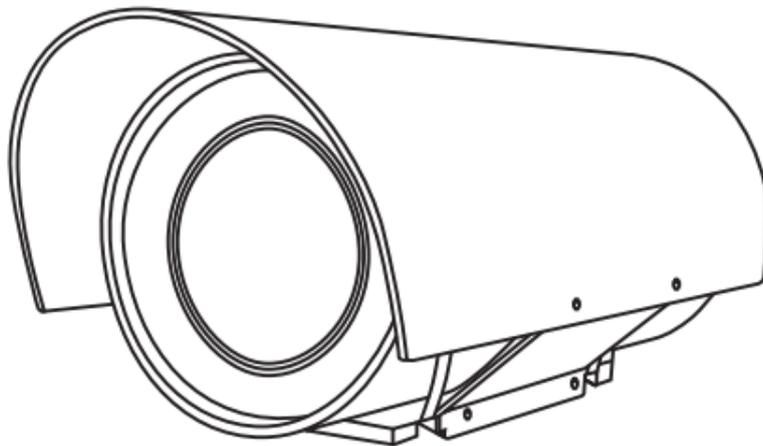




# **3430HD**

## IP HD Fixed Camera

### Installation and Operation Manual 6x-1118A



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# Operating Instructions

Before operating the unit, please read this manual thoroughly and retain it for future reference. Thank you for purchasing our product. If there are any questions, please contact the authorized dealer.

## PART ONE – QUICK USER GUIDE

### IMPORTANT INFORMATION

#### Legal Notice

---

#### Attention:

To ensure account security, please change the password after your first login. You are recommended to set a strong password (no less than eight characters).

---

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. 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 product appearance shown in this manual is for reference only and may be different from the actual appearance of 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. Use of this document and the subsequent results shall be entirely on the user's own responsibility.

#### Symbols

Symbol	Description
 <b>WARNING</b>	Contains important safety instructions and indicates situations that may cause bodily injury.
 <b>CAUTION!</b>	User must be careful and improper operations may cause damage or malfunction of product.
 <b>NOTE!</b>	Indicates useful or supplemental information about the use of product.

#### Safety Information

---

#### **WARNING!**

Installation and removal of the unit and its accessories must be carried out by qualified personnel. You must read all of the Safety Instructions supplied with your equipment before installation and operation.

---

#### Warnings:

- If the product does not work properly, please contact your dealer. Never attempt to disassemble the camera yourself. (We will not assume any responsibility for problems caused by unauthorized repair or maintenance.)
- This installation should be made by a qualified service person and should conform to all the local codes.
- When shipping, the camera should be packed in its original packaging.
- Make sure the power supply voltage is correct before using the camera.
- Do not drop the camera or subject it to physical shock.
- Do not touch sensor modules with fingers. If cleaning is necessary, use a clean cloth with a bit of ethanol and wipe it gently. If the camera will not be used for an extended period of time, put on the lens cap to protect the sensor from

dirt.

- Do not aim the camera lens at the strong light such as sun or incandescent lamp. The strong light can cause fatal damage to the camera.

**Maintenance Precautions:**

- If there is dust on the front glass surface, remove the dust gently using an oil-free brush or a rubber dust blowing ball.
- If there is grease or a dust stain on the front glass surface, clean the glass surface gently from the center outward using anti-static gloves or an oil-free cloth. If the grease or the stain still cannot be removed, use anti-static gloves or an oil-free cloth dipped with detergent and clean the glass surface gently until it is removed.
- Do not use organic solvents, such as benzene or ethanol when cleaning the front glass surface.

**Regulatory Compliance**

**FCC Part 15**

This equipment has been tested and found to comply with the limits for digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

This product complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:

This device may not cause harmful interference.

This device must accept any interference received, including interference that may cause undesired operation.



**LVD/EMC Directive**

This product complies with the European Low Voltage Directive 2006/95/EC and EMC Directive 2004/108/EC.



**WEEE Directive–2002/96/EC**

The product this manual refers to is covered by the Waste Electrical & Electronic Equipment (WEEE) Directive and must be disposed of in a responsible manner.



# Overview

This user guide is suitable for the following models:

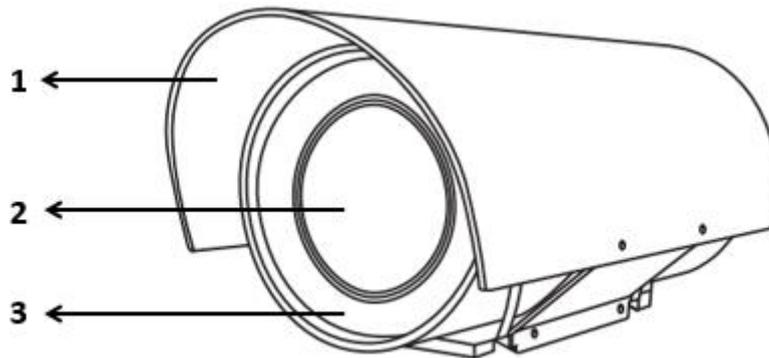
- 3432-1000

## Features

- Resolution: 1080P
- Optical Zoom: 30X
- Day and night automatic conversion function (ICR)
- Supports 3D noise reduction
- Video Output: IP
- H.264 encoding, higher compression efficiency
- 3 data stream function will satisfy various bandwidth, frame rates and storage requirements in real time
- Outdoor Environmental Rating: IP67
- Input Power: PoE or 12 Vdc
- Supports ONVIF Profile S

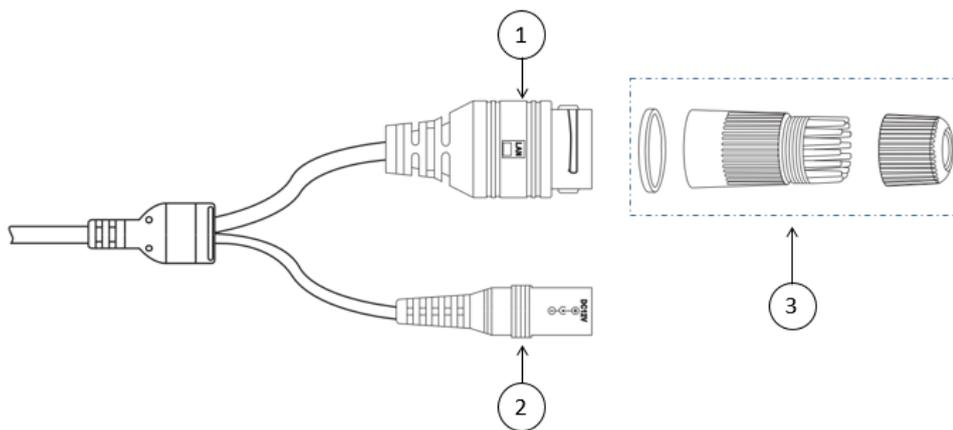
# Camera Diagrams

## Camera



- 1. Sunshield Cover
- 2. Camera Faceplate
- 3. Camera Enclosure

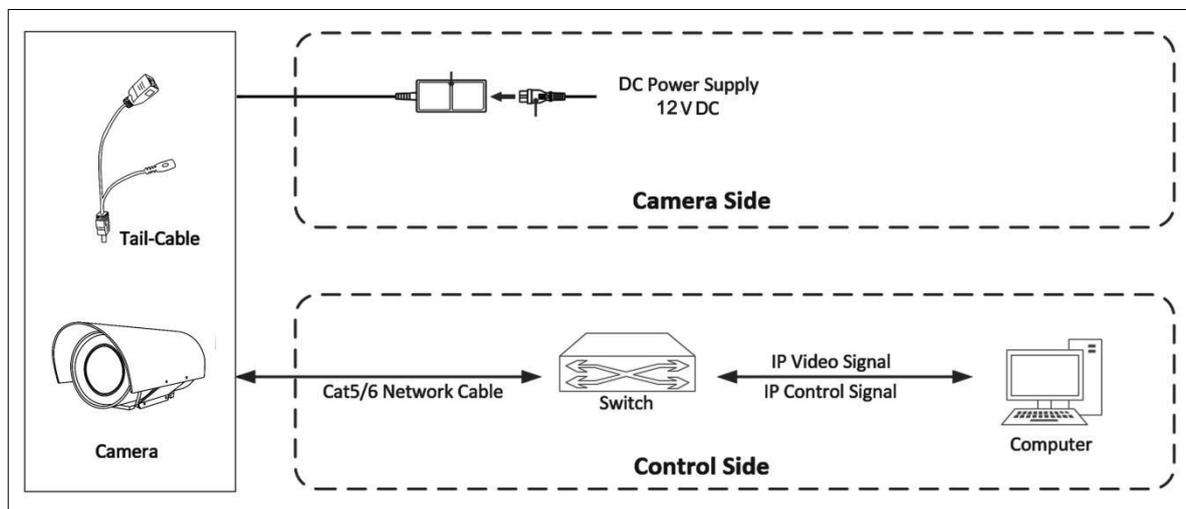
## Camera Pig-Tail Cable



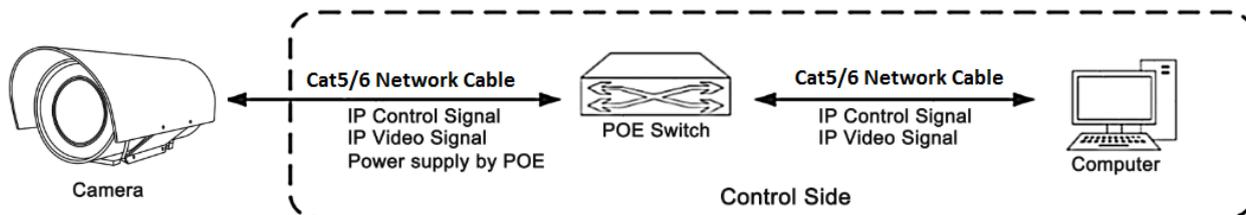
- ① Network Port
- ② Power Port
- ③ Waterproof Head

# Cable Connection

## Mode 1: Power by DC Adapter



## Mode 2: Power by POE



# Installing Your Camera

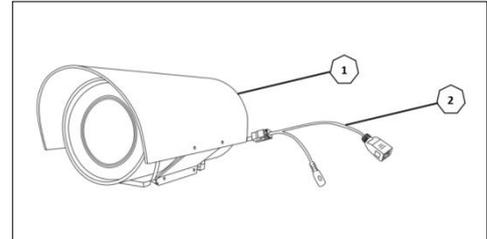
The following diagrams are for your reference only. See the actual product to mount your camera.

## Check Camera Components and Installation Conditions

Before mounting your camera, check the device model number and included contents against the packing list to ensure components are complete.

### Camera Structure

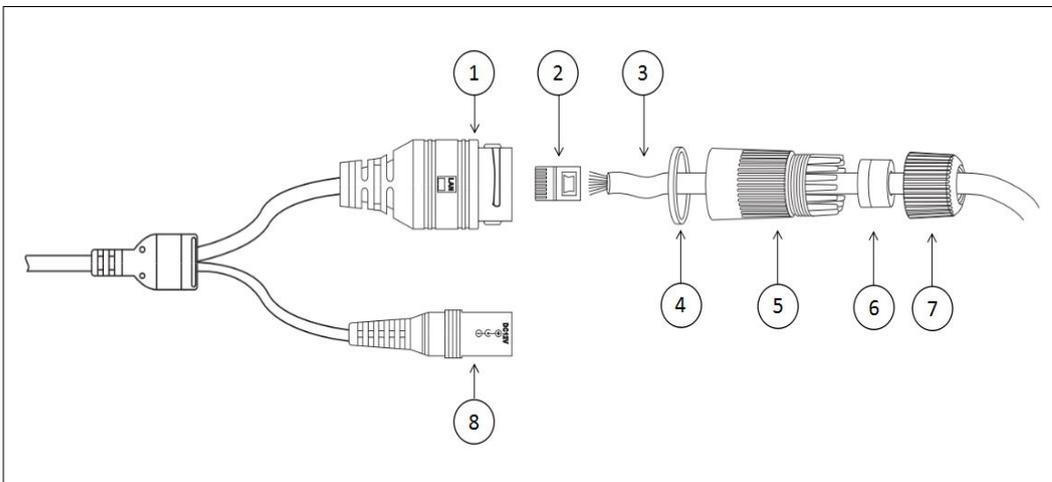
1. Camera Body
2. Pig-Tail Cable
3. Waterproof Connector Kit



### Important

- Verify the bearing capacity of the mounted position
- Verify that the mounted position meets the bearing requirements. Otherwise, you are advised to reinforce the mounted position for the device weight. For more information, see the product datasheet.
- Verify lightning protection and grounding requirements
- Ground the terminal properly.

