

Network Speed Dome

User Manual

UD13781B

User Manual

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The Manual includes instructions for using and managing the product. Pictures, charts, images and all other information hereinafter are for description and explanation only. The information contained in the Manual is subject to change, without notice, due to firmware updates or other reasons. Please find the latest version in the company website (http://overseas.hikvision.com/en/).

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Regulatory Information

FCC Information

Please take attention that changes or modification not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

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

FCC Conditions

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

1. This device may not cause harmful interference.
2. This device must accept any interference received, including interference that may cause undesired operation.

EU Conformity Statement



This product and - if applicable - the supplied accessories too are marked with "CE" and comply therefore with the applicable harmonized European standards listed under the Low Voltage Directive 2015/35/EU, the EMC Directive 2014/30/EU, the RoHS Directive 2011/65/EU.



2012/19/EU (WEEE directive): Products marked with this symbol cannot be disposed of as unsorted municipal waste in the European Union. For proper recycling, return this product to your local supplier upon the purchase of equivalent new equipment, or dispose of it at designated collection points. For more information see: www.recyclethis.info.



2006/66/EC (battery directive): This product contains a battery that cannot be disposed of as unsorted municipal waste in the European Union. See the product documentation for specific battery information. The battery is marked with this symbol, which may include lettering to indicate cadmium (Cd), lead (Pb), or mercury (Hg). For proper recycling, return the battery to your supplier or to a designated collection point. For more information see: www.recyclethis.info.

Industry Canada ICES-003 Compliance

This device meets the CAN ICES-3 (A)/NMB-3(A) standards requirements.

Safety Instruction

These instructions are intended to ensure that the user can use the product correctly to avoid danger or property loss.

The precaution measure is divided into 'Warnings' and 'Cautions':

Warnings: Serious injury or death may be caused if any of these warnings are neglected.

Cautions: Injury or equipment damage may be caused if any of these cautions are neglected.

	
Warnings Follow these safeguards to prevent serious injury or death.	**Cautions** Follow these precautions to prevent potential injury or material damage.

**Warnings:**

- Adopt the power adapter which can meet the safety extra low voltage (SELV) standard. The power consumption cannot be less than the required value.
- Do not connect several devices to one power adapter as an adapter overload may cause over-heating and can be a fire hazard.
- When the product is installed on a wall or ceiling, the device should be firmly fixed.
- To reduce the risk of fire or electrical shock, do not expose the indoor used product to rain or moisture.
- This installation should be made by a qualified service person and should conform to all the local codes.
- Install blackouts equipment into the power supply circuit for convenient supply interruption.
- If the product does not work properly, contact your dealer or the nearest service center. Never attempt to disassemble the product yourself. (We shall not assume any responsibility for problems caused by unauthorized repair or maintenance.)

**Cautions:**

- If the camera fails to synchronize local time with that of the network, you need to set up camera time manually. Visit the camera (via web browser or client software) and enter system settings interface for time settings.
- Make sure the power supply voltage is correct before using the product.
- Do not drop the product or subject it to physical shock. Do not install the product on vibratory surface or places.
- Do not expose it to high electromagnetic radiating environment.

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- Do not aim the lens at the strong light such as sun or incandescent lamp. The strong light can cause fatal damage to the product.
- The sensor may be burned out by a laser beam, so when any laser equipment is being used, make sure that the surface of the sensor not be exposed to the laser beam.
- For working temperature, refer to the specification manual for details.
- To avoid heat accumulation, good ventilation is required for a proper operating environment.
- While shipping, the product should be packed in its original packing.
- Use the provided glove when open up the product cover. Do not touch the product cover with fingers directly, because the acidic sweat of the fingers may erode the surface coating of the product cover.
- Use a soft and dry cloth when clean inside and outside surfaces of the product cover. Do not use alkaline detergents.
- Improper use or replacement of the battery may result in hazard of explosion. Use the manufacturer recommended battery type.

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SADP SOFTWARE INTRODUCTION 119

Chapter 1 Overview

1.1 System Requirement

System requirement of web browser accessing is as follows:

Operating System: Microsoft Windows XP/Win7/Win8/Win10

CPU: Intel Pentium IV 3.0 GHz or higher

RAM: 1G or higher

Display: 1024 × 768 resolution or higher

Web Browser: Internet Explorer 8.0 to 11.0, Apple Safari 11.0 and above version, Mozilla Firefox 30.0 and above version, Google Chrome 31.0 and above version, and Microsoft Edge 16.16299 and above version.

Note:

If you are using Google Chrome 57 and its above version or Mozilla Firefox 52 and its above version, plug-in installation is not compulsory. But **Picture** and **Playback** of the camera are not available. If you want to use the mentioned function, change the web browser to Internet Explorer, or click Download Plug-in to download and install plug-in (only for Windows operation system).

