

Network Cameras User Manual


Manual Version: 1.00

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

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Disclaimer



CAUTION!

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).




- To the maximum extent permitted by applicable law, the product described, with its hardware, software, firmware and documents, is provided on an “as is” basis.
- Best effort has been made to verify the integrity and correctness of the contents in this manual, 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 contents of this manual are subject to change without prior notice. Update will be added to the new version of this manual.
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- Video and audio surveillance can be regulated by laws that vary from country to country. Check the law in your local region before using this product for surveillance purposes. We shall not be held responsible for any consequences resulting from illegal operations of the device.
- The illustrations in this manual are for reference only and may vary depending on the version or model. The screenshots in this manual may have been customized to meet specific requirements and user preferences. As a result, some of the examples and functions featured may differ from those displayed on your monitor.
- 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.

Environmental Protection

This product has been designed to comply with the requirements on environmental protection. For the proper storage, use and disposal of this product, national laws and regulations must be observed.

Symbols

The symbols in the following table may be found in this manual. Carefully follow the instructions indicated by the symbols to avoid hazardous situations and use the product properly.

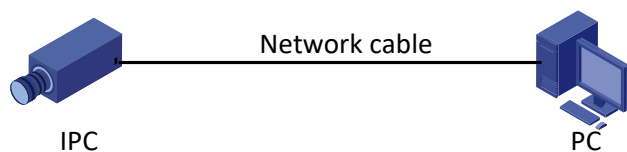
Symbol	Description
 WARNING!	Contains important safety instructions and indicates situations that could cause bodily injury.
 CAUTION!	Means reader be careful and improper operations may cause damage or malfunction to product.
 NOTE!	Means useful or supplemental information about the use of product.

Contents

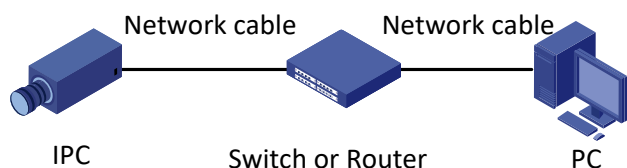
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1 Network Connection

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.



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

2 Login

Preparation

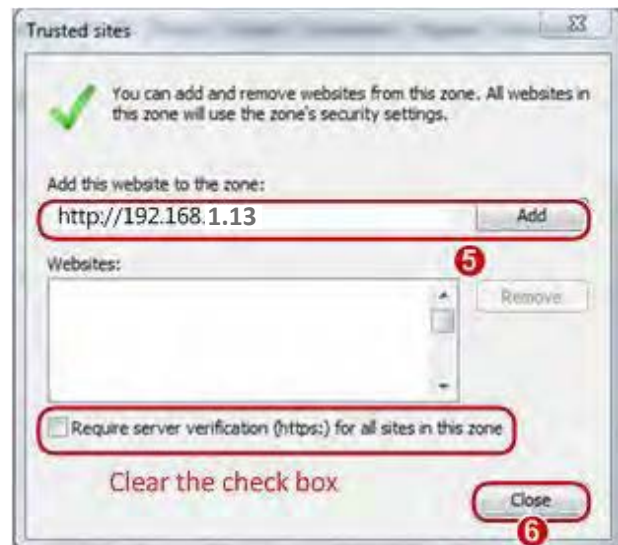
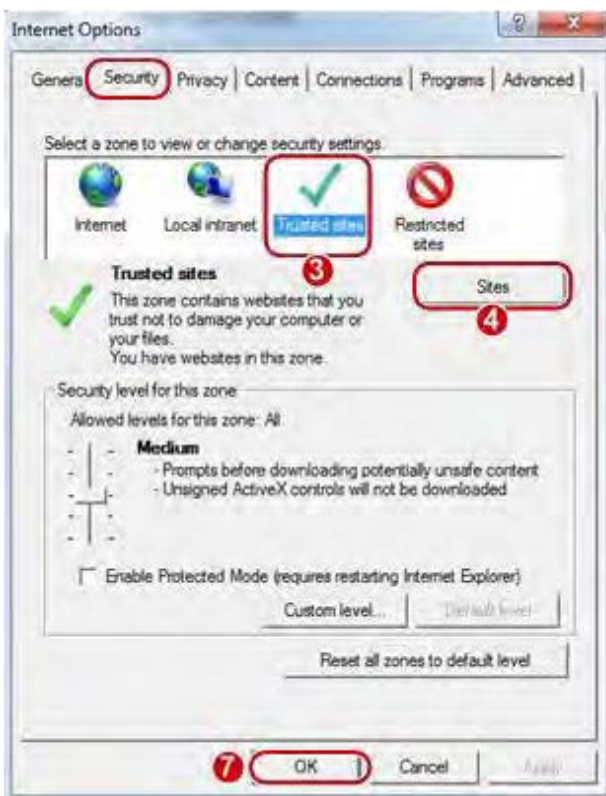
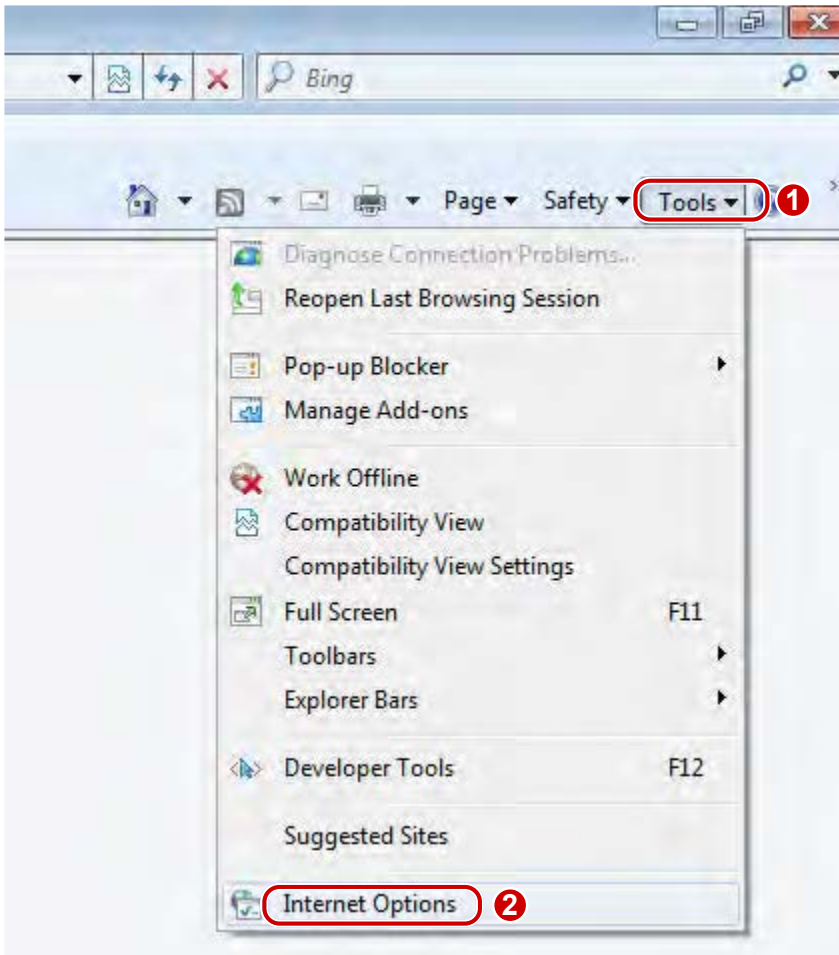
After you have completed the installation in accordance with the quick guide, connect the camera to power to start it. After the camera is started, you can access the camera from a PC client installed with a web browser or the client software EZStation. Internet Explorer (IE) is a recommended web browser. For more information about EZStation, refer to the *EZStation User Manual*.

