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Network Camera

User Manual

CNB TECHNOLOGY Inc.

ALPHA 300
EXCELLENCE IN IP VIDEO

3810-UT01A (v101216E)

Thank you for purchasing our product. Contact your local dealer if you have any questions or feedback. No part of this manual may be copied, reproduced, translated, or distributed in any form or by any means without prior consent in writing from our company.

Disclaimer

CAUTION!
The default password is intended only for your first login and should be changed to a strong one With at least eight characters including upper and lower case letters, digits and symbols to ensure account security.

- 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.
- Use of this manual and the product and the subsequent result shall be entirely on the user’s own responsibility. In no event shall we be reliable to you for any special, consequential, incidental, or indirect damages, including, among others, damages for loss of business profits, business interruption, or loss of data or documentation, or product malfunction or information leakage caused by cyber attack, hacking or virus in connection with the use of this product.
- 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.

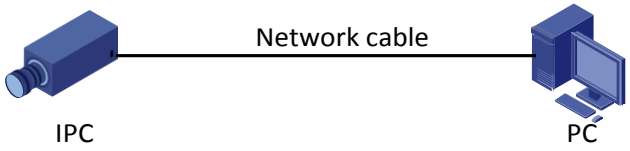
Symbol	Description
 **WARNING!**	Indicates a hazardous situation which, if not avoided, could result in bodily injury or death.
 **CAUTION!**	Indicates a situation which, if not avoided, could result in damage, data loss or malfunction to product.
 **NOTE!**	Means useful or supplemental information about the use of product.

Contents

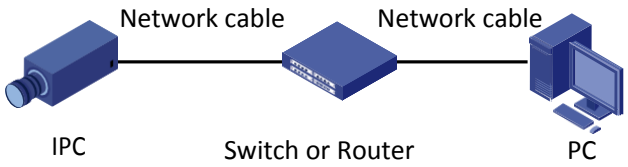
PC

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 the video management software. Internet Explorer (IE) is a recommended web browser. Please contact your dealer to get the video management software. Please refer to the user manual of video management software for detailed information.

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.
- (Optional) The resolution is set to 1440 x 900.

Username and Password

- Default Username : **root**
- Default Password : **admin**

NOTE!

- 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.

Introduction to the Web Interface

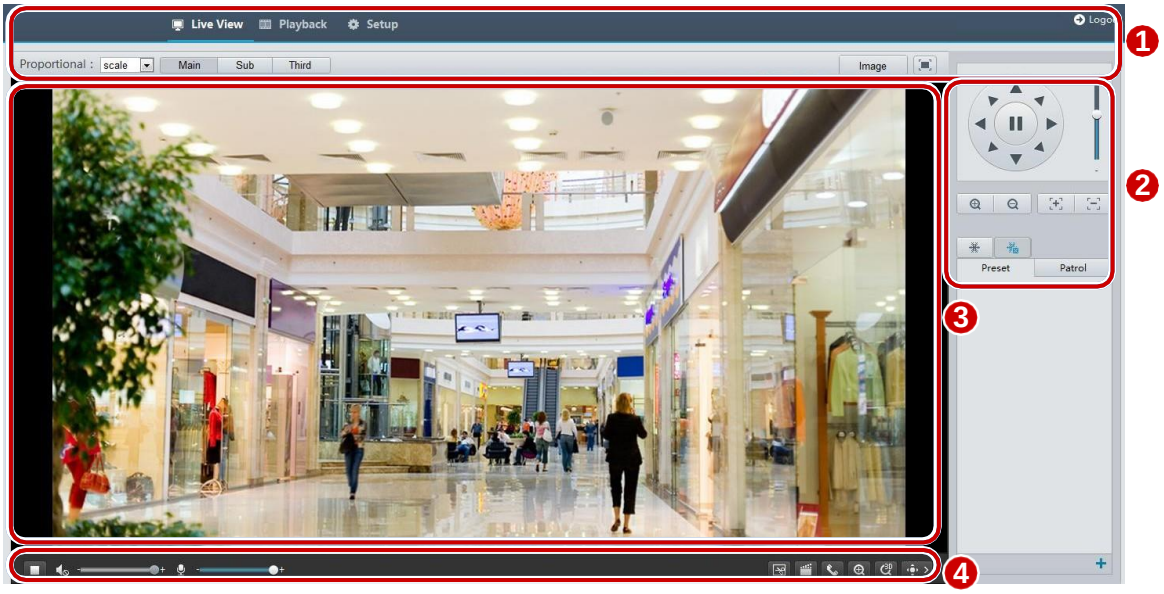
By default the live view window is displayed when you are logged in to the Web interface. The following shows an example.

Initial Configuration

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

Item	Description
1. Set the TCP/IP address for the device.	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) Setting the servers.	Set the management server based on the actual networking.
5. Set OSD.	Set the information displayed on the screen as needed, for example, time.
6. (Optional) Manage users.	Change the default password and add common users as needed.
7. Set fisheye camera parameters (only for fisheye cameras).	Set the installation method for the fisheye cameras as needed.

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



No.	Description
1	Menu
2	PTZ control area **Note:** This area is available for PTZ dome cameras and PTZ cameras.
3	Live view window
4	Live view toolbar

NOTE!

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

3 Configuring Parameters

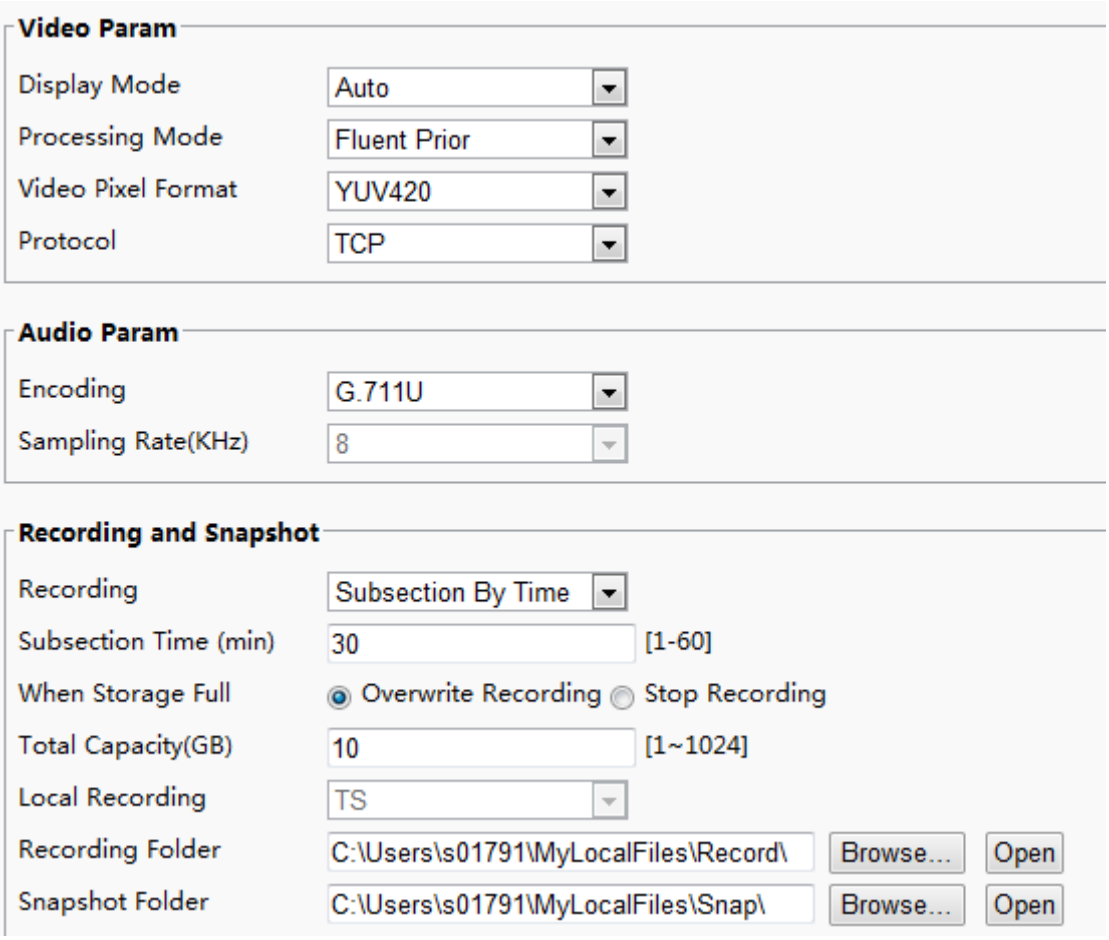
Local Parameters

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 Param	Processing Mode	• Real Time Prior: Recommended if the network is in good condition. • Fluent Prior: Recommended if you want short time lag for live video. • Ultra-low Delay: Recommended if you want the minimum time lag for live video.
	Video Pixel Format	Set the video format for images on the PC client. **Note:** It is recommended to choose **YUV420** if the graphic card of your PC supports it. **RGB32** is only supported by some low-version graphic cards.
	Protocol	Set the protocol used to transmit media streams to be decoded by the PC.
Record and Snapshot	Recording	• Subsection By Time: Duration of recorded video for each recording file on the computer. For example, 2 minutes. • Subsection By Size: Size of each recording file stored on the computer. For example, 5M.
	When Storage Full	• Overwrite Recording: 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. • Stop Recording: When the assigned storage space on the computer is full, recording stops automatically.

3. Click **OK**.

Network Configuration

TCP/IP

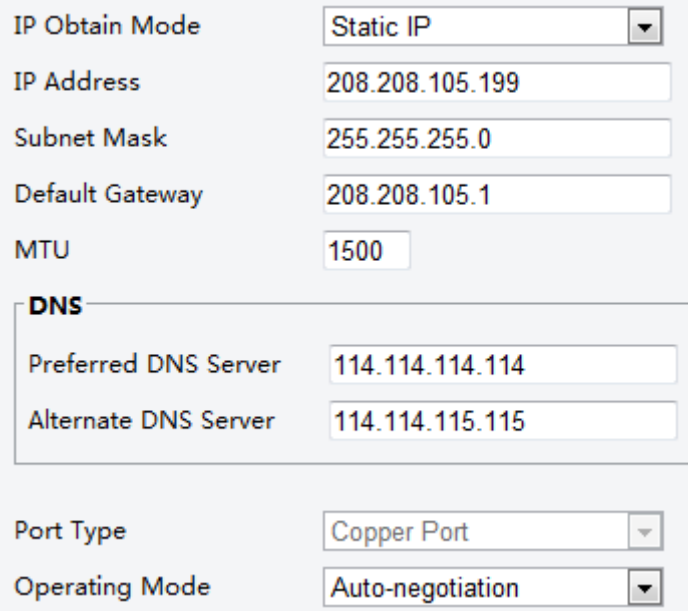
Modify communication settings such as the IP address for the camera so that the camera can communicate with other devices.

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

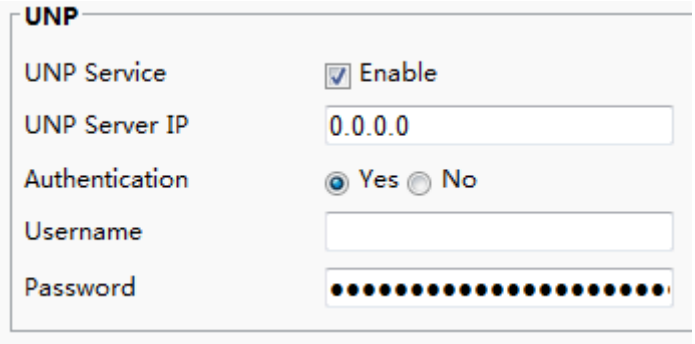
1. Click **Setup** > **Network** > **TCP/IP**.



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

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

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



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

NOTE!

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

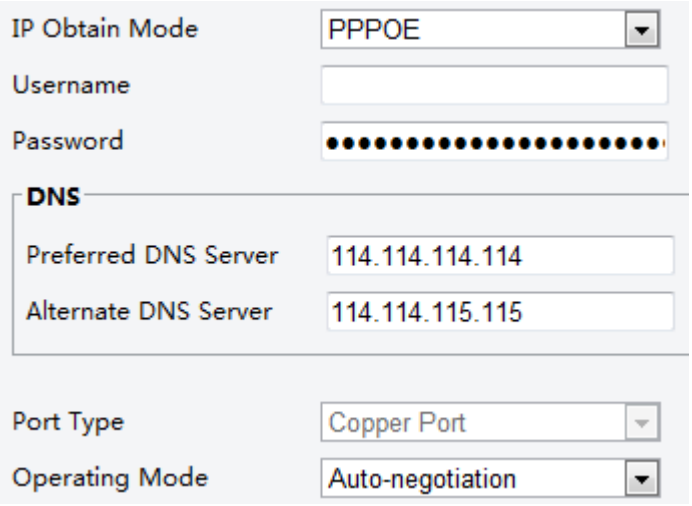
PPPoE

NOTE!

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

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

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



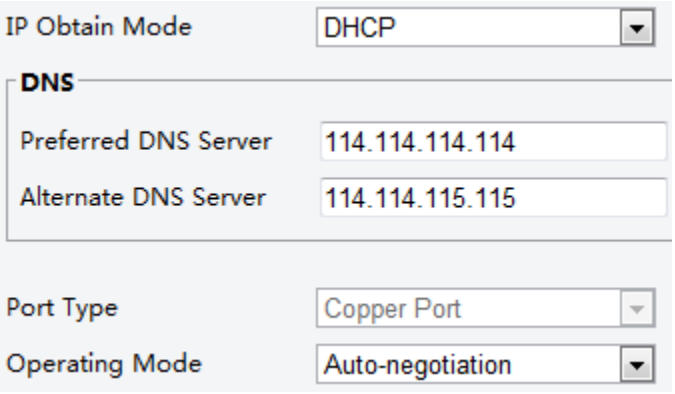
2. Select **PPPoE** from the **IP Obtain Mode** drop-down list.
3. Enter the username and password provided by your internet Service Provider (ISP).
4. Click **Save**.

DHCP

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

To manually configure DHCP, follow the steps below:

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



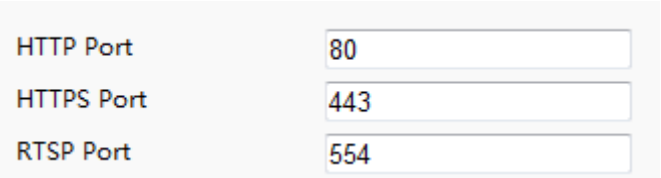
2. Select **DHCP** from the **IP Obtain Mode** drop-down list.
3. Click **Save**.

Port

NOTE!

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

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



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

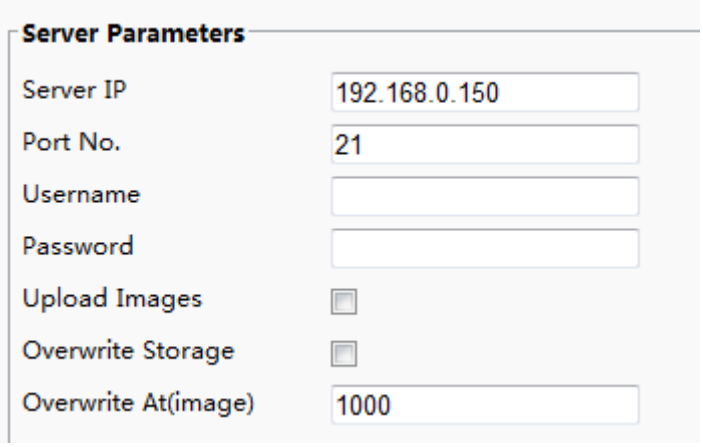
NOTE!

If the entered HTTP port number has been occupied, a prompt message will be displayed as **Port conflicts. Please try again.** 23, 81, 82, 85, 3260 and 49152 are occupied by default. And other occupied ports will be detected automatically.

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**.

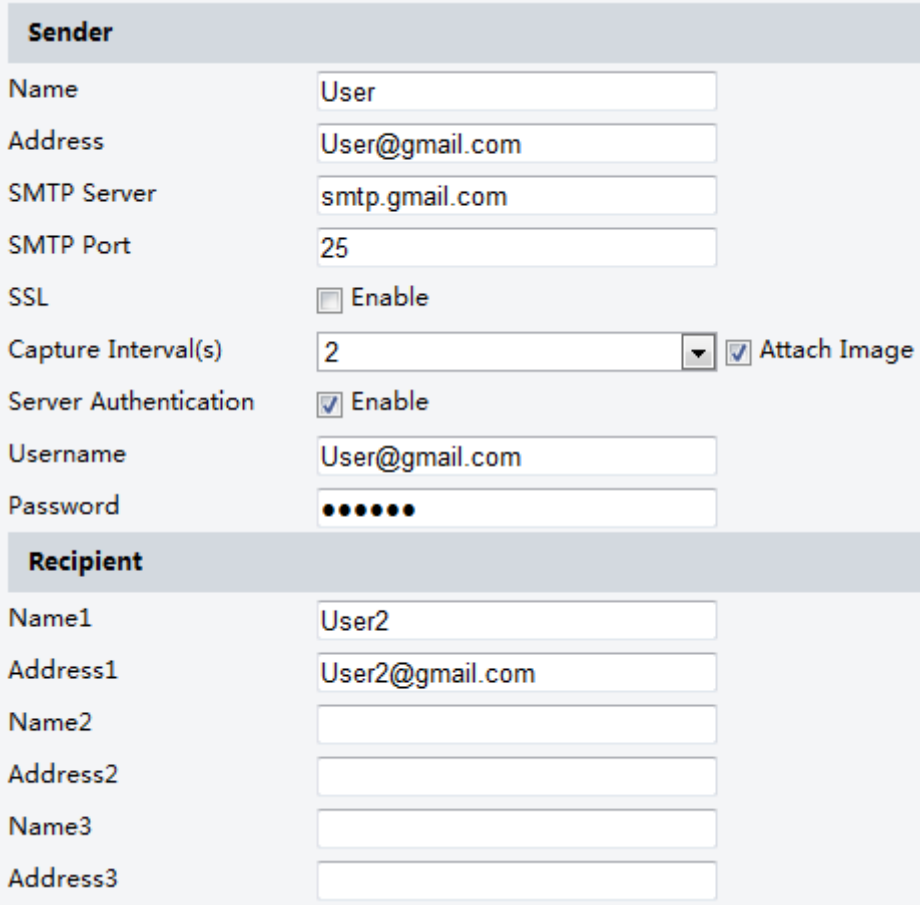


2. Configure the IP address, port number of the FTP server, the username and password of the upload account, enable **Upload Images** and **Overwrite Storage**, and then set the overwrite image threshold.
3. Click **Save**.

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.**



2. Configure relevant parameters of the sender and the recipient

The following table describes some major parameters.

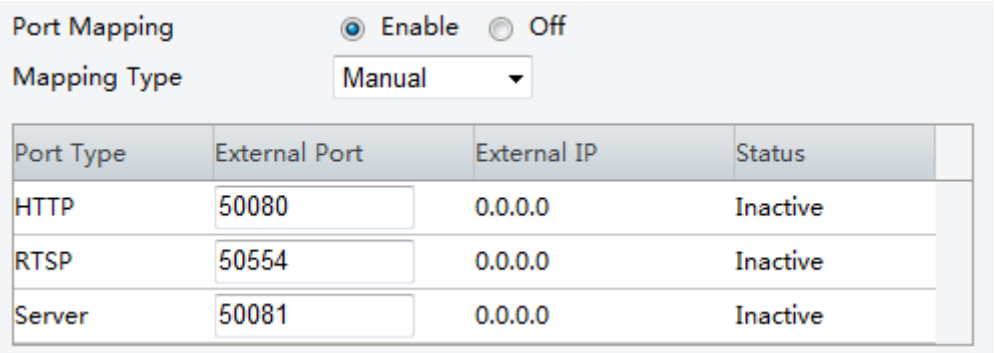
Parameter	Description
SSL	When enabled, the e-mail will be sent through SSL encryption.