1.2 Functions

Note:

The functions vary depending on different camera models.

- **PTZ Limits**

The camera can be programmed to move within the PTZ limits (left/right, up/down).

- **Scan Modes**

The camera provides 5 scan modes: auto scan, tilt scan, frame scan, random scan and panorama scan.

- **Presets**

A preset is a predefined image position. When the preset is called, the camera will automatically move to the defined position. The presets can be added, modified, deleted and called.

- **Label Display**

The on-screen label of the preset title, azimuth/elevation, zoom, time and camera name can be displayed on the monitor. The displays of time and camera name can be programmed.

- **Auto Flips**

In manual tracking mode, when a target object goes directly beneath the camera, the video will automatically flips 180 degrees in horizontal direction to maintain continuity of tracking. This function can also be realized by auto mirror image depending on different camera models.

- **Privacy Mask**

This function allows you to block or mask certain area of a scene, for preventing the personal privacy from recording or live viewing. A masked area will move with pan and tilt functions and

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automatically adjust in size as the lens zooms telephoto and wide.

- **3D Positioning**

In the client software, use the left key of mouse to click on the desired position in the video image and drag a rectangle area in the lower right direction, then the camera system will move the position to the center and allow the rectangle area to zoom in. Use the left key of mouse to drag a rectangle area in the upper left direction to move the position to the center and allow the rectangle area to zoom out.

- **Proportional Pan/Tilt**

Proportional pan/tilt automatically reduces or increases the pan and tilt speeds according to the amount of zoom. At telephoto zoom settings, the pan and tilt speeds will be slower than at wide zoom settings. This keeps the image from moving too fast on the live view image when there is a large amount of zoom.

- **Auto Focus**

The auto focus enables the camera to focus automatically to maintain clear video images.

- **Day/Night Auto Switch**

The cameras deliver color images during the day. And as light diminishes at night, the cameras switch to night mode and deliver black and white images with high quality.

- **Slow Shutter**

In slow shutter mode, the shutter speed will automatically slow down in low illumination conditions to maintain clear video images by extending the exposure time. The feature can be enabled or disabled.

- **Backlight Compensation (BLC)**

If you focus on an object against strong backlight, the object will be too dark to be seen clearly. The BLC (Backlight Compensation) function can compensate light to the object in the front to make it clear, but this causes the over-exposure of the background where the light is strong.

- **Wide Dynamic Range (WDR)**

The wide dynamic range (WDR) function helps the camera provide clear images even under back light circumstances. When there are both very bright and very dark areas simultaneously in the field of view, WDR balances the brightness level of the whole image and provide clear images with details.

- **White Balance (WB)**

White balance can remove the unrealistic color casts. White balance is the white rendition function of the camera to adjust the color temperature according to the environment automatically.

- **Patrol**

A patrol is a memorized series of pre-defined preset function. The scanning speed between two presets and the dwell time at the preset are programmable.

- **Pattern**

A pattern is a memorized series of pan, tilt, zoom, and preset functions. By default the focus and iris are in auto status during the pattern is being memorized.

- **Power Off Memory**

The camera supports the power off memory capability with the predefined resume time. It allows the camera to resume its previous position after power is restored.

- **Scheduled Task**

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A time task is a preconfigured action that can be performed automatically at a specific date and time. The programmable actions include: auto scan, random scan, patrol 1-8 ,pattern 1-4, preset 1-8,frame scan, panorama scan, tilt scan, day, night, reboot, PT adjust, Aux Output, etc.

- **Park Action**

This feature allows the camera to start a predefined action automatically after a period of inactivity.

- **User Management**

The camera allows you to edit users with different levels of permission, in the admin login status. Multiple users are allowed to access and control the same network camera via network simultaneously.

- **3D Digital Noise Reduction**

Comparing with the general 2D digital noise reduction, the 3D digital noise reduction function processes the noise between two frames besides processing the noise in one frame. The noise will be much less and the video will be clearer.

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Chapter 2 Network Connection

Notes:

- You shall acknowledge that the use of the product with Internet access might be under network security risks. For avoidance of any network attacks and information leakage, strengthen your own protection. If the product does not work properly, contact with your dealer or the nearest service center.
- To ensure the network security of the network camera, we recommend you to have the network camera assessed and maintained termly. You can contact us if you need such service.

Before you start:

- If you want to set the network camera via a LAN (Local Area Network), refer to ***Section 2.1 Setting the Network Camera over the LAN.***
- If you want to set the network camera via a WAN (Wide Area Network), refer to ***Section 2.2 Setting the Network Camera over the WAN.***

2.1 Setting the Network Camera over the LAN

Purpose:

To view and configure the camera via a LAN, you need to connect the camera in the same subnet with your computer, and install the SADP or client software to search and change the IP of the network camera.