### Network Cable Installation



- ① Network Port
- ② Crystal Head
- ③ Network Cable
- ④ Silicone Ring
- ⑤ Paw
- ⑥ Silica Gel Pad
- ⑦ Hat
- ⑧ Power Port

1. Insert the ③ Network cable through the waterproof head kit (④/⑤/⑥/⑦).
2. Insert the Crystal head.
3. Insert the crystal into the network port.
4. Tighten the head kits (④/⑤/⑥/⑦).

### Cable Requirements

#### Network Cable

10/100 Mbps Ethernet CAT 5/5E/6 UTP cables are applicable to the ANSI/EIA/TIA-568A/B and ISO/D. Eight wires in the network cable need to be inserted in parallel into the top of the cable connector. The cable connector needs to be crimped in position. When the cable connector is in position, ensure that the metal pieces of the cable connector are parallel to each other and the clamp of the cable connector is intact.

### Power Cable

Data listed in Table 2-1 is applicable to copper cables that use 12 Vdc power supply. The item Core Diameter indicates the conductor diameter.

### Power Loss on the Cable for Different Lengths and Different Core Diameters

Core Diameter (Unit: mm) Distance (Unit: m) Power (Unit: W)	0.80	1.00	1.25	2.00
30	28	45	72	183
40	21	34	54	137
50	17	27	43	110
60	-	22	36	91
70	-	19	31	78
80	-	-	27	68
90	-	-	24	61
100	-	-	21	55

### Power Connector: Phoenix Connector Description

1. The anode and the cathode are not distinguished for phoenix connectors of red and black cables.
2. GND: yellow-green color.

Note: GND is used to ground the camera. Ensure that GND is connected to a reliable grounding point.

---

### NOTE!

- Disconnect the power from the camera before mounting.
- Accessories such as the wall mount bracket and the pendant mount bracket may be necessary during mounting. For their model, refer to the accessory list recommended by your dealer.
- The wall bearing capacity and the bracket length must meet all onsite mounting requirements. You will need to select a mount type based the actual environment.

---

### POE Specifications

- Standard: 802.3af
- Electrical equipment power: less than 15W
- Input voltage range: 44V-58V
- Requirements: Cat5 or higher cable

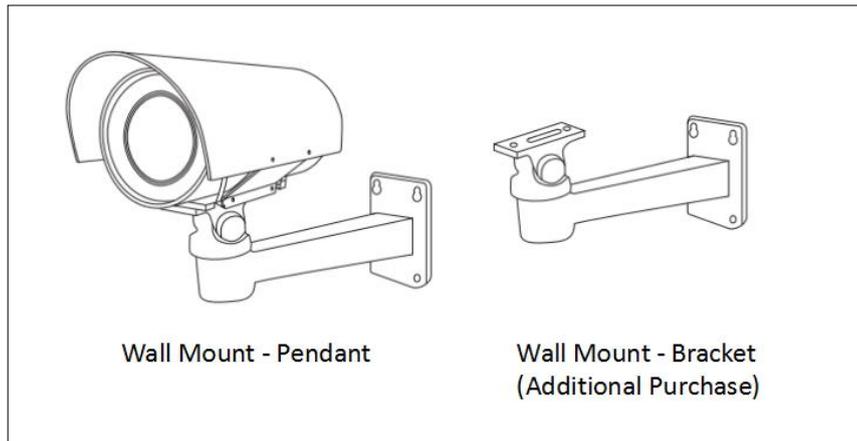
## Mounting the Camera



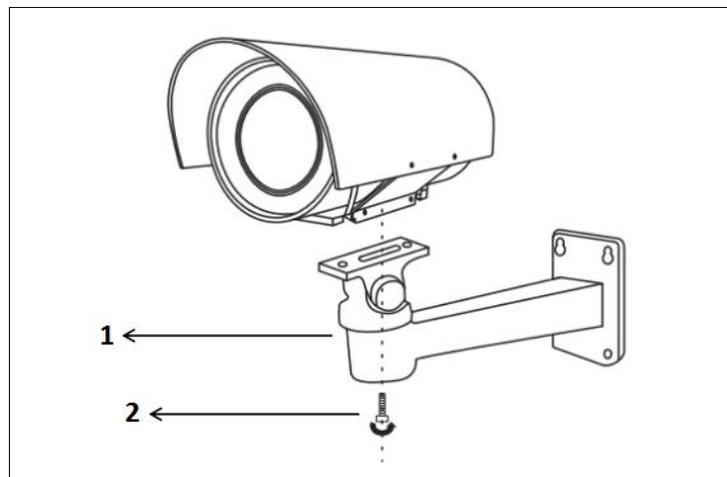
NOTE!

- Tighten all the screws to hold the camera securely.

### Wall Mount



1. Install the wall mount bracket.
2. Install the screw to lock the camera tight.



# Starting the Camera

After you have mounted the camera properly, connect the camera to power. Each time the camera is powered on, it will perform a self-test to check internal functions. After the self-test is complete, you will be able to operate the camera.

---

 NOTE!

- The self-test process starts after the camera is powered up. Please wait patiently.
- 

## Operation of Camera over a LAN

To view and configure your camera via the local area network (LAN), you need to know the cameras IP address. The factory default setting is:

192.168.2.150  
255.255.255.0

Login Credentials: User = admin | Password = admin

---

 NOTE!

- The default IP address is “192.168.2.150”. The default username is “admin”, and the default password is “admin” or “admin”.
  - To access your camera from a different subnet, set the gateway for your camera after you log in.
- 

## Accessing Your Camera

You can manage and control the camera through the web interface from a PC.

### System Requirements for Your PC

Item	Requirements
Operating System	Microsoft Windows 8/Windows 7/Windows XP (32-bit or 64-bit). Microsoft Windows 7 (32-bit) is recommended.
CPU	2.0 GHz or higher, dual-core. Intel i3 CPU or higher are recommended.
Memory	At least 1 GB. 2 GB (or higher) is recommended.
Graphic Card	At least 128 MB display memory. Mainstream discrete graphics with more than 1 GB display memory are recommended. The hardware should support DirectX9.0c. <b>Note:</b> Make sure that the latest driver is installed on graphic card.
Sound Card	Essential. <b>Note:</b> The intercom and voice broadcast require the latest driver on sound card.
Network Card	Gigabit Ethernet network cards (or higher) are recommended.

## Accessing Your Camera

Before you begin, please ensure:

1. The self-test is completed.
2. Your camera is operating properly and connected to the network.
3. The PC client you are using is installed with Internet Explorer 8.0 or higher.

Follow the next steps:

1. Open Internet Explorer on your PC.
2. In the address bar, input the IP address of your camera (Default IP is 192.168.2.150) and then press Enter to open the login page.
3. Enter the username (default is “admin”) and password (default is “admin”) and then click Login.



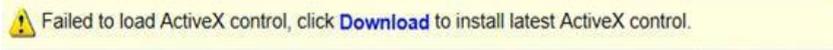
### NOTE!

Install the ActiveX on your first login. For detailed steps, see [Installing the ActiveX](#). When the installation of the ActiveX is completed, open IE to log in.

---

## Installing the ActiveX

- The following message will show in IE browser on the first login. Click **Download** to install Active X.



Failed to load ActiveX control, click [Download](#) to install latest ActiveX control.

- Click **Run**. You may also click **Save** to download the file to your computer first.
  - Close the browser and follow the steps to complete the installation.
- 



### NOTE!

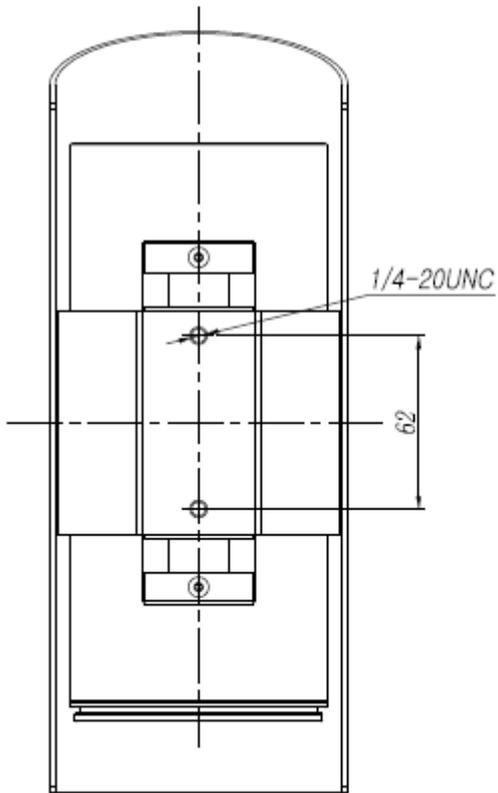
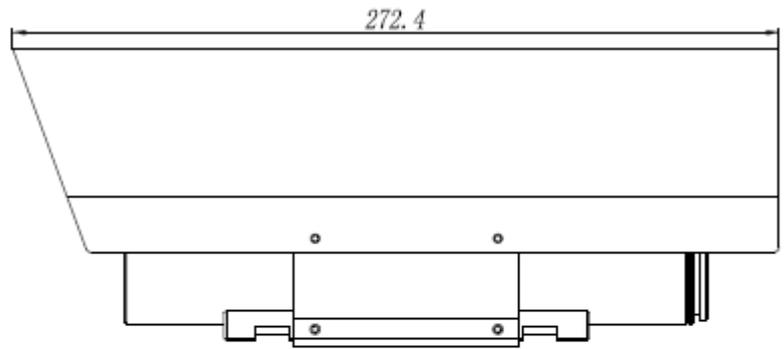
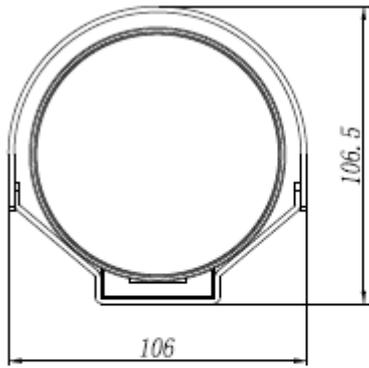
For your first login with Windows 7, if the system does not prompt you to install ActiveX, follow these steps to turn off UAC: Click the **Start** button; then click **Control Panel**. In the search box, type **UAC**; then click **Change User Account Control Settings**. Move the slider to the **Never Notify** position; then click **OK**. After UAC is turned off, log in again.

If the installation fails, open **Internet Option** in IE before login. 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; then right-click the file, select **Run as administrator**, and then install it according to instructions.

---

# Dimensions

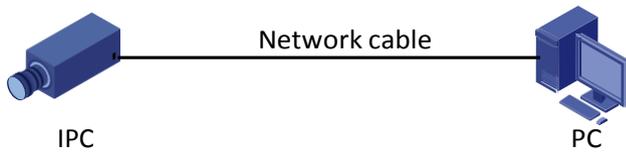
Unit: mm



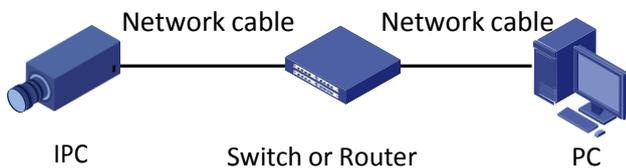
# PART TWO - NETWORK CAMERA USER MANUAL

## 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.



Use Shielded Twisted Pair (STP) cables to connect the network interfaces of the camera and the switch or router.

