection alarm, and audio detection alarm. The supported alarms may vary with device model. For the alarm types that your camera supports, see the Web interface.

Configuring Motion Detection Alarm

Configuring motion detection alarm requires you to set the detection area, sensitivity of detection, object size, and history, so that the camera can decide whether to report a motion detection alarm.

- This function is not supported by some models, please see the actual model for details.
- The alarm triggered actions may vary with models, please see the actual Web interface for details.

1. Click **Setup** > **Events** > **Motion Detection**.
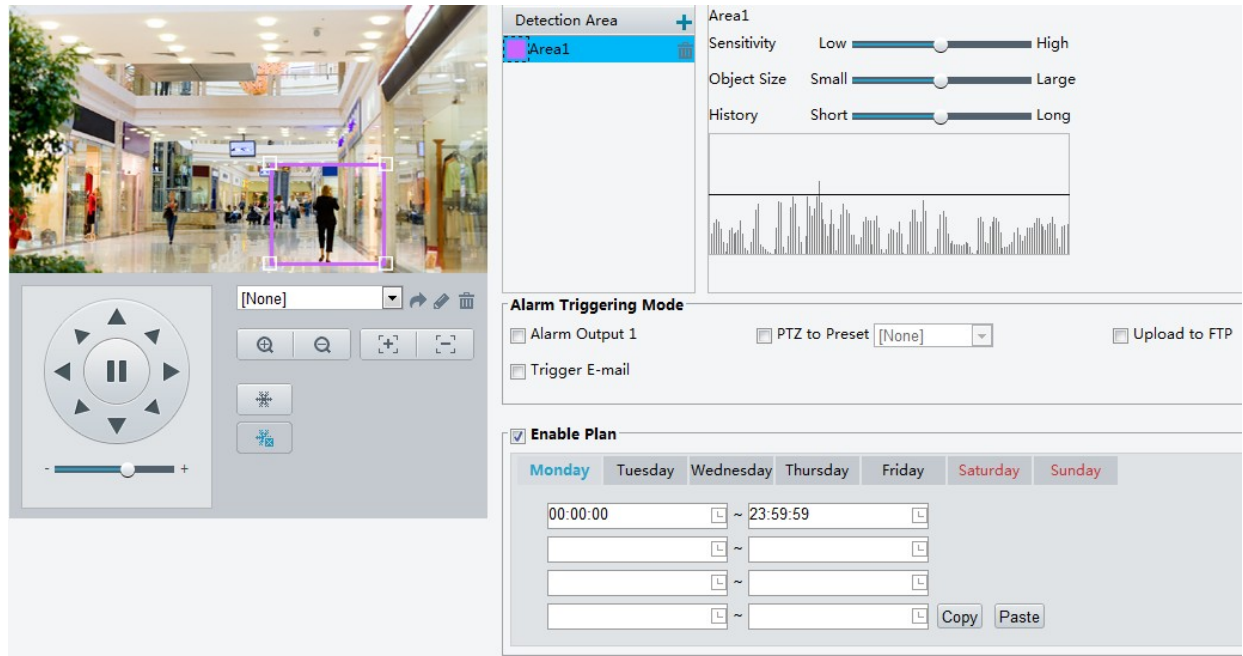
2. Under **Detection Area**, click ✚ to add a new detection area. To delete a detection area, click 🗑.

3. Click and drag the mouse to set a detection area.

4. Set the detection sensitivity, object size, and history for the camera to decide whether to report a motion detection alarm.

- Moving the slider to the right increases detection sensitivity. When the extent of motion within the detection area exceeds the set object size, and if the duration of motion exceeds the set duration, the camera reports an alarm.