The following takes IE on a Microsoft Windows 7 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 10.0 or higher.
- (Optional) The resolution is set to 1440 x 900.

Add the IP address as a trusted site



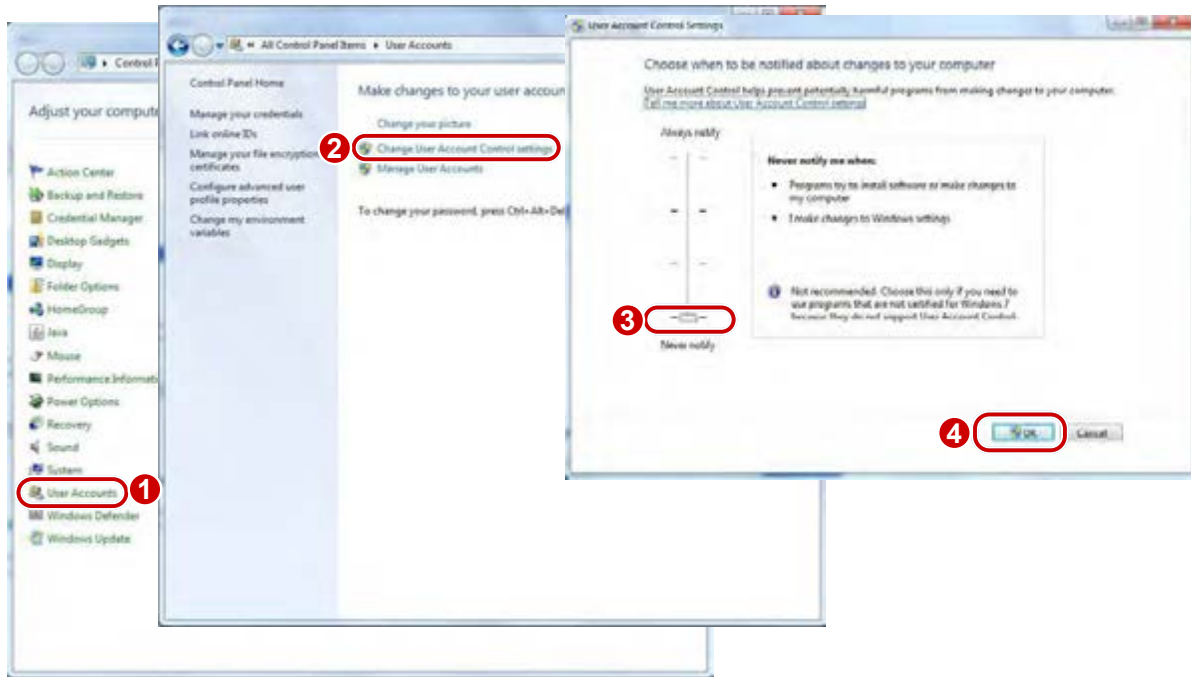


NOTE!

The IP address 192.168.1.13 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 In to the Web Interface

The default static IP address of the camera is 192.168.1.13, 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 EZStation client to view the dynamic IP address of your camera.

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.



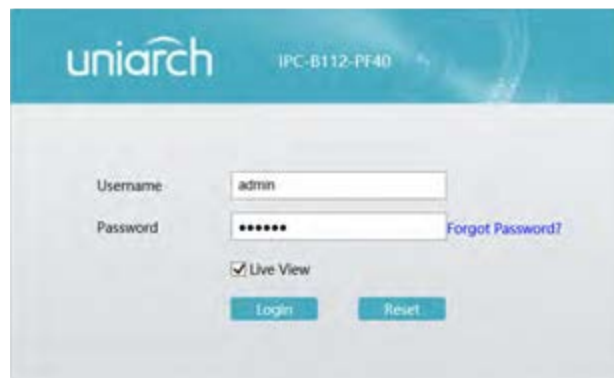
NOTE!

- 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. Privacy policy is displayed on the screen when the user logs in for the first time (This function is not supported by some models). After reading the privacy policy, you need to check in the 'I have read and agree to the above policy' box, then click the 'OK' button to proceed to the next step.



4. Enter the username and password, and then click **Login**. For the first login, use the default username “admin” and password “admin” or “123456”.



- 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.
- To clear the **Username** and **Password** text boxes, 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.



No.	Description
1	Menu
2	Live view window
3	Live view toolbar

Initial Configuration

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

Item	Description
1. Ethernet.	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. Set the system time.	Set the system time based on the actual situation.
4. (Optional) Set the management server.	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. Set OSD.	Set the information displayed on the screen as needed, for example, time.
7. (Optional) Manage users.	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.



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 [Security](#).

3 Configuring Parameters

Local Parameters

Set local parameters for your PC.



NOTE!

The local parameters may vary with models. Please see the actual Web interface for details.

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

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

Parameter		Description
Video	Processing Mode	<ul style="list-style-type: none"> • Real-Time Priority: Recommended if the network is in good condition. • Fluency Priority: Recommended if you want short time lag for live video. • Ultra-low Latency: Recommended if you want the minimum time lag for live video.
	Protocol	Set the protocol used to transmit media streams to be decoded by the PC.