## Login

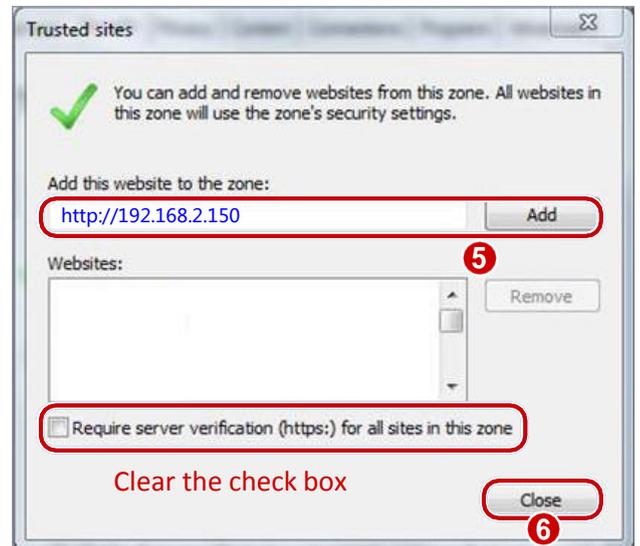
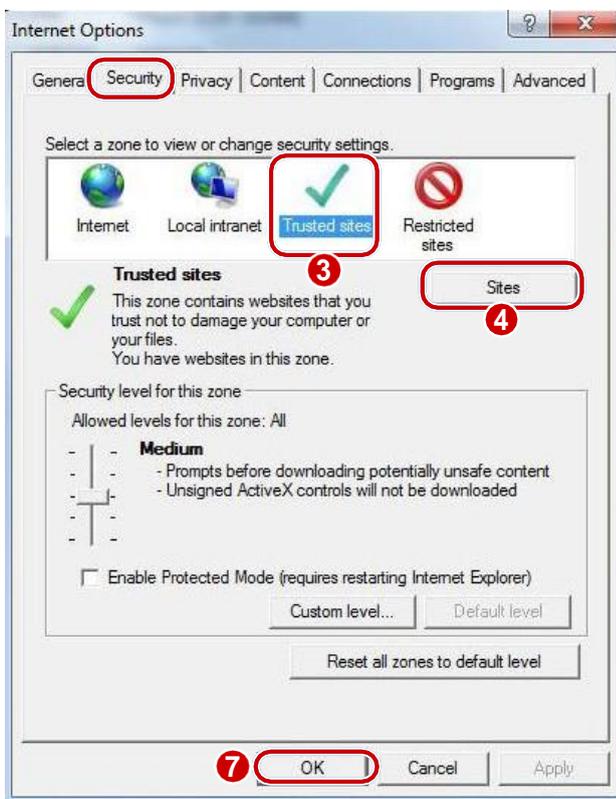
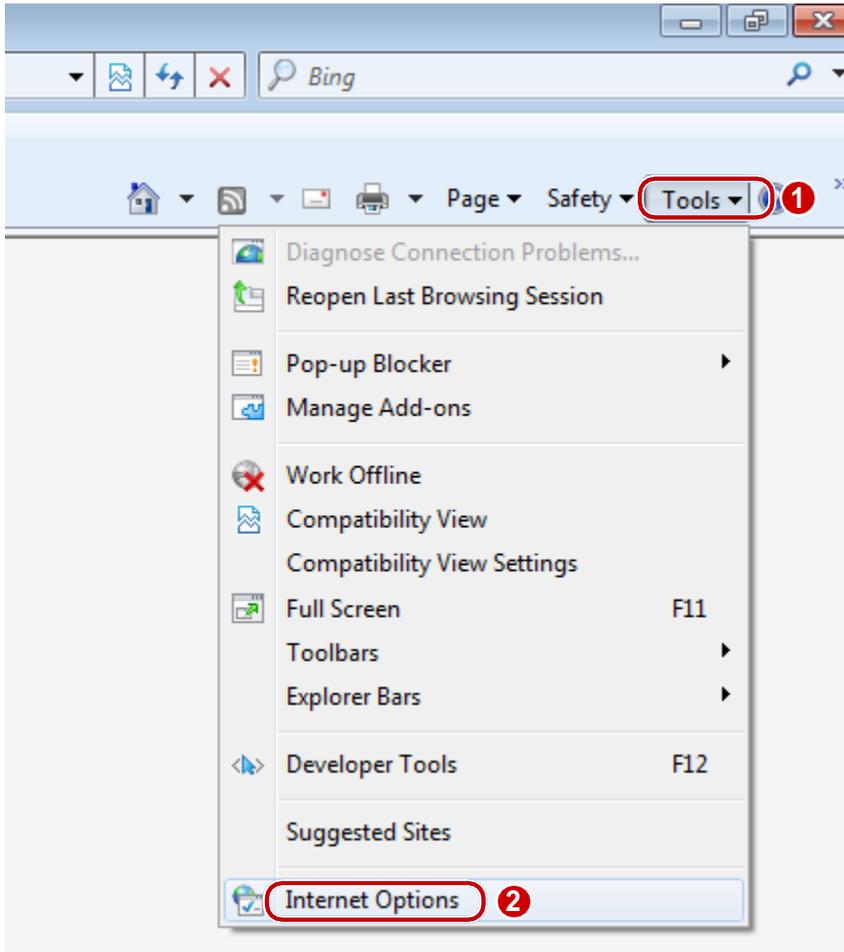
### Preparation

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 access the camera from a PC client installed with a web browser. Internet Explorer (IE) is a recommended web browser. The following takes IE on a Microsoft Windows 7.0 operating system 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.
- The resolution is set to 1920 x 1080

## Add the IP address as a trusted site



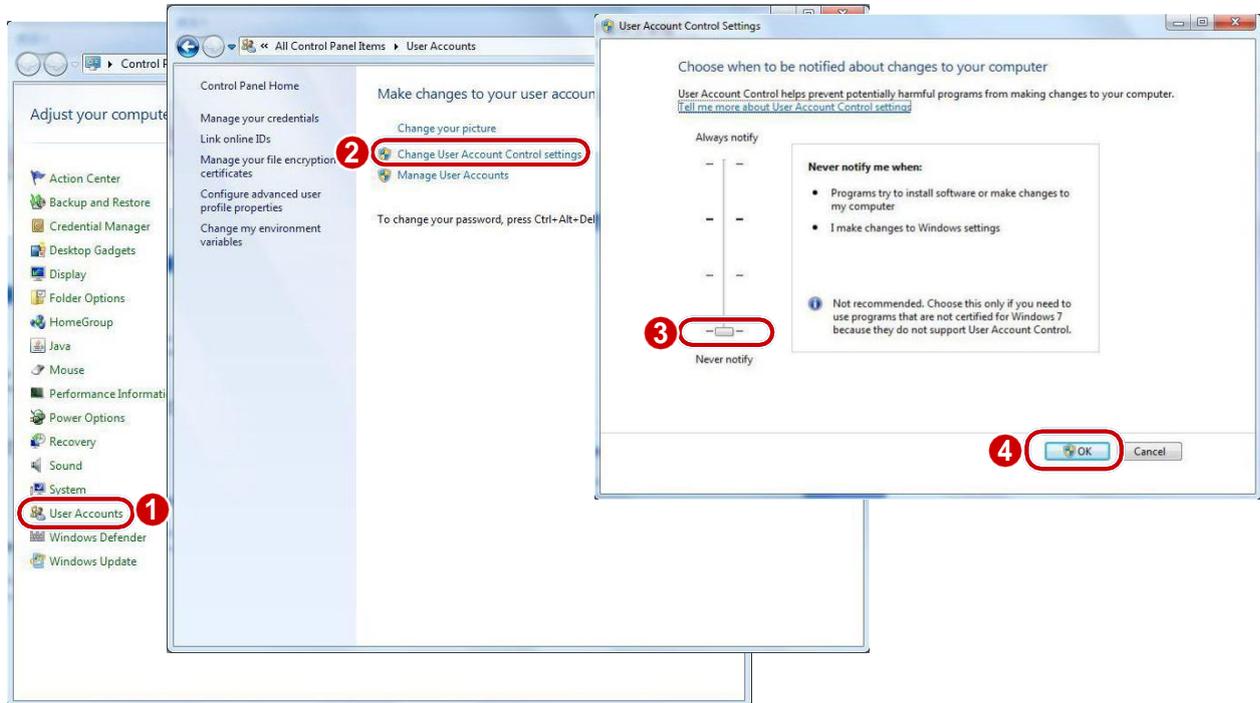


## NOTE!

The IP address 192.168.2.150 in this example is the default IP address. Please replace it with the actual address of your camera if it has been changed.

### (Optional) Modify user access control settings

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

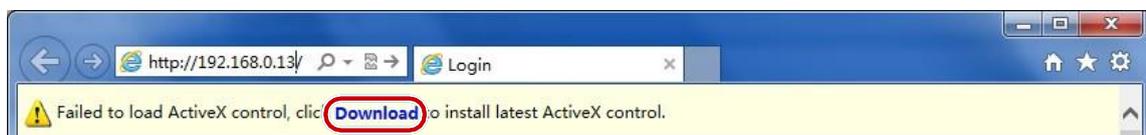


### Logging Into the Web Interface

The default static IP address of the camera is 192.168.2.150, 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.

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

1. Browse to the login page by entering the correct IP address of your camera in the address bar.



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!

- To manually load the ActiveX, type `http://IP address/ActiveX/Setup.exe` in the address bar and press **Enter**.
- The default password is used for your first login. To ensure account security, please change the password after your first login. You are recommended to set a strong password (no less than eight characters).
- The camera protects itself from illegal access by limiting the number of failed login attempts. If login fails six times consecutively, the camera locks automatically for ten minutes.

3. Enter the username and password, and then click **Login**. For the first login, use the default username “admin” and password “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**.

## Introduction to the Web Interface

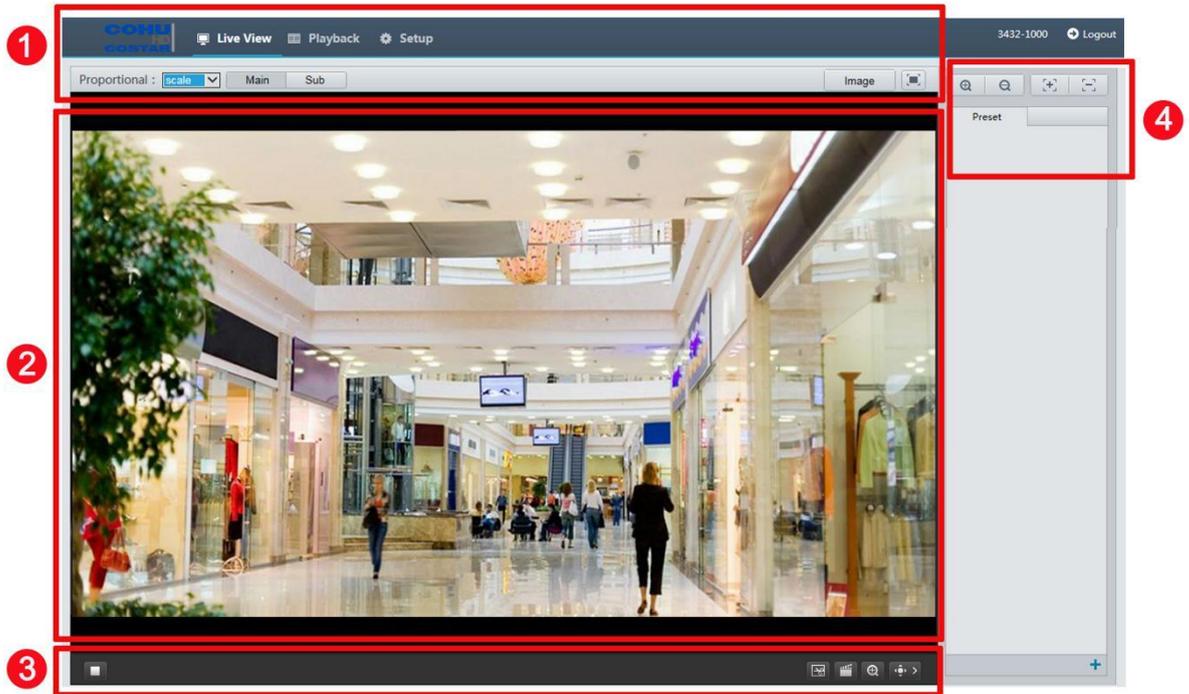
By default, the live view window is displayed when you are logged in to the Web interface. The following shows an example.