Parameter	Description
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**.



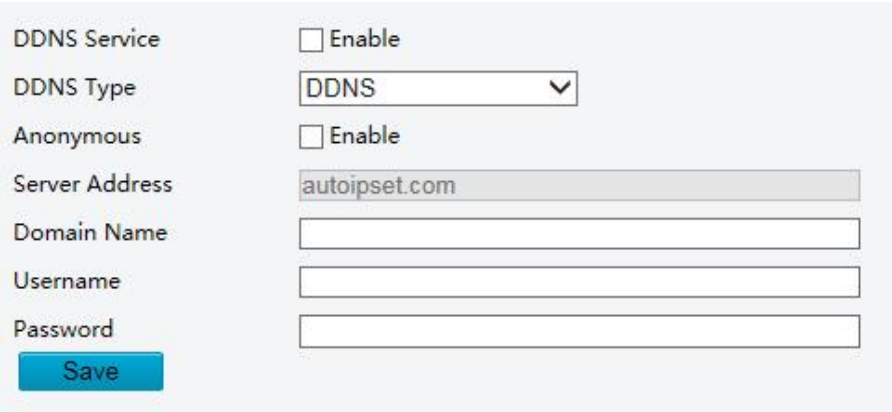
2. Enable **Port Mapping** and select mapping type. If **Manual** is selected, then external ports must be configured (external IP is obtained automatically by the camera). If the configured port is occupied, then the **Status** will show Inactive.
3. Click **Save**.

DDNS

NOTE!

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

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



2. Enable **DDNS Service**.
3. Click **Save**.

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.

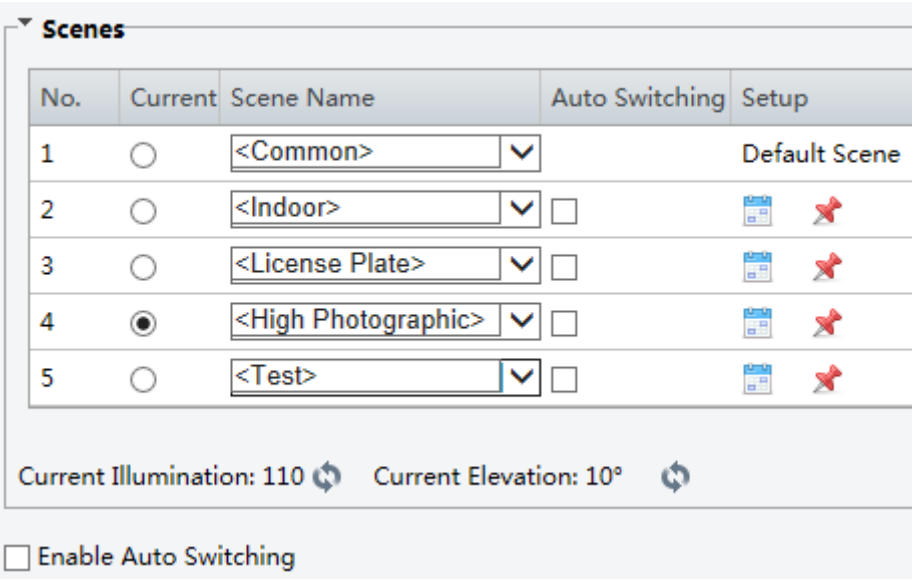
Setting the Scene

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

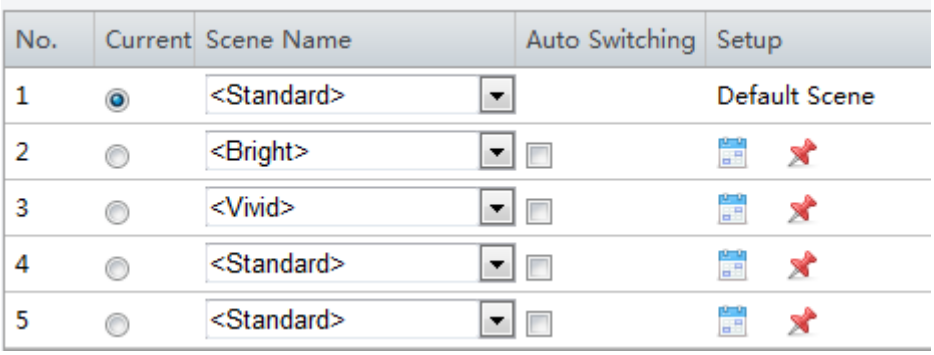
Click **Setup** > **Image** > **Image**.

The scene management page 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.



The Web interface of certain models is displayed as follows.



1. Click **Scenes**.

2. 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. **Note**: • Select an option button to switch to the scene and display the corresponding image parameters for the scene. • The camera switches the current scene automatically when **Enable Auto Switching** is selected.
Scene Name	Name of the current scene. The device provides several preset scene modes. When you select a scene, the corresponding image parameters are displayed. You can adjust image settings according to actual needs. • Common: recommended for outdoor scenes • Indoor: recommended for indoor scenes • License Plate: recommended for plate snapshot on roads • High Sensitivity: recommended for scenes with low light • Highlight Suppression: recommended for scenes with intense light, for example, it is used to reduce the car light to snapshot the license plate • WDR: recommended for scenes with high-contrast lighting, such as window, corridor, front door or other scenes that are bright outside but dim inside • Custom: set a scene name as needed • Standard: default image settings • Vivid: increase the saturation of the image based on the standard mode • Bright: increase the brightness of the image based on the standard mode
Auto Switching	Indicates whether to add a scene to the auto-switching list. **Note**: If **Auto Switching** is selected, the system switches to a scene automatically when the condition for switching to the scene is met. By default the auto-switching list includes the default scene.
Setup	Click  to set conditions for auto-switching, including schedule, illumination, and current elevation (angle between the PTZ and the horizontal direction). It means that auto-switching is triggered only when illumination and the current elevation during the set time period meet the set conditions. A condition is invalid if both the start and end values are set to 0.

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!

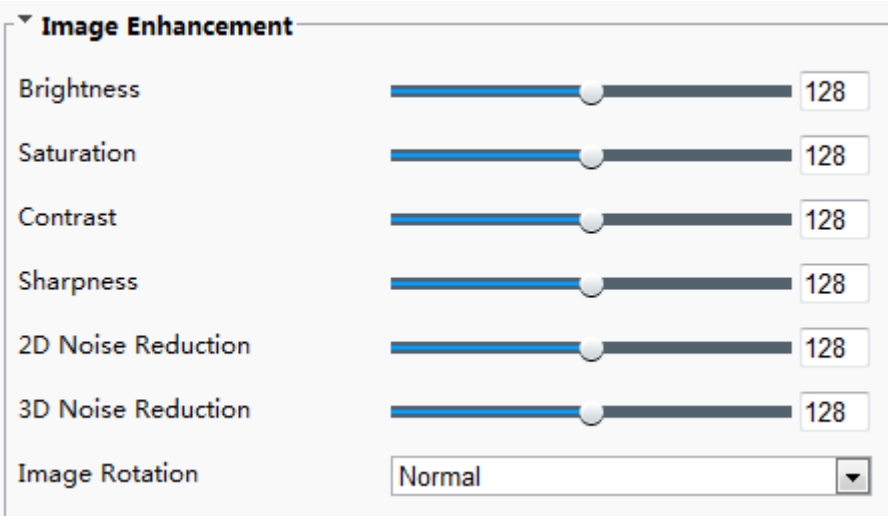
- If Auto Switching is enabled (scene settings will be unavailable), the device will switch between the set scenes. If not, the device will stay at the current scene. The device will stay at default scenes unless the non-default scenes are triggered.
- If multiple non-default scenes are triggered, then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

Image Enhancement

NOTE!

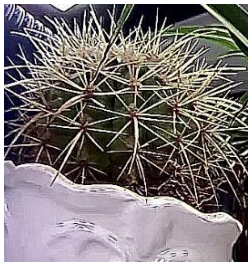
This function may vary with models, please see actual Web interface for details.

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	Set the degree of brightness of images.   Low brightness High brightness
Saturation	The amount of a hue contained in a color.   Low saturation High saturation

Item	Description
Contrast	Set the degree of difference between the blackest pixel and the whitest pixel.   Low contrast High contrast
Hue	Overall tendency of colors in an image.   Normal hue Other hue
Sharpness	Contrast of boundaries of objects in an image.   Low sharpness High sharpness
2D Noise Reduction	Reduce the noise of images. The function may cause image blurring.
3D Noise Reduction	Reduce the noise of images. The function may cause motion blur (or ghosting in some applications).
Image Rotation	Rotation of the image.   Normal Flip Vertical

Item	Description
	 Flip Horizontal  180°  90° Clockwise  90° Anti-clockwise

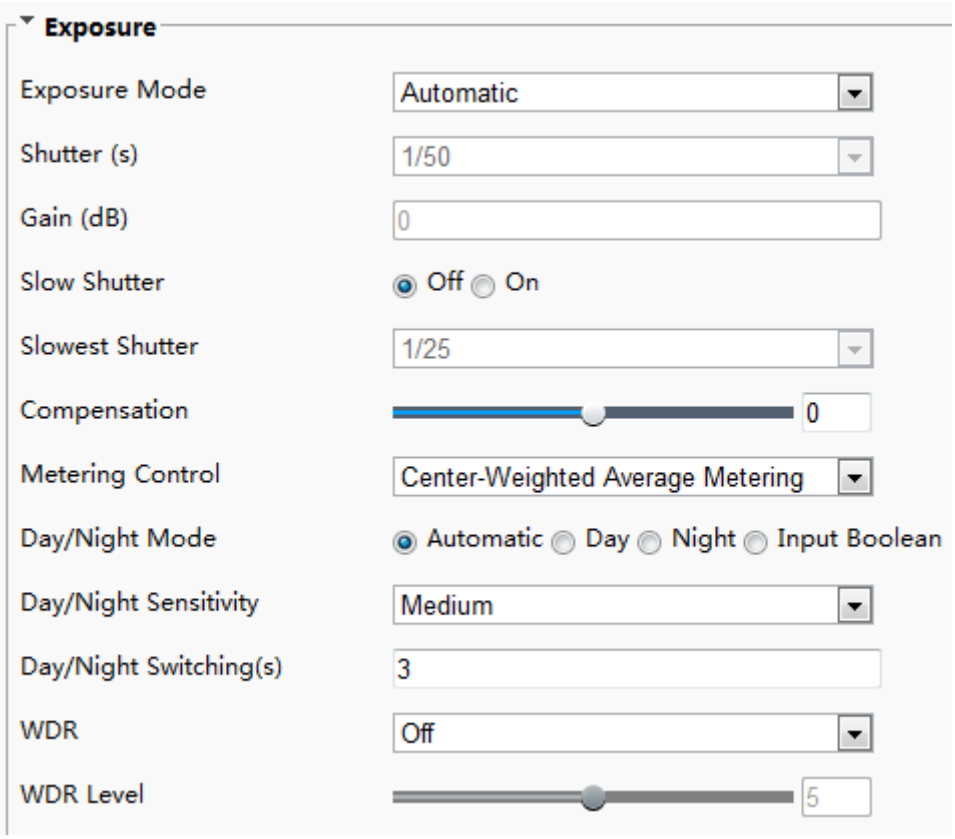
3. To restore default settings in this area, click **Default**.

Exposure

NOTE!

- This function may vary with models, please see actual Web interface for details.
- The default settings are used for common scenes. Keep the default settings unless a particular scene is required.

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.
Shutter (s)	Shutter is used to control the light that comes into the lens. A fast shutter speed is ideal for scenes in quick motion. A slow shutter speed is ideal for scenes that change slowly. **Note**: • You can set a shutter speed when **Exposure Mode** is set to **Manual** or **Shutter Priority**. • If **Slow Shutter** is set to **Off**, the reciprocal of the shutter speed must be greater than the frame rate.
Gain (dB)	Control image signals so that the camera outputs standard video signals according to the light condition. **Note:** You can set this parameter only when **Exposure Mode** is set to **Manual** or **Gain Priority**.
Slow Shutter	Improves image brightness in low light conditions. **Note:** You can set this parameter only when **Exposure Mode** is not set to **Shutter Priority** and when **Image Stabilizer** is disabled.
Slowest Shutter	Set the slowest shutter speed that the camera can use during exposure. **Note:** You can set this parameter only when **Slow Shutter** is set to **On**.
Compensation	Adjust the compensation value as required to achieve the desired effects. **Note:** You can set this parameter only when **Exposure Mode** is not set to **Manual**.

Parameter	Description
Metering Control	Set the way the camera measures the intensity of light. • Center-Weighted Average Metering: Measure light mainly in the central part of images. • Evaluative Metering: Measure light in the customized area of images. • Highlight compensation: Ignore the brightness of the overexposed area of images. But selecting this setting will decrease the overall brightness of the image. **Note:** You can set this parameter only when **Exposure Mode** is not set to **Manual**.
Day/Night Mode	• Automatic: The camera outputs the optimum images according to the light condition. In this mode, the camera can switch between night mode and day mode automatically. • Night: The camera provides high-quality black and white images using the existing light • Day: The camera provides high-quality color images using the existing light. • Input Boolean: The camera switches between day mode and night mode based on the alarm input.
Day/Night Sensitivity	Light threshold for switching between day mode and night mode. A higher sensitivity means that the camera is more sensitive to the change of light and becomes more easily to switch between day mode and night mode. **Note:** You can set this parameter only when **Day/Night Mode** is set to **Automatic.**
Day/Night Switching(s)	Set the length of time before the camera switches between day mode and night mode after the conditions for switching are met. **Note:** You can set this parameter only when **Day/Night Mode** is set to **Automatic.**
WDR	Enable WDR to distinguish the bright and dark areas in the same image. **Note:** You can set this parameter only when **Exposure Mode** is set to **Automatic**, **Indoor 50Hz**, **Indoor 60Hz** and when **Image Stabilizer** and **Defog** is disabled**.**
WDR Level	After enabling the WDR function, you can improve the image by adjusting the WDR level. **Note:** Use level 7 or higher when there is a high contrast between the bright and dark areas of the scene. In the case of low contrast, it is recommended to disable WDR or use level 1-6.

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

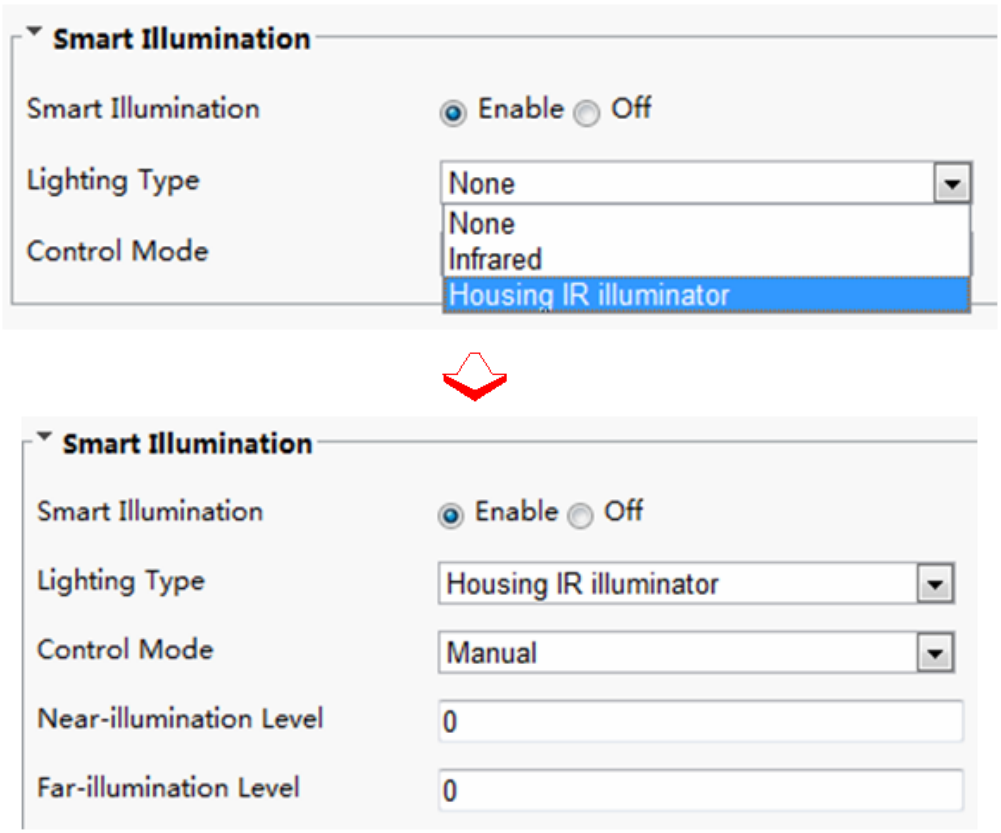
Smart Illumination

NOTE!

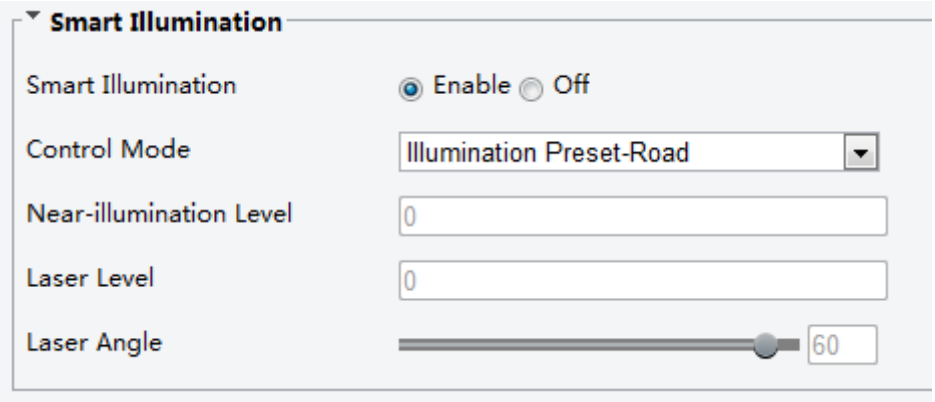
This function may vary with models, please see actual Web interface for details.

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

The Web interface of certain box camera model is displayed as follows. Select the corresponding lightning type and then configure other parameters.



The Web interface of certain network camera model is displayed as follows. Follow steps below to configure the illumination parameters.



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

Parameter	Description
Control Mode	• **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. • **Illumination Preset-Road**: This mode offers strong illumination in whole and is recommended for monitoring wide-ranging scenes, for example, road. • **Illumination Preset-Park**: This mode offers uniform light and is recommended for monitoring small range scenes with many obstacles, for example, industrial parks. • **Manual**: This mode allows you to manually control the intensity of IR illumination. • **Indoor**: This mode is recommended for application in indoor scenes.
Illumination Level	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. **Note**: • You can set this parameter only when **Control Mode** is set to **Manual**. • You are recommended to set this parameter first for a wide-angle scene. • You are recommended to set this parameter first if the scene requires an intermediate focal length. • You are recommended to set this parameter first if the scene requires a telephoto view.