Parameter		Description
Record and Snapshot	Recording	<ul style="list-style-type: none"> 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, 10M.
	When Storage Full	<ul style="list-style-type: none"> Overwrite Recording: When the total capacity allocated to the local recording is full, the oldest recording file will be deleted. Stop Recording: When the total capacity allocated to the local recording is full, the recording will stop.
	Files Folder	<ul style="list-style-type: none"> The save path of snapshots and recordings. The max. Path length is 260 bytes. If the limit is exceeded, recording or snapshot during live view will fail, and messages will appear on the screen.

3. Click **Save**.

Network Configuration

Ethernet

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 > Network**.

The screenshot shows a configuration form for network settings. The 'Obtain IP Address' dropdown is set to 'Static'. The 'IP Address' field contains '192.168.1.13', 'Subnet Mask' contains '255.255.255.0', and 'Default Gateway' contains '192.168.1.1'. The 'MTU' field is '1500', 'Port Type' is 'FE Port', and 'Operating Mode' is 'Auto-negotiation'. A blue 'Save' button is at the bottom left.

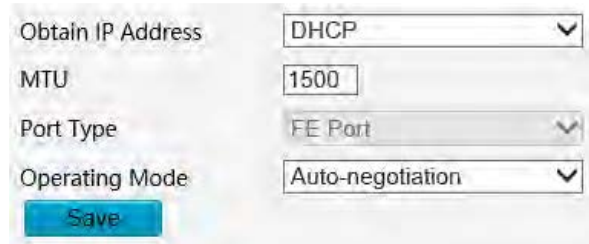
- Select **Static** from the **Obtain IP Address** drop-down list.
- Enter the IP address, subnet mask, and default gateway address. Make sure that the IP address of the camera is unique in the network.
- Click **Save**.

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 > Network**.



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

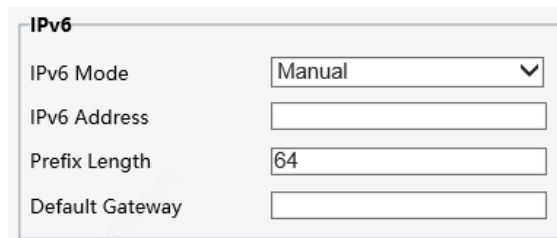
IPv6



NOTE!

- This function is not supported by some models. Please see the actual model for details.

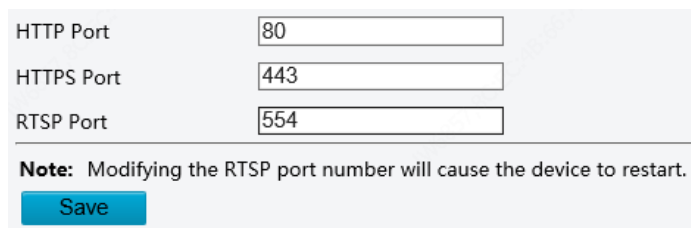
1. Click **Setup > Network > Network**.



2. By default the **IPv6** mode is set to **Manual**.
3. Enter the IPv6 address, set the prefix length and default gateway. The IP address must be unique on the network.
4. Click **Save**.

Port

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



2. Configure relevant port numbers.
3. Click **Save**.

Port Mapping

1. Click **Setup > Network > Port**. Go to **Port Mapping** tab.

Port Type	External Port	External IP Address	Status
HTTP Port	80	0.0.0.0	Inactive
RTSP Port	554	0.0.0.0	Inactive
Server Port	81	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**.

DNS

1. Click **Setup > Network > DNS**.

Preferred DNS Server: 8.8.8.8
Alternate DNS Server: 8.8.4.4

2. Set DNS server addresses.
3. Click **Save**.

DDNS



NOTE!

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

1. Click **Setup > Network > DDNS**.

DDNS Service: On
DDNS Type: DynDNS
Server Address: www.dyndns.com
Domain Name:
Username:
Password:
Confirm:
Save

2. Enable **DDNS Service**.
3. Select a DDNS type: DynDNS, NO-IP, or EZDDNS.
4. Complete other settings including server address, domain name, username and password.
5. Click **Save**.



NOTE!

- This function is not available to all models.
- Scan the QR code with your mobile phone (iOS or Android) to download the APP.
- When installed, run the APP to add the camera. Please refer to the online help in the APP for detailed steps.

1. Click **Setup > Network > Uniarch**.



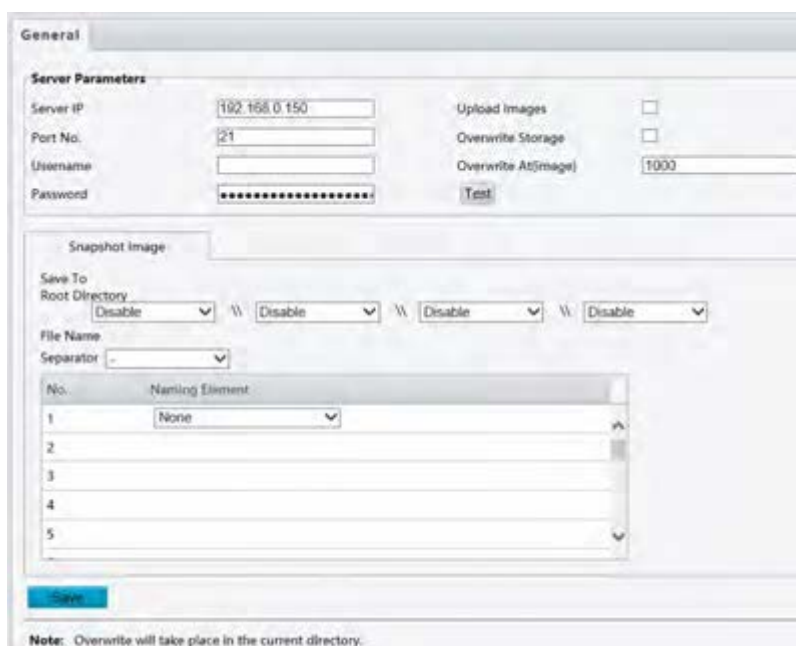
2. Enable **Uniarch**. Select **On** to enable cloud service.
3. Enable **Quick Add**. When the device password is a strong password, you can add the device through EZView without account scan code.
4. Click **Save**.

FTP

All snapshots (except face detection) are saved through the general FTP service. After the configuration of FTP, you will be able to upload snapshots from network cameras to the specified FTP server.