Note:

For detailed introduction of SADP, refer to Appendix.

2.1.1 Wiring over the LAN

The following figures show the two ways of cable connection of a network camera and a computer:

Purpose:

- To test the network camera, you can directly connect the network camera to the computer with a network cable as shown in Figure 2-1.
- Refer to the Figure 2-2 to set the network camera over the LAN via a switch or a router.

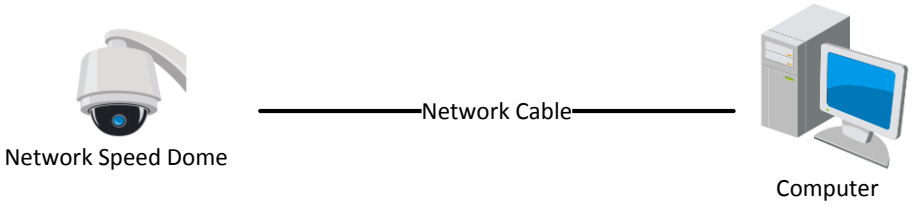


Figure 2-1 Connecting Directly

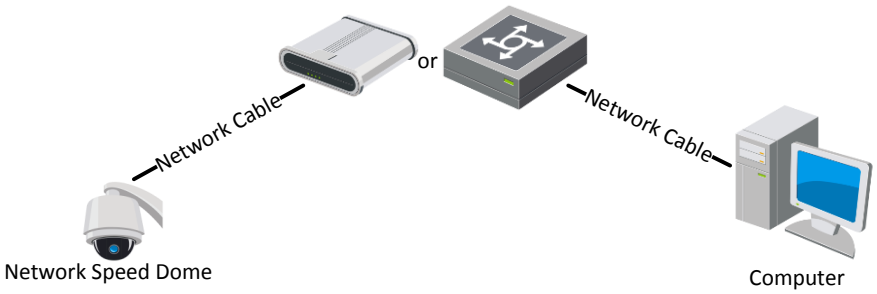


Figure 2-2 Connecting via a Switch or a Router

2.1.2 Activating the Camera

Purpose:

You are required to activate the camera first before you can use the camera.

Activation via web browser, activation via SADP, and activation via client software are supported.

Activation via Web Browser

Steps:

1. Power on the camera, and connect the camera to the network.
2. Input the IP address into the address bar of the web browser, and click **Enter** to enter the activation interface.

   Note:

   The default IP address of the camera is 192.168.1.64.

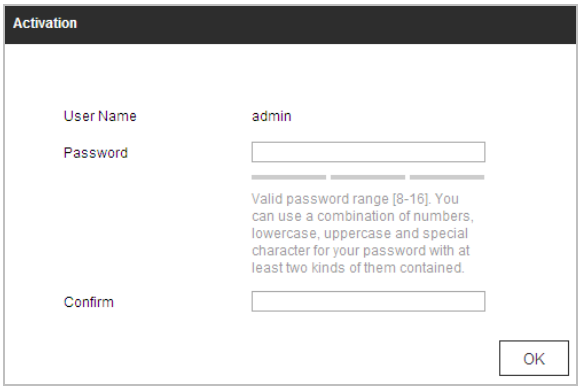


Figure 2-3 Activation Interface (Web)

3. Create a password and input the password into the password field.



- *For your privacy and to better protect your system against security risks, we strongly recommend the use of strong passwords for all functions and network devices. The password should be something of your own choosing (using a minimum of 8 characters, including upper case letters, lower case letters, numbers and special characters) in order to increase the security of your product.*

- *Proper configuration of all passwords and other security settings is the responsibility of the installer and/or end-user.*

4. Confirm the password.
5. Click **OK** to activate the camera and enter the live view interface.

Activation via SADP Software

SADP software is used for detecting the online device, activating the device, and resetting the password.

Get the SADP software from the supplied disk or the official website, and install the SADP according to the prompts. Follow the steps to activate the camera**.**

Steps:

1. Run the SADP software to search the online devices.
2. Check the device status from the device list, and select an inactive device.