- Motion detection results are shown in real time. The red lines represent the raised motion detection alarms. The longer a line, the greater the extent of motion. The denser the lines, the greater the frequency of motion.
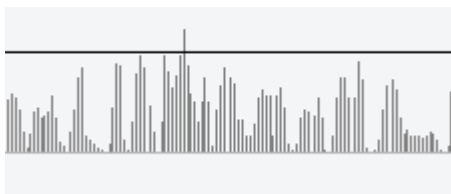
5. Set actions to be triggered by motion detection alarm and the plan.

The following table describes the major alarm-triggered actions and how to set a plan.

Item	Description
Alarm Output 1	Select the check box. This setting is the alarm output interface linked to motion detection alarm.
	Note: When an alarm is reported, the camera triggers alarm output so as to trigger actions by a third-party device.

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PTZ to Preset	Select the check box and set the preset linked to motion detection alarm. ***Note:*** ● *Make sure you have set presets. Otherwise, you cannot set this parameter. For details about how to set a preset, see Setting Presets.* ● *When an alarm is reported, the PTZ camera automatically goes to the preset to capture video in the correct scene.*
Upload to FTP	With **Upload to FTP** selected, the camera will automatically upload snapshots to the specified FTP server when an alarm is triggered. ***Note:*** *Make sure you have completed FTP Configuration before using this function.*
Trigger E-mail	With **Trigger E-mail** selected, the camera will automatically send snapshots to the specified E-mail address when an alarm is triggered. ***Note:*** Make sure you have completed *E-Mail Configuration* before using this function.
Enable Plan	Select the check box and set the start and end times during which motion detection alarm is effective. The camera reports alarms during the specified period(s) only. The time periods cannot overlap. You can select from Monday to Sunday and set four periods for each day. ***Note:*** *After setting the plan for one day, you can apply the same settings to other days by clicking **Copy** and **Paste**.*

6. Click **Save**.

Configuring Tampering Alarm

Configure tampering alarm so that the camera reports a tampering alarm when the lens is blocked for a certain length of time.

📝 **NOTE!**
- This function is not supported by some models, please see the actual model for details.
- The alarm triggered actions may vary with models, please see the actual Web interface for details.

1. Click **Setup** > **Events** > **Tampering Alarm**.

2. Select **Enable** for **Tampering Alarm**.

3. Set detection sensitivity and duration for the camera to decide whether to report a tampering alarm.

   Sensitivity is divided into three levels: high-level, mid-level and low-level. Compared with mid-level sensitivity, the camera can detect blocking from a farther location when sensitivity is set to high. The camera reports an alarm when the lens is blocked for a specified length of time.

   Tampering alarm is effective to the whole screen. To disable tampering alarm, clear the **Tampering Alarm** check box.

4. Set actions to be triggered by tampering alarms and the plan. For the detailed steps, see the descriptions of alarm-triggered actions in Configuring Motion Detection Alarm.

5. Click **Save**.

Configuring Temperature Detection Alarm

After the upper and lower temperature limits are set, the camera reports an alarm when the set temperature limit is reached. A PTZ camera may go to a preset and output an alarm when a temperature alarm is reported.

> **NOTE!**
> ● This function is not supported by some models, please see the actual model for details.
> ● The alarm triggered actions may vary with models, please see the actual Web interface for details.

1. Click **Setup** > **Events** > **Temperature Alarm**.

2. Set a lower limit for high temperature alarm and an upper limit for low temperature alarm.

3. Set actions to be triggered by a temperature alarm. For the detailed steps, see the descriptions of alarm-triggered actions in [Configuring Motion Detection Alarm](#).