General

1. Click **Setup > Storage > FTP**. Go to **General** tab.



2. Set the IP address and port for the FTP server, username and password used to upload images to the FTP server, select **Upload Images**, **Overwrite Storage** and set **Overwrite At** (threshold for overwriting images). Some camera models support FTP test. You may test FTP after completing FTP settings correctly.
3. Set the path for saving snapshots on the FTP server and the file name format. For example, set path as Date-YYYY\\Date-MM\\Date-DD\\Hour(s), and set file name as Date-YYYY-Date-MM-Date-DD.jpg.
4. 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 (This function is not supported by some models).

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

2. Configure relevant parameters of the sender and the recipient. Some camera models support Email test. You may test email after setting the recipient address. The following table describes some major parameters.

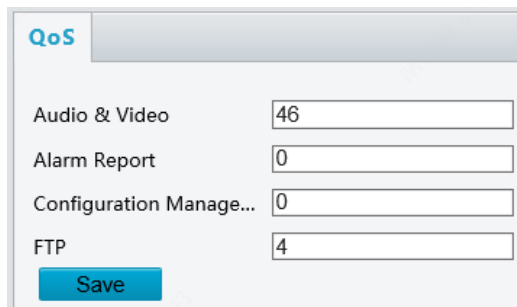
Parameter	Description
TLS/SSL	When enabled, the e-mail will be encrypted using TLS (Transport Layer Security) or Secure Socket Layer (SSL) to protect privacy. First it tries to send through an SSL connection. If the SMTP server supports SSL, the e-mail will be sent through the SSL connection; otherwise, it tries to send using STARTTLS.
Attach Image	When enabled, the e-mail will contain 3 instant snapshots as attachment according to the Capture Interval.
Username/Password	Username and password of the registration email address.

3. Click **Save**.

QoS

QoS (Quality of Service) is the ability to provide better service for specified network communication. As a network security mechanism, QoS is used to address problems like network delay and blocking. When the network is overloaded or congested, QoS ensures that critical services are not delayed or discarded and that the network runs efficiently (This function is not supported by some models).

1. Click **Setup > Network > QoS**.



Audio & Video	<input type="text" value="46"/>
Alarm Report	<input type="text" value="0"/>
Configuration Manage...	<input type="text" value="0"/>
FTP	<input type="text" value="4"/>

2. Set a priority level (0~63) for each service. At present, QoS allows you to assign different priority to audio and video, alarm report, configuration management and FTP transmission. The greater the value, the higher the priority. For example, if the value of audio and video is set to 60, alarm report and configuration management is set to 0, and FTP is set to 4, when network congestion occurs, the priority is to ensure the smooth running of audio and video.
3. Click **Save**.



NOTE!

- To use QoS, make sure that the switch support QoS mode.

Image Configuration

Image Adjustment



NOTE!

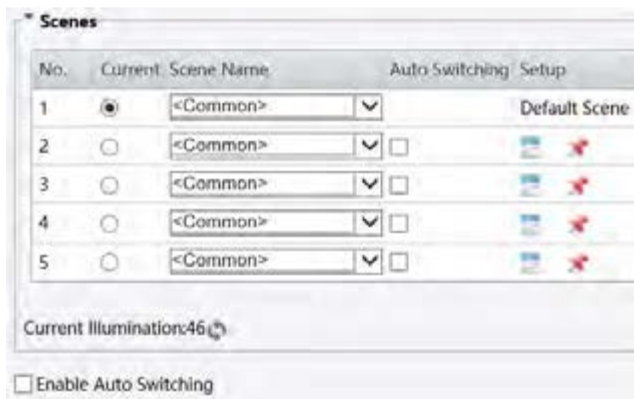
- The image parameters displayed and value ranges allowed may vary with camera model. For the actual parameters and value ranges of your camera, see the Web interface. You may move the sliders to adjust settings or enter values in the text boxes directly.
- Clicking **Default** will restore all the default 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 of some models is displayed as follows, you can take the following steps to configure the scene.



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

Column	Description
Current	<p>Indicates the scene that is being used.</p> <p>Note:</p> <ul style="list-style-type: none"> • 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	<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"> • Common: recommended for outdoor scenes. • Indoor: recommended for indoor scenes. • Road/Park Highlight Compensation (HLC): Can suppress glare and obtain clear images, such as suitable for roads/parks to suppress lights to capture license plates. • Custom: set a scene name as needed.
Auto Switching	<p>Indicates whether to add a scene to the auto-switching list.</p> <p>Note:</p> <p>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.</p>
Setup	<p>Click  to set conditions for auto-switching, including schedule, illumination, and current elevation. 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







NOTE!



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

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; align-items: center;">   </div> <div style="display: flex; justify-content: space-around; margin-top: 5px;"> Low brightness High brightness </div>
Saturation	<p>The amount of a hue contained in a color.</p> <div style="display: flex; justify-content: space-around; align-items: center;">   </div> <div style="display: flex; justify-content: space-around; margin-top: 5px;"> Low saturation High saturation </div>

Item	Description
Contrast	<p>Set the degree of difference between the blackest pixel and the whitest pixel.</p> <div style="display: flex; justify-content: space-around; align-items: center;">   </div> <div style="display: flex; justify-content: space-around; margin-top: 5px;"> Low contrast High contrast </div>
Sharpness	<p>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;"> Low sharpness High sharpness </div>
2D Noise Reduction	<p>Reduce the noise of images. The function may cause image blurring.</p>
3D Noise Reduction	<p>Reduce the noise of images. The function may cause motion blur (or ghosting in some applications).</p>
Image Rotation	<p>Rotation of the image.</p> <div style="display: grid; grid-template-columns: 1fr 1fr; gap: 10px;"> <div style="text-align: center;">  <p>Normal</p> </div> <div style="text-align: center;">  <p>Flip Vertical</p> </div> <div style="text-align: center;">  <p>Flip Horizontal</p> </div> <div style="text-align: center;">  <p>180°</p> </div> </div>

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



NOTE!

- This function may vary with models. Please see actual Web interface for details.
- The default settings are scene-adaptive. Use default settings unless modification is necessary.