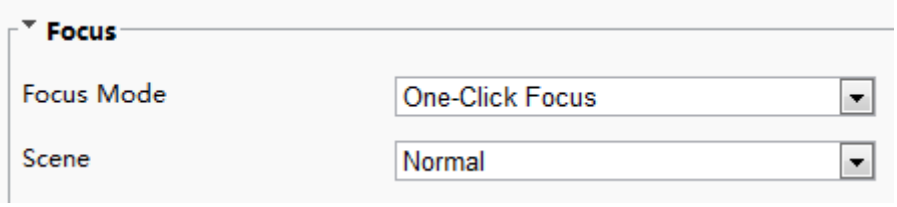
3. To restore the default settings, click **Default**.

Focus

NOTE!

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

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



2. Select the focus mode as required.

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

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

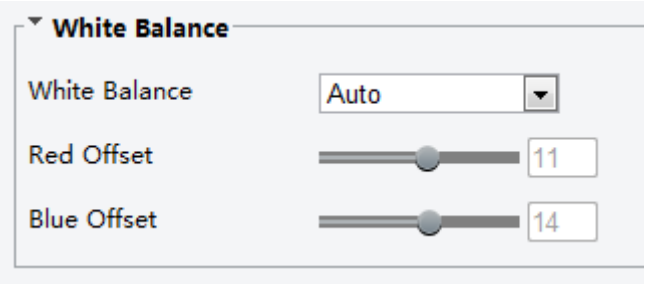
White Balance

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.

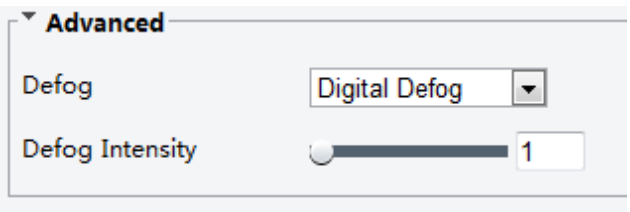
Parameter	Description
White Balance	Adjust the red or blue offset of the image: • Auto: The camera adjusts the red and blue offset automatically according to the light condition (the color tends to be blue). • Fine Tune: Allow you to adjust the red and blue offset manually. • Sodium Lamp: The camera adjusts red and blue offset automatically according to the light condition (the color tends to be red). • Outdoor: It is recommended for the outdoor scenes with a wide range of the color temperature variation • Locked: Lock the current color temperature settings without adjustment.
Red Offset	Adjust the red offset manually. **Note**: You can set this parameter only when **White Balance** is set to **Fine Tune**.
Blue Offset	Adjust the blue offset manually. **Note**: You can set this parameter only when **White Balance** is set to **Fine Tune**.

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

Defog

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

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



NOTE!

This function can be configured only when WDR is disabled.

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.

Digital Defog Off

Digital Defog On

Optical Defog Off

Optical Defog On

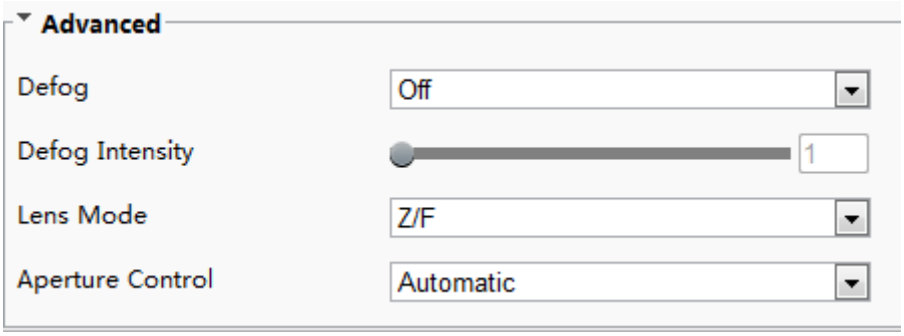
3. To restore the default settings, click **Default**.

Configuring Iris and Lens

NOTE!

- This function is only supported by certain network box camera types, please see the actual model for details.
- When using the lens with P-Iris control mode that supports Z/F function, connect the iris control cable to the Z/F port of the camera. When using the lens with DC-Iris control mode that does not support Z/F function, connect the iris control cable to the IRIS port of the camera.

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



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

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

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

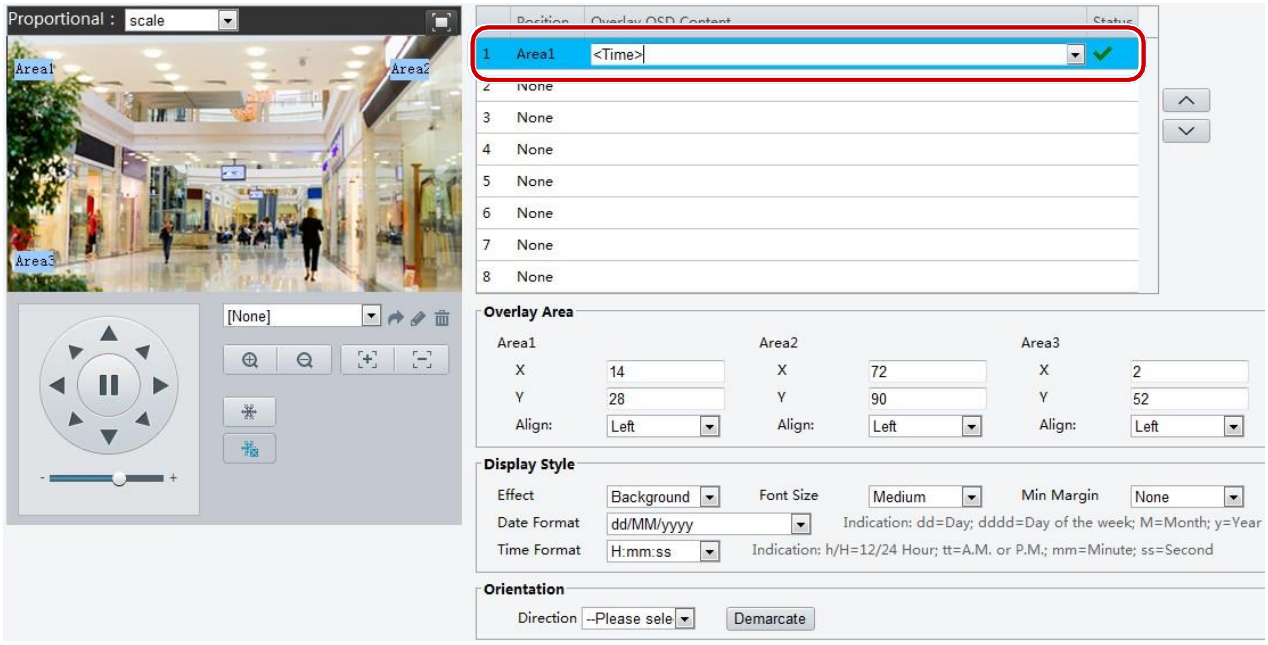
OSD Settings

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

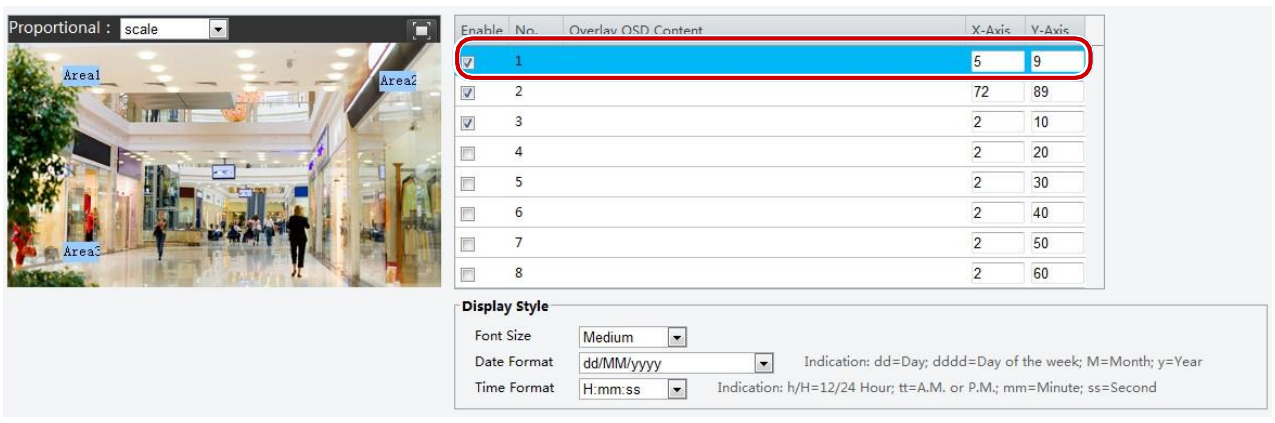
NOTE!

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

1. Click **Setup** > **Image** > **OSD**.



The OSD interface of some models is displayed as follows.



2. Select the check box, the content of the OSD and then set the position to display it.

- Position: Click the desired box in the **Live View** area. After the cursor shape is changed, click and hold the button to move the box to the desired position. To set the position precisely, use the X and Y coordinates under **Overlay Area**.
- Overlay OSD Content: The drop-down list provides **Time**, **Preset** and **Serial Info**. You may also select **Custom** and enter the content you want.
- After you have set the position and OSD content, the ✔ symbol appears in the **Status** column, which means that the OSD is set successfully. You may set multiple lines of contents for each area and use ^ and v to adjust the sequence of display.

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

You may right-click in the preview 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.

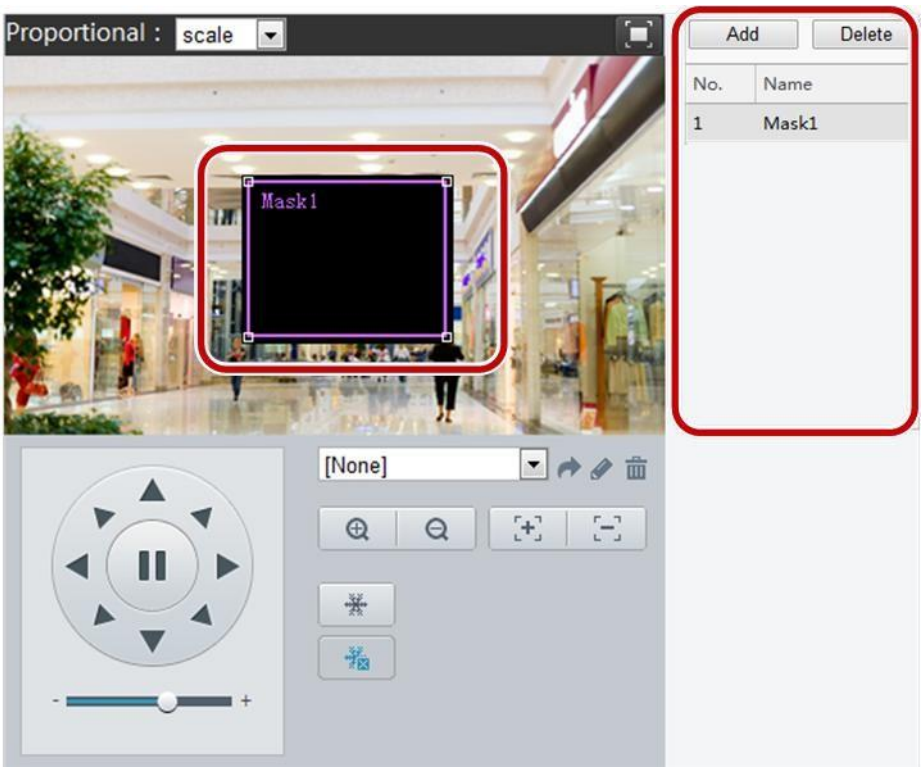
Privacy Mask

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 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.

Audio and Video Configuration

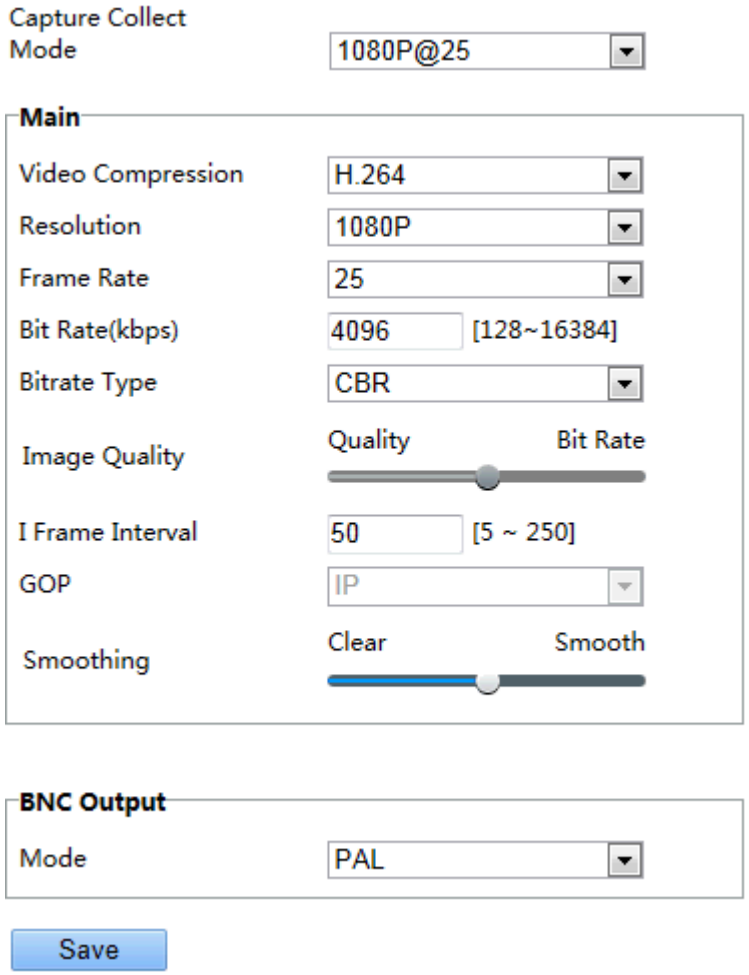
Video Configuration

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

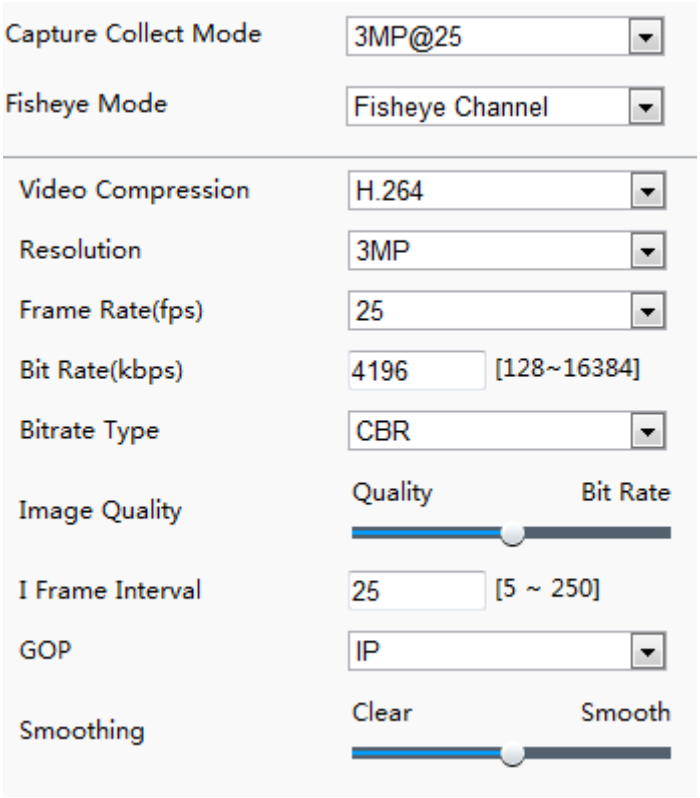
NOTE!

- 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 & Audio** > **Video**.



The Web interface of fisheye cameras is displayed as follows.



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

Parameter	Description
Fisheye Mode	• Fisheye Channel: Set the stream parameters in fisheye preview mode. • Panorama Channel: Set the stream parameters in panorama preview mode. • PTZ Channel 1/2/3/4: Set the stream parameters in 4PTZ preview mode. **Note:** This parameter is only available for the fisheye cameras.
Bitrate Type	• CBR: Constant Bit Rate, which means that the camera transmits data at a constant data rate. • VBR: Variable Bit Rate, which means that the camera adjusts the bit rate dynamically according to image quality.
Frame Rate	Frame rate for encoding images. Unit: FPS (frame per second). **Note:** To ensure image quality, note that the frame rate should not be greater than the reciprocal of shutter speed.
Image Quality	When **Encoding Mode** is **VBR**, you can move the slider to adjust quality level for images. Moving the slider toward **Bit Rate** decreases the bit rate and may affect image quality. Moving the slider toward **Quality** increases the bit rate and improves image quality.
Smoothing	Set the extent of smoothing. Choosing **Clear** means disabling **Smoothing**. Moving the slider toward **Smooth** increases the level of smoothing but will affect image quality. **Note**: In a poor network environment, you can enable smoothing to get more fluent video.
BNC Output	BNC output supports NTSC and PAL.

3. Click **Save**.

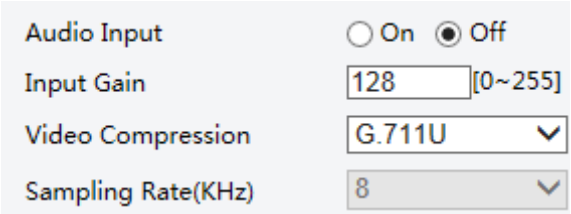
Audio Configuration

Audio configuration means setting audio encoding parameters for your camera.

NOTE!

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

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



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

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

3. Click **Save**.

ROI

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

NOTE!

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

1. Click **Setup** > **Video & Audio** > **ROI**.
2. To enable ROI, select the check box, and then use the mouse to draw an area that covers the object you want to mask.

Media Stream Configuration

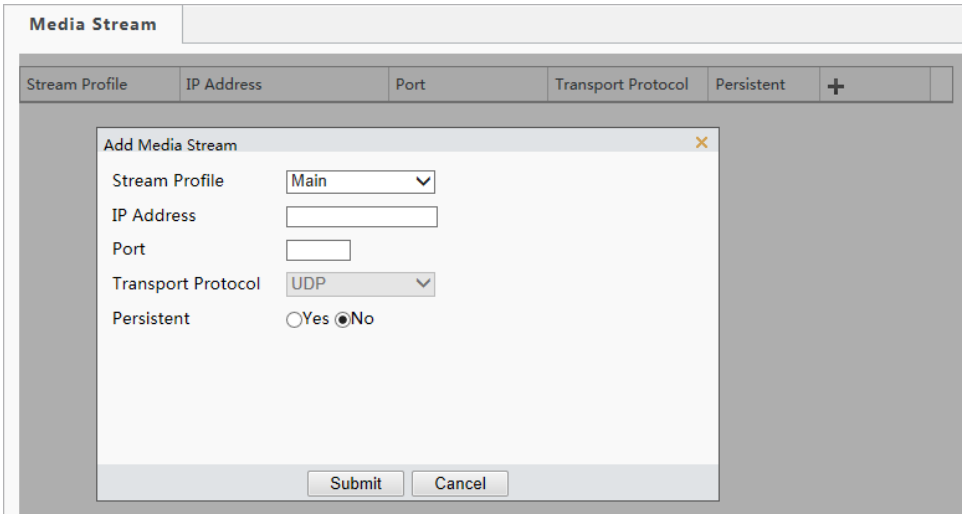
NOTE!

This function is only supported by certain models, please see the actual model for details.