4. Click **Save**.

Configuring Audio Detection Alarm

The camera can detect input audio signals for exceptions. When the rise or fall of volume exceeds the set limit, or when the input volume reaches the threshold, the camera reports an alarm and triggers the set actions. Make sure that an audio input device is correctly connected to the camera and audio input is turned on in [Video Configuration](#).
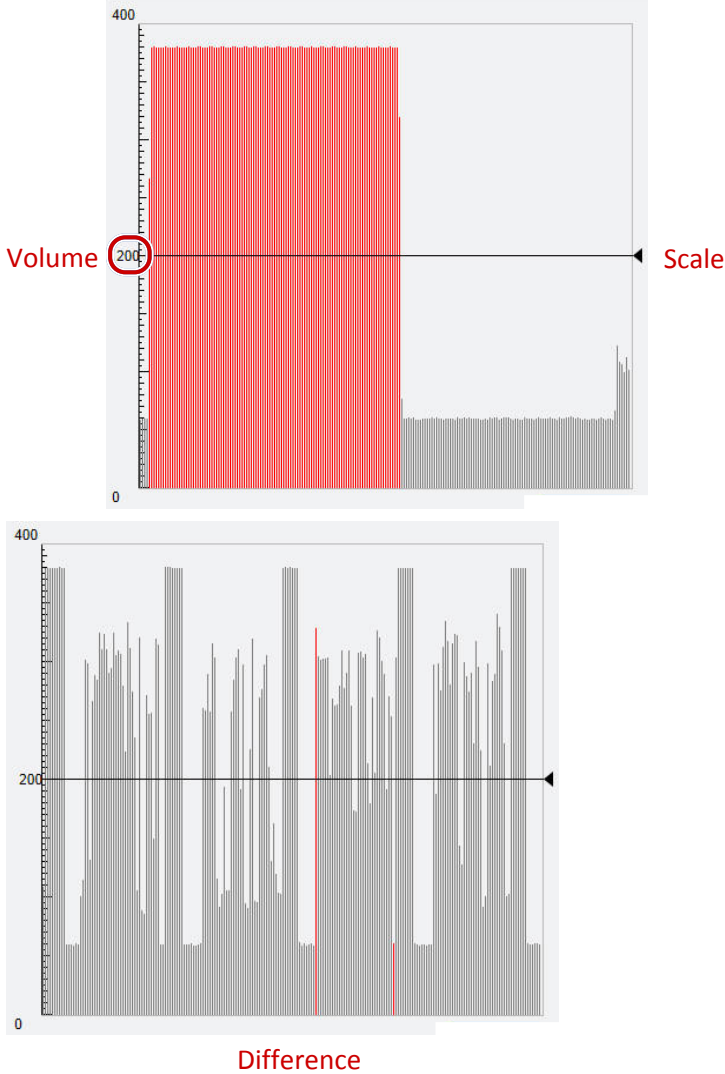
> **NOTE!**
> - This function is not supported by some models, please see the actual web interface for details.
> - The alarm triggered actions may vary with models, please see the actual Web interface for details.

1. Click **Setup** > **Events** > **Audio Detection**.

2. Select **Enable** for **Audio Detection**, select a detection type and set the difference or threshold. To disable audio detection, clear the **Enable** check box.

The following table describes some major parameters.

Parameter	Description
Detection Type	- Rise Above: An alarm is reported when the rise of volume exceeds the difference. - Falls Below: An alarm is reported when the fall of volume exceeds the difference. - Passes: An alarm is reported when the rise or fall of volume exceeds the difference. - Threshold: An alarm is reported when the volume exceeds a threshold.
Threshold/ Difference	- Threshold: After a volume is set as the threshold, an alarm is reported when the threshold is exceeded. - Difference: the difference between two volumes. When the rise or fall of volume exceeds the difference, an alarm is reported. *Note:* - *The scale in the audio detection area is used to measure sound volume.* - *Audio detection results are shown in real time. The red part indicates the reported audio detection alarms.*

Parameter	Description
	Volume / Scale Difference

3. Set the alarm-triggered actions and arming schedule as required. For the detailed steps, see the descriptions of alarm-triggered actions in Configuring Motion Detection Alarm.

4. Click **Save**.

Configuring Alarm Input

The camera can receive alarm information from a third-party device. To use this function, you need to configure the following information for alarm input first: port, Boolean name, Boolean type (normally open or normally closed) and alarm reporting time.