1. Click **Setup > Image > Image** and then 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. <ul style="list-style-type: none"> • Automatic: The camera automatically adjusts exposure according to the environment. • Custom: The user sets exposure as needed. • Indoor 50Hz: Reduce stripes by limiting shutter frequency. • Indoor 60Hz: Reduce stripes by limiting shutter frequency. • Manual: Fine tune image quality by setting shutter, gain and iris manually. • Low Motion Blur: Control the minimum shutter to reduce motion blur in faces captured in motion.
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. <p>Note:</p> <ul style="list-style-type: none"> • You can set a shutter speed when Exposure Mode is set to Manual. • If Slow Shutter is set to Off, the reciprocal of the shutter speed must be greater than the frame rate.
Gain	Control image signals so that the camera outputs standard video signals according to the light condition. <p>Note:</p> You can set this parameter only when Exposure Mode is set to Manual .
Slow Shutter	Improves image brightness in low light conditions. <p>Note:</p> You can set this parameter only when Image Stabilizer is disabled.
Slowest	Set the slowest shutter speed that the camera can use during exposure.

Parameter	Description
Shutter	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. <ul style="list-style-type: none"> Center-Weighted Average Metering: Measure light mainly in the central part of images. Evaluative Metering (BLC): Measure light in the customized area of images. Spot Metering: Similar to the “area metering” effect, but it cannot improve the brightness of the screen. Note: You can set this parameter only when Exposure Mode is not set to Manual .
Day/Night Mode	<ul style="list-style-type: none"> 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.
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 not set to Manual and when Image Stabilizer is disabled.
Suppress WDR Stripes	When enabled, the camera can automatically adjust slow shutter frequency according to the frequency of light to minimize stripes that may appear in images.

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**.



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

Parameter	Description
Lighting Type	<ul style="list-style-type: none"> • Infrared: The camera uses infrared light illumination. <p>Note: When Control Mode is set to Manual, camera can set illumination level from 0~1000.</p>
Control Mode	<ul style="list-style-type: none"> • Global Mode: 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. • Manual: This mode allows you to manually control the intensity of IR illumination.

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

White Balance

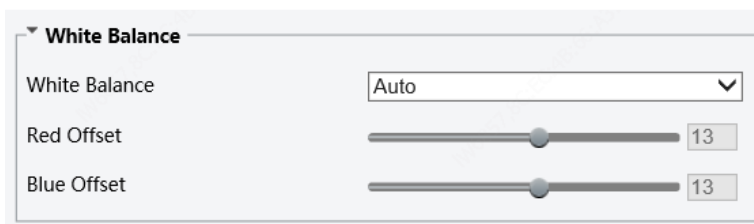
White balance is the process of offsetting unnatural color cast in images under different color temperatures so as to output images that best suit human eyes.



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	<p>Adjust the red or blue offset of the image:</p> <ul style="list-style-type: none"> • Auto/Auto2: The camera adjusts the red and blue offset automatically according to the light condition (the color tends to be blue). If the images are still unnaturally red or blue in Auto mode, please try Auto2. • Outdoor: Suitable for outdoor environment with a relatively greater color temperature range. • 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

	<p>light condition (the color tends to be red).</p> <ul style="list-style-type: none"> • Locked: Lock the current color temperature without change.
Red Offset	<p>Adjust the red offset manually.</p> <p>Note: You can set this parameter only when White Balance is set to Fine Tune.</p>
Blue Offset	<p>Adjust the blue offset manually.</p> <p>Note: You can set this parameter only when White Balance is set to Fine Tune.</p>

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

Advanced

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**.



NOTE!

- You can set this parameter only when WDR is turned off.
- Only some camera models support optical defog. When **Defog** is set to **On**, defog intensity level 6-9 represent optical defog, and images change from color to black/white when defog intensity is set from level 5 to 6; if **Defog** is set to **Auto** and defog intensity level is somewhere between 6-9, images do not automatically change to black/white in light fog conditions; the camera automatically switches to optical defog only in heavy fog conditions.

2. Enable the defog function and then select a level for the scene. Level 9 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**.



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.

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

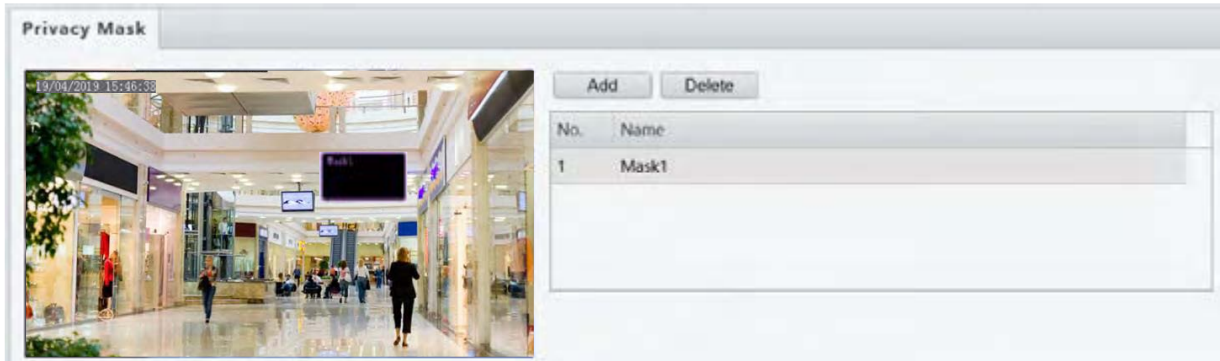
On certain occasions, you may need to set a mask area on the camera image to protect privacy, for example, the keyboard of an ATM machine.



NOTE!

- This function may vary with models. Please see the actual Web interface for details.
- The same picture shows up to only 4 privacy masks.

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



2. Click **Add** to add a privacy mask, and click **Delete** 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.

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

3. Set mask mode. You may select regular or irregular mode as needed.



NOTE!

- Mask mode is only available to certain models.

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 as required.



NOTE!