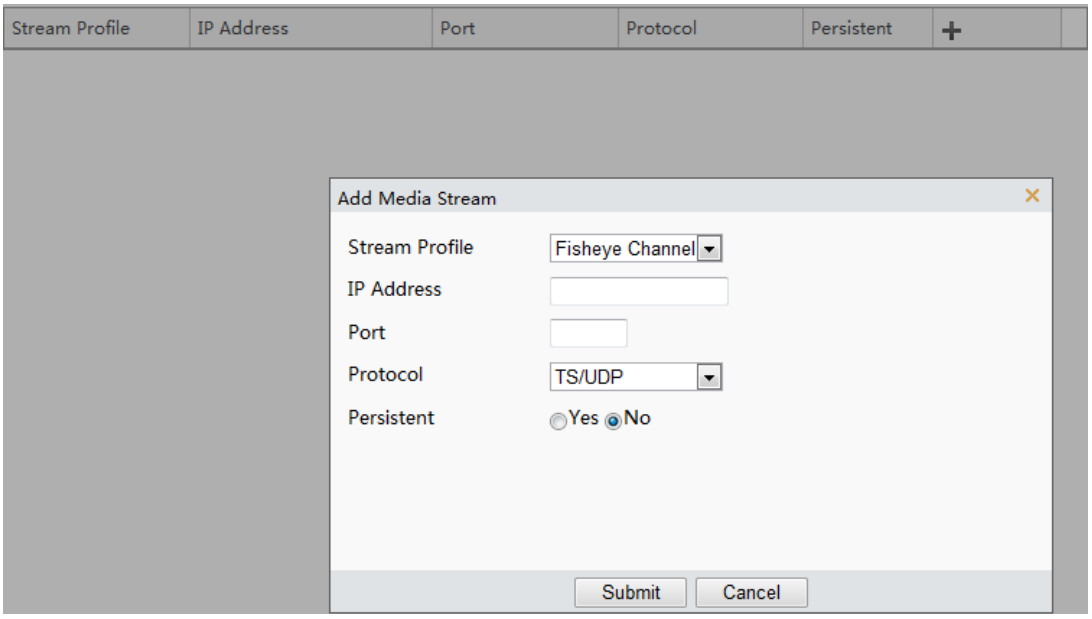
Media Stream

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.

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



The Web interface of fisheye cameras is displayed as follows.



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.

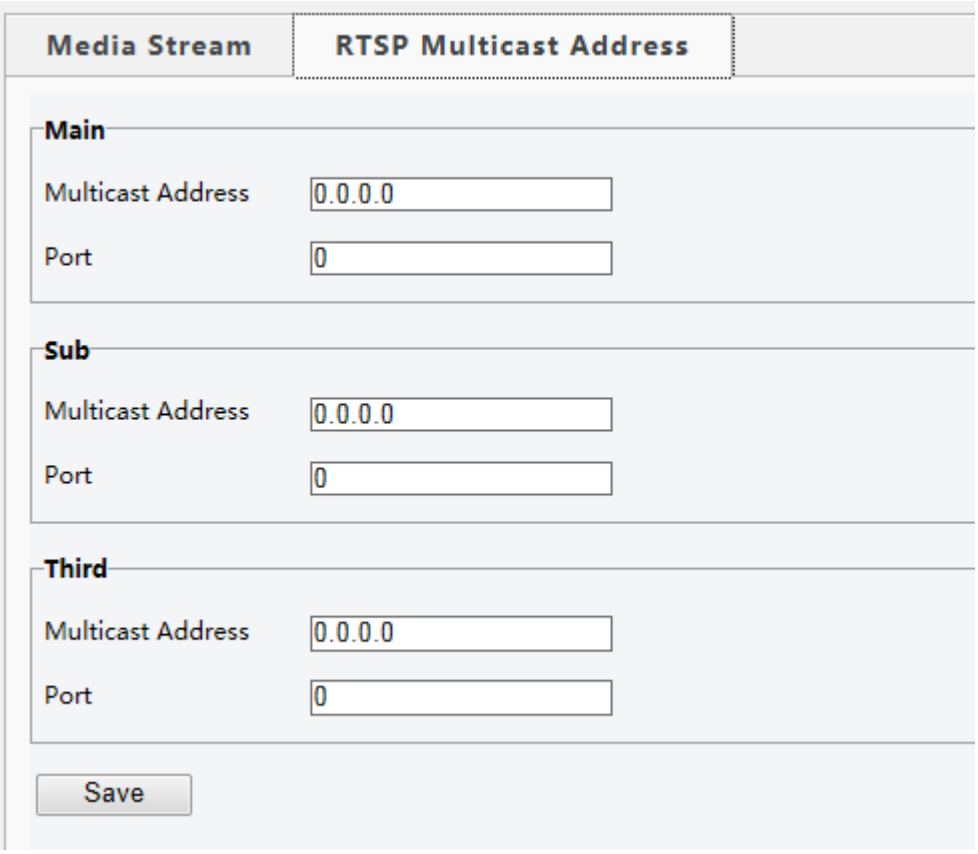
   If you want the device to establish the media stream that has been configured before automatically after the restart, select **Yes** for **Persistent**.

3. To delete a stream, click .
4. Click **Submit** to complete the operations.

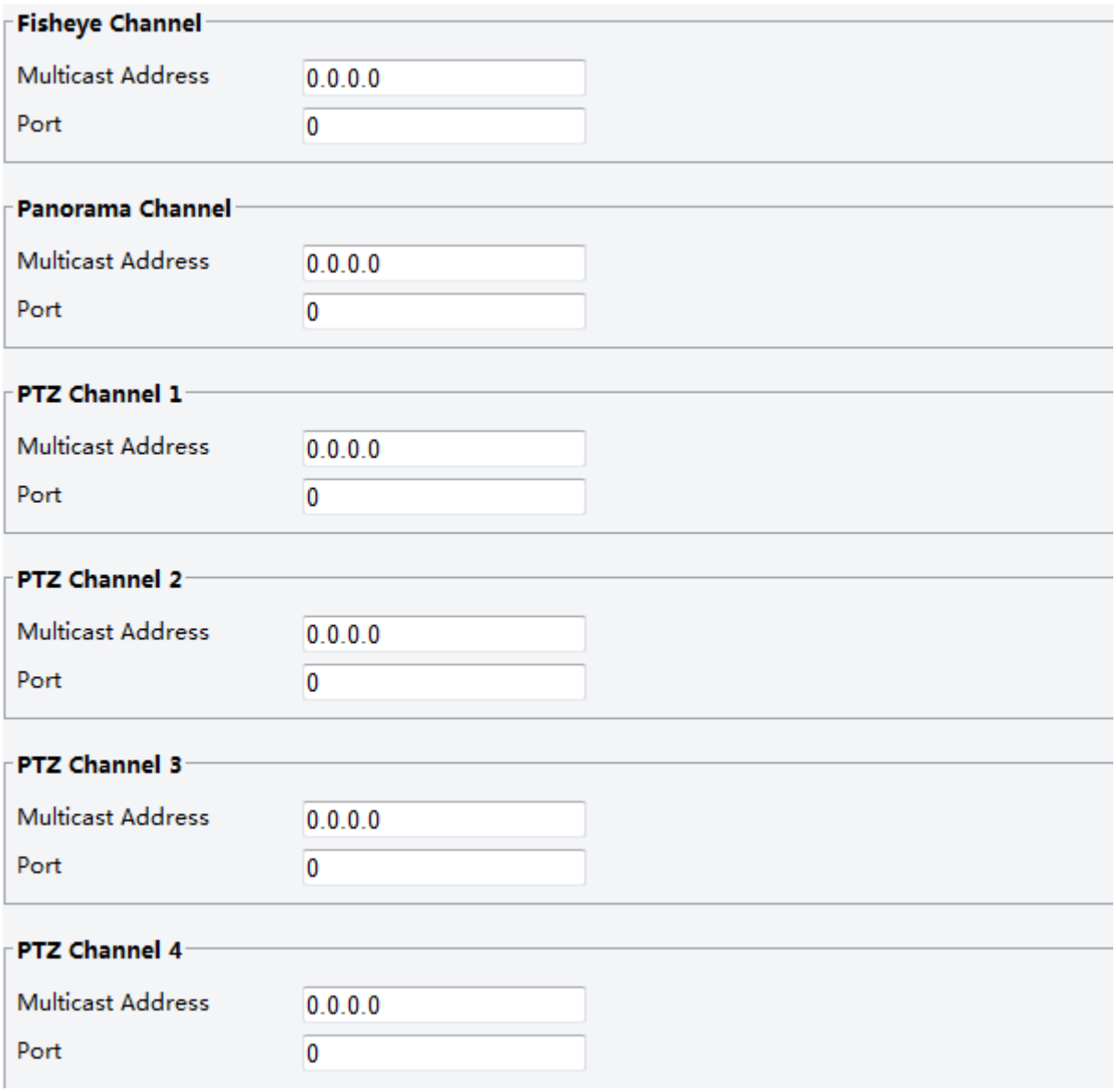
RTSP Multicast Address

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 & Audio** > **Media Stream** > **RTSP Multicast Address**.



The Web interface of fisheye cameras is displayed as follows.



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, 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

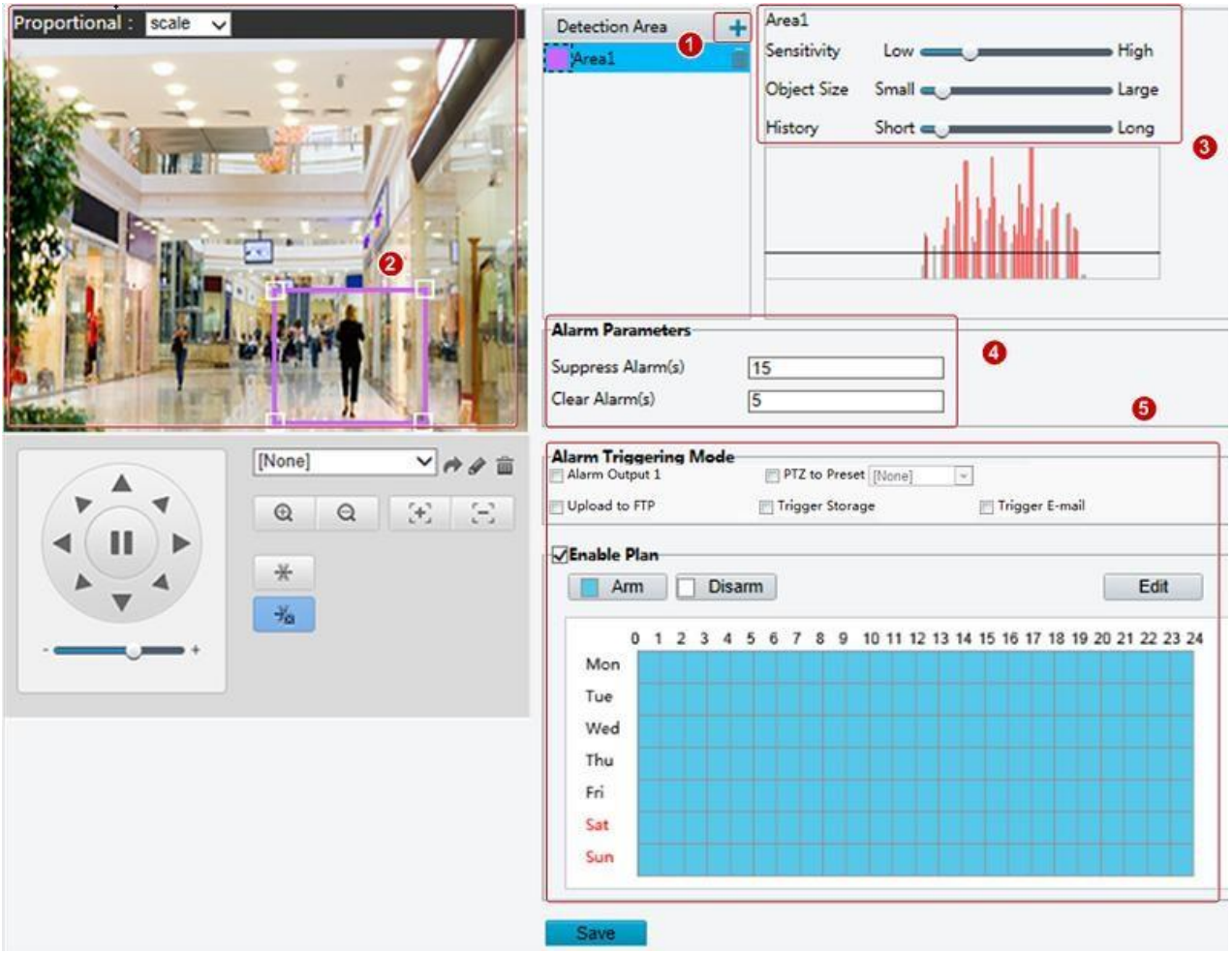
NOTE!

- This function is only supported by certain models, please see the actual model for details.
- The alarm triggered actions supported by the camera may vary with models, please see the actual Web interface for details.

Motion Detection

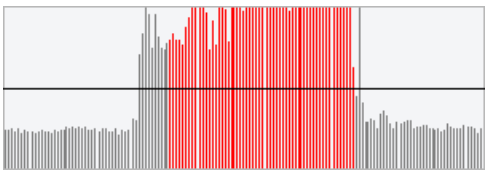
Motion detection detects the object motion in a specified rectangular area during a period. You need to set a detection area, sensitivity of detection, object size, and history for the camera to decide whether to report a motion detection alarm when it detects motion.

Click **Setup** > **Events** > **Common Alarm** > **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.



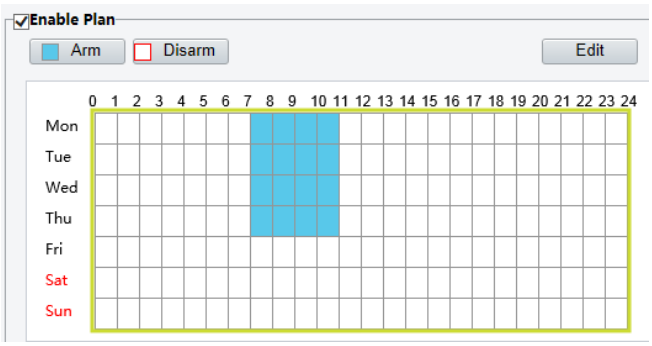
4. Set the alarm parameters.

- 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.

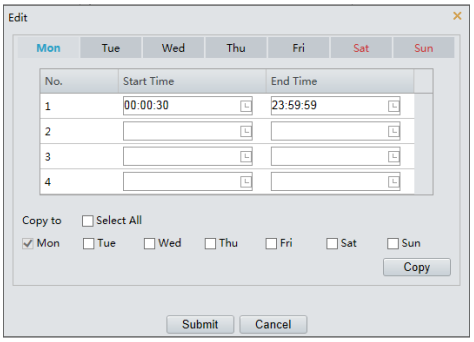
5. Set actions to be triggered by motion detection alarm and the plan.

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. **Note:** 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. **Note:** • Make sure you have set presets. Otherwise, you cannot set this parameter. For details about how to set a preset, see Setting Presets. • When an alarm is reported, the PTZ camera automatically goes to the preset to capture video in the correct scene.
Upload to FTP	With **Upload to FTP** selected, the camera will automatically upload snapshots to the specified FTP server when an alarm is triggered. **Note:** Make sure you have completed FTP and Configuring Capture before using this function.
Trigger E-mail	With **Trigger E-mail** selected, the camera will automatically send snapshots to the specified E-mail address when an alarm is triggered. **Note:** Make sure you have completed E-Mail and Configuring Capture before using this function.
Trigger Storage	With **Trigger Storage** enabled, the camera automatically starts recording after an alarm is triggered. **Note:** Make sure you have completed the post-recording time settings 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 **Edit** to edit time periods in the table. The time periods cannot overlap. The camera reports alarms during the specified period(s) 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:

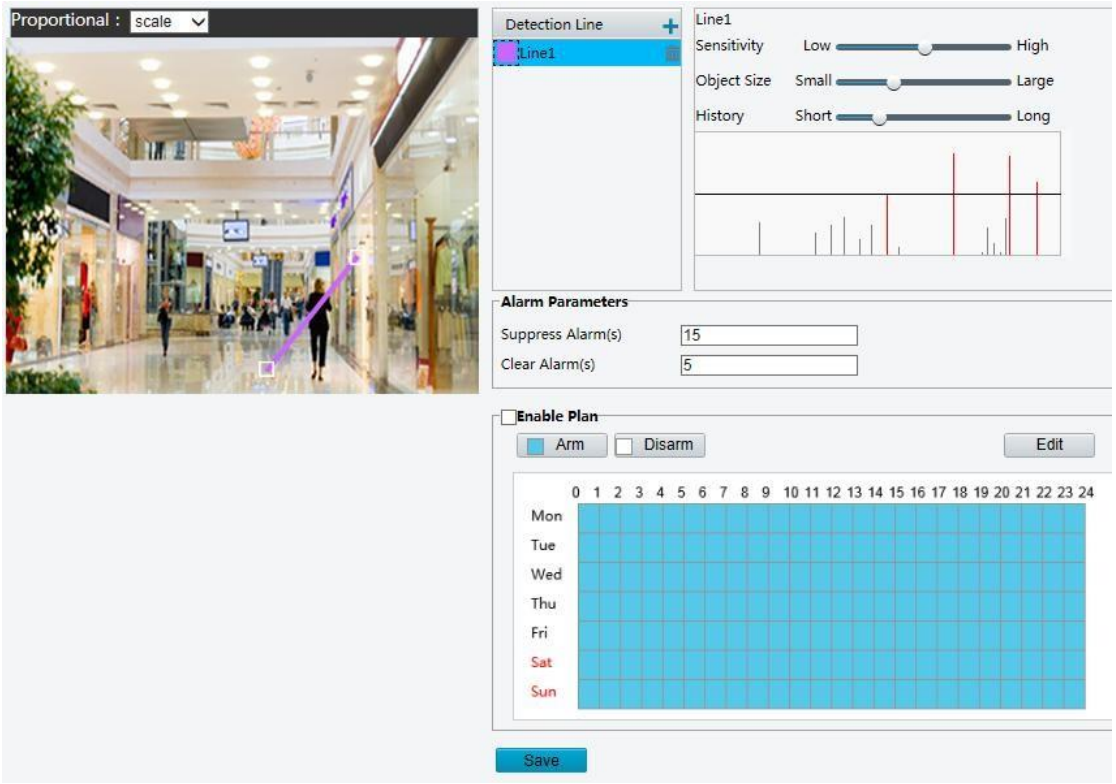
Plan drawing using a mouse is only supported by IE versions later than 8.0. After setting the plan for one day, you can apply the same settings to other days by clicking **Copy** and **Paste**.

6. Click **Save**.

Line Detection

Line detection detects whether an object crosses a line during a period. You need to set a detection line in the detection region, sensitivity of detection, object size, and history for the camera to decide whether to report a motion detection alarm when it detects a line crossing.

1. Click **Setup** > **Events** > **Common Alarm** > **Line Detection**.



2. In the **Detection Line** area, click + to add a new detection line. To delete a detection line, click 🗑.
3. Click the detection line and then drag the mouse to move the line to the desired position.
4. Set the detection sensitivity, object size, and history for the camera to decide whether to report a line detection alarm.
5. Set the alarm parameters.

6. Set actions to be triggered by a line detection alarm and the plan. For details, see the descriptions about the major alarm-triggered actions in Configuring Motion Detection Alarm.
7. Click **Save**.