### Initial Configuration

After you log in to the device, please perform the following initial configuration.

Item	Description
1. <a href="#">Set the TCP/IP address for the device.</a>	Reconfigure the device IP and network parameters based on the actual networking.
2. Log out and log in again to the Web using the new IP address.	-
3. <a href="#">Set the system time.</a>	Set the system time based on the actual situation.
4. (Optional) <a href="#">Set the management server.</a>	Set the management server based on the actual networking.
5. (Optional) Set the server for storing photos.	Set the server for storing photos based on the actual networking.
6. <a href="#">Set OSD.</a>	Set the information displayed on the screen as needed, for example, time.
7. (Optional) <a href="#">Manage users.</a>	Change the default password and add common users as needed.

You can watch the live video after finishing the initial configuration. Please configure other parameters as needed.



No.	Description
1	Menu
2	Live view window
3	Live view toolbar
4	PTZ control area <b>Note:</b> This area is available to adjust camera focus and zoom, and preset management.



**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.

# Configuring Parameters

## Local Settings

1. Select **Setup > Common > Local Settings**.

**Live Video & Photo Configuration**

**Video Param**

Display Mode: Auto

Processing Mode: Fluent Prior

Video Pixel Format: YUV420

Transmission: TCP

**Record and Snapshot**

Recording: Subsection By Size

Subsection Size(MB): 100 [10-1024]

Record Overwrite:  Overwrite  Full Stop

Total Capacity(GB): 10 [1~1024]

Local Recording: TS

Recording Folder: C:\CMRFiles\Record\

Snapshot Folder: C:\CMRFiles\Snap\

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

Parameter		Description
Video Param	Processing Mode	<ul style="list-style-type: none"> <li>• Real Time Prior: Recommended if the network is in good condition.</li> <li>• Fluent Prior: Recommended if you want short time lag for live video.</li> <li>• Ultra-low Delay: Recommended if you want the minimum time lag for live video.</li> </ul>
	Video Pixel Format	Set the video format for images on the PC client. <b>Note:</b> It is recommended to choose <b>YUV420</b> if the graphic card of your PC supports it. <b>RGB32</b> is only supported by some low-version graphic cards.
	Protocol	Set the protocol used to transmit media streams to be decoded by the PC.
Record and Snapshot	Recording	<ul style="list-style-type: none"> <li>• Subsection By Time: Duration of recorded video for each recording file on the computer. For example, 2 minutes.</li> <li>• Subsection By Size: Size of each recording file stored on the computer. For example, 5M.</li> </ul>
	Record Overwrite	<ul style="list-style-type: none"> <li>• 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.</li> <li>• Full Stop: When the assigned storage space on the computer is full, recording stops automatically.</li> </ul>

3. Click **Save**.

# Network Configuration

## TCP/IP

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 > Network > 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
<b>DNS</b>	
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**.

### 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 > Network > TCP/IP**.

IP Obtain Mode	DHCP
<b>DNS</b>	
Preferred DNS Server	114.114.114.114
Alternate DNS Server	114.114.115.115
Port Type	Copper Port
Operating Mode	Auto-negotiation

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

## **Port**

---

1. Click **Setup > Network > PORT**.
2. Configure relevant port numbers.
3. Click **Save**.

## **DDNS**

---

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

## **P2P**

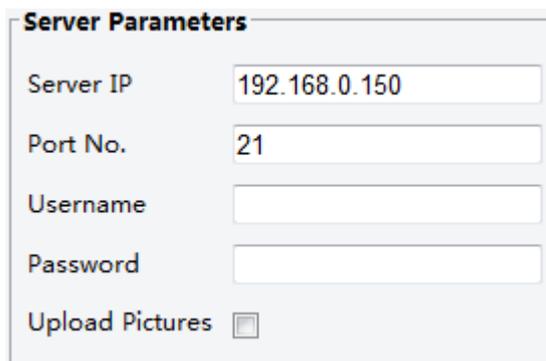
---

1. Click **Setup > Network > P2P**.
2. Enable **P2P**.
3. Click **Save**.

## **FTP**

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**.



The screenshot shows a configuration window titled "Server Parameters" with the following fields:

Server IP	192.168.0.150
Port No.	21
Username	
Password	
Upload Pictures	<input type="checkbox"/>

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

## **E-Mail**

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**.

Sender	
Name	User
Address	1 North View, Victoria St.
SMTP Server	smtp.gmail.com
SMTP Port	25
SSL	<input type="checkbox"/> Enable
Capture Interval(s)	2 <input type="checkbox"/> Attach Image
Server Authentication	<input checked="" type="checkbox"/> Enable
Username	User@gmail.com
Password	••••••
Recipient	
Name1	User2
Address1	User2@gmail.com
Name2	
Address2	
Name3	
Address3	

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

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

Port Mapping			
Port Mapping	<input type="radio"/> Enable	<input checked="" type="radio"/> Disable	
Mapping Type	Automatic <input type="button" value="v"/>		
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
<input type="button" value="Save"/>			

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**.

# Image Configuration

## Image Adjustment



### NOTE!

- Clicking **Default** will restore all the default image settings.

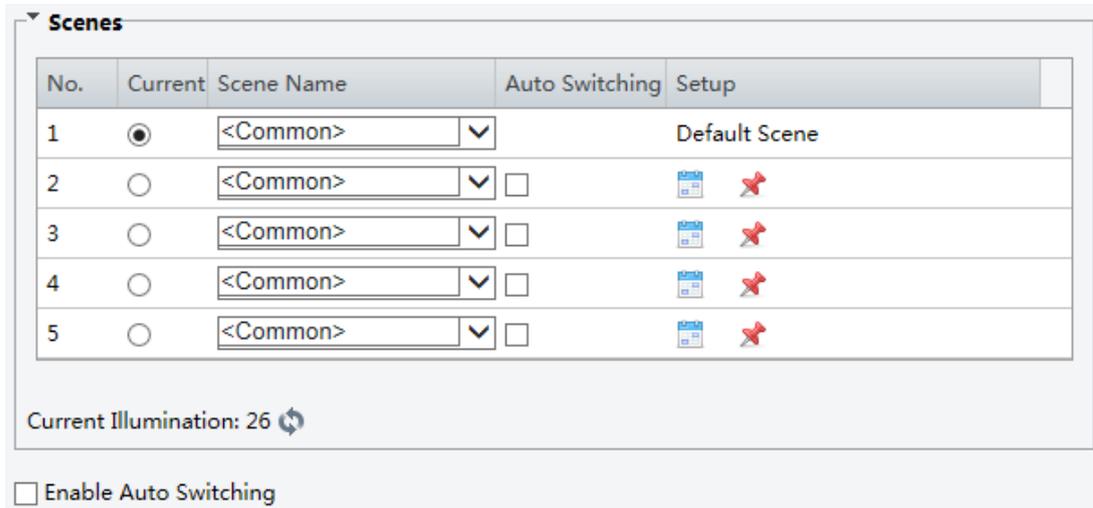
### Setting the Scene

Set image parameters to achieve the desired image effects based on live video in different scenes. Click **Setup > Image > Image**.

The scene management page for some models is displayed as follows, you can select the desired scene in the drop-down list.



The scene management page of some models is displayed as follows, you can take the following steps to configure the scene.



- Click **Scenes**.
- Select a scene, and then set scene switching parameters. The following table describes some major parameters.

Column	Description
Current	Indicates the scene that is being used. <b>Note:</b> <ul style="list-style-type: none"><li>Select an option button to switch to the scene and display the corresponding image parameters for the scene.</li><li>The camera switches the current scene automatically when <b>Enable Auto Switching</b> is selected.</li></ul>

Scene Name	<p>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.</p> <ul style="list-style-type: none"> <li>• <b>Custom:</b> set a scene name as needed</li> <li>• <b>Indoor:</b> recommended for indoor scenes</li> <li>• <b>Common:</b> recommended for outdoor scenes</li> <li>• <b>License Plate:</b> recommended for plate snapshot on roads</li> <li>• <b>Test:</b> set a scene name for testing</li> <li>• <b>High Photographic:</b> recommended for scenes with low light</li> </ul>
Auto Switching	<p>Indicates whether to add a scene to the auto-switching list.</p> <p><b>Note:</b> If <b>Auto Switching</b> 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.</p>
Setup	<p>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.</p>

3. Select a scene and then click  to set it as the default scene.
4. 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.

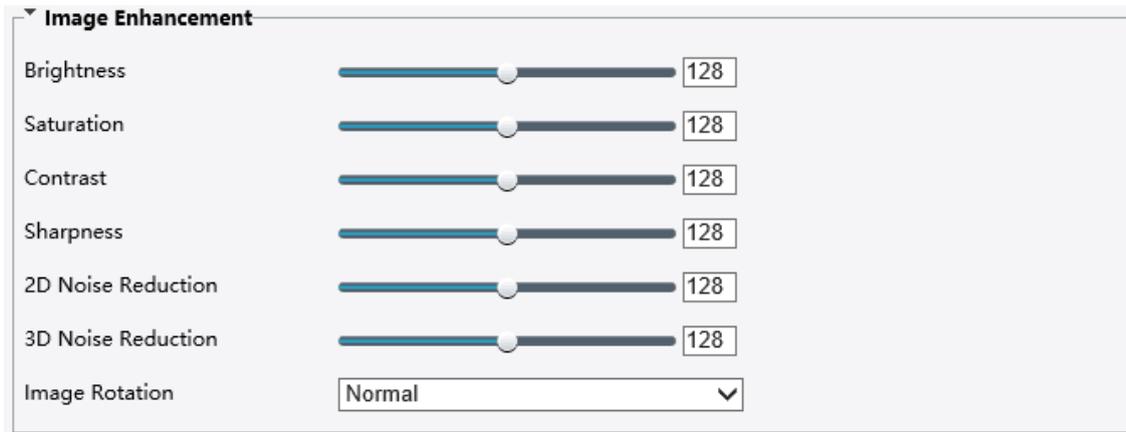


#### NOTE!

- 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).

## Image Enhancement

1. Click **Setup > Image > Image** and then click **Image Enhancement**.



2. Use the sliders to change the settings. You may also enter values directly. The following table describes some major parameters.

Item	Description
Brightness	<p>Set the degree of brightness of images.</p> <div style="display: flex; justify-content: space-around;">   </div> <div style="display: flex; justify-content: space-around; margin-top: 5px;"> <span>Low brightness</span> <span>High brightness</span> </div>
Saturation	<p>The amount of a hue contained in a color.</p> <div style="display: flex; justify-content: space-around;">   </div> <div style="display: flex; justify-content: space-around; margin-top: 5px;"> <span>Low saturation</span> <span>High saturation</span> </div>
Contrast	<p>Set the degree of difference between the blackest pixel and the whitest pixel.</p> <div style="display: flex; justify-content: space-around;">   </div> <div style="display: flex; justify-content: space-around; margin-top: 5px;"> <span>Low contrast</span> <span>High contrast</span> </div>
Hue	Overall tendency of colors in an image.