📝 **NOTE!**
- This function is not supported by some models, please see the actual model for details.
- The alarm triggered actions may vary with models, please see the actual Web interface for details.

1. Click **Setup** > **Events** > **Alarm Input**.

2. Select the Boolean and set the Boolean name.

3. Select **Normally Open** or **Normally Closed** according to the type of the third-party alarm input device. For example, if the third-party alarm input device is normally open, you need to select **Normally Open** here, so that the camera can receive alarm information from the third-party alarm input device.

4. Set actions to be triggered by an input alarm and the plan. For the detailed steps, see the descriptions of alarm-triggered actions in Configuring Motion Detection Alarm.

5. Click **Save**.

Configuring Alarm Output

After alarm output is triggered by a motion detection alarm, temperature alarm or Boolean alarm, the camera can output alarm information to the third-party device if alarm output is set correctly to Normally Open or Normally Closed. The alarm output duration is configurable.

📝 **NOTE!**

This function is not supported by some models, please see the actual model for details.

1. Click **Setup** > **Events** > **Alarm Output**.

Select Boolean	Alarm Output 1 ▼
Boolean Name	2
Status	Normally Open ▼
Post-Alarm Time(s)	30

2. Select the Boolean and set the Boolean name.

3. Set the status to **Normally Open** (default setting) and set the alarm duration.

4. Click **Save**.

ⓘ **CAUTION!**

Strictly follow the sequence when powering on the devices to avoid damaging camera components:

1. Check that the Boolean type is set to **Normally Open** (default setting), and that the camera and the alarm output device are powered off.

2. After completing the connection, power on the camera first and then power on the alarm output device.

Configuring Capture

With the function of capture configured, when an alarm is triggered, the camera will automatically upload the captured snapshots to the FTP server or send snapshots the specified email address.

1. Click **Setup** > **Events** > **Capture**.

Capture by Event	☑ Enable
Resolution	1920*1080 ▼
Image Quality	Medium ▼
Capture Interval(s)	1
Number to Capture	1 ▼

2. Enable Capture by Event, and configure relevant parameters.

3. Click **Save**.

11 Network Configuration

Port Configuration

1. Click **Setup** > **Network** > **Port**.

2. Configure relevant port numbers.

3. Click **Save**.

DDNS Configuration

1. Click **Setup** > **Network** > **DDNS**.
2. Enable **DDNS Service**.
3. Click **Save**.

FTP Configuration

After the configuration of FTP, you will be able to upload snapshots from network cameras to the specified FTP server.

1. Click **Setup** > **Network** > **FTP**.

Server Parameters

Server IP	192.168.0.150
Port No.	21
Username	
Password	
Upload Pictures	☐

2. Configure the IP address, port number of the FTP server, the username and password of the upload account, and then enable **Upload Pictures**.
3. Click **Save**.

E-Mail Configuration

After the configuration of E-mail, when alarms are triggered, you will be able to send messages to the specified E-mail address.

1. Click **Setup** > **Network** > **E-mail**

2. Configure relevant parameters of the sender and the recipient

The following table describes some major parameters.

Parameter	Description
SSL	When enabled, the e-mail will be sent through SSL encryption.
Attach Image	When enabled, the e-mail will contain 3 instant snapshots as attachment according to the Capture Interval.

3. Click **Save**.

Port Mapping Configuration

1. Click **Setup** > **Network** > **Port Mapping**.

Port Type	External Port	External IP	Status
HTTP	50080	0.0.0.0	Inactive
RTSP	50554	0.0.0.0	Inactive
Server	50081	0.0.0.0	Inactive

2. Enable Port Mapping and select mapping type. If **Manual** is selected, then external ports must be configured (external IP is obtained automatically by the camera). If the configured port is occupied, then the **Status** will show Inactive.

3. Click **Save**.

12   System Maintenance

Setting Secure Data Transmission

Set a secure channel for data transmission to ensure security.