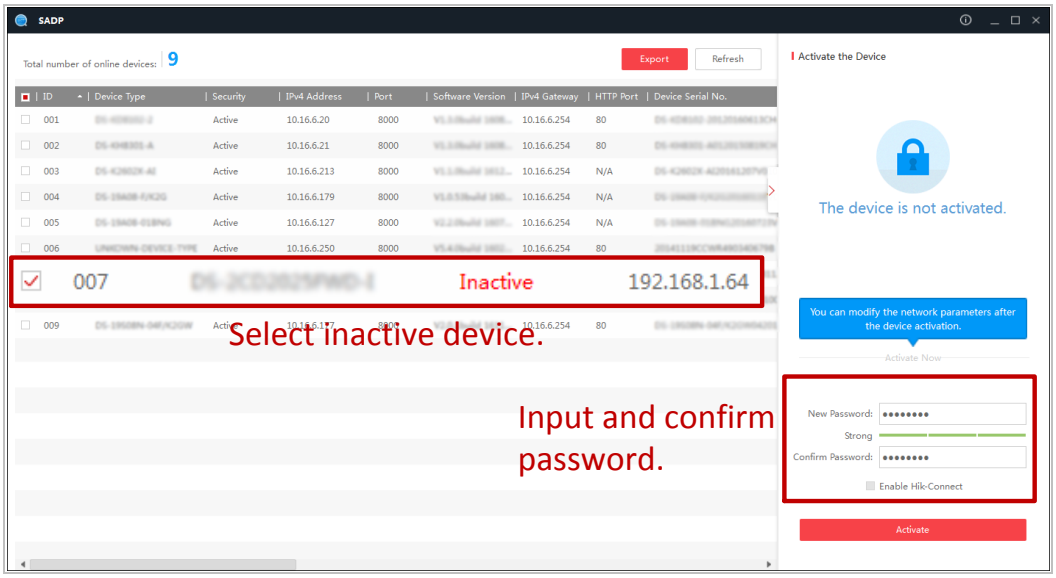


Figure 2-4 SADP Interface

Note:

The SADP software supports activating the camera in batch. Refer to the user manual of SADP software for details.

3. Create a password and input the password in the password field, and confirm the password.



- *For your privacy and to better protect your system against security risks, we strongly recommend the use of strong passwords for all functions and network devices. The password should be something of your own choosing (using a minimum of 8 characters, including upper case letters, lower case letters, numbers and special characters) in order to increase the security of your product.*
- *Proper configuration of all passwords and other security settings is the responsibility of the installer and/or end-user.*

Note:

You can enable the Hik-Connect service for the device during activation. Hik-Connect function varies depending on different speed dome models.

4. Click **Activate** to start activation. You can check whether the activation is completed on the popup window. If activation failed, make sure that the password meets the requirement and then try again.
5. Change the device IP address to the same subnet with your computer by either modifying the IP address manually or checking the **Enable DHCP** checkbox.

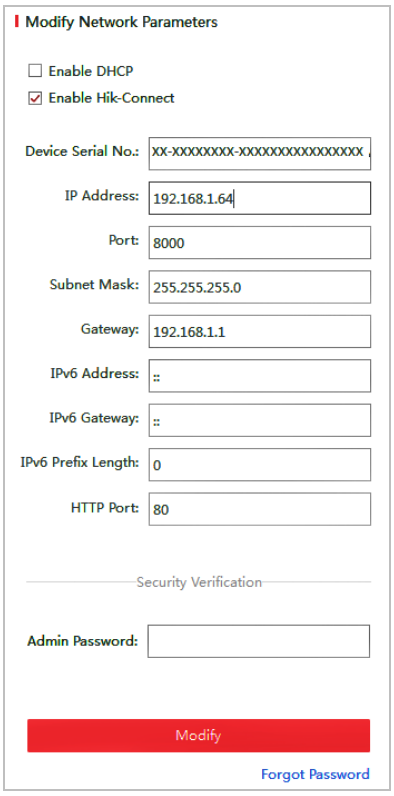


Figure 2-5 Modify the IP Address

6. Input the password and click **Modify** to activate your IP address modification.
   The batch IP address modification is supported by the SADP. Refer to the user manual of SADP for details.

Activation via Client Software

The client software is versatile video management software for multiple kinds of devices.
Get the client software from the supplied disk or the official website, and install the software according to the prompts. Follow the steps to activate the camera.

Steps:

1. Run the client software and the control panel of the software pops up, as shown in Figure 2-6.

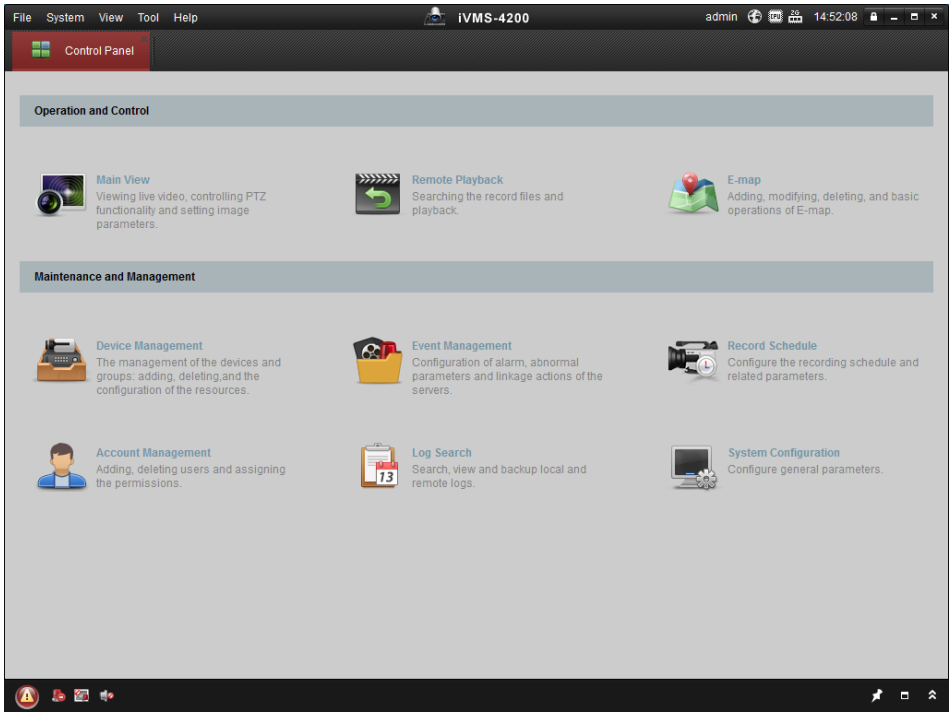


Figure 2-6 iVMS-4200 Control Panel

2. Click **Device Management** to enter the Device Management interface, as shown in Figure 2-7.

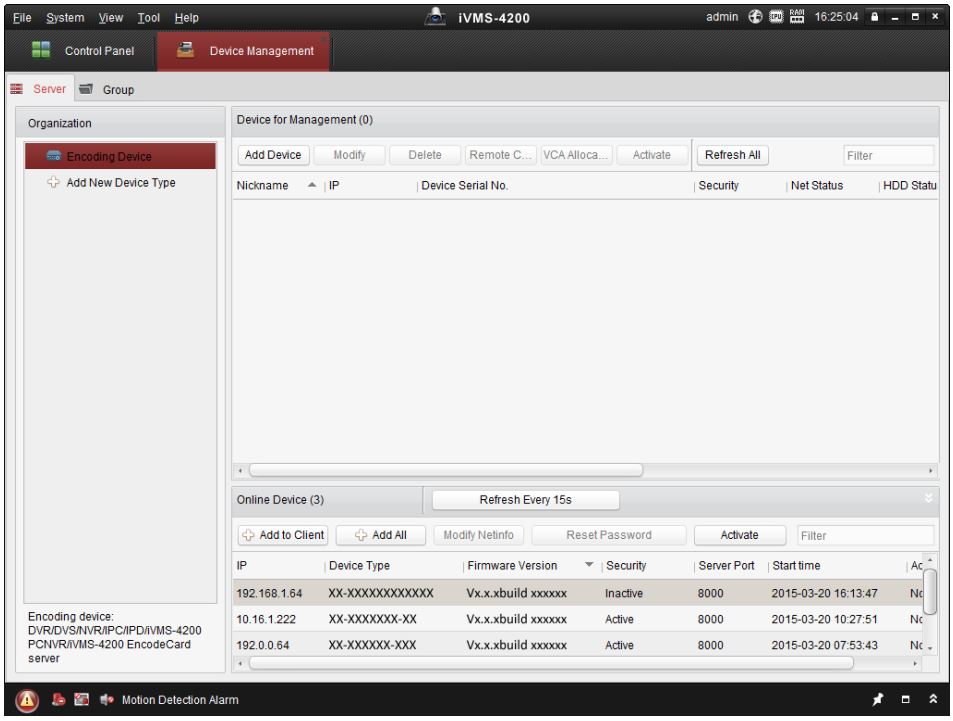


Figure 2-7 Device Management Interface

3. Check the device status from the device list, and select an inactive device.
4. Click **Activate** to pop up the Activation interface.
5. Create a password and input the password in the password field, and confirm the password.

- *For your privacy and to better protect your system against security risks, we strongly recommend the use of strong passwords for all functions and network devices. The password should be something of your own choosing (using a minimum of 8 characters, including upper case letters, lower case letters, numbers and special characters) in order to increase the security of your product.*
- *Proper configuration of all passwords and other security settings is the responsibility of the installer and/or end-user.*

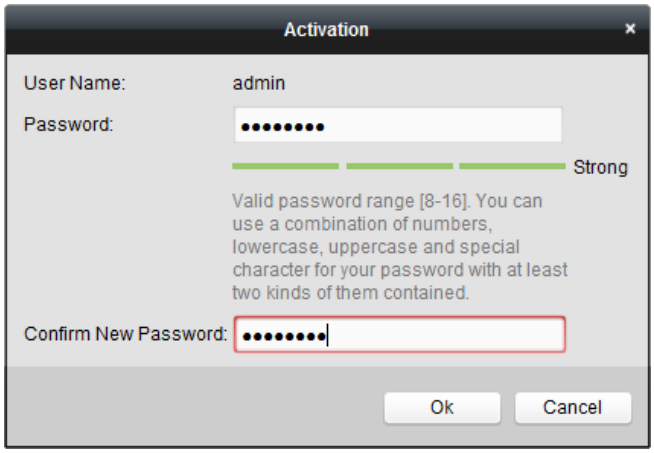


Figure 2-8 Activation Interface

6. Click **OK** to start activation.
7. Click **Modify Netinfo** to pop up the Network Parameter Modification interface, as shown in Figure 2-9.