Item	Description
	<div style="display: flex; justify-content: space-around; align-items: center;">   </div> <div style="display: flex; justify-content: space-around; margin-top: 5px;"> <span data-bbox="485 495 603 517">Normal hue</span> <span data-bbox="772 495 879 517">Other hue</span> </div>
Sharpness	<p data-bbox="411 533 863 555">Contrast of boundaries of objects in an image.</p> <div style="display: flex; justify-content: space-around; align-items: center;">   </div> <div style="display: flex; justify-content: space-around; margin-top: 5px;"> <span data-bbox="469 860 619 882">Low sharpness</span> <span data-bbox="746 860 896 882">High sharpness</span> </div>
2D Noise Reduction	<p data-bbox="411 936 1075 958">Reduce the noise of images. The function may cause image blurring.</p>
3D Noise Reduction	<p data-bbox="411 1010 1390 1032">Reduce the noise of images. The function may cause motion blur (or ghosting in some applications).</p>
Image Rotation	<p data-bbox="411 1099 632 1122">Rotation of the image.</p> <div style="display: flex; flex-wrap: wrap; justify-content: space-around;"> <div style="text-align: center; margin: 5px;">  <p data-bbox="587 1464 667 1487">Normal</p> </div> <div style="text-align: center; margin: 5px;">  <p data-bbox="1011 1464 1134 1487">Flip Vertical</p> </div> <div style="text-align: center; margin: 5px;">  <p data-bbox="549 1800 692 1823">Flip Horizontal</p> </div> <div style="text-align: center; margin: 5px;">  <p data-bbox="1054 1800 1107 1823">180°</p> </div> </div>

Item	Description
	<div style="display: flex; justify-content: space-around; align-items: center;"> <div style="text-align: center;">  <p>90° Clockwise</p> </div> <div style="text-align: center;">  <p>90° Anti-clockwise</p> </div> </div>

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

### Exposure

1. Click **Setup > Image > Image** and then click **Exposure**.

**Exposure**

Exposure Mode: Automatic ▼

Shutter (s): 1/50 ▼

Gain (dB): 0

Iris: F1.6 ▼

Slow Shutter:  Off  On

Slowest Shutter: 1/25 ▼

Compensation: 
0

Metering Control: Center-Weighted Average Metering ▼

Day/Night Mode:  Automatic  Day  Night

Day/Night Sensitivity: Medium ▼

Day/Night Switching(s): 3

WDR: Off ▼

WDR Level: 
5

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)	<p>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.</p> <p><b>Note:</b></p> <ul style="list-style-type: none"> <li>You can set a shutter speed when <b>Exposure Mode</b> is set to <b>Manual</b> or <b>Shutter Priority</b>.</li> <li>If <b>Slow Shutter</b> is set to <b>Off</b>, the reciprocal of the shutter speed must be greater than the frame rate.</li> </ul>
Gain (dB)	<p>Control image signals so that the camera outputs standard video signals according to the light condition.</p> <p><b>Note:</b> You can set this parameter only when <b>Exposure Mode</b> is set to <b>Manual</b> or <b>Gain Priority</b>.</p>
Iris	<p>Iris is used to control the amount of light..</p> <p><b>Note:</b> The smaller the value behind “F”, the larger the aperture, and the amount of light is more also. On the other hand, the smaller.</p>
Slow Shutter	<p>Improves image brightness in low light conditions.</p> <p><b>Note:</b> You can set this parameter only when <b>Exposure Mode</b> is not set to <b>Shutter Priority</b> and when <b>Image Stabilizer</b> is disabled.</p>
Slowest Shutter	<p>Set the slowest shutter speed that the camera can use during exposure.</p> <p><b>Note:</b> You can set this parameter only when <b>Slow Shutter</b> is set to <b>On</b>.</p>
Compensation	<p>Adjust the compensation value as required to achieve the desired effects.</p> <p><b>Note:</b> You can set this parameter only when <b>Exposure Mode</b> is not set to <b>Manual</b>.</p>
Metering Control	<p>Set the way the camera measures the intensity of light.</p> <ul style="list-style-type: none"> <li>Center-Weighted Average Metering: Measure light mainly in the central part of images.</li> <li>Evaluative Metering: Measure light in the customized area of images.</li> <li>Highlight compensation: Ignore the brightness of the overexposed area of images. But selecting this setting will decrease the overall brightness of the image.</li> </ul> <p><b>Note:</b> You can set this parameter only when <b>Exposure Mode</b> is not set to <b>Manual</b>.</p>
Day/Night Mode	<ul style="list-style-type: none"> <li>Automatic: The camera outputs the optimum images according to the light condition.</li> <li>In this mode, the camera can switch between night mode and day mode automatically.</li> <li>Night: The camera provides high-quality black and white images using the existing light</li> <li>Day: The camera provides high-quality color images using the existing light.</li> </ul> <p>Input Boolean: The camera switches between day mode and night mode based on the alarm input.</p>
Day/Night Sensitivity	<p>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.</p> <p><b>Note:</b> You can set this parameter only when <b>Day/Night Mode</b> is set to <b>Automatic</b>.</p>
Day/Night Switching(s)	<p>Set the length of time before the camera switches between day mode and night mode after the conditions for switching are met.</p> <p><b>Note:</b> You can set this parameter only when <b>Day/Night Mode</b> is set to <b>Automatic</b>.</p>
WDR	<p>Enable WDR to distinguish the bright and dark areas in the same image.</p> <p><b>Note:</b> You can set this parameter only when <b>Exposure Mode</b> is neither <b>Customize</b> nor <b>Manual</b> and when <b>Image Stabilizer</b> is disabled.</p>
WDR Level	<p>After enabling the WDR function, you can improve the image by adjusting the WDR level.</p> <p><b>Note:</b> 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.</p>

3. To restore the default settings, click default.

## Smart Illumination



### NOTE!

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

1. Click **Setup > Image > Image** and then click **Smart Illumination**.

Smart Illumination  Enable  Off

Lighting Type

Control Mode

Near-illumination Level

Mid-illumination Level

Far-illumination Level

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

Parameter	Description
Control Mode	<ul style="list-style-type: none"><li>• <b>Global Mode:</b> 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.</li><li>• <b>Overexposure Restrain:</b> 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.</li><li>• <b>Manual:</b> This mode allows you to manually control the intensity of IR illumination.</li></ul>
Illumination Level	<p>Set the intensity level of the IR light. The greater the value, the higher the intensity. 0 means that the IR light is turned off.</p> <p><b>Note:</b></p> <ul style="list-style-type: none"><li>• You can set this parameter only when <b>Control Mode</b> is set to <b>Manual</b>.</li><li>• You are recommended to set this parameter first for a wide-angle scene.</li><li>• You are recommended to set this parameter first if the scene requires an intermediate focal length.</li><li>• You are recommended to set this parameter first if the scene requires a telephoto view.</li></ul>

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

## Focus



### NOTE!

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

1. Click **Setup > Image > Image** and then click **Focus**.

Focus

Focus Mode

Scene

2. Select the focus mode as required.

Parameter	Description
Focus Mode	<ul style="list-style-type: none"> <li>Auto Focus: The camera focuses automatically according to the current light condition.</li> <li>Manual Focus: Manually adjust camera focus as required.</li> <li>One-Click Focus: The camera is triggered to focus once when rotating, zooming or going to a preset.</li> </ul>
Scene	<ul style="list-style-type: none"> <li>Normal: Used for common scenes, such as road and industrial park.</li> <li>Long Distance: Used for long-distance monitoring on a road. For example, when the camera is installed over 30 meters high to monitor a distant road intersection.</li> </ul>

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

## White Balance

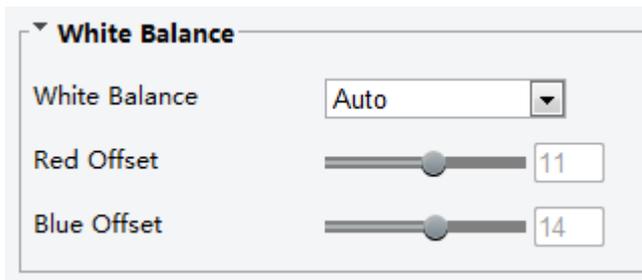
White balance is the process of offsetting unnatural color cast in images under different color temperatures so as to output images that best suit human eyes.



### NOTE!

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

1. Click **Setup > Image > Image** and then 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: <ul style="list-style-type: none"> <li>Auto: The camera adjusts the red and blue offset automatically according to the light condition (the color tends to be blue).</li> <li>Fine Tune: Allow you to adjust the red and blue offset manually.</li> <li>Sodium Lamp: The camera adjusts red and blue offset automatically according to the light condition (the color tends to be red).</li> </ul>
Red Offset	Adjust the red offset manually. <b>Note:</b> You can set this parameter only when <b>White Balance</b> is set to <b>Fine Tune</b> .
Blue Offset	Adjust the blue offset manually. <b>Note:</b> You can set this parameter only when <b>White Balance</b> is set to <b>Fine Tune</b> .

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 **Setup > Image > Image** and then 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

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

## ***OSD Setting***

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 > Image > OSD**.

Live View

Proportional : scale



Position	Overlay OSD Content	Status
1	Area1 <Date & Time>	✓
2	None	
3	None	
4	None	
5	None	
6	None	
7	None	
8	None	

[None]

Area1

X: 2, Y: 3, Align: Left

Area2

X: 75, Y: 3, Align: Left

Area3

X: 2, Y: 75, Align: Left

Display Style

Effect: Background, Font Size: Medium

Min. Margin: None

Date Format: dd/MM/yyyy

Time Format: H.mm.ss

h/H=12/24 Hour; tt=A.M. or P.M.; mm=Minute; ss=Second

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.
3. After you have completed the settings, a message appears to indicate the successful settings. You may right-click in the preview window and then choose to view in full screen mode or at an aspect ratio. You may also double-click the preview window 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.



## Privacy Mask

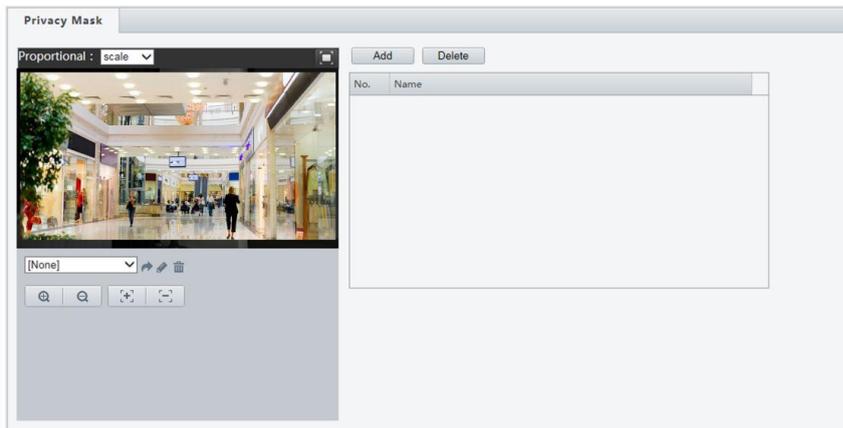
On certain occasions, you may need to set a mask area on the camera image to protect privacy, for example, the keyboard of an ATM machine. When PTZ changes its position or zooms, the Privacy Mask will be adjusted accordingly to protect the area all along.



### NOTE!

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

1. Click **Setup > Image > Privacy Mask**.



2. Click add to add a privacy mask, and click delete to delete 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.

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



## 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.

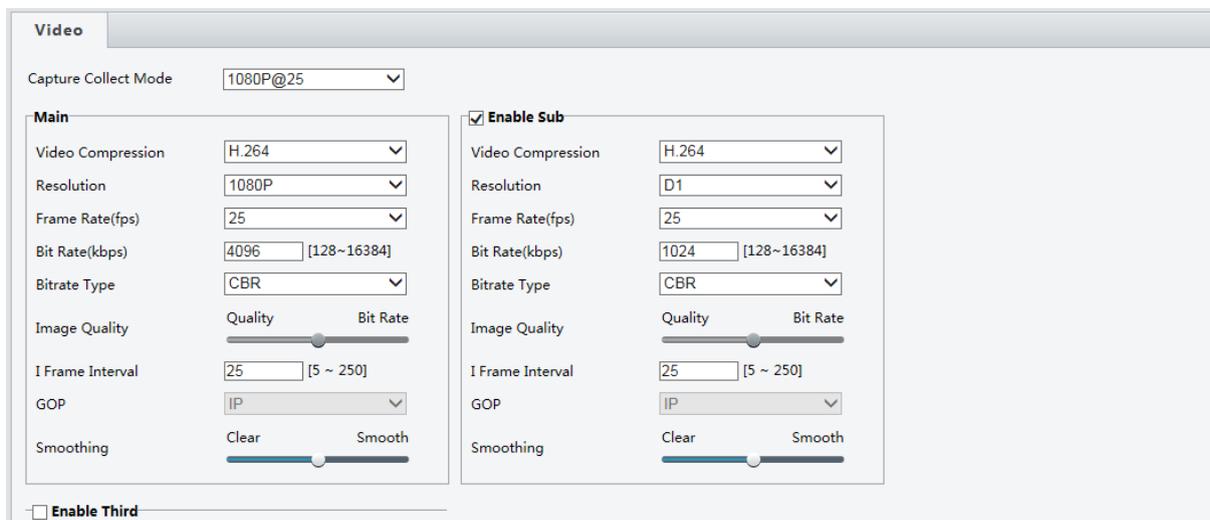


### NOTE!

- This function may vary with models. Only some camera models support the third stream. To determine if your camera supports this function, see the Web interface.