 NOTE!

This function is not supported by some models, please see the actual model for details.

1. Click **Setup** > **Network** > **Port**.

2. Enter the port number in the **HTTPS Port** text box and then click **Save**.

3. Click **Setup** > **System** > **Security**.

4. Under **HTTPS**, select **Enable**.

5. **C**lick **Save**.

Next time you log in, enter the address in *https://IP:HTTPS port number* format, for example, https://192.168.0.13:443 to enter secure channel mode.

Serial Port Mode Configuration

The RS485 serial port is used for data exchange with the third-party device. Serial port settings on the camera should be consistent with that of the connected third-party device.

 NOTE!

This function is not supported by some models, please see the actual model for details.

PTZ Control

To control a PTZ camera through a third-party device, you need to set **Port Mode** to **PTZ Control**.

By sending PELCO-D compliant PTZ control commands through the RS485 port, you can control the PTZ camera without using the PTZ control panel.

1. Click **Setup** > **System** > **Ports & Devices**, and then click the **Serial Port** tab.

Port	COM 1
Port Type	RS485
Port Mode	PTZ Control
Baud Rate	9600
Data Bits	8
Stop Bits	1
Parity	None
Flow Control	None
PTZ Protocol	INTERNAL-PTZ
PTZ Mode	Built-in PTZ Priority
Address Code	1

2. Select **PTZ Control** from the **Port Mode** drop-down list. The following table describes some major parameters.

Parameter	Description
PTZ Protocol	Set the PTZ protocol that the channel supports. *Note:* ● *You can set this parameter only when **Port Mode** is set to **PTZ Control**.* ● *When **PTZ Protocol** is set to **INTERNAL-PTZ**, the camera can connect to the external PTZ without using the serial port (serial port parameters are grayed out). In this case, you only need to connect the zoom and focus interfaces of the camera to the lens, and then you can operate the PTZ like an internal PTZ.*
PTZ Mode	● Built-in PTZ Priority: When this option is selected, the camera first tries to control the PTZ (for example, to zoom or focus) by itself instead of through the external PTZ. For operations that the camera cannot accomplish by itself, the camera uses the external PTZ. ● External PTZ Priority: The camera first tries to control the PTZ through the PTZ connected through the serial port. *Note:* ● *You can set this parameter only when **Port Mode** is set to **PTZ Control**.* ● *When **INTERNAL-PTZ** is selected, this parameter is always set to **Built-in PTZ Priority**, and it is unnecessary to connect the camera to an external PTZ through the serial port. Control through the external PTZ is not effective even when the camera has been connected to an external PTZ.* ● *Set this parameter as required. Make sure PTZ control related interfaces are correctly connected.*
Address Code	Set the address code for the PTZ. *Note: You can set this parameter only when **Port Mode** is set to **PTZ Control** and **PTZ Protocol** is not set to **INTERNAL-PTZ.***

3. Click **Save**.

Transparent Channel

Use the RS485 serial port to achieve transparent data transmission with the third-party device.

1. Click **Setup** > **System** > **Ports & Devices**, and then click the **Serial Port** tab.

Port	COM 1
Port Type	RS485
Port Mode	Trans-Channel
Baud Rate	9600
Data Bits	8
Stop Bits	1
Parity	None
Flow Control	None

2. Select **Trans-Channel** from the **Port Mode** drop-down list.

3. Click **Save**.

OSD

To display information from the third-party device on the OSD, you need to select OSD as the port mode.

The camera receives information from the third-party device through the RS485 serial port, translates the received information, and then displays it on the OSD.

> **NOTE!**
>
> To enable the camera to correctly translate information received from the third-party device, make sure that the information sent by the third-party device through the serial port complies with the data format specified by our company. For more details, contact your dealer.