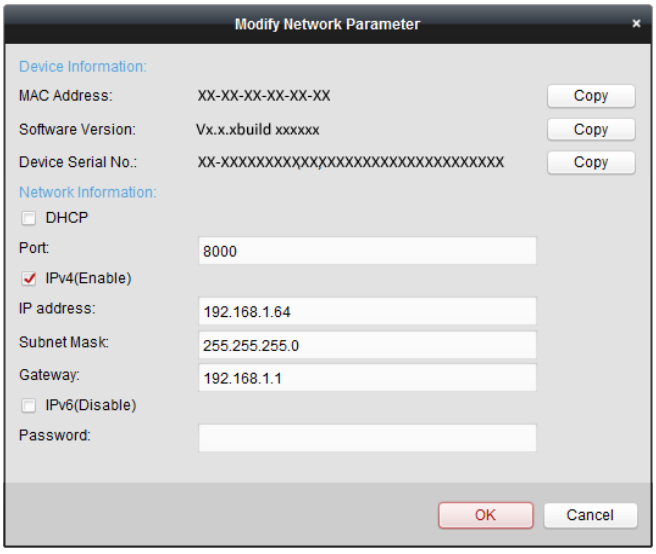


Figure 2-9 Modifying the Network Parameters

8. Change the device IP address to the same subnet with your computer by either modifying the IP address manually or checking the **Enable DHCP** checkbox.
9. Input the password to activate your IP address modification.

2.2 Setting the Network Camera over the WAN

Purpose:

This section explains how to connect the network camera to the WAN with a static IP or a dynamic IP.

2.2.1 Static IP Connection

Before you start:

Apply a static IP from an ISP (Internet Service Provider). With the static IP address, you can connect the network camera via a router or connect it to the WAN directly.

- **Connecting the network camera via a router**

Steps:

1. Connect the network camera to the router.
2. Assign a LAN IP address, the subnet mask and the gateway. Refer to ***Section 2.1.2*** for detailed IP address configuration of the camera.
3. Save the static IP in the router.
4. Set port mapping, e.g., 80, 8000 and 554 ports. The steps for port mapping vary depending on different routers. Call the router manufacturer for assistance with port mapping.
5. Visit the network camera through a web browser or the client software over the internet.

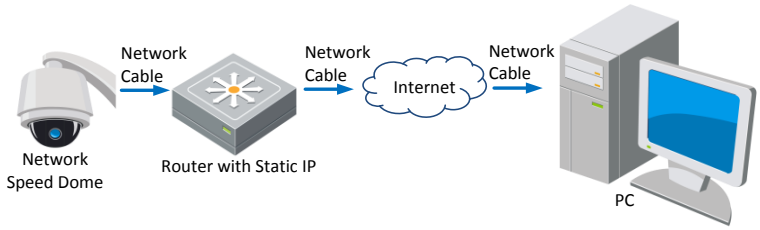


Figure 2-10 Accessing the Camera through Router with Static IP

- **Connecting the network camera with static IP directly**

You can also save the static IP in the camera and directly connect it to the internet without using a router. Refer to ***Section 2.1.2*** for detailed IP address configuration of the camera.

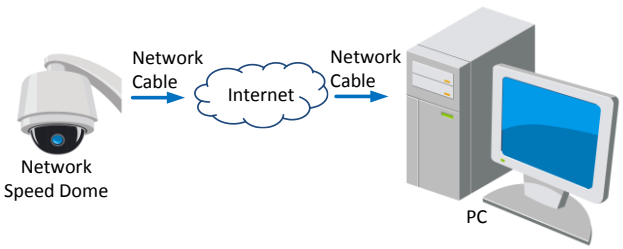


Figure 2-11 Accessing the Camera with Static IP Directly

2.2.2 Dynamic IP Connection

Before you start:

Apply a dynamic IP from an ISP. With the dynamic IP address, you can connect the network camera to a modem or a router.

- **Connecting the network camera via a router**

Steps:

1. Connect the network camera to the router.
2. In the camera, assign a LAN IP address, the subnet mask and the gateway. Refer to ***Section 2.1.2*** for detailed LAN configuration.
3. In the router, set the PPPoE user name, password and confirm the password.