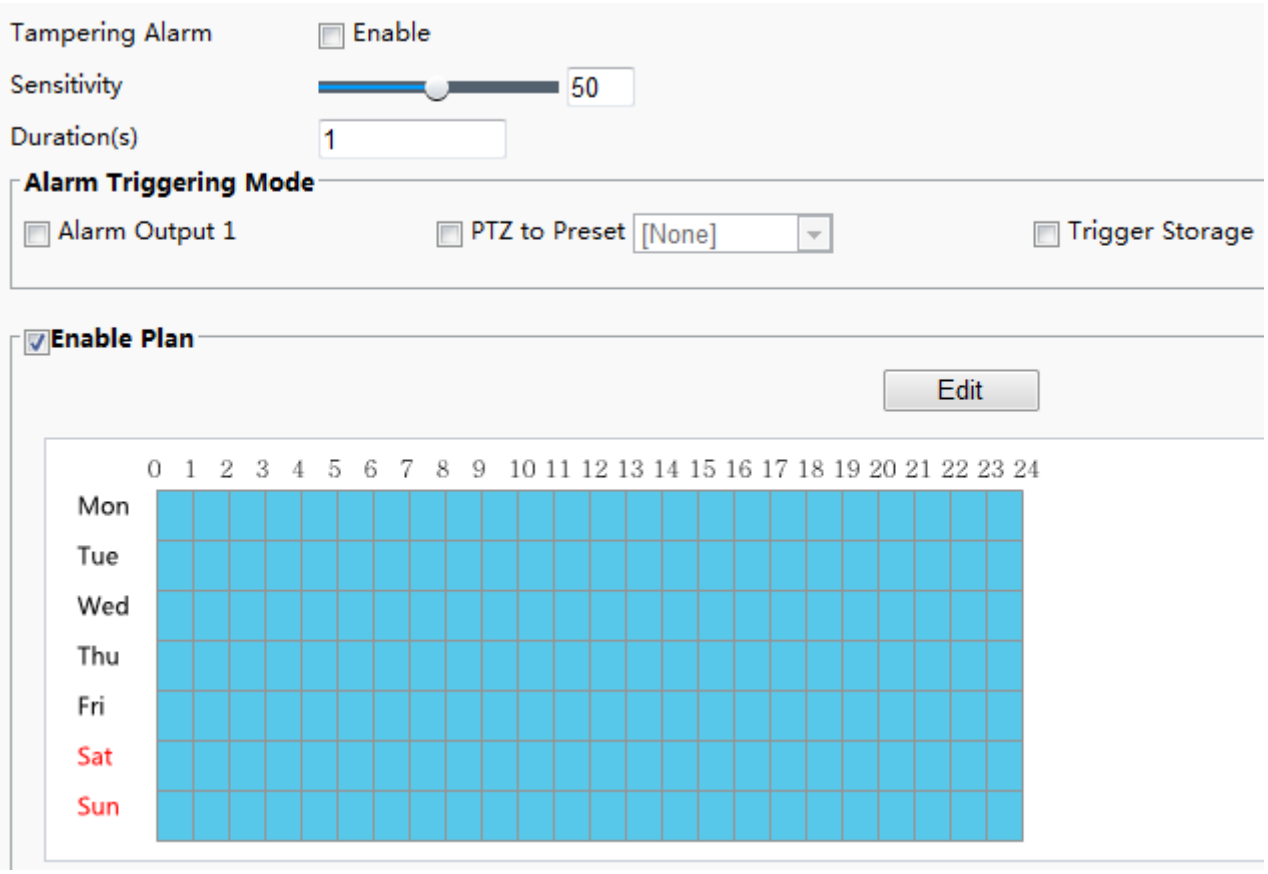
Configuring Tampering Alarm

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

NOTE!

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

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



2. Select **Enable** for **Tampering Alarm**.
3. Set detection sensitivity and duration for the camera to decide whether to report a tampering alarm.
   The camera can be more sensitive to the blocking even it only blocks the camera lens slightly from a farther location when sensitivity is set to high. The camera reports an alarm when the lens is blocked for a specified length of time.
   Tampering alarm is effective to the whole screen. To disable tampering alarm, clear the **Tampering Alarm** check box.
4. Set actions to be triggered by tampering alarms and the plan. For the detailed steps, see the descriptions of alarm-triggered actions in Configuring Motion Detection Alarm.
5. Click **Save**.

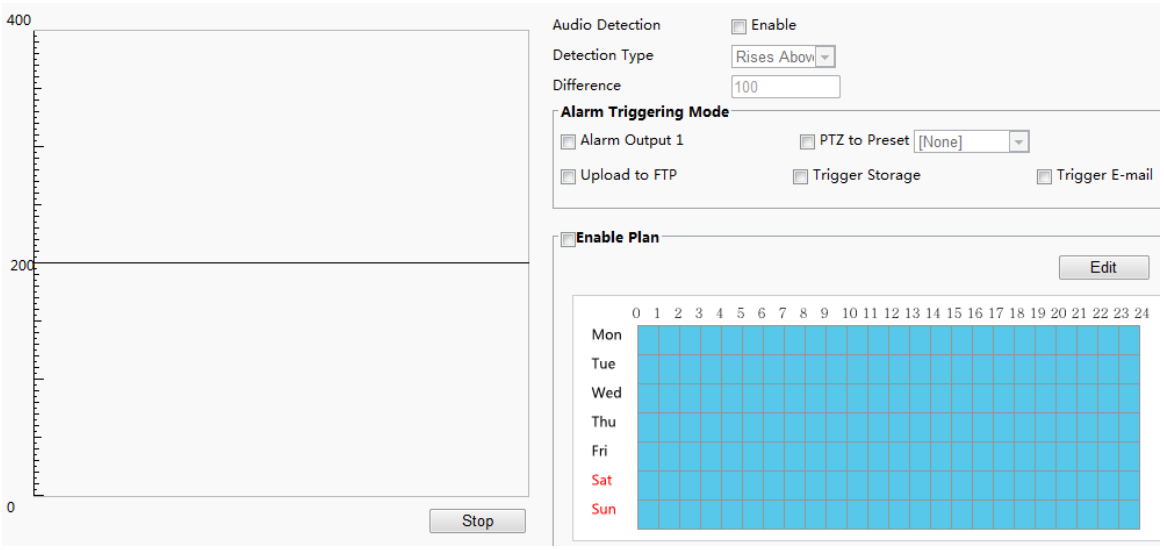
Configuring Audio Detection Alarm

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.

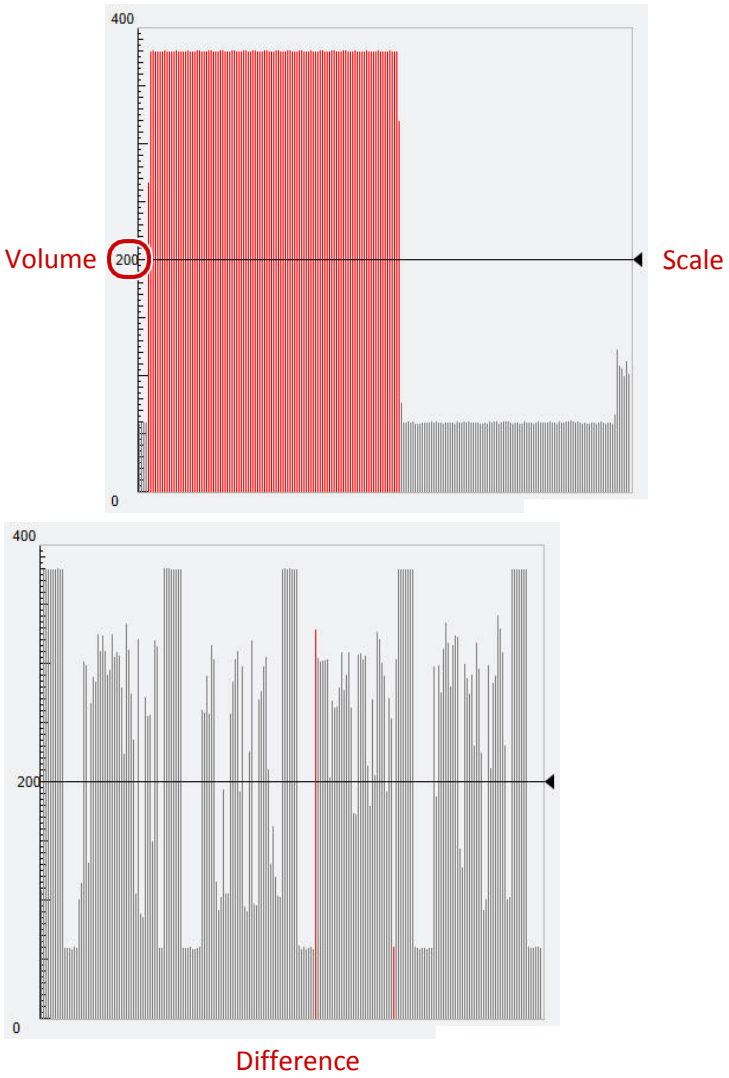
1. Click **Setup** > **Events** > **Common Alarm** > **Audio Detection**.



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

The following table describes some major parameters.

Parameter	Description
Detection Type	• Rise Above: An alarm is reported when the rise of volume exceeds the difference. • Falls Below: An alarm is reported when the fall of volume exceeds the difference. • Passes: An alarm is reported when the rise or fall of volume exceeds the difference. • Threshold: An alarm is reported when the volume exceeds a threshold.
Threshold/ Difference	• Threshold: After a volume is set as the threshold, an alarm is reported when the threshold is exceeded. • Difference: the difference between two volumes. When the rise or fall of volume exceeds the difference, an alarm is reported. **Note**: • The scale in the audio detection area is used to measure sound volume. • Audio detection results are shown in real time. The red part indicates that the volume of the audio alarm has reached the threshold and the alarm does not necessarily reports.

Parameter	Description
	

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**.

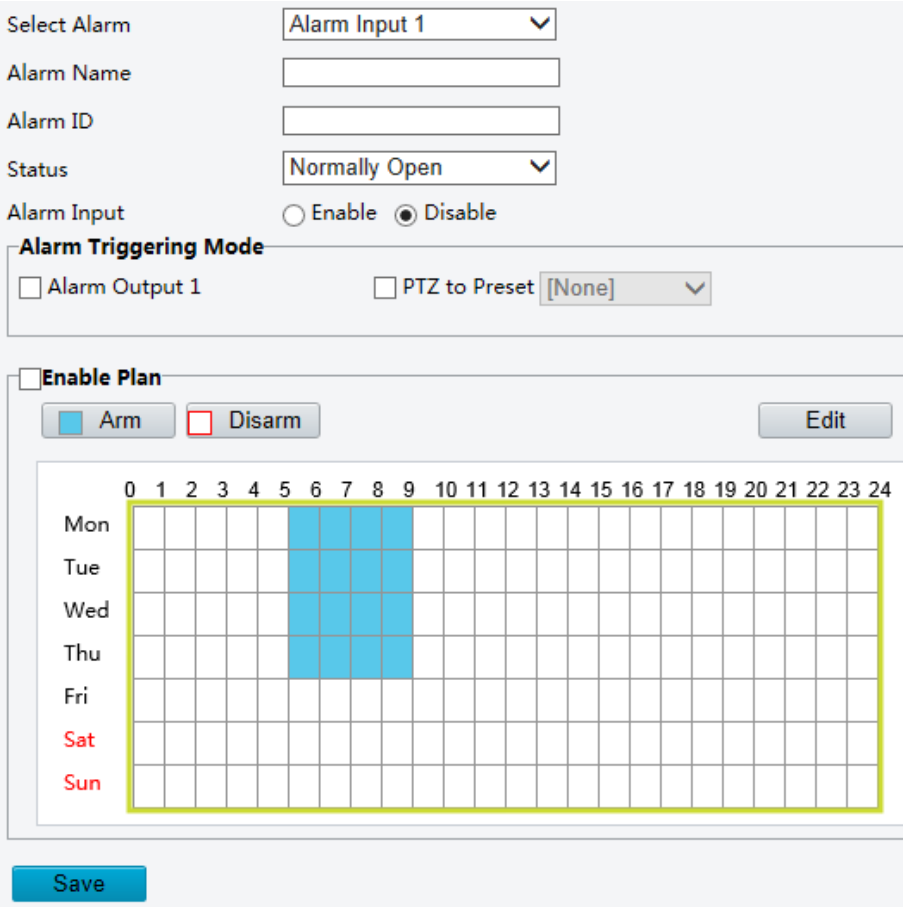
Configuring Alarm Input

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**.



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**.

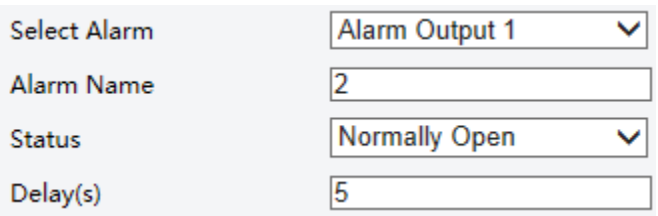
Configuring Alarm Output

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**.



2. Select the alarm and set the alarm name.

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

CAUTION!

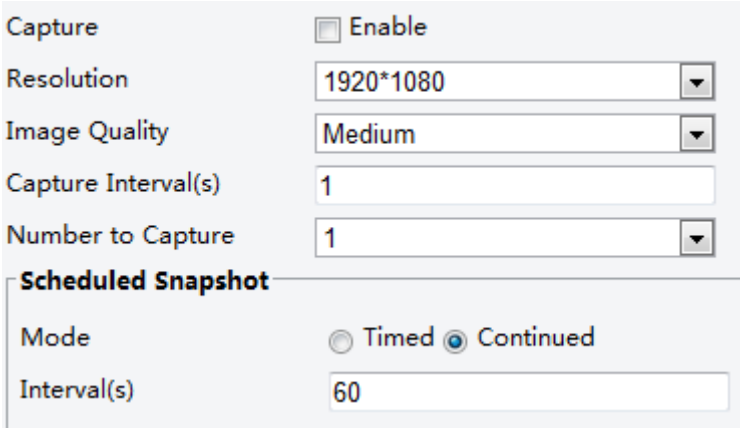
Strictly follow the sequence when powering on the devices to avoid damaging camera components:

1. Check that the 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 alarm output device first and then power on the camera.

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**.



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

Memory Card Storage

NOTE!

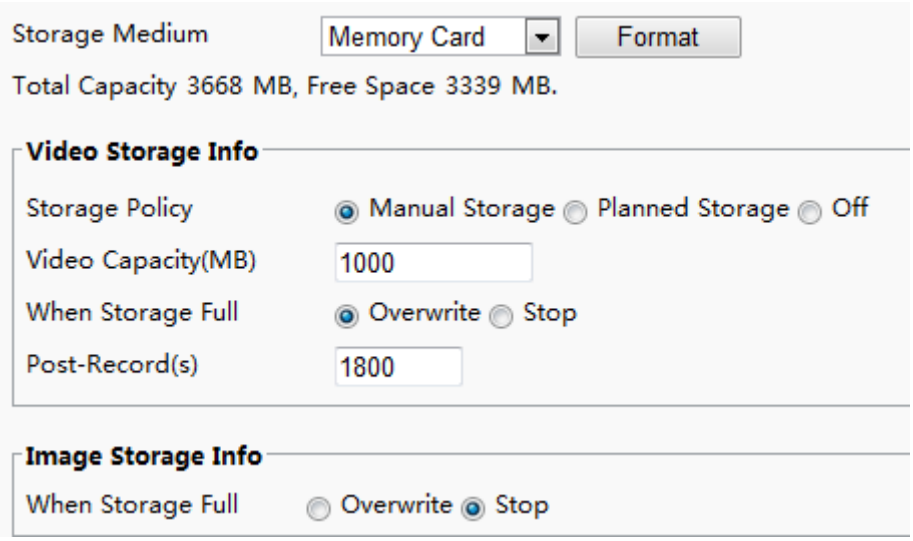
- This function is not supported by some models, and may vary with models, please see the actual model for details.
- Memory storage is recommended when the camera operates in stand-alone mode.

Memory card storage is used to save videos and snapshots to the memory card directly.

Manual storage

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

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



The Web interface of fisheye cameras is displayed as follows.

2. Enable memory card storage and modify the settings as required. The following table describes some major parameters.

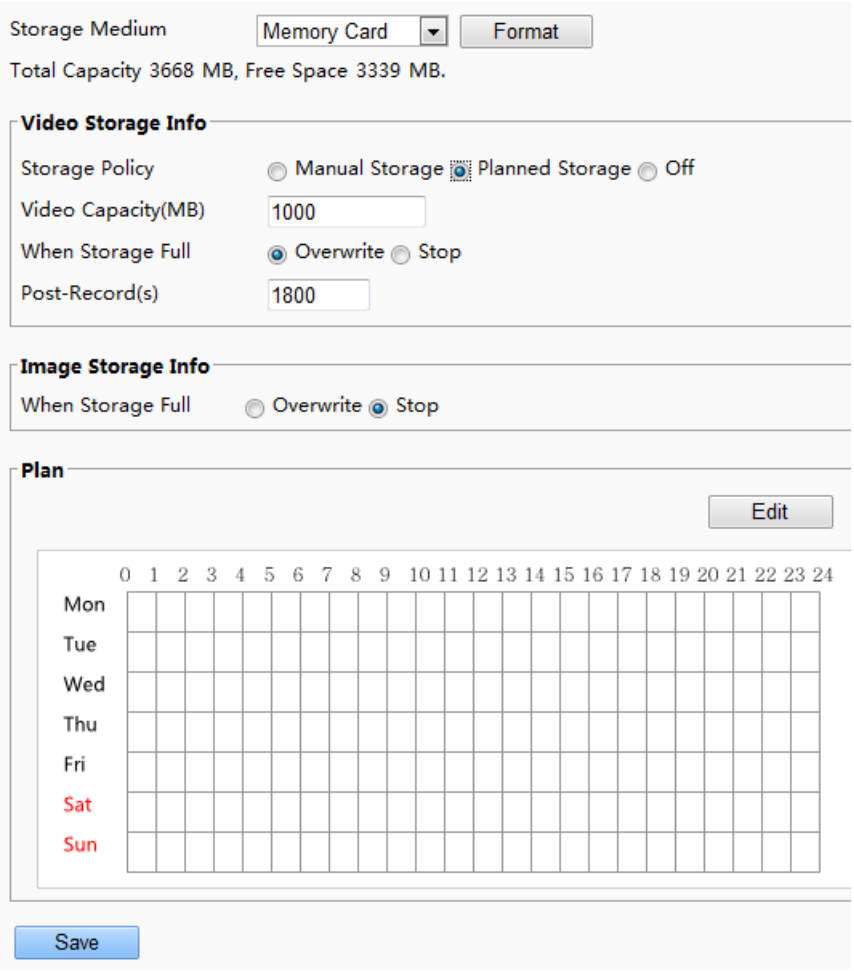
Parameter	Description
Storage Medium	Storage resource type. **Note:** • To format the memory card, disable the storage function for the card first. Then Click **Format** and then click **OK** to confirm the operation. The system will restart when the format is completed. • Information about the total and free space is displayed.
When Storage Full	• Overwrite: If there is no free space in the memory card, new data will overwrite the existing data repeatedly. • Stop: If there is no free space in the memory card, new data will not be saved to the memory card.
Post-Record(s)	When an alarm is raised, the camera is triggered to record live video and continues recording for a set post-record time after the alarm is cleared.