1. Click **Setup** > **System** > **Ports & Devices**, and then click the **Serial Port** tab.

Port	COM 1
Port Type	RS485
Port Mode	OSD
Baud Rate	9600
Data Bits	8
Stop Bits	1
Parity	None
Flow Control	None

2. Select **OSD** from the **Port Mode** drop-down list.

3. Click **Save**.

Transparent Channel Configuration

Transparent channel is mainly used to achieve transparent data transmission between two devices.

1. Click **Setup** > **System** > **Ports & Devices**, and then click the **Trans-Channel** tab.

Trans-Channel	☑ Enable
Serial Port	COM 1 ▼
Destination IP	192.168.0.30
Destination Port	17081
Source IP	203.3.1.44

2. Select **Enable** for **Trans-Channel**.
3. Enter the destination IP address and port number (IP address and port number that the transparent channel connects to).
4. Click **Save**.

Viewing Device Status

You can view the current status of your camera.

1. Click **Setup** > **Common** > **Navigation**.
2. Click **Refresh** for the latest status information.
3. View the device information.

Viewing Storage Status

View the storage status of the current images. For detailed descriptions about the policy regarding full storage, see Memory Card Storage.

1. Click **Setup** > **Storage** > **Storage Status**.
2. Click **Refresh** to update storage information.
3. Under **Image List**, export or delete images as required.

Upgrading the Device

If the device is managed by the central management server and you want to upgrade the devices in batch mode, it is recommended to perform the upgrade operation on the central server. For detailed steps, see the user manual for the central management server.

1. Click **Setup** > **System** > **Maintenance**.

2. Under **Software Upgrade**, click **Browse** and select the correct upgrade file.

3. Click **Upgrade** and then confirm to start. The camera will restart automatically after the upgrade is completed.
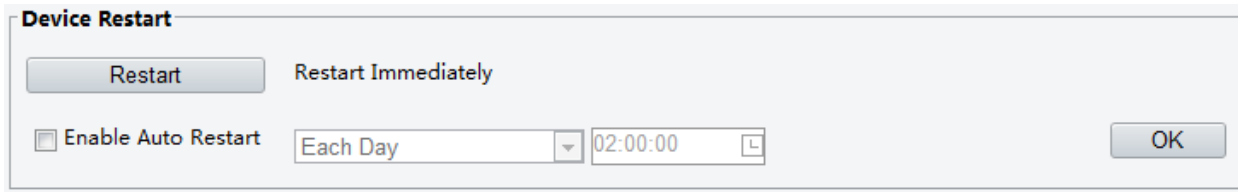

📝 **NOTE!**

- You must use the correct upgrade file for you camera. Otherwise, unexpected results may occur.
- The upgrade file is a ZIP file and must include all the necessary files.
- Ensure that the power supply is normal during upgrade. The device will restart after the upgrade is completed.

Restarting the System

1. Click **Setup** > **System** > **Maintenance**.

2. Under **Device Restart**, click **Restart**. The device will restart after you confirm the operation. You may also enable auto-restart by selecting **Enable Auto Restart** and setting a time for auto-start. The device will restart at the set time.

ⓘ **CAUTION!**

Perform this operation with caution because restarting the system interrupts the ongoing service.

Importing and Exporting System Configuration File

Export the current configurations of the camera and save them to the PC or an external storage medium. You can also quickly restore configurations by importing backup configurations stored on the PC or an external storage medium back to the camera.

ⓘ **CAUTION!**

- The alarm triggered actions may vary with models, please see the actual Web interface for details.
- After you perform the Default operation, all settings are restored to factory defaults, except the following: login password of the system administrator, network settings, and system time.
- Make sure you import the correct configuration file for your camera. Otherwise, unexpected results may occur.
- The camera will restart when the configuration file is imported successfully.

---

1. Click **Setup** > **System** > **Maintenance**.

2. To import configurations that you have backed up, click **Browse** next to the **Import** button and select the configurations you want to import, and then click **Import**. The result will be displayed.