- *For your privacy and to better protect your system against security risks, we strongly recommend the use of strong passwords for all functions and network devices. The password should be something of your own choosing (using a minimum of 8 characters, including upper case letters, lower case letters, numbers and special characters) in order to increase the security of your product.*
- *Proper configuration of all passwords and other security settings is the responsibility of the installer and/or end-user.*

4. Set port mapping. e.g. 80, 8000 and 554 ports. The steps for port mapping vary depending on different routers. Call the router manufacturer for assistance with port mapping.
5. Apply a domain name from a domain name provider.
6. Configure the DDNS settings in the setting interface of the router.
7. Visit the camera via the applied domain name.

- **Connecting the network camera via a modem**

Purpose:

This camera supports the PPPoE auto dial-up function. The camera gets a public IP address by ADSL dial-up after the camera is connected to a modem. You need to configure the PPPoE parameters of the network camera. Refer to ***Section 6.1.1 Configuring PPPoE Settings*** for detailed configuration.

Note:

The obtained IP address is dynamically assigned via PPPoE, so the IP address always changes after rebooting the camera. To solve the inconvenience of the dynamic IP, you need to get a domain name from the DDNS provider (e.g. DynDns.com). Follow the steps below for normal domain name resolution and private domain name resolution to solve the problem.

♦ Normal Domain Name Resolution

Steps:

1. Apply a domain name from a domain name provider.
2. Configure the DDNS settings in the **DDNS Settings** interface of the network camera. Refer to ***Section 6.1.1 Configuring DDNS Settings*** for detailed configuration.

3. Visit the camera via the applied domain name.

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Chapter 3 Accessing to the Network Speed Dome

3.1 Accessing by Web Browsers

Steps:

1. Open the web browser.
2. In the address field, input the IP address of the network camera, e.g., 192.168.1.64 and press the **Enter** key to enter the login interface.
3. Activate the camera for the first time using. Refer to the ***Section 2.1.2 Activating the Camera***.
4. Select English as the interface language on the top-right of login interface.
5. Input the user name and password and click Login.

   The admin user should configure the device accounts and user/operator permissions properly. Delete the unnecessary accounts and user/operator permissions.

   Note:

   The device IP address gets locked if the user performs certain failed password attempts. Admin user can adjust the number of attempts on **Security Service** page (**Configuration > System > Security**).



Figure 3-1 Login Interface

6. For certain web browsers, you should install the plug-in before viewing the live video and operating the camera. Follow the installation prompts to install the plug-in.

   Note:

   You may have to close the web browser to install the plug-in. Reopen the web browser and log in again after installing the plug-in.

3.2 Accessing by Client Software

The product CD contains the client software. You can view the live video and manage the camera with the client software.

Follow the installation prompts to install the client software and WinPcap. The configuration interface and live view interface of client software are shown in Figure 3-2.