3. Click **Save**.

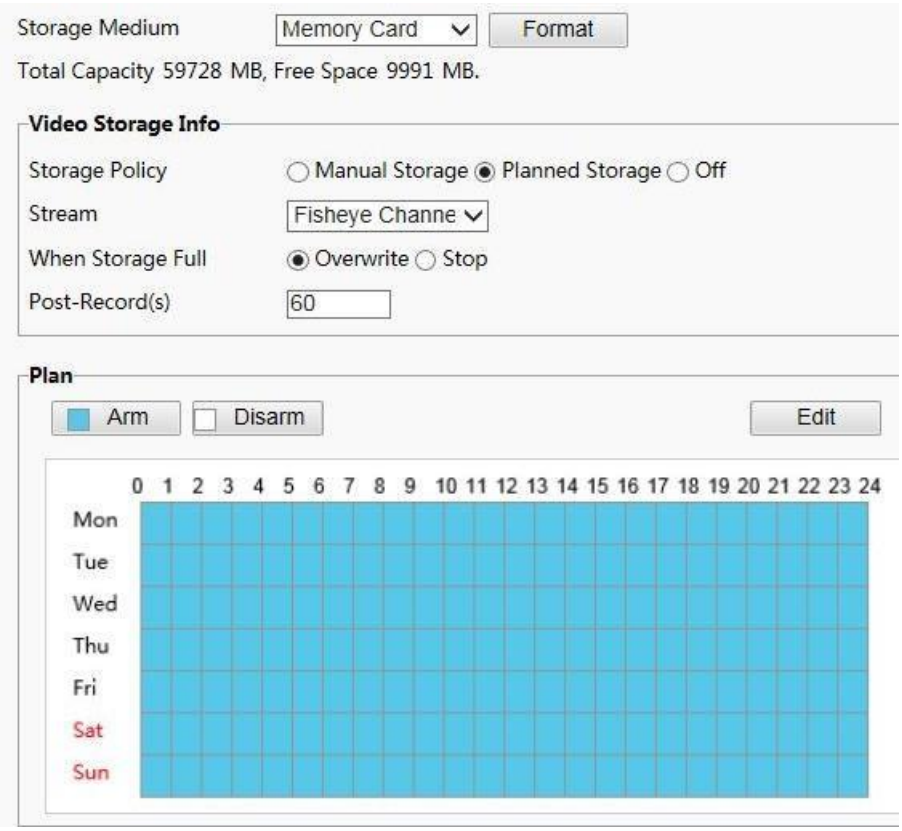
Planned storage

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

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



The Web interface of fisheye camera is displayed as follows.



2. Select **Planned Storage**, and then set the periods during which the camera records video to the memory card.

3. Click **Save**.

NOTE!

To query recordings in the memory card, see Video Playback and Download with Edge Storage.

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.

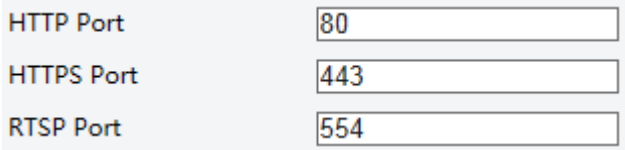
Setting Secure Data Transmission

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**.



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

4. Under **HTTPS**, select **Enable**. Uploading a custom SSL certificate is also supported to ensure security.
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. If HTTPS uses a default port number, enter the address in *https://IP* directly.

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 Web interface.

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

Hide Vendor Information

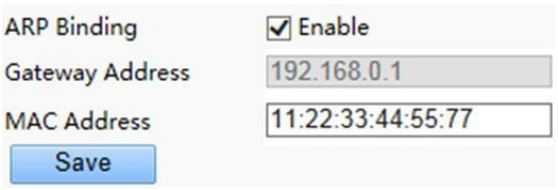
You can set to hide the vendor information of the network camera on the Web interface.

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**.



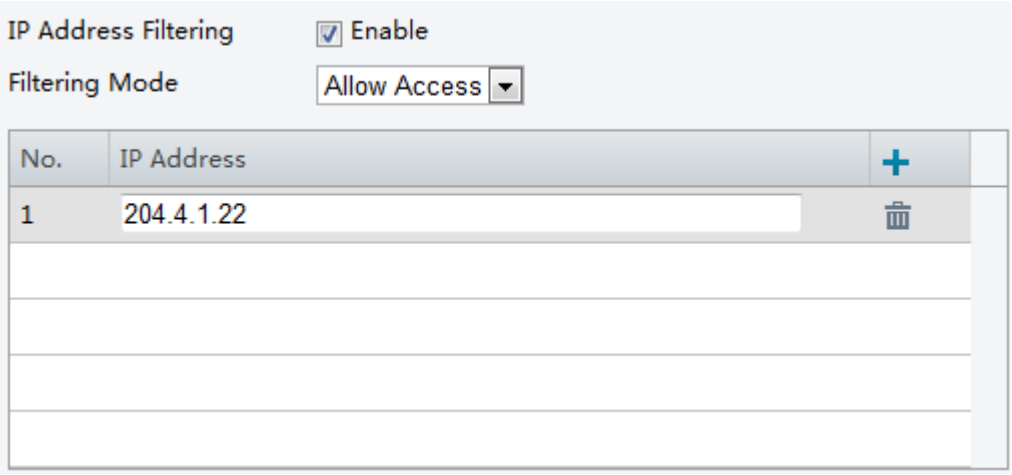
IP Address Filtering

You can allow or deny the access from the specified IP address to you camera.

NOTE!

This function is only supported by certain models, please see the actual model for details.

1. Click **Setup** > **System** > **Security** > **IP Address Filtering**.
2. Select **Enable**. Select the filtering mode and then enter the desired IP addresses.
3. Click **Save**.



NOTE!

- If the filtering mode is set to **Allow Access**, only the specified IP addresses are allowed to access the camera. If the filtering mode is set to **Deny Access**, the specified IP addresses are denied for the access.
- Up to 32 IP addresses are allowed. And the added IP addresses cannot duplicate.
- The first byte of the IP address can only be a number ranging from 1 to 223 and the fourth byte cannot be 0. For example, 0.0.0.0, 127.0.0.1, 255.255.255.255 and 224.0.0.1 all are invalid IP addresses.

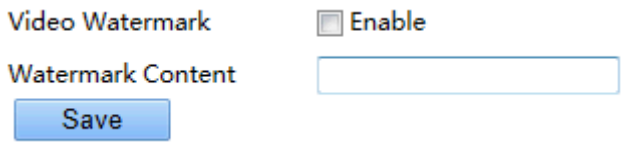
Video Watermark

You can set the video watermark for the camera to encrypt the video and protect it from being deleted or modified.

NOTE!

This function is only supported by certain models, please see the actual model for details.

1. Click **Setup** > **System** > **Security** > **Video Watermark**.
2. Select **Enable** and set the watermark content.
3. Click **Save**.

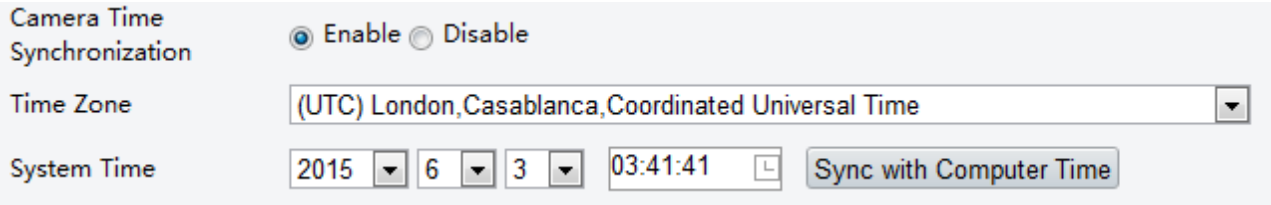


Setting the System Time

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.

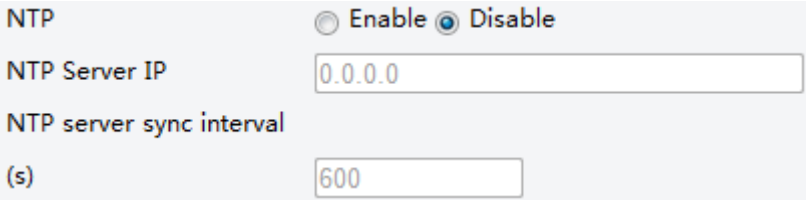


2. Select **Enable** for **Client Time Synchronization**.

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

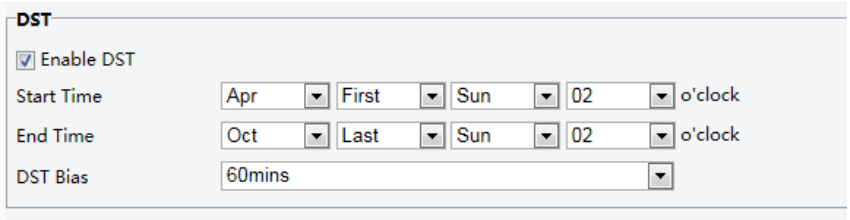
1. Click **Setup** > **Common** > **Time**, and then click the **Time** tab.



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

Setting the DST

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



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

Setting Servers

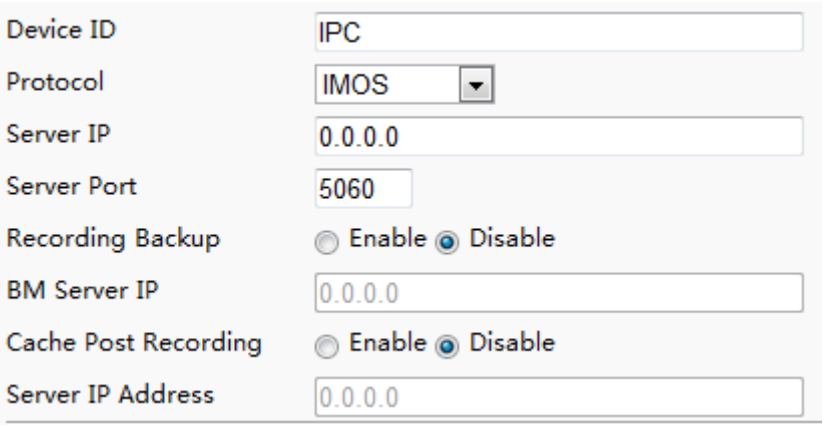
If the camera is managed by a central server, you need to configure the server related parameters.

CAUTION!

- This function is not supported by some models, please see the actual model for details.
- If the device ID, protocol or server IP is changed, the camera will restart, and the login password for admin and the system time will be updated as the settings on the central management server. In addition, all settings, except the following, will be restored to factory defaults: network interface card, server, image, OSD, privacy mask, custom information, and ROI.
- Registration will fail if the device ID is different from that stored on the central management server. You need to restart the camera in order for the registration to succeed.
- If the camera operates independently, select **None** for **Protocol**.

Connect via the IMOS protocol

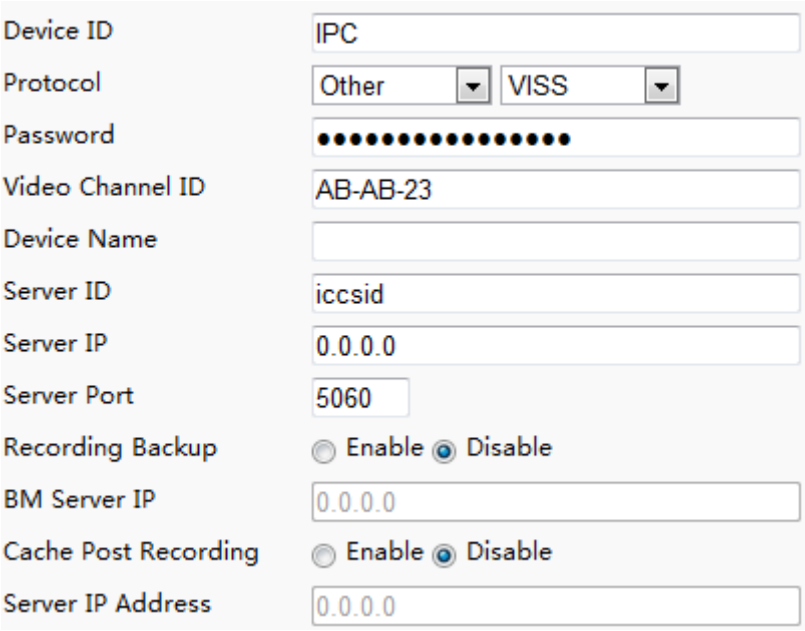
1. Click **Setup** > **Common** > **Server**, and then click the **Management Server** tab.



2. In the **Device ID** text box, enter an ID that is unique in the network.
3. Select **IMOS** from the **Protocol** drop-down list.
4. Enter the correct IP address and port number for the central management server.
5. Click **Save**.

Connect via other protocols

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



2. In the **Device ID** text box, enter an ID that is unique in the network.
3. Select **Other** from the **Protocol** drop-down list.
4. Set other parameters for the server. The following table describes some major parameters.

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

5. Click **Save**.

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!

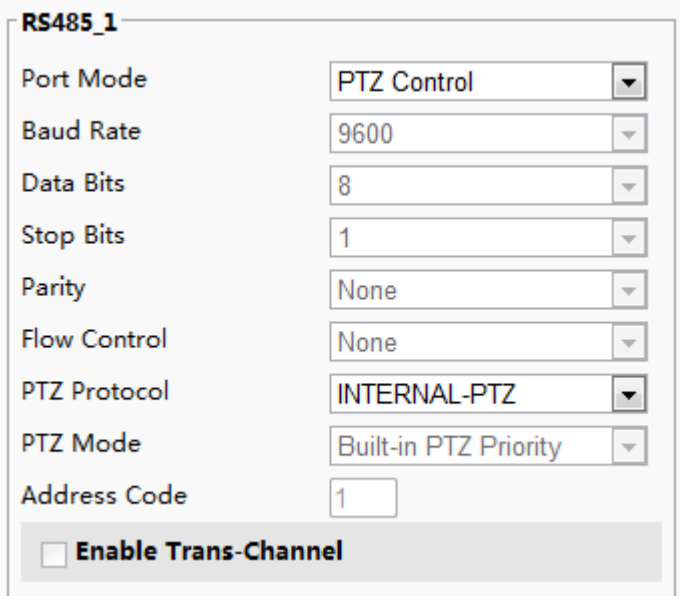
- This function is not supported by some models, please see the actual model for details.
- The actual displayed Web interface may vary with the device model.

PTZ control

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

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

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



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

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

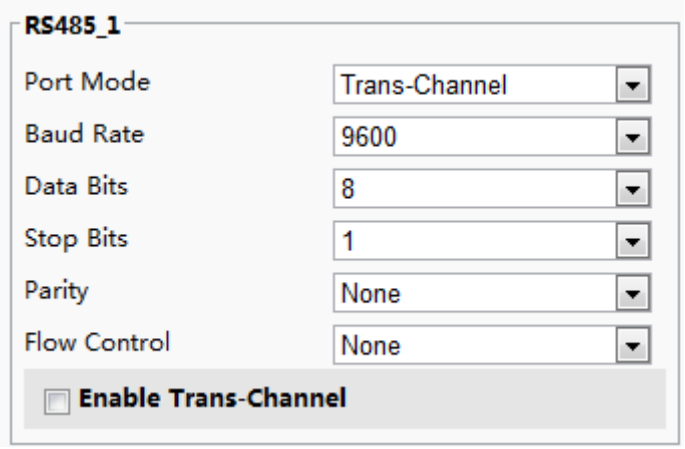
Parameter	Description
	• You can set this parameter only when **Port Mode** is set to **PTZ Control**. • When **INTERNAL-PTZ** is selected, this parameter is always set to **Built-in PTZ Priority**, and it is unnecessary to connect the camera to an external PTZ through the serial port. Control through the external PTZ is not effective even when the camera has been connected to an external PTZ. • Set this parameter as required. Make sure PTZ control related interfaces are correctly connected.
Address Code	Set the address code for the PTZ. **Note**: You can set this parameter only when **Port Mode** is set to **PTZ Control** and **PTZ Protocol** is not set to **INTERNAL-PTZ.**

3. Click **Save**.

Transparent channel

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

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



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

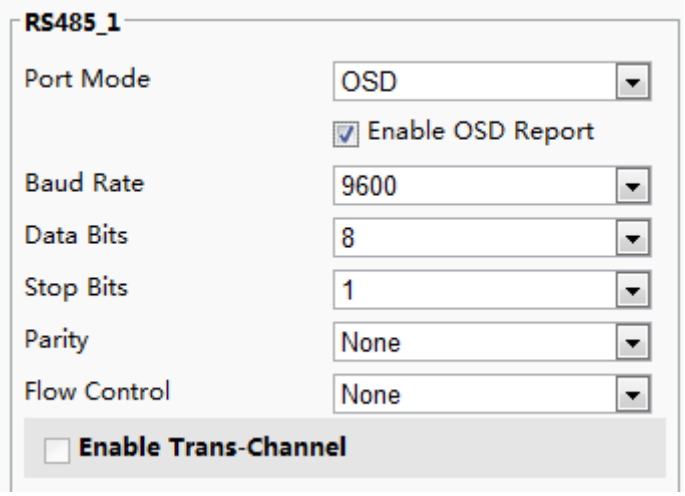
OSD

To display information from the third-party device on the OSD, you need to select OSD as the port mode. The camera receives information from the third-party device through the RS485 serial port, translates the received information, and then displays it on the OSD.

NOTE!

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

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



2. Select **OSD** from the **Port Mode** drop-down list and select **Enable OSD Report**. Then OSD data will be reported to the management platform.
3. Click **Save**.

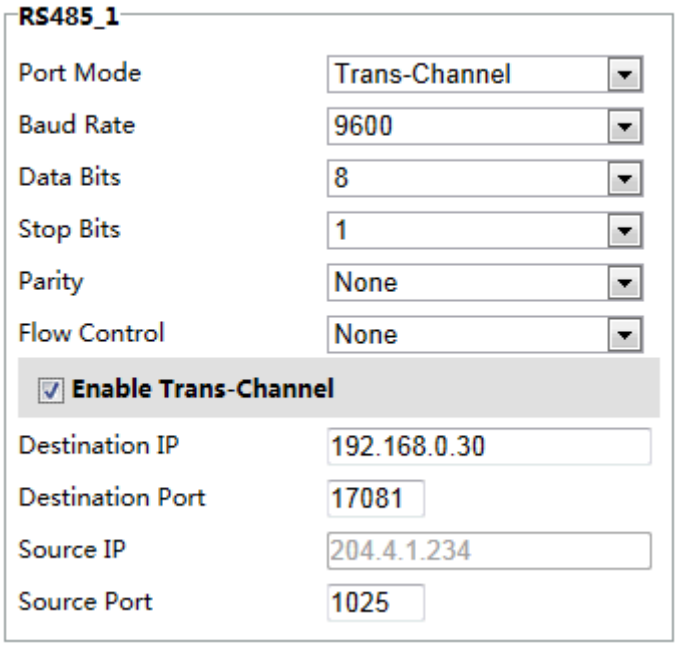
Transparent Channel Configuration

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

NOTE!

- This function is not supported by some models, please see the actual model for details.
- Make sure that you have set **Port Mode** to **Trans-Channel** for your camera.
- The actual displayed Web interface may vary with the device model.

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



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

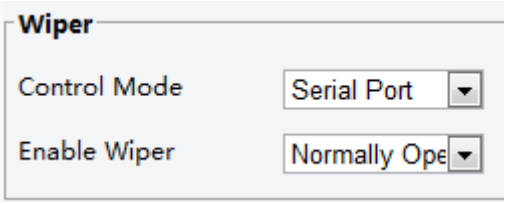
Wiper Control

You can set the wiper parameters to control the housing and the PTZ wiper operation.

NOTE!

This function is only supported by certain models, please see the actual model for details.

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



2. Set the wiper control mode and the parameters to enable wiper.

NOTE!