- After enabling the sub or third stream, modify the parameters as required. The parameters for the sub and third stream have the same meanings as that for the main stream.

1. Click **Setup > Video > Video**.



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

Parameter	Description
Video Compression	<ul style="list-style-type: none"> <li>• H.264: The new generation compression standard for digital video.</li> <li>• MJPEG: A digital video encoding standard where each video frame is separately compressed into a JPEG image.</li> </ul> <p>H.264 offers higher video resolution than MJPEG at the same bit rate and bandwidth, or the same quality video at a lower bit rate.</p>
Frame Rate	<p>Frame rate for encoding images. Unit: FPS (frame per second).</p> <p><b>Note:</b> To ensure image quality, note that the frame rate should not be greater than the reciprocal of shutter speed.</p>
Bitrate Type	<ul style="list-style-type: none"> <li>• CBR: Constant Bit Rate, which means that the camera transmits data at a constant data rate.</li> <li>• VBR: Variable Bit Rate, which means that the camera adjusts the bit rate dynamically according to image quality.</li> </ul>
Image Quality	<p>When <b>Encoding Mode</b> is <b>VBR</b>, you can move the slider to adjust quality level for images. Moving the slider toward <b>Bit Rate</b> decreases the bit rate and may affect image quality. Moving the slider toward <b>Quality</b> increases the bit rate and improves image quality.</p>
I Frame Interval	<p>Interval at which an I frame is encoded. Normally, a shorter I frame interval offers better image quality but consumes more bandwidth.</p>
GOP	<p>Group Of Pictures in MPEG video encoding. This parameter specifies the order in which intra-frames (I frame) and inter-frames are arranged.</p>
Smoothing	<p>Set the extent of smoothing. Choosing <b>Clear</b> means disabling <b>Smoothing</b>. Moving the slider toward <b>Smooth</b> increases the level of smoothing but will affect image quality.</p> <p><b>Note:</b> In a poor network environment, you can enable smoothing to get more fluent video.</p>

3. Click **Save**.

## Media Stream Configuration

### Media Stream

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.
- Choosing a transport protocol based on your actual needs and network performance. Generally speaking, TCP enables better image quality than UDP but also causes higher latency.

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

The screenshot shows the 'Media Stream' configuration page. At the top, there's a title bar 'Media Stream'. Below it is a table with columns: 'Stream Profile', 'IP Address', 'Port', 'Transport Protocol', 'Persistent', and a '+' icon. An 'Add Media Stream' dialog box is overlaid on the table. The dialog has the following fields: 'Stream Profile' (dropdown menu with 'Main' selected), 'IP Address' (text input field), 'Port' (text input field), 'Transport Protocol' (dropdown menu with 'UDP' selected), and 'Persistent' (radio buttons for 'Yes' and 'No', with 'No' selected). At the bottom of the dialog are 'Submit' and 'Cancel' buttons.

2. Click , 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.  
If you want the device to establish the media stream that has been configured before automatically after the restart, select **Yes** for **Persistent**.
3. To delete a stream, click .
4. Click **Submit** to complete the operations.

### RTSP Multicast Address

After an RTSP multicast address is configured, the third-party player can request the RTSP multicast media stream from the camera through the RTP protocol.

1. Click **Setup > Video > Media Stream > RTSP Multicast Address**.

Media Stream	RTSP Multicast Address
<b>Main</b>	
Multicast Address	<input type="text" value="0.0.0.0"/>
Port	<input type="text" value="0"/>
<b>Sub</b>	
Multicast Address	<input type="text" value="0.0.0.0"/>
Port	<input type="text" value="0"/>
<b>Third</b>	
Multicast Address	<input type="text" value="0.0.0.0"/>
Port	<input type="text" value="0"/>
<input type="button" value="Save"/>	

2. Set the multicast address (224.0.0.0 to 239.255.255.255) and port number (0 to 65535).
3. Click **Save**.

## 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

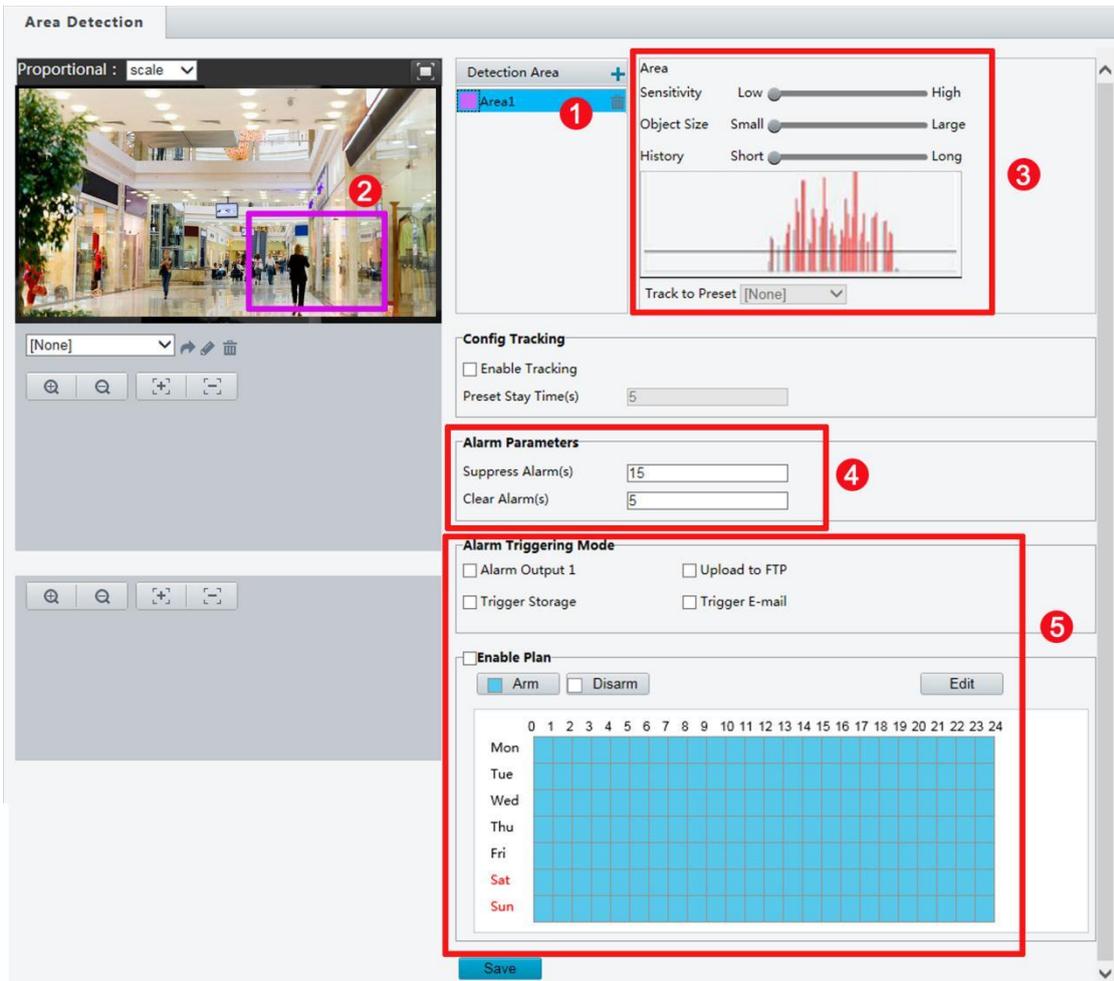
Motion detection detects the object motion in a specified rectangular area during a period. You need to set a detection area, sensitivity of detection, object size, and history for the camera to decide whether to report a motion detection alarm when it detects motion.



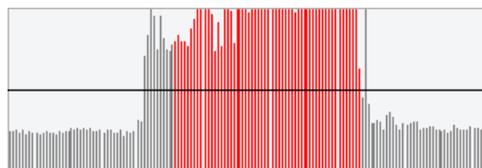
#### NOTE!

- 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.

Click **Setup > Events > Motion Detection**.



1. In the **Detection Area** area, click **+** to add a new detection area. To delete a detection area, click **🗑️**.
2. Click and drag the mouse to set a detection area.
3. 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.



4. Set the alarm parameters.
  - **Suppress Alarm(s):** After an alarm is triggered, the same alarm will not be reported within the set time.
  - **Clear Alarm(s):** After an alarm is triggered,
    - a. If the same alarm is not triggered within the set time, the alarm will be cleared and the same alarm can be reported again.

- b. If the same alarm is triggered within the set time, the alarm will not be cleared until the suppress alarm time expires. Then the same alarm can be reported again.

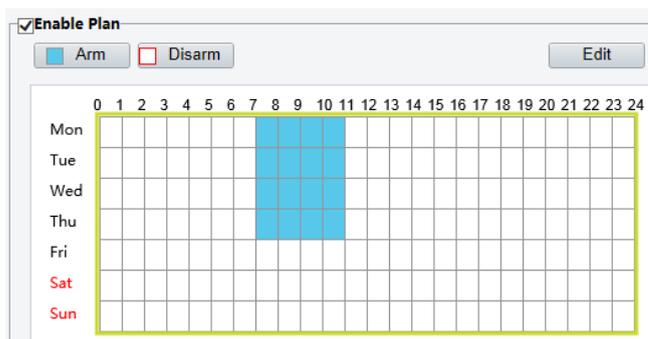
5. Set actions to be triggered by motion detection alarm and the plan.

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

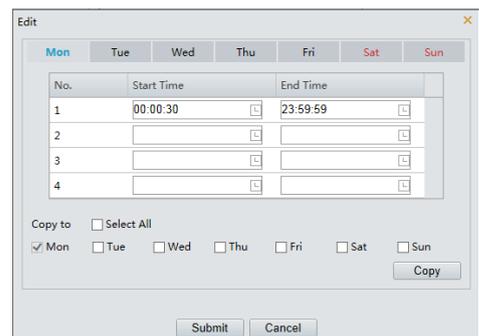
Item	Description
Alarm Output 1	Select the check box. This setting is the alarm output interface linked to motion detection alarm. <b>Note:</b> When an alarm is reported, the camera triggers alarm output so as to trigger actions by a third-party device.
PTZ to Preset	Select the check box and set the preset linked to motion detection alarm. <b>Note:</b> <ul style="list-style-type: none"> <li>Make sure you have set presets. Otherwise, you cannot set this parameter. For details about how to set a preset, see <a href="#">Setting Presets</a>.</li> <li>When an alarm is reported, the PTZ camera automatically goes to the preset to capture video in the correct scene.</li> </ul>
Upload to FTP	With <b>Upload to FTP</b> selected, the camera will automatically upload snapshots to the specified FTP server when an alarm is triggered. <b>Note:</b> Make sure you have completed <a href="#">FTP</a> and <a href="#">Configuring Capture</a> before using this function.
Trigger E-mail	With <b>Trigger E-mail</b> selected, the camera will automatically send snapshots to the specified E-mail address when an alarm is triggered. <b>Note:</b> Make sure you have completed <a href="#">E-Mail</a> and <a href="#">Configuring Capture</a> before using this function.
Enable Plan	Select the check box and set the start and end times during which motion detection alarm is effective. You can directly drag the mouse to draw a plan and click <b>Edit</b> to edit time periods in the table. The time periods cannot overlap. The camera reports alarms during the specified

only.