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

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

The screenshot shows a configuration interface for video settings. At the top, 'Capture Mode' is set to '1080P@25'. Below this, there are two columns of settings:

- Main Stream:**
 - Video Compression: H.264
 - Resolution: 1080P
 - Frame Rate(fps): 25
 - Bit Rate(Kbps): 4096 [128~6144]
 - Bitrate Type: CBR
 - Image Quality: Slider between Bit Rate and Quality
 - I Frame Interval: 50 [5 ~ 250]
 - GOP: IP
 - Smoothing: Slider between Clear and Smooth
 - U-Code: Off
- Enable Sub Stream (checked):**
 - Video Compression: H.264
 - Resolution: 4CIF
 - Frame Rate(fps): 25
 - Bit Rate(Kbps): 1024 [128~6144]
 - Bitrate Type: CBR
 - Image Quality: Slider between Bit Rate and Quality
 - I Frame Interval: 50 [5 ~ 250]
 - GOP: IP
 - Smoothing: Slider between Clear and Smooth
 - U-Code: Off

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

Parameter	Description
Video Compression	<p>Three options: H.265, H.264 and MJPEG (This function is not supported by some models).</p> <p>Note:</p> <ul style="list-style-type: none"> • Image Quality cannot be set when Video Compression is set to H.265 or H.264. When set to MJPEG, only three frame rates are available: 1, 3 and 5; and Bit Rate, I Frame Interval, Smoothing and U-Code cannot be set. • The bit rate changes to the default when you change the setting between H.264 and H.265. The default bit rate for H.265 is half of that for H.264.
Frame Rate	<p>Frame rate for encoding images. Unit: FPS (frame per second).</p> <p>Note:</p> <p>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"> • 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.
Image Quality	<p>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.</p>

2. Click **Save**.

Snapshot



NOTE!

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

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

No.	Snapshot Time

2. Select **On**, and then set resolution, most large and schedule as needed. Some parameters are described in the table below.

Parameter	Description
Snapshot Interval	Interval between two snapshots. For example, with Snapshot Interval set to 1 and Number of Snapshot set to 2, the camera will take 2 snapshots (take one first and then take another after 1 second).
Number to Snapshot	Currently 1, 2, and 3 snapshots are allowed.
Snapshot Mode	Schedule: You need to set a snapshot time, e.g., 19:12:00, which means the camera takes a snapshot at 19:12:00. Repeat: Allows you to set an interval (unit: sec). For example, according to the settings shown in the figure above, 60 seconds must elapse before the camera takes another two snapshots.

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.





NOTE!

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

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



2. Click , and then drag the mouse to cover the intended part of the images. To delete, select the area and then click .

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**.

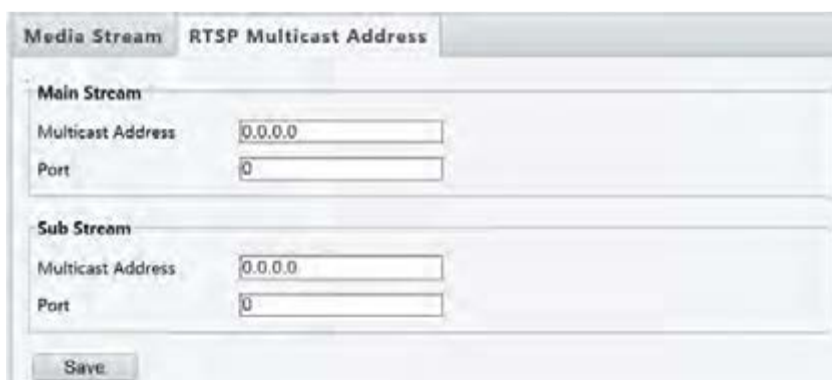


2. Click , select a stream type, and then set the IP address and port number of the unicast or multicast group for the decoding device that receives audio and video streams from the camera.
3. To delete a stream, click  .
4. Click **OK** to complete the operations.

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**.



2. Set the multicast address (224.0.1.0 to 239.255.255.255) and port number (0 to 65535).
3. Click **Save**.

Common 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, 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.

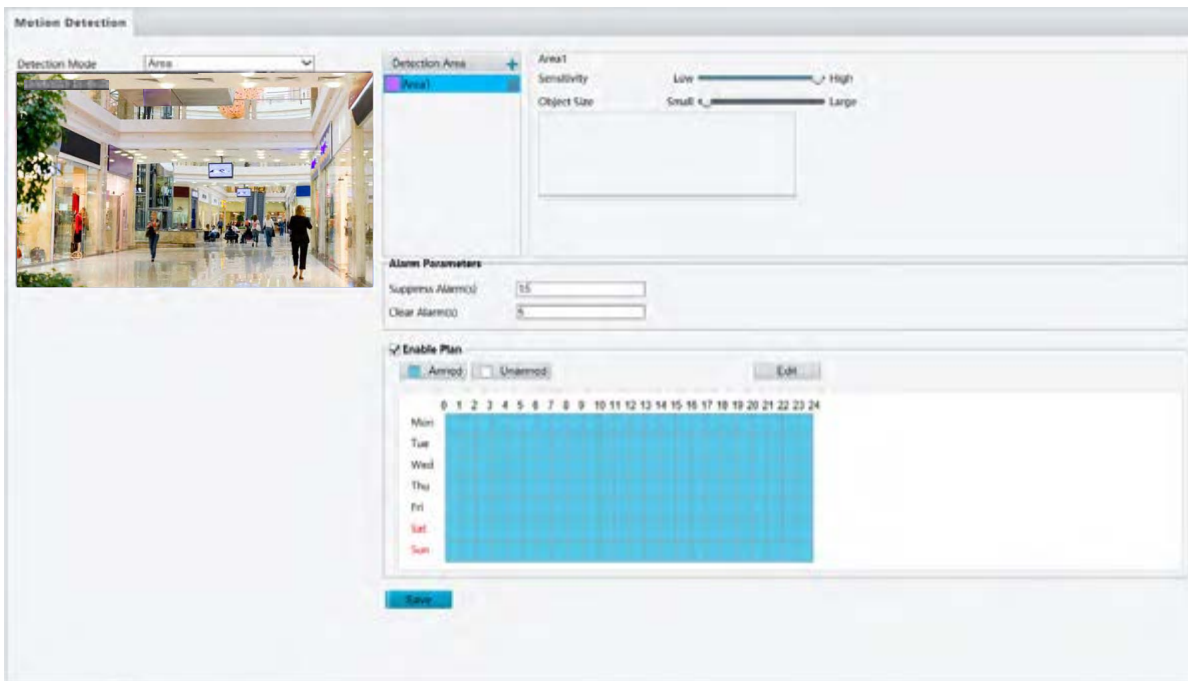




NOTE!

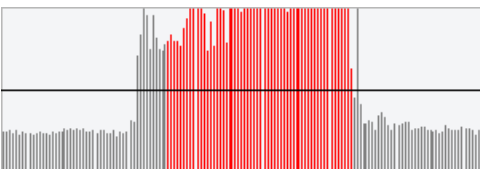
- This function is not supported by some models. Please see the actual model for details.
- The alarm triggered actions may vary with models. Please see the actual Web interface for details.