- Serial Port: The wiper is controlled through PELCO-D instructions. Please set the PTZ protocol to PELCO-D.
- Normally Open/Closed: The wiper is controlled through alarm input/output settings, including normally open and normally closed.
- Enable Wiper: This function is available only in alarm input/output mode.

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**.

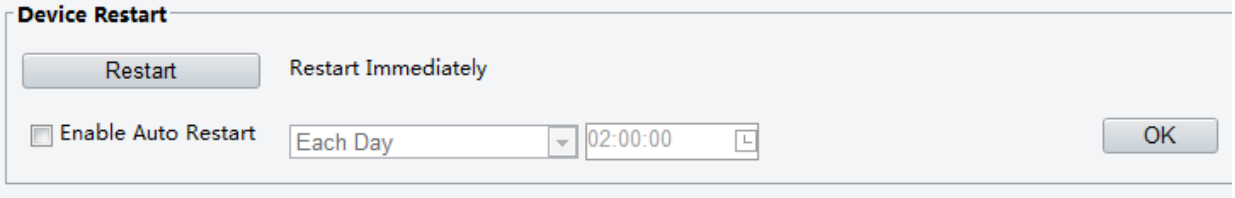
2. Under **Firmware Upgrade**, click **Browse** and select the correct upgrade file.
3. (Optional) Select the check box to enable **Upgrade Boot Program**.
4. Click **Upgrade** and then confirm to start. The camera will restart automatically after the upgrade is completed.

NOTE!

- You must use the correct upgrade file for you 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. 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!

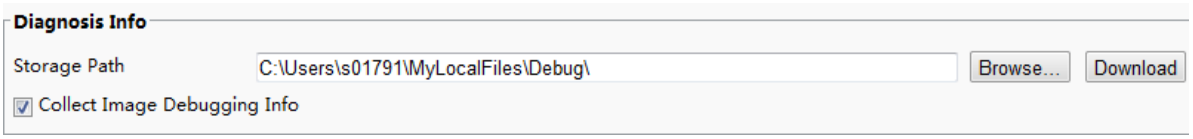
- After you perform the Default operation, all settings are restored to factory defaults, except the following: login password of the system administrator, network settings, and system time.
- Make sure you import the correct configuration file for your camera. Otherwise, unexpected results may occur.
- 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.
- Select **Collect Image Debugging Info**. Then the recording and the debugging information can be displayed synchronously for convenient troubleshooting.

Focus Configuration

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

NOTE!

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

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

Device Mounting Height

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

NOTE!

This function is only supported by some infrared cameras, please see the actual model for details.

1. Click **Setup** > **System** > **Maintenance**.
2. Enter the actual height from the installed Infrared Dome to the ground.
3. Click **OK**.

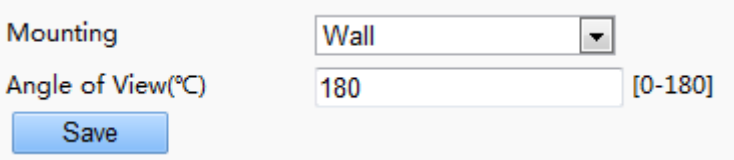
Setting Fisheye Parameters

Set parameters properly for your fisheye camera to get a normal live view.

NOTE!

This function is only supported by the fisheye cameras, please see the actual model for details.

1. Click **Setup** > **System** > **Fisheye Settings**.

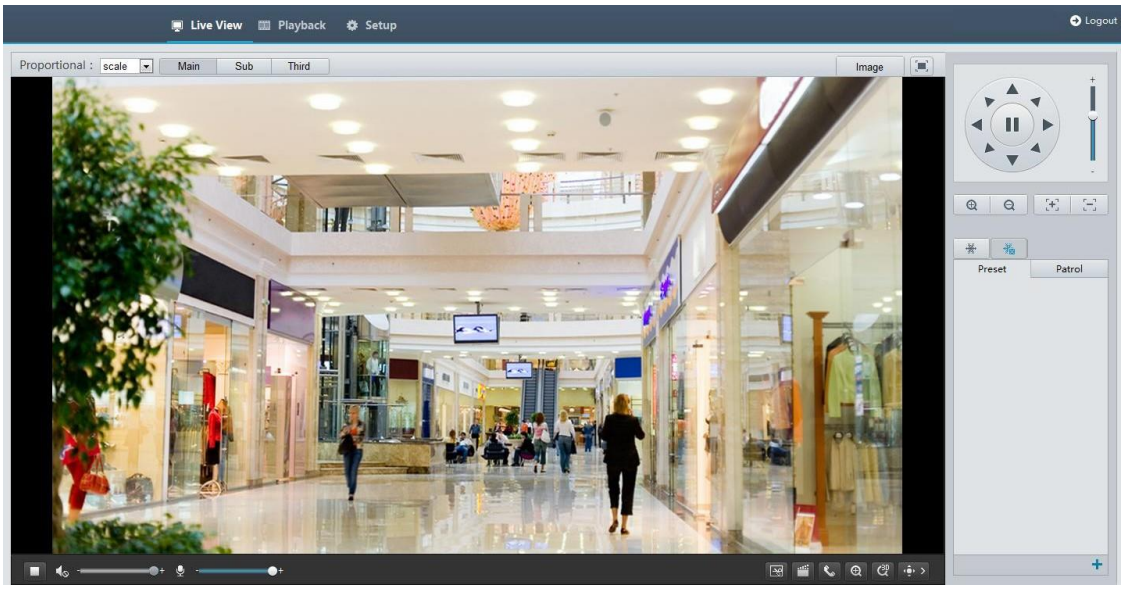


2. Select the mounting method and then enter the desired angle of view for the camera.
3. Click **Save**.

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.

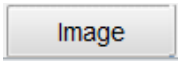
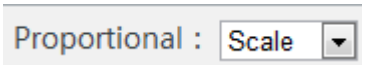


Live View Toolbar

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.
	Adjust the output volume for the media player on the PC.
	Adjust the microphone volume on the PC during audio communication between the PC and the camera.

Button	Description
	Take a snapshot of the current image displayed on the PC. **Note:** The path for saving snapshots is set in **System Configuration**.
	Start/stop local recording. **Note:** The path for saving local recordings is set in **System Configuration.**
	Start/stop audio communication between the PC and the camera.
	Start/stop digital zoom. For more details, see Using Digital Zoom.
	Start/stop 3D positioning. For more details, see Using 3D Positioning.
	Show/hide the PTZ control panel.
	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 in the bottom. **Note:** • After you move the mouse cursor on a live view window, this button appears on the floating toolbar. • Click this icon to display the bottom information. Click this icon again, the bottom information is displayed if the mouse cursor is moved on a live view window or on the bottom information, and it hides automatically if the mouse cursor remains on a live view window for 3 seconds or leaves the window.
	Click this button to open the image setting page.
	Display in full screen mode.
	Set the display ratio of the image. • Scale: display images by 16:9 • Stretch: display images by window size • Original: display images in its original size
	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.

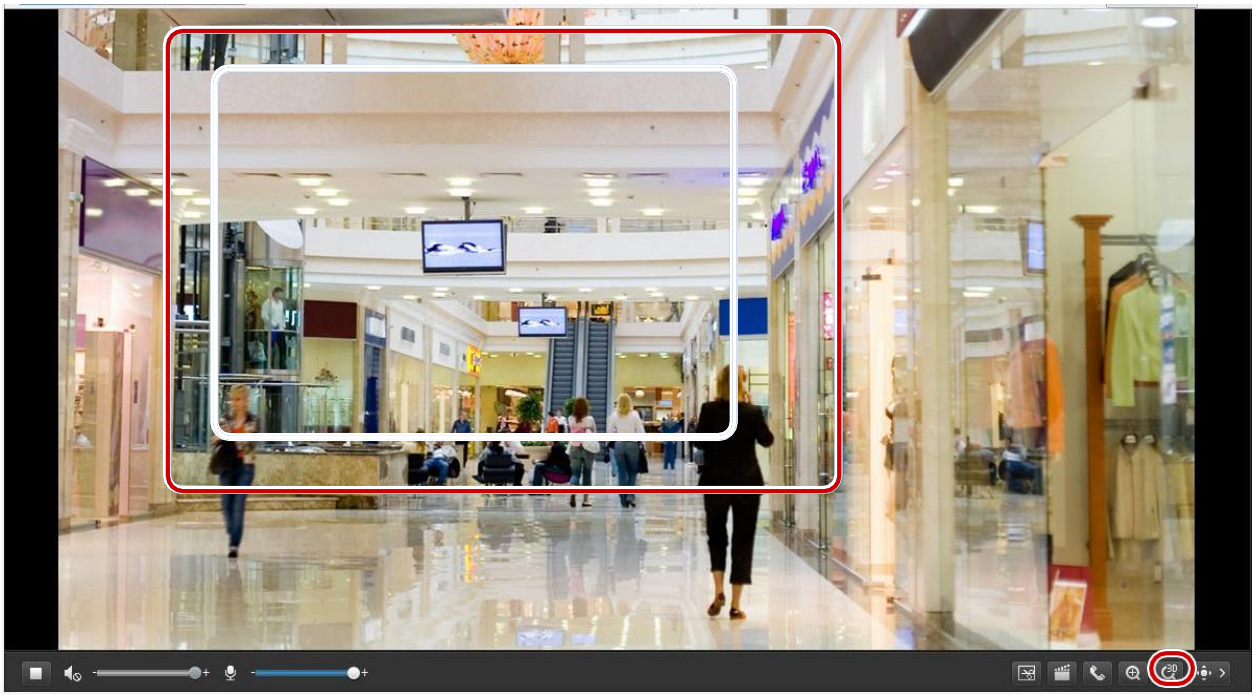
2. Click and hold the mouse button, and then drag from the top down to specify an area.
3. To restore the original image size, click in the enlarged area, or drag from the bottom top.
4. To exit, click  .

Using 3D Positioning

NOTE!

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

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



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

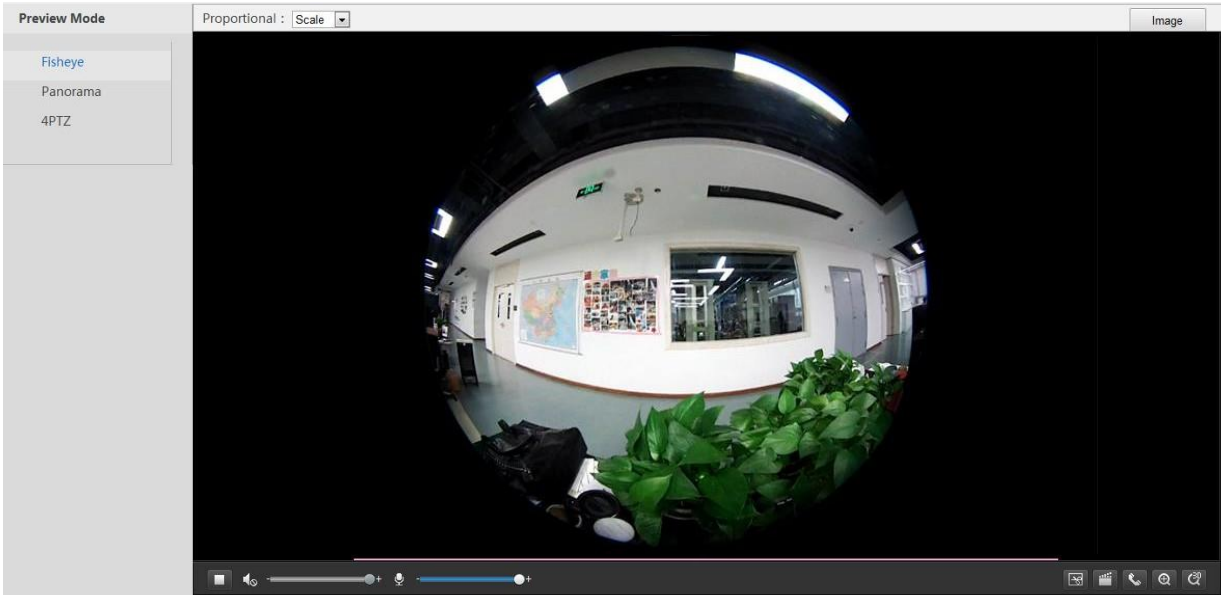
3. To exit, click  .

Live View of Fisheye Cameras

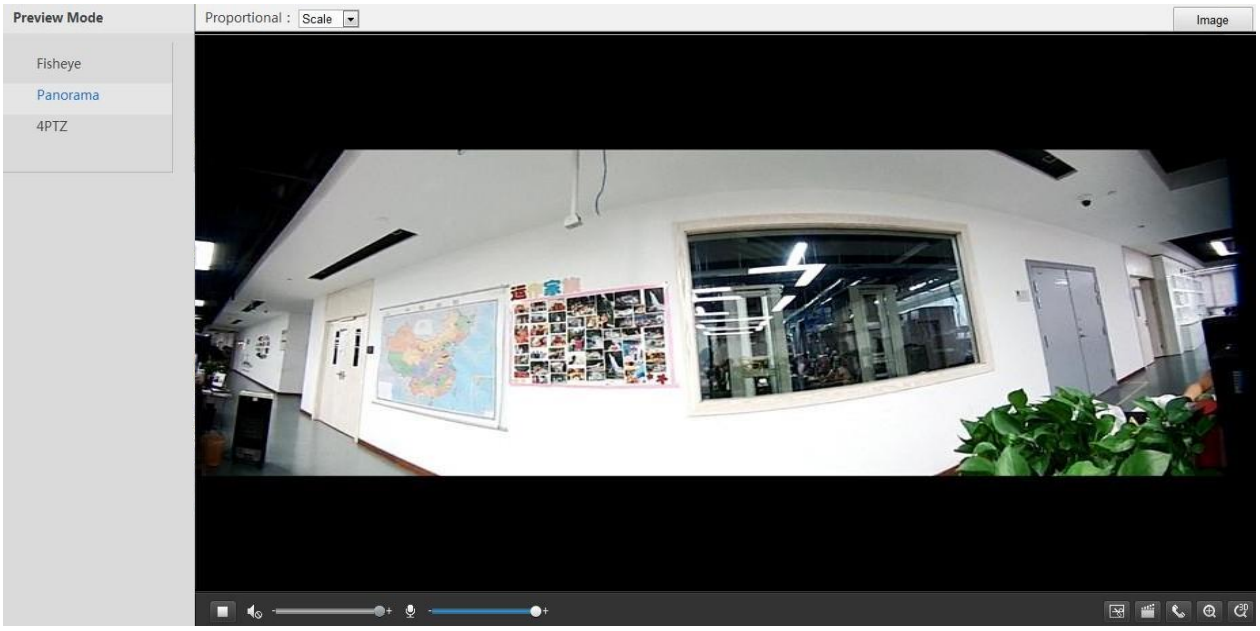
NOTE!

- This function is only supported by the network fisheye cameras. Please see actual models for details.
- The preview image on the Web may vary with the fisheye settings for the camera. Please set the fisheye parameters (see Setting Fisheye) and the fisheye mode (see Video Configuration) of the camera before you start live view.

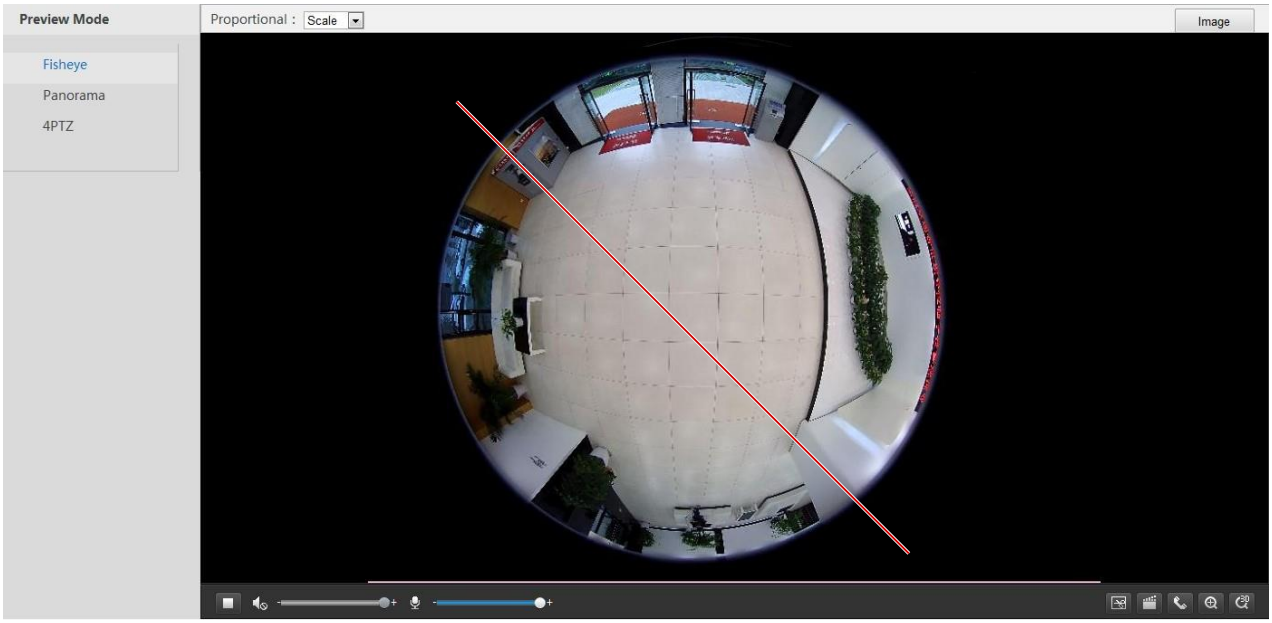
You can select the fisheye, panorama and 4PTZ as the fisheye mode. The preview image may vary with the installation method of the camera. The following takes wall mount as an example. When **Fisheye** is selected in the fisheye mode list, a 360° fisheye image is displayed as follows.

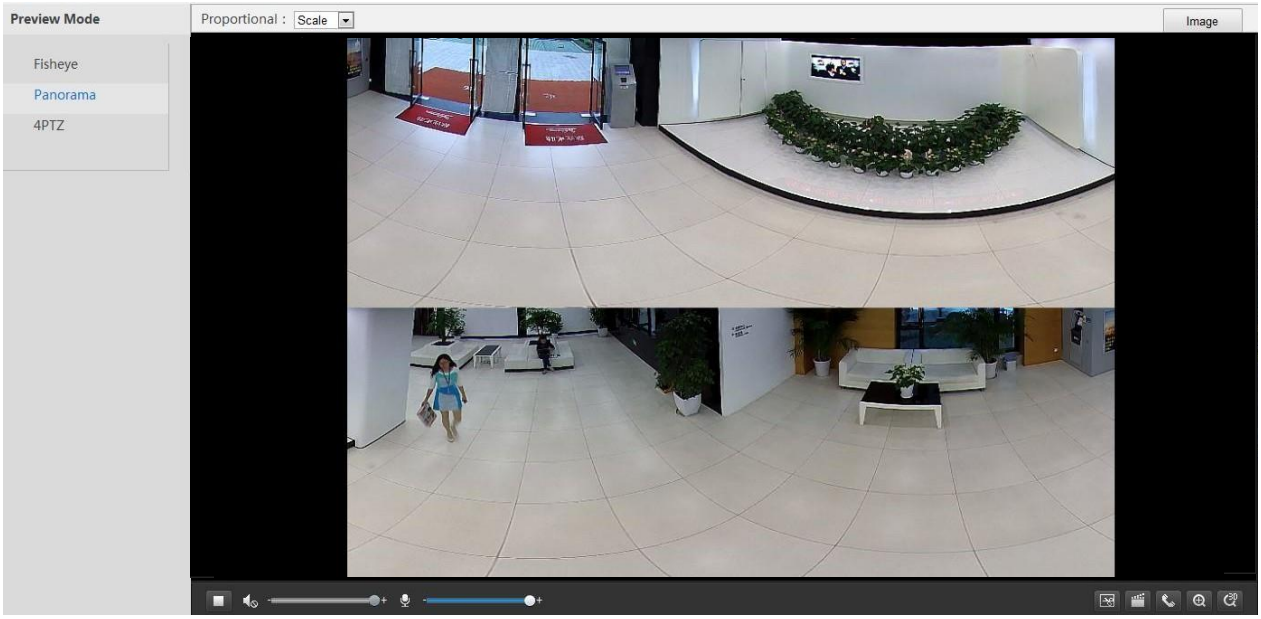


When **Panorama** is selected in the fisheye mode list, the dewarped panorama image is displayed as follows.