You can select from Monday to Sunday and set four periods for each day.



Drag the mouse to draw a plan



Edit time periods in the table

**Note:**

Plan drawing using a mouse is only supported by IE versions later than 8.0. 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 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**.

Max. Temperature(°C)  [50~100]  
Min. Temperature(°C)  [-100~49]

**Alarm Triggering Mode**

Alarm Output 1       PTZ to Preset

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 [Configuring Alarm Input](#).



### 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**.

Audio Detection  Enable  
Detection Type   
Difference

**Alarm Triggering Mode**

Alarm Output 1       PTZ to Preset   
 Upload to FTP       Trigger Storage  
 Trigger E-mail

**Enable Plan**

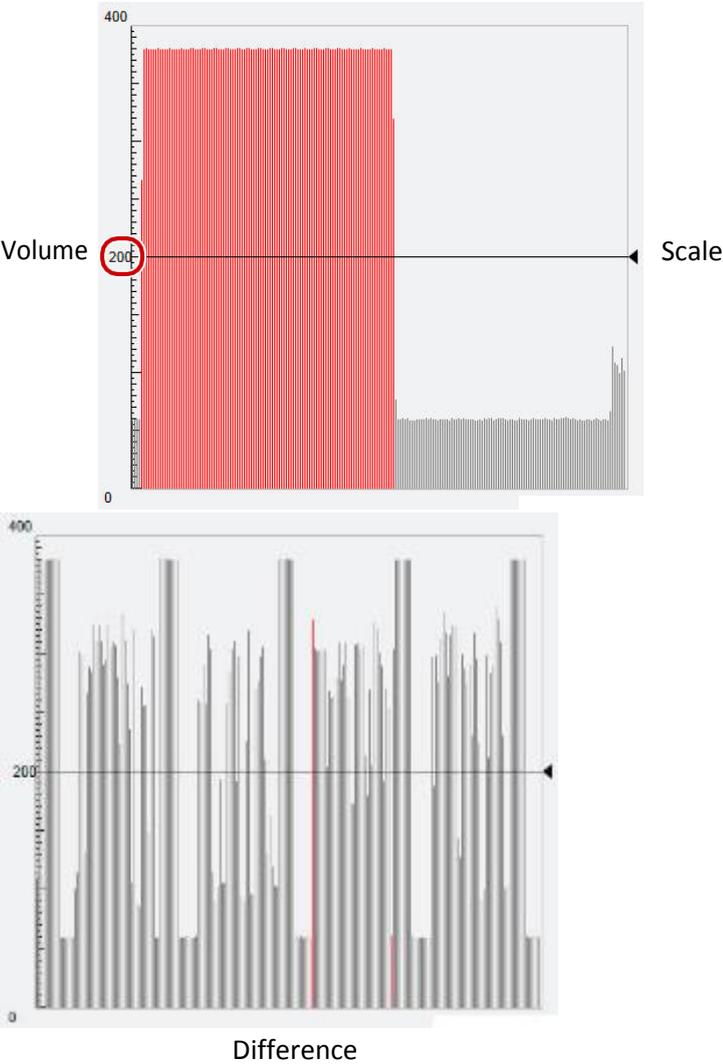
Arm     Disarm   

	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
Mon																									
Tue																									
Wed																									
Thu																									
Fri																									
Sat																									
Sun																									

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	<ul style="list-style-type: none"> <li>• Rise Above: An alarm is reported when the rise of volume exceeds the difference.</li> <li>• Falls Below: An alarm is reported when the fall of volume exceeds the difference.</li> <li>• Passes: An alarm is reported when the rise or fall of volume exceeds the difference.</li> <li>• Threshold: An alarm is reported when the volume exceeds a threshold.</li> </ul>
Threshold/ Difference	<ul style="list-style-type: none"> <li>• Threshold: After a volume is set as the threshold, an alarm is reported when the threshold is exceeded.</li> <li>• Difference: the difference between two volumes. When the rise or fall of volume exceeds the difference, an alarm is reported.</li> </ul> <p><b>Note:</b></p> <ul style="list-style-type: none"> <li>• The scale in the audio detection area is used to measure sound volume.</li> <li>• Audio detection results are shown in real time. The red part indicates the reported audio detection alarms.</li> </ul> 

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, alarm name, alarm 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**.

Select Alarm:

Alarm Name:

Alarm ID:

Status:

Alarm Input:  Enable  Disable

**Alarm Triggering Mode**

Alarm Output 1  PTZ to Preset

**Enable Plan**

	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
Mon						■	■	■	■	■															
Tue																									
Wed																									
Thu																									
Fri																									
Sat																									
Sun																									

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**.

The screenshot shows the 'Alarm Output' configuration page. It has a header 'Alarm Output' and several input fields: 'Select Alarm' (dropdown menu with 'Alarm Output 1'), 'Alarm Name' (text input with '2'), 'Status' (dropdown menu with 'Normally Open'), and 'Delay(s)' (text input with '30'). Below these is an 'Enable Plan' section with 'Arm' and 'Disarm' buttons and an 'Edit' button. At the bottom is a calendar grid with days of the week (Mon-Sun) and hours (0-24), with all cells highlighted in blue.

2. Select the alarm and set the alarm name.
3. Set the status to **Normally Open** (default setting) and set the alarm duration.
4. Set actions to be triggered by an output alarm and the plan. For the detailed steps, see the descriptions of alarm-triggered actions in [Configuring Motion Detection Alarm](#)
5. Click **Save**.



## CAUTION!

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

1. Check that the alarm 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**.

The screenshot shows the 'Capture' configuration page. It has a 'Capture by Event' checkbox checked and labeled 'Enable'. Below are several input fields: 'Resolution' (dropdown menu with '1920\*1080'), 'Image Quality' (dropdown menu with 'Medium'), 'Capture Interval(s)' (text input with '1'), and 'Number to Capture' (dropdown menu with '1').

2. Enable **Capture by Event**, and configure relevant parameters.
3. Click **Save**.

## 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**

Storage Medium

Total Capacity 0 MB, Free Space 0 MB.

**Video Storage Info**

Edge Storage  Enable  Disable

Stream

When Storage Full  Overwrite  Stop

Post-Record(s)

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

Parameter	Description
Storage Medium	Storage resource type. <b>Note:</b> <ul style="list-style-type: none"><li>• Click <b>Format</b> and then click <b>OK</b> to confirm the operation. The system will restart when the format is completed.</li><li>• Information about the total and free space is displayed.</li></ul>
When Storage Full	<ul style="list-style-type: none"><li>• Overwrite: If there is no free space in the memory card, new data will overwrite the existing data repeatedly.</li><li>• Stop: If there is no free space in the memory card, new data will not be saved to the memory card.</li></ul>

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**.

**Storage**

Storage Medium Memory Card Format

Total Capacity 0 MB, Free Space 0 MB.

---

**Video Storage Info**

Edge Storage  Enable  Disable

Stream Main

When Storage Full  Overwrite  Stop

Post-Record(s) 1800

---

**Enable Plan**

Arm  Disarm Edit

	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
Mon																									
Tue																									
Wed																									
Thu																									
Fri																									
Sat																									
Sun																									

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**.

The screenshot shows the 'Storage' configuration page. At the top, there is a 'Storage Medium' dropdown menu set to 'Memory Card' and a 'Format' button. Below this, it displays 'Total Capacity 0 MB, Free Space 0 MB.' The 'Video Storage Info' section contains several settings: 'Edge Storage' with radio buttons for 'Enable' and 'Disable' (the 'Disable' option is selected), 'Stream' with a dropdown menu set to 'Main', 'When Storage Full' with radio buttons for 'Overwrite' and 'Stop' (the 'Stop' option is selected), and 'Post-Record(s)' with a text input field containing '1800'. The 'Enable Plan' section at the bottom has 'Arm' and 'Disarm' buttons, with 'Arm' selected, and an 'Edit' button. Below these buttons is a 24-hour grid for scheduling, with columns numbered 0 to 24 and rows for days of the week (Mon, Tue, Wed, Thu, Fri, Sat, Sun).

	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
Mon																									
Tue																									
Wed																									
Thu																									
Fri																									
Sat																									
Sun																									

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

## System Maintenance

---



### NOTE!

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

---

## Security

### User Management

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 31 common users are allowed in the system.

You can add a user on the user management interface (under **Setup > System > Security**).

After the user is added successfully, you can change the password by entering the new password or delete the user by clearing the username.

---



### NOTE!

- 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.
  - Only admin can add and 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.
- 

### 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**.

HTTP Port	<input type="text" value="80"/>
HTTPS Port	<input type="text" value="443"/>
RTSP Port	<input type="text" value="554"/>

2. Enter the port number in the **HTTPS Port** text box and then click **Save**.
3. Click **Setup > System > Security**.

HTTPS	<input checked="" type="checkbox"/> Enable
-------	--

4. Under **HTTPS**, select **Enable**.
5. Click **Save**.

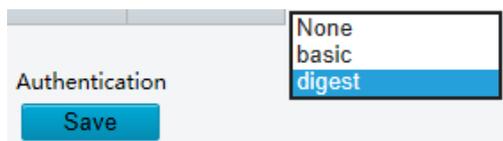
Next time you log in, enter the address in *https://IP:HTTPS port number* format, for example, <https://192.168.0.13:443> to enter secure channel mode.

### RTSP Authentication

RTSP (Real Time Streaming Protocol) is an application layer protocol. To transmit and control the audio and video,

set RTSP authentication on the Webinterface.

1. Click **Setup > System > Security > RTSP Authentication**.
2. Select an authentication mode (basic/digest) and then click **Save**.



### Registration Information

You can set to hide the vendor information of the network camera on the Webinterface.

1. Click **Setup > System > Security**.
2. Under **Registration Info**, select **Enable**.

### APR Binding

This function can protect the camera from ARP attacks. When the camera visits an IP of another network segment via a gateway, it can communicate only with the MAC address binding to the gateway address in the same segment.

1. Click **Setup > System > Security > ARP Binding**.
2. Select the check box to enable the ARP binding function and set the MAC address.
3. Click **Save**.

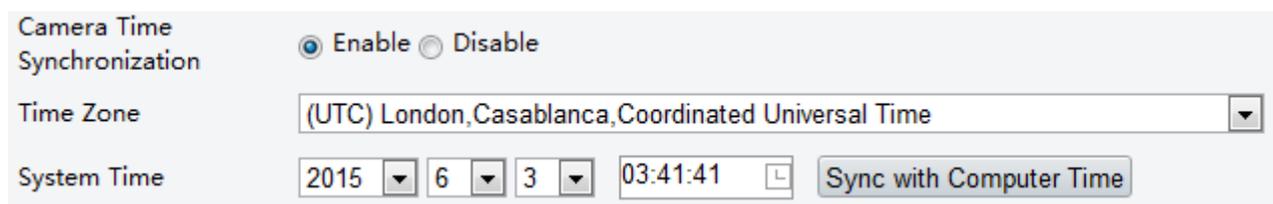


## Setting the System Time

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

### Manually Setting or Synchronizing the System Time

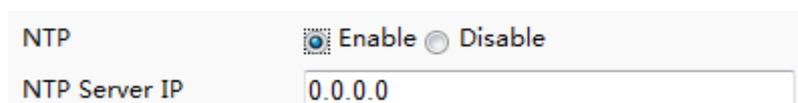
1. Click **Setup > Common > Time**, and then click the **Time** tab.



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

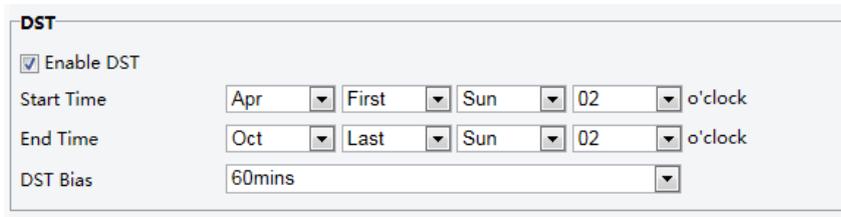
1. Click **Setup > Common > Time**, and then click the **Time** tab.