3. To export configurations, click **Browse** next to the **Export** button, select the destination folder, and then click **Export**.

4. To restore default configurations, click **Default** and then confirm the operation. The device will restart and restore the default configurations.

Collecting Diagnostic Information

Diagnostic information includes logs and system configurations. You can export diagnostic information to your PC.

1. Click **Setup** > **System** > **Maintenance**.

2. Under **Diagnosis Info**, click **Browse** to select the destination folder, and then click **Download** to save the diagnostic information to the specified folder.

> **NOTE!**
>
> Diagnostic information is exported to the local folder in form of a compressed file. You need to decompress the file using a tool such as WinRAR and then open the file using a text editor.

Focus Configuration

The device can adjust the speed of auto-focus according to the minimum focus distance. In order to shoot clear objects, it is recommended that the minimum focus distance is set shorter than the distance between the objects and lens, for example, if the minimum focus distance is 3m, then the objects within 3m from lens will be out of focus.

> **NOTE!**
>
> This function is only supported by the devices with auto-focus, please see the actual model for details.

1. Click **Setup** > **System** > **Maintenance**.

2. Configure **Minimum Focus** Distance under **Focus**.

3. Click **OK**.

Device Mounting Height

Enter the actual height from the installed infrared dome to the ground, so that the dome will be able to automatically adjust its infrared lamp.

> **NOTE!**
>
> This function is only supported by some infrared devices, please see the actual model for details.

1. Click **Setup** > **System** > **Maintenance**.

2. Enter the actual height from the installed Infrared Dome to the ground.

3. Click **OK**.

# 13 Access Using EZStation

Introduction

EZStation is a management software suite intended for small-scale video surveillance applications. EZStation is easy to deploy and use and is especially ideal for scenes requiring limited number of cameras such as in supermarkets, parking lots, and residence communities.

You can use EZStation to access the connected network cameras. For the detailed installation steps, refer to the *EZStation Video Management Software User Manual*.

Logging In to EZStation

1. After the installation is completed, double-click .

2. Use "admin" as the username and password for your first login.

When you are logged in, the main window appears, as shown in the figure below.
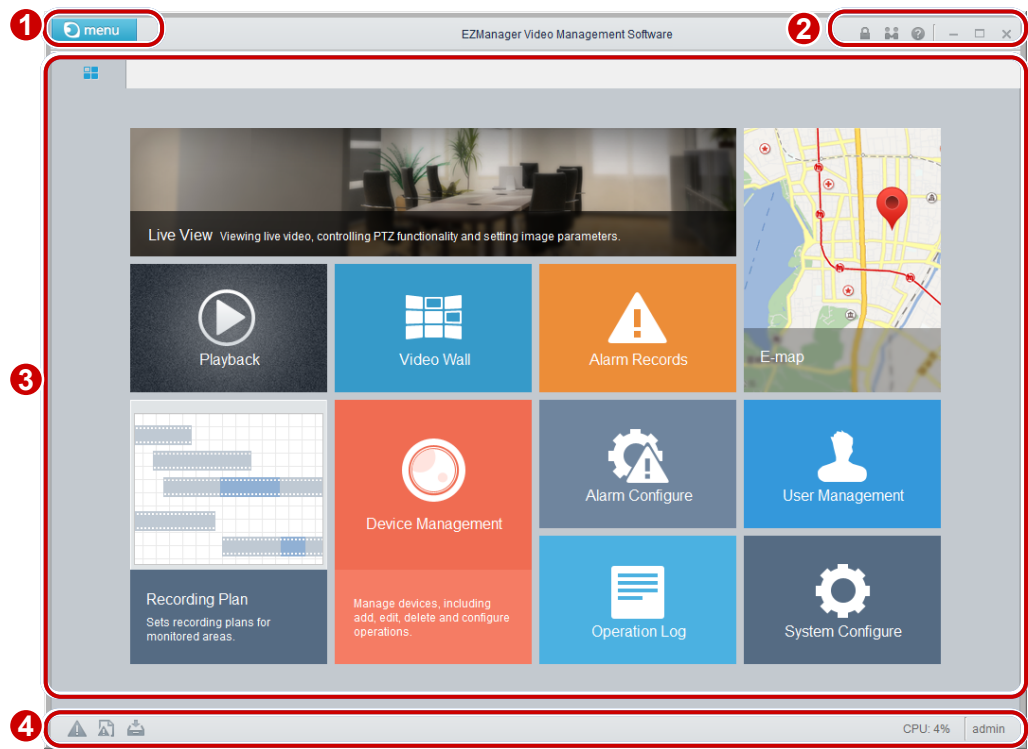
The main window consists of several areas. The table below describes the functions of these areas.