If the ceiling mount or table mount is adopted, the panorama image is made up of two 180° fisheye preview images.

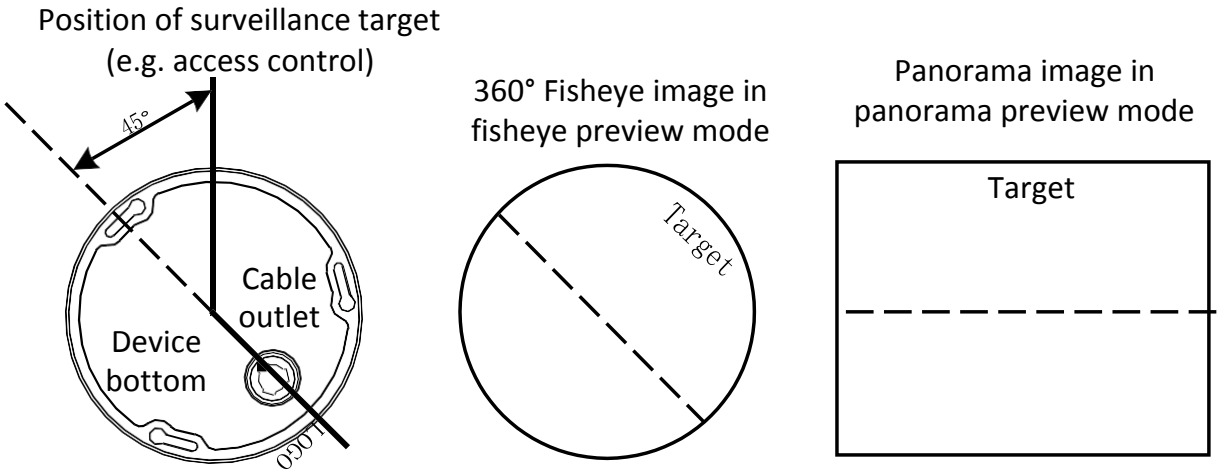




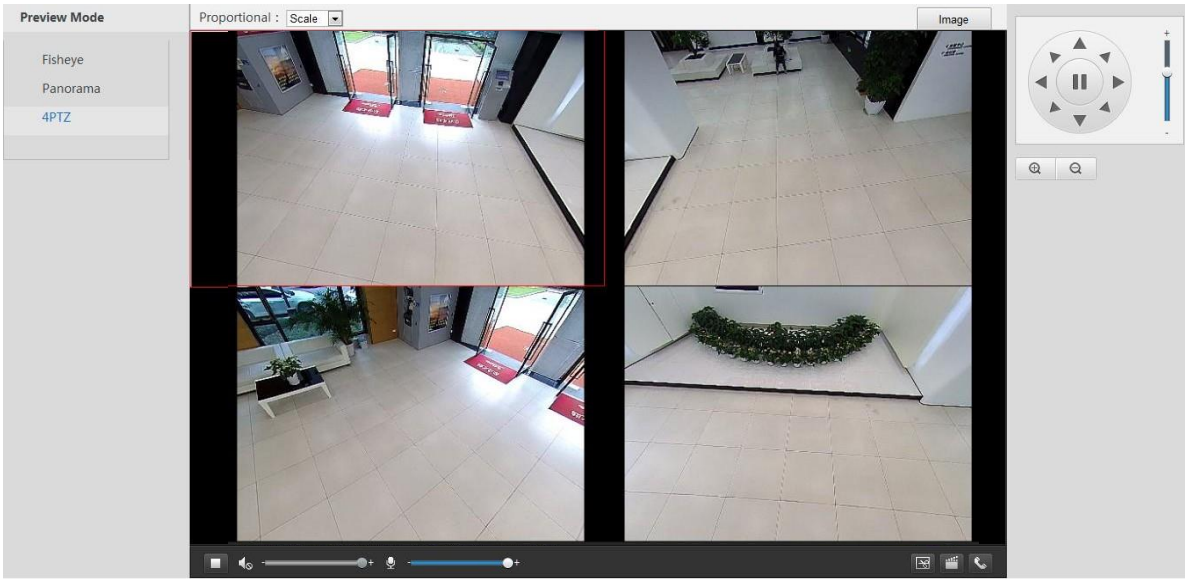
NOTE!

If the ceiling mount or table mount is adopted, the panorama image (two 180° images) is a dewarped image of the fisheye preview image (360° image). Please mount the camera with an appropriate angle of view according to the actual surveillance requirements.

For example, if the camera is installed on the ceiling, the surveillance target is displayed on the upper part of the panorama image when the intersection angle between the device cable outlet (logo) and the surveillance target in clockwise direction is 135°.



When **4PTZ** is selected in the fisheye mode list, you can view four partial preview images that are numbered from left to right and from top to bottom by default. As shown in the following figure, each preview image can be operated as a virtual PTZ view for PTZ control and zooming.



5 Video Playback and Download with Edge Storage

NOTE!

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

Video Playback

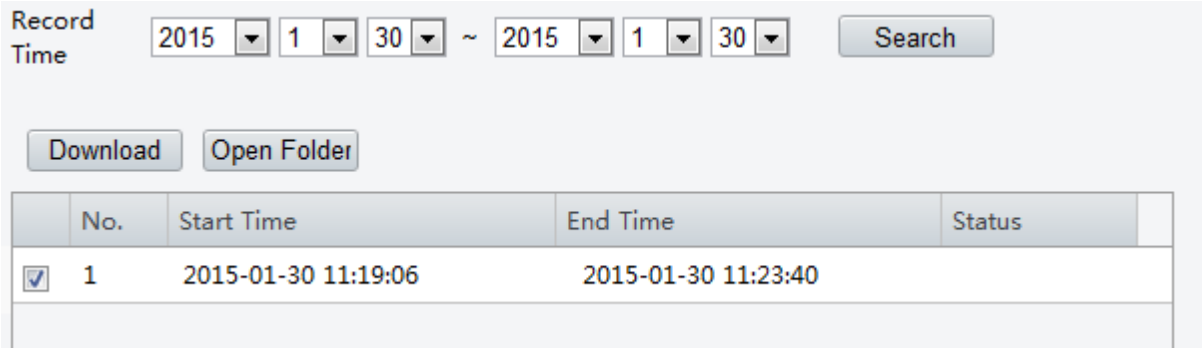
1. Click **Playback** on the home page.

2. Select the date from the calendar.

3. Click **Query**.
4. Under **Results**, double-click the time period to start playing the recording.

Download

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



2. Search for video within a specified period. The results will be shown in a list.
3. Select your video and click **Download**. The video will be downloaded to your local path from the memory card (local path can be changed in **System Configuration**).
4. Click **Open Folder** to show the folder where the downloaded video is saved.

6 PTZ Control

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

NOTE!

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

PTZ Control Toolbar

Item	Description
Preset	Select a preset and then click . The PTZ camera goes to the selected preset. To add a preset, click . To delete a preset, click .
Patrol	Select a patrol route and then click to start patrol. • To edit a patrol route, click . • To add a patrol route, click . • To delete a patrol route, click .

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

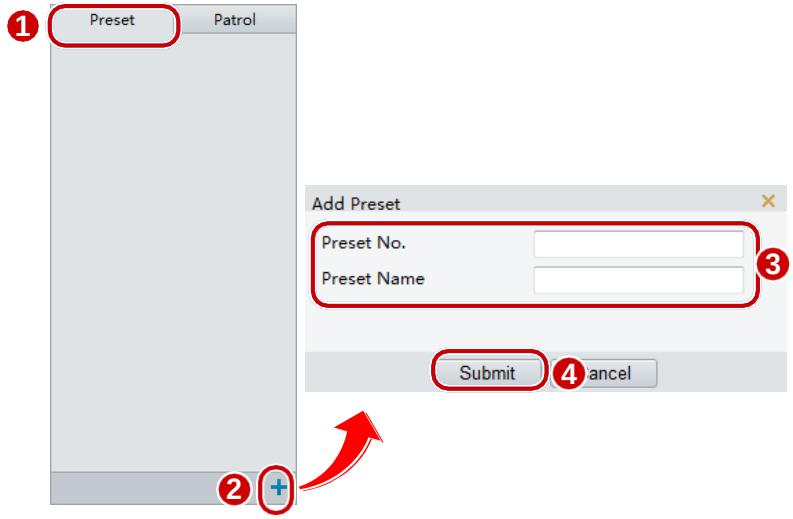
Setting Patrol by Presets

Setting Presets

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

Add a preset

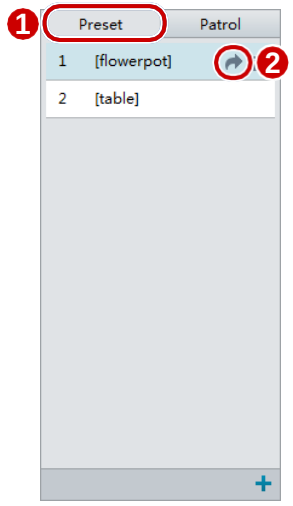
1. On the **Live View** page, click **Preset** on the control panel.



2. Adjust the camera till it points toward the desired direction.
3. Adjust zoom and focus 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.

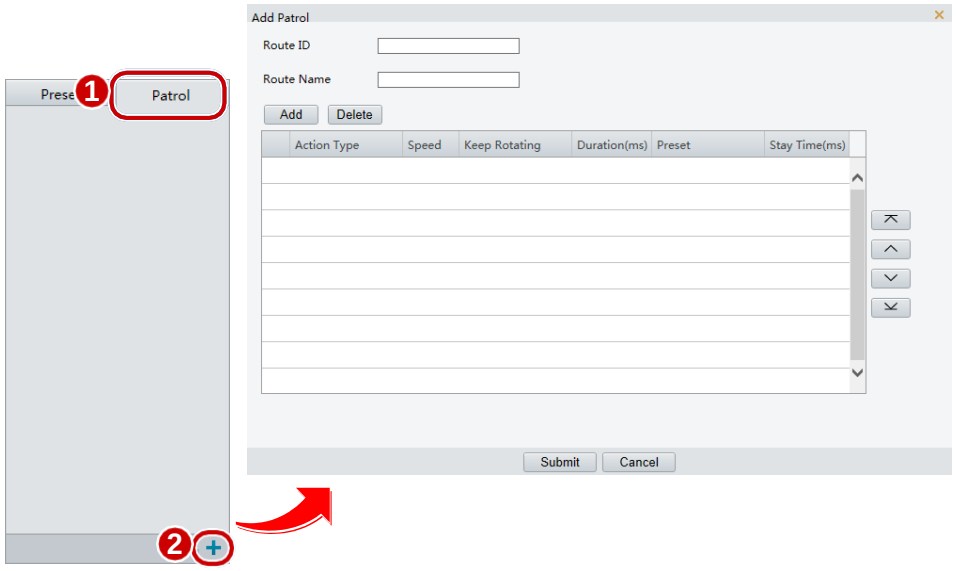
Setting Patrol

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

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

Add a patrol route

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



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

Patrol actions include:

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

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

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

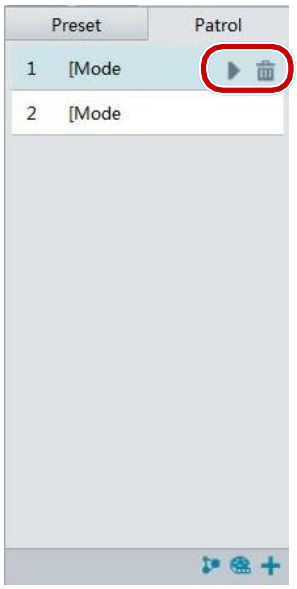
4. Click **Submit**.

Record a patrol route

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

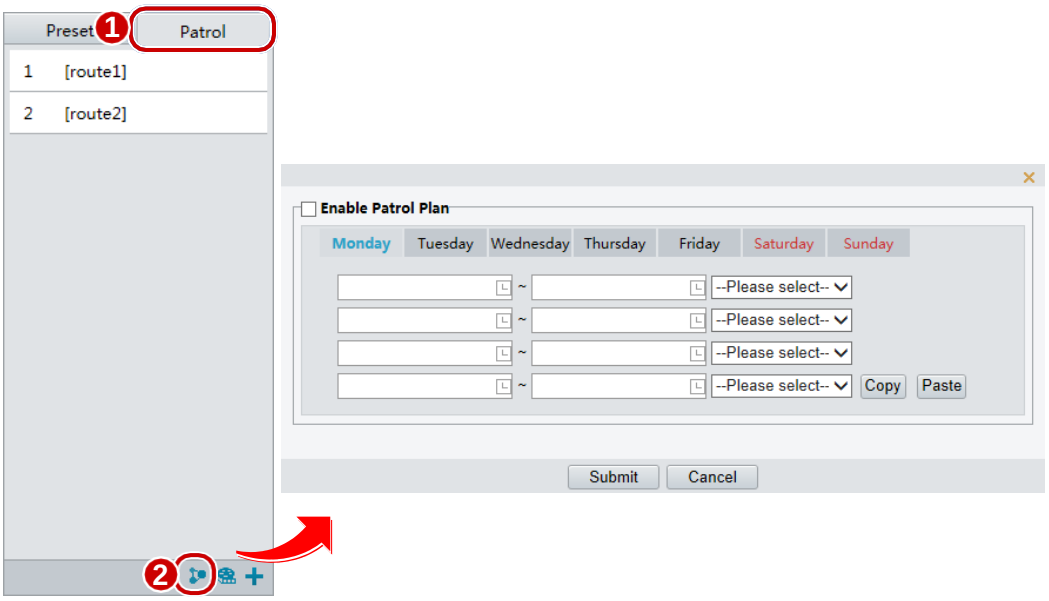
2. Click  to start recording the patrol route. You can adjust the direction and zoom of the camera during the recording. The system records the motion and track of the camera and adds them to the action list.

3. Click  to finish recording. Then the patrol route is saved as a mode route automatically. You can click  to start patrol or  to delete the mode route.



Make a patrol plan

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

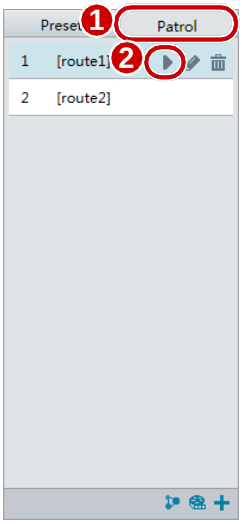


2. Click . The page for setting patrol plans is displayed.
3. Set the correct patrol time and route.
4. Select **Enable Patrol Plan**.
5. Click **Submit**.

Start a patrol route

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

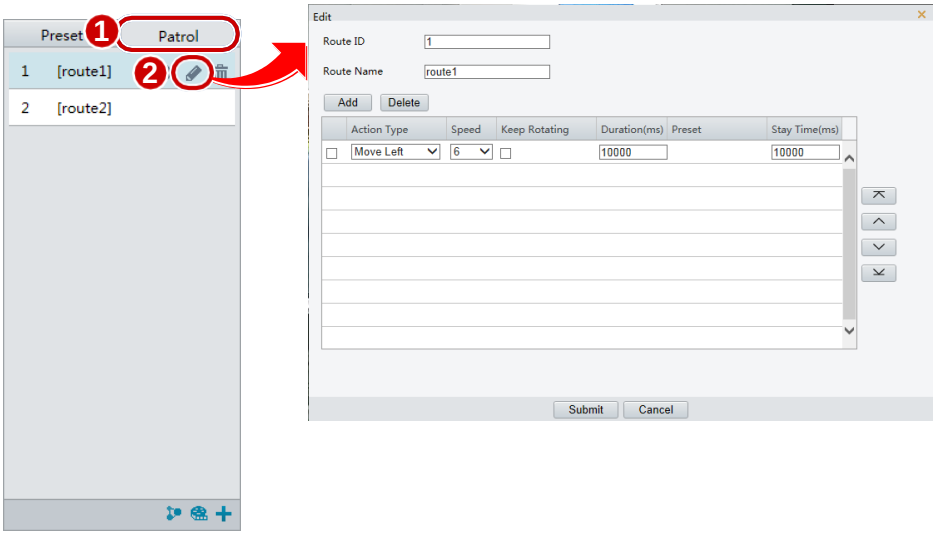
1. On the **Live View** page, click **Patrol** on the control panel.



2. Click for the patrol route you want to start.

Edit a patrol route

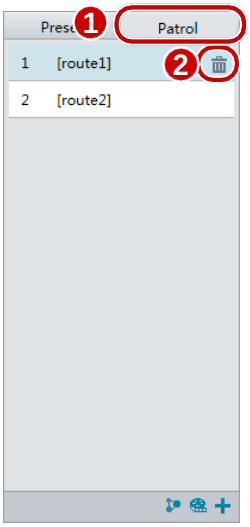
1. On the **Live View** page, click **Patrol** on the control panel.



2. Click for the patrol route you want to edit and modify the settings as required.

Delete a patrol route

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



2. Click for the patrol route you want to delete and then confirm the delete.

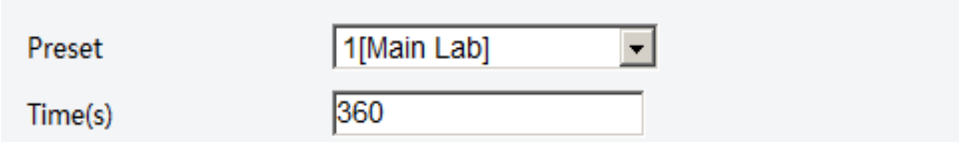
Setting Home Position

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

NOTE!

This function is available for network PTZ cameras only.

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



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

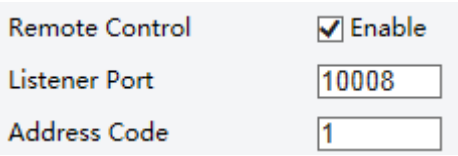
Remote Control PTZ

When the third-party platform is used and the PTZ protocol does not match that, you can set the remote control function to control the PTZ.

NOTE!

This function is only supported by PTZ cameras.

1. Click **Setup** > **PTZ** > **Remote Control**.



2. Under **Remote Control**, select **Enable** and set the listener port and address code.

NOTE!

- The listener port is the local port number of the camera and cannot be set as an occupied port. Please keep the default port number for general conditions.
- The camera can read the address code in the instruction. If it is the same as the address code on the Web, the camera can parse the instruction.

3. Click **Save**.

Preset Snapshot

When an alarm is triggered to the preset, the camera can snapshot and upload images to the FTP server.

NOTE!

Please complete FTP settings and snapshot alarm settings before you enable this function.

1. Click **Setup** > **PTZ** > **Patrol**.

2. Select **Enable**.
3. Click **Save**.

Appendix A Glossary

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

Acronym	Description
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 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.