Area Detection

1. Click **Setup > Events > Common Alarm > Motion Detection**. Set **Detection Mode** to **Area**.

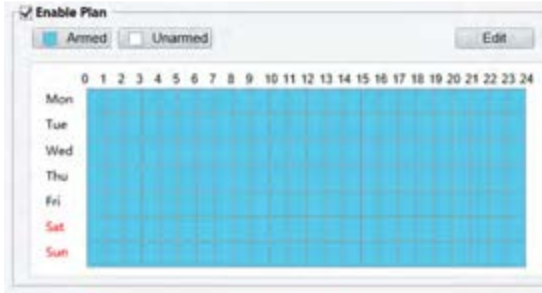



2. In the **Detection Area** area, click  to add a new detection area. To delete a detection area, click .
3. Click and drag the mouse to set a detection area.
4. Set the detection sensitivity, object size, and history for the camera to decide whether to report a motion detection alarm.
 - Moving the slider to the right increases detection sensitivity. When the extent of motion within the detection area exceeds the set object size, the camera reports an alarm.
 - Object size specifies the minimum ratio of the object's size to the size of the total detection area before an alarm will be reported. That is to say, to detect motion of tiny objects, you need to draw a small box (detection area) in the actual motion area accordingly.
 - 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 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.
6. Set actions to be triggered by motion detection alarm and the plan.

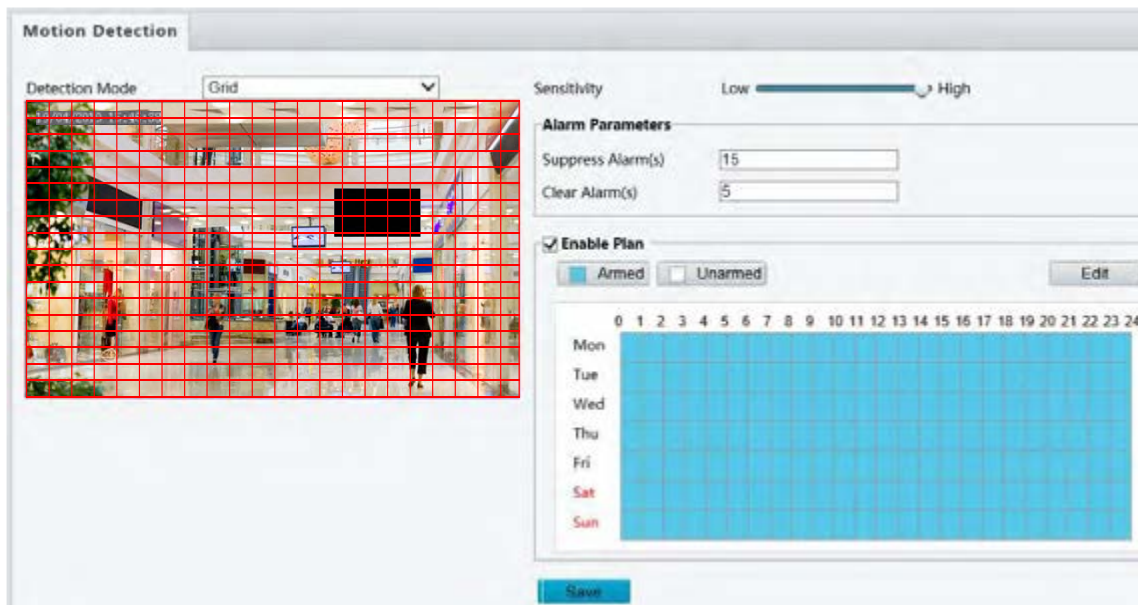
The following table describes the triggered actions and how to set a plan.

Item	Description
Upload to FTP	<p>With Upload to FTP selected, the camera will automatically upload snapshots to the specified FTP server when an alarm is triggered.</p> <p>Note: Make sure you have completed FTP and Snapshot before using this function (This function is not supported by some models).</p>
Trigger E-mail	<p>With Trigger E-mail selected, the camera will automatically send snapshots to the specified E-mail address when an alarm is triggered.</p> <p>Note: Make sure you have completed E-Mail before using this function (This function is not supported by some models).</p>
Enable Plan	<p>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 Edit to edit time periods in the table. The time periods cannot overlap. The camera reports alarms during the specified period(s) only.</p> <p>You can select from Monday to Sunday and set four periods for each day.</p> <div style="display: flex; justify-content: space-around;"> <div>  </div> <div>  </div> </div> <p style="text-align: center; margin-top: 10px;"> Drag the mouse to draw a plan Edit time periods in the table </p> <p>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.</p>

7. Click **Save**.

Grid Detection

1. Click **Setup > Events > Motion Detection**. Set **Detection Mode** to **Grid**.



2. Detection area(s) can be irregular on the grid.
3. Set detection sensitivity for the camera to decide whether to report a motion detection alarm (alarm visible on compatible NVR).
4. Set 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. For the detailed steps, see the descriptions of alarm-triggered actions in [Area Detection](#) in [Configuring Motion Detection Alarm](#).
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 > Common Alarm > Tampering Alarm**.

2. Select **On** 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**.

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 32 common users are allowed in the system.

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

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	80
HTTPS Port	443
RTSP Port	554

2. Enter the port number in the **HTTPS Port** text box.
3. Click **Save**.
4. Click **Setup > Security > Network Security > HTTPS**.

HTTPS On Off

SSL Certificate

5. Select **On** for **HTTPS**. You may import a custom SSL certificate as needed.
6. Click **Save**.

Next time you log in, enter the address in *https://IP:HTTPS port number* format, for example, *https://192.168.1.13:443* to enter secure channel mode. If you use the default HTTPS port, enter <https://IP>.

Authentication

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

1. Click **Setup > Security > Network Security > Authentication**. HTTP authentication supports Basic mode, which is compatible with Digest mode and displayed as Basic/Digest on the Web.

Authentication

RTSP Authentication ▼

HTTP Authentication ▼

2. Select an authentication mode and then click **Save**.

APR Protection

This function protects a camera from ARP attacks. The gateway and the MAC address must be set properly before a PC can access the camera from another network; if an incorrect MAC is set, only PCs on the same LAN can access.



NOTE!

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

1. Click **Setup > Security > Network Security > ARP Protection**.

ARP Protection On Off
Gateway
Gateway MAC Address

2. Select the check box to enable the ARP binding function and set the gateway MAC address.
3. Click **Save**.

IP Address Filtering

Use IP address filtering to allow or forbid access from specified IP address (es).



NOTE!