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.



**DST**

Enable DST

Start Time: Apr First Sun 02 o'clock

End Time: Oct Last Sun 02 o'clock

DST Bias: 60mins

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

## 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.

## 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.

## 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**.



**Firmware Upgrade**

Upgrade File:     Upgrade Boot Program

2. Under **Firmware Upgrade**, click **Browse** and select the correct upgrade file.
3. (Optional) Select the check box to enable **Upgrade Boot Program**.
4. Click **Upgrade** and then confirm to start. The camera will restart automatically after the upgrade is completed.

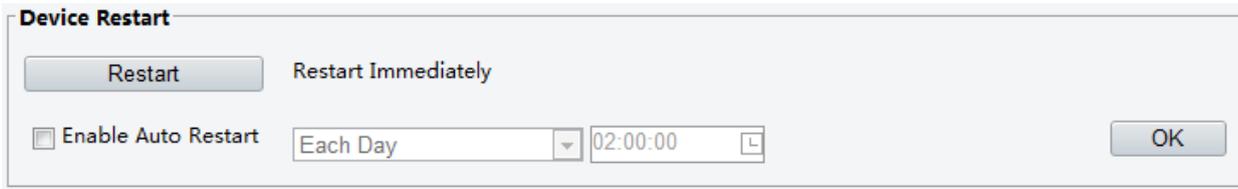


### NOTE!

- You must use the correct upgrade file for your camera. Otherwise, unexpected results may occur.
- The upgrade file is a ZIP file and must include all the necessary files.
- The boot program loads the operating system and then the system starts running. The upgrade boot program function is disabled by default, and only the camera will be upgraded to the latest version. If enabled, both the camera and the boot program are upgraded, and the operating system of the following new versions can be booted properly and the camera can be upgraded conveniently.
- 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**.



The screenshot shows a dialog box titled "Device Restart". It contains a "Restart" button, a "Restart Immediately" label, a checkbox labeled "Enable Auto Restart", a dropdown menu currently set to "Each Day", a time input field showing "02:00:00", and an "OK" button.

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!

- 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!**

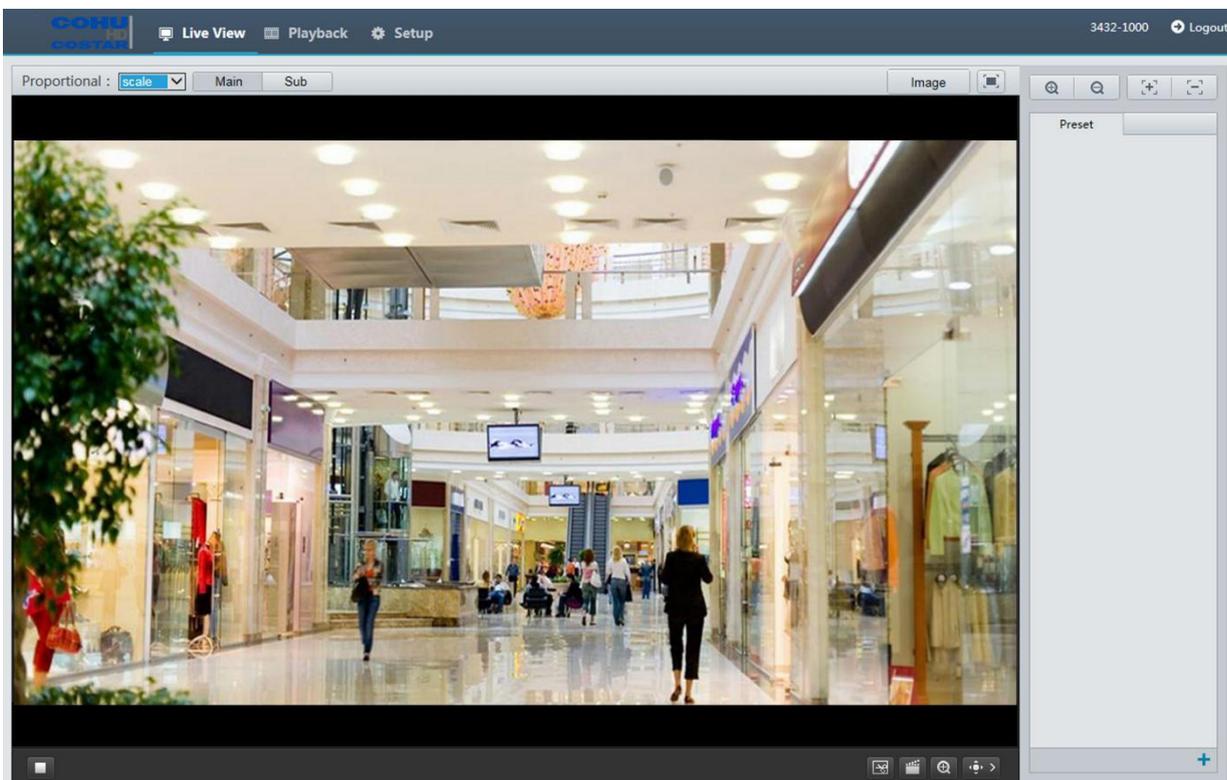
This function is only supported by the devices with auto-focus, please see the actual model for details.

1. Click **Setup > System > Maintenance**.
2. Configure **Minimum Focus Distance** under **Focus**.
3. Click **OK**.

## Live View

Live view means playing live video (real-time audio and video) received from a camera in a window 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 window to enter or exit full screen mode.



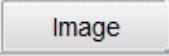
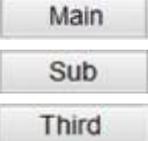
### Live View Toolbar



**NOTE!**

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

Button	Description
	Play/stop live video.

	Take a snapshot of the current image displayed on the PC. <b>Note:</b> The path for saving snapshots are set in <b>System Configuration</b> .
	Start/stop local recording. <b>Note:</b> The path for saving local recordings is set in <b>System Configuration</b> .
	Start/stop digital zoom. For more details, see <a href="#">Using Digital Zoom</a> .
Button	Description
	Show/hide the control panel.
	Reset the packet loss rate to zero. <b>Note:</b> After you move the mouse cursor on a live view window, this button appears on the floating toolbar.
	Click this button to open the image setting page.
	Display in full screen mode.
	Select a live video stream that the camera supports: main stream, sub stream or third stream.

## Viewing Certain Area of Images

Digital zoom and 3D positioning allow you to get more details of certain part of images. Digital zoom enlarges an image with loss in image quality, while 3D positioning enlarges an image without.

### Using Digital Zoom

1. On the **Live View** page, click  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 .

## (FUTURE) 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

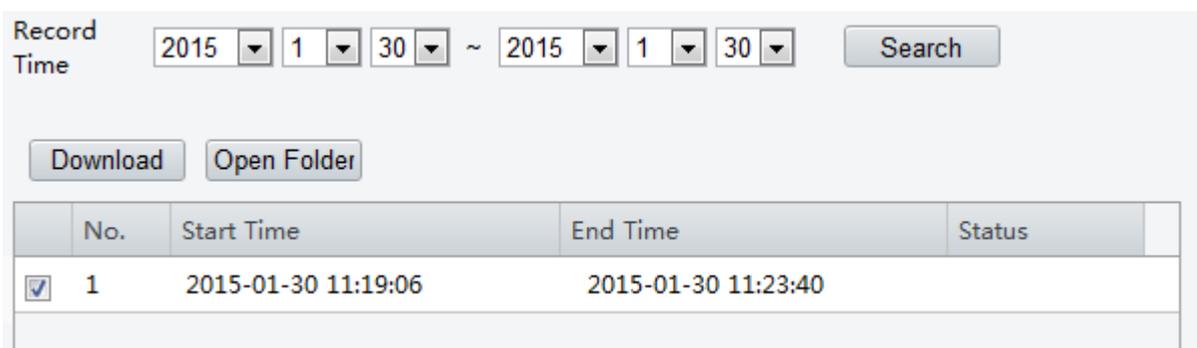
1. Click **Playback** on the home page.



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

### Download

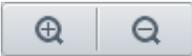
1. Click **Setup > Storage > Record Download**.



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.

## Zoom Control

### 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  .
	Adjust camera focus.
	Adjust camera zoom.
	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. <b>Note:</b> <ul style="list-style-type: none"> <li>• Only PTZ dome cameras and PTZ cameras support this function.</li> <li>• These buttons are unusable when you are using 3D positioning or digital zoom.</li> </ul>
	Shortcut keys for zooming in or out in live view. Scroll the wheel forward to zoom in or backward to zoom out. <b>Note:</b> Only cameras with motorized zoom lens support this function.

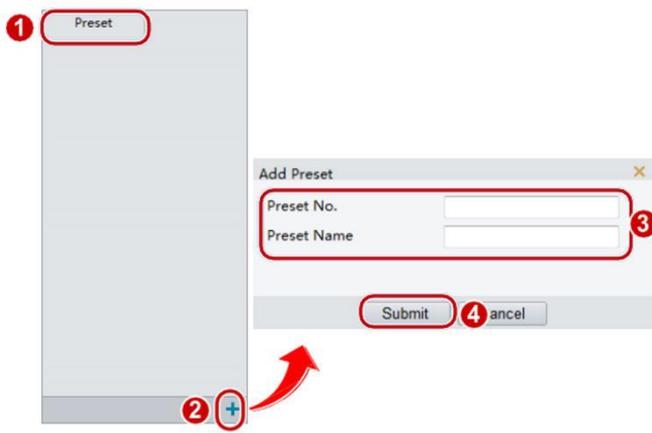
### Setting Presets

#### 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 camera zoom to the desired view.
3. Adjust focus mode as needed to obtain the optimal image.
4. Click + to add it as a preset. Enter a number and name for the preset and then click **Submit**.

### Go to a preset

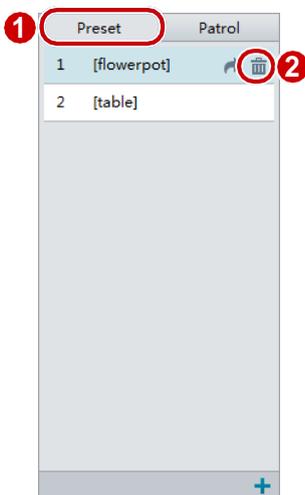
1. On the **Live View** page, click **Preset** on the control panel.



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.

## Appendix A Glossary

Acronym	Description
ARP	Address Resolution Protocol
CBR	Constant Bit Rate
DNS	Domain Name Service

<b>Acronym</b>	<b>Description</b>
DDNS	Dynamic Domain Name Service
DHCP	Dynamic Host Configuration Protocol
DST	Daylight Saving Time
FTP	File Transfer Protocol
GOP	Group Of Pictures
GUI	Graphical User Interface
HTTPS	Hyper Text Transfer Protocol over SSL
IE	Internet Explorer
IMOS	IP Multimedia Operation System
IP	Internet Protocol
IPC	IP Camera
MTU	Maximum Transmission Unit
NTP	Network Time Protocol
OSD	On Screen Display
PoE	Power over Ethernet
PPPoE	Point-to-Point Protocol over Ethernet
PTZ	Pan, Tilt, Zoom
ROI	Region of Interest
SMTP	Simple Mail Transfer Protocol
SSL	Secure Socket Layer
UNP	Universal Network Passport
USB	Universal Serial Bus
VBR	Variable Bit Rate
WDR	Wide Dynamic Range

## Appendix B FAQ

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

Answer: Follow these steps to turn off UAC and then log in again:

1. Click the **Start** button, and then click **Control Panel**.
2. In the search box, type **uac**, and then click **Change User Account Control Settings**.
3. Move the slider to the **Never Notify** position, and then click **OK**.
4. 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 Options** 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.

Revision History		
Revision	Date	Comments
A	3/24/16	Initial Release