No.	Description
1	Menu bar and information area. The **admin** is the username of the current user. The ▮▯▯▯▯▯▯▯ icon indicates the current CPU utilization.

No.	Description
2	Control panel (function area)
3	Auxiliary function area, which displays real-time alarms, download tasks, and system messages.

After logging in to EZStation, you can manage devices and use the common surveillance service. For details, please refer to the *EZStation Video Management Software User Manual.*
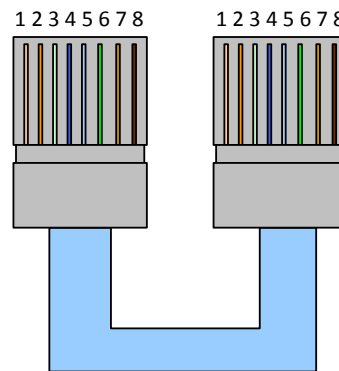
14 Appendix Making Network Cables

Straight-Through Cable

Network cameras are connected to switches by straight-through twisted-pair cables. For details, see the illustration below.

1 Orange/White   Orange/White 1

2 Orange   Orange 2

3 Green/White   Green/White 3

4 Blue   Blue 4

5 Blue/White   Blue/White 5

6 Green   Green 6

7 Brown/White   Brown/White 7

8 Brown   Brown 8

1 2 3 4 5 6 7 8   1 2 3 4 5 6 7 8

Crossover Cable

Network cameras are connected to PC by crossover twisted-pair cables. For details, see the illustration below.

1 Orange/White   Green/White 1

2 Orange   Green 2

3 Green/White   Orange/White 3

4 Blue   Blue 4

5 Blue/White   Blue/White 5

6 Green   Orange 6

7 Brown/White   Brown/White 7

8 Brown   Brown 8

1 2 3 4 5 6 7 8   1 2 3 4 5 6 7 8
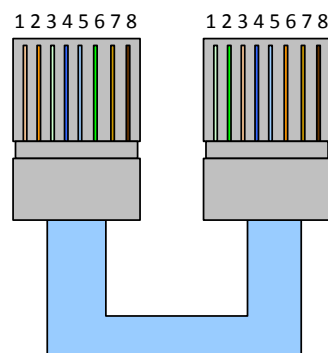
15 Appendix FAQ

What to do if no message prompts me to install ActiveX when I log in on a Windows 7 PC the firt time

Answer: Follow these steps to turn off UAC and then log in again: click the **Start** button, and then click **Control Panel**. In the search box, type uac, and then click **Change User Account Control Settings**. Move the slider to the **Never Notify** position, and then click **OK**. After UAC is turned off, log in again.

What to do if the installation of ActiveX failed

Answer: If the installation failed, add the IP address of the camera as a trusted site: open **Internet Option** in IE, click the **Security** tab, click **Trusted sites**, and then click **Sites** to add the website.

If you use Windows 7, you need to save the **setup.exe** to your PC first, right-click the file, select **Run as administrator**, and then install it according to instructions.

What to do if live video fails when I log in for the first time

Answer: Close the firewall on your PC and then log in to the Web interface again.