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

1. Click **Setup > Security > Network Security > IP Address Filtering**.

IP Address Filtering On Off
Filtering Mode

No.	IP Address
1	<input type="text" value="1.1.1.1"/>

2. Select **On** to enable IP address filtering.
3. Select a filtering mode, and then add IP address (es).
4. Click **Save**.



NOTE!

- If **Filtering Mode** is set to **Whitelist**, then only the added IP address (es) are allowed to access the camera. If **Filtering Mode** is set to **Deny Access**, then only the added IP address (es) are not allowed to access the camera.
- Up to 32 IP addresses are allowed. Each IP address can be added once only.
- The first byte of each IP address must be 1-223, and the fourth cannot be 0. For example, the following IP addresses are illegal and cannot be added: 0.0.0.0, 127.0.0.1, 255.255.255.255, 224.0.0.1.

Access Policy



NOTE!

Enabling friendly password does not affect use. If you turn it off and log in with a weak password, a page will pop up, prompting you to change the password. There is no Cancel or Close button on this page. The default password is treated as weak. This function is not supported by some models. Please see the actual model for details.

1. Click **Setup > Security > Network Security > Access Policy**.

The screenshot shows the 'Access Policy' configuration page. It contains three rows of settings, each with a label and two radio buttons: 'On' (selected) and 'Off'. The settings are: 'Friendly Password', 'MAC Authentication', and 'Illegal Login Lock'. Below these settings is a blue 'Save' button.

2. Select **On** to enable friendly password and MAC Authentication.
3. Click **Save**.

Watermark

Use watermark to encrypt custom information with video to prevent unauthorized delete or alteration.



NOTE!

Only some camera models support this function.

1. Click **Setup > Security > Watermark**.

The screenshot shows the 'Watermark' configuration page. It features a 'Watermark' label with two radio buttons: 'On' (selected) and 'Off'. Below this is a 'Watermark Content' label followed by a text input field containing 'ABC'. A blue 'Save' button is located at the bottom left.

2. Select **On** to enable watermark, and then input watermark content.
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.

The screenshot shows the 'System Time' configuration page. It includes three rows of settings: 'Sync Mode' with a dropdown menu set to 'Sync with Latest Server Time', 'Time Zone' with a dropdown menu set to '(UTC) London, Casablanca, Coordinated Universal Time', and 'System Time' with a text input field showing '2019-04-22 08:02:12' and a 'Sync with Computer Time' button. A blue 'Save' button is at the bottom left.

2. Select a synchronization mode.
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**.

Setting the DST

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

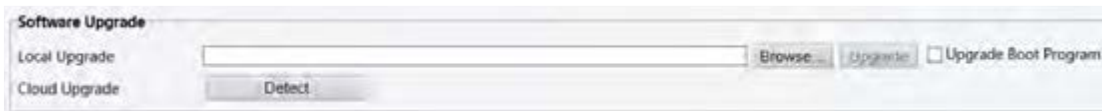


2. Select **On** for **DST**, set the start time, end time, and DST bias.
3. Click **Save**.

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. Some devices support boot program upgrade. To upgrade, select **Upgrade Boot Program**.
4. You may click **Detect** to check for new versions available to cloud upgrade.

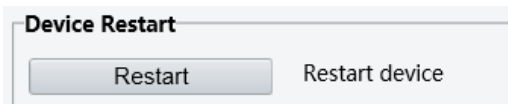


NOTE!

- 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**.



2. Under **Device Restart**, click **Restart**. The device will restart after you confirm the operation.



CAUTION!

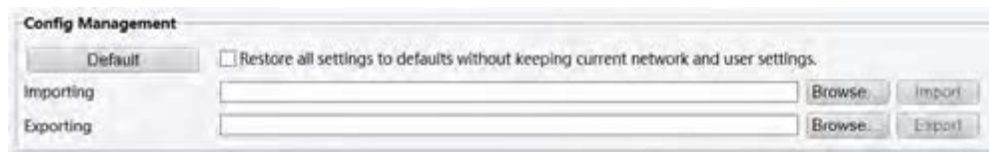
Perform this operation with caution because restarting the system interrupts the ongoing service.

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.

- i 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**.

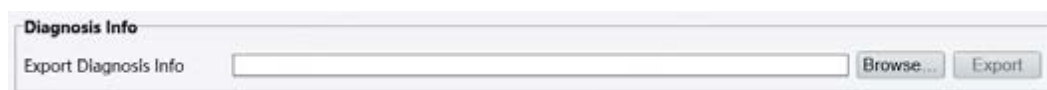


2. To import configurations that you have backed up, click **Browse** next to the **Import** button and select the configurations you want to import, and then click **Import**. The result will be displayed.
3. To export current system configurations, click **Browse** (next to the **Exporting** field), set the destination 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. Clicking **Default** with the check box selected will completely restore the device to factory default settings.

Collecting Diagnosis Information

Diagnosis information includes logs and system configurations. You can export diagnosis information to your PC.

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



2. In the **Diagnosis Info** area, click **Browse** to set the destination and then click **Export**.



NOTE!

- Diagnosis 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.
- By selecting **Collect Image Debugging Info**, you can display video with debugging information at the same time, which makes troubleshooting easier (This function is not supported by some models).

4 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.




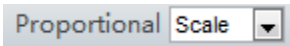


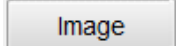


Live View Toolbar



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. Note: The path for saving snapshots are set in System Configuration .
	Start/stop local recording.

Button	Description
	Note: The path for saving local recordings is set in System Configuration .
	Start/stop digital zoom. For more details, see Using Digital Zoom .
	Set image display ratio in the window. For example, to display high-definition images at original 16:9, select Scale ; to display according to window size, select Stretch ; to display with the original image size, select Original .
	Reset the packet loss rate to zero. Note: After you move the mouse cursor on a live view window, this button appears on the floating toolbar.
	Display packet loss rate and bit rate information at the bottom of the window. Note: After you move the mouse cursor on a live view window, this button appears on the floating toolbar. Click this button to always display the information. With another click, the information appears only when you move the mouse cursor over the window or place it at the bottom. If the mouse cursor rests on the window for around 3 seconds or leaves the window, the information disappears.
	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.

Viewing Certain Area of Images


Digital zoom, area focus 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




NOTE!

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

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



2. Click and hold the mouse button, and then drag from top down (draw a rectangle) to specify an area. To restore the original image size and zoom in on other areas of the image, right-click the mouse.
3. To exit, click .

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 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.