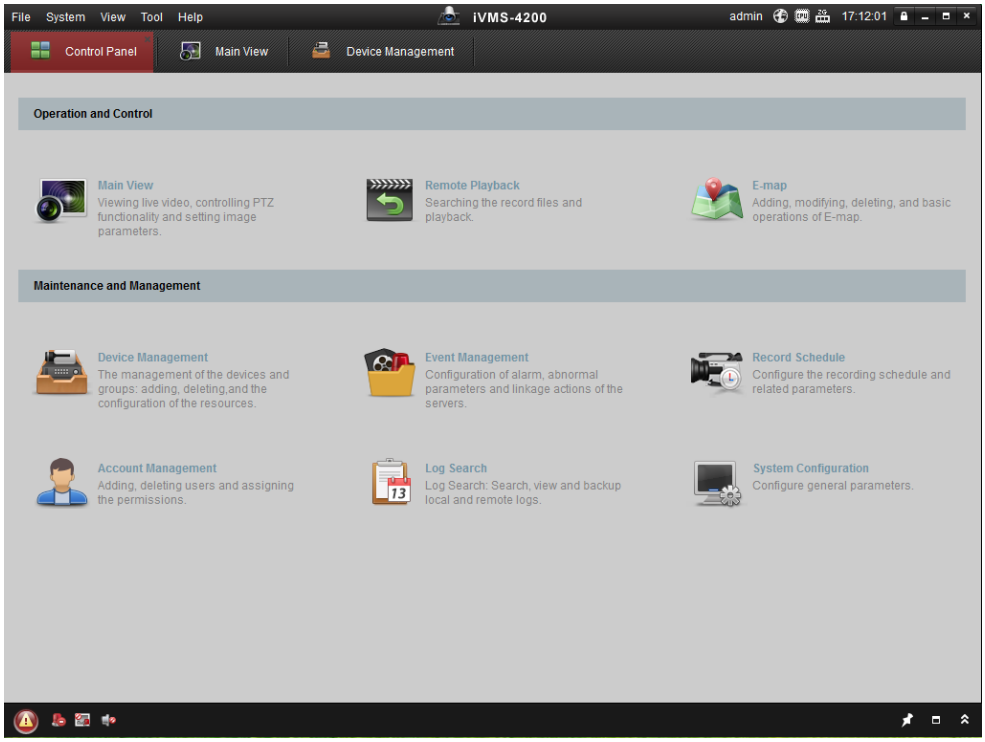


Figure 3-2 iVMS-4200 Control Panel

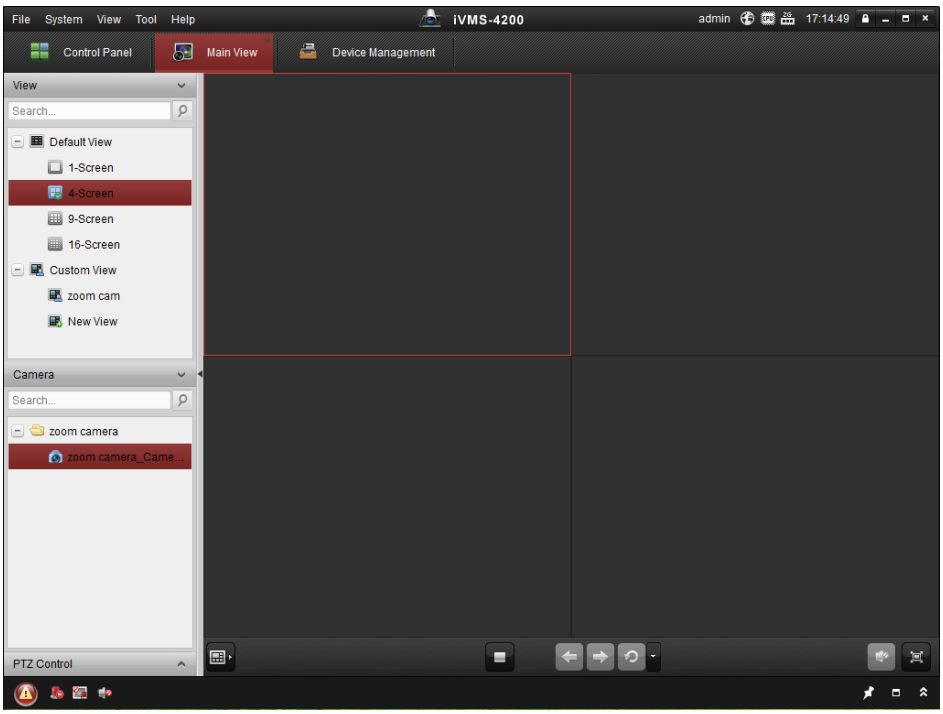


Figure 3-3 iVMS-4200 Main Interface

Notes:

- If you use third party VMS software, contact our technical support for camera firmware.
- For detailed information about client software of our company, refer to the user manual of the software. This manual mainly introduces accessing to the network camera by web browser.

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Chapter 4 Basic Operations

In this and the following chapters, operation of the speed dome by the web browser will be taken as an example.

4.1 Power-up Action

After power up, the speed dome will perform self-test action. It begins with lens action and then pan/tilt movement.

After the self-test action, the system information of the speed dome including model, address, communication, version, and others will be displayed on screen for 40 seconds.

4.2 Configuring Local Parameters

The local configuration refers to the parameters of the live view and other operations using the web browser.

For Google Chrome 57 and its above version or Mozilla Firefox 52 and its above version which are plug-in free, **Local** functions are hidden.

Steps:

1. Enter the Local Configuration interface:
   Configuration > Local
2. Configure the following settings:

- **Live View Parameters:** Set the Protocol, Play Performance, Rules, Display POS Information and Image Format.
  - **Protocol:** TCP, UDP, MULTICAST and HTTP are selectable.
    TCP: Ensures complete delivery of streaming data and better video quality, yet the real-time transmission will be affected.
    UDP: Provides real-time audio and video streams.
    MULTICAST: It's recommended to select the protocol type to **MULTICAST** when using the Multicast function.
    HTTP: Allows the same quality as of TCP without setting specific ports for streaming under some network environments.
  - **Play Performance:** Set the live view performance to Shortest Delay, Balanced, Fluent or Custom. For Custom, you can set the frame rate for live view.
  - **Rules:** You can enable or disable the rules of dynamic analysis for motion here.
  - **Display POS Information:** Enable the function, feature information of the detected target is dynamically displayed near the target in the live image.
  - **Image Format:** The captured pictures can be saved as different format. JPEG and BMP are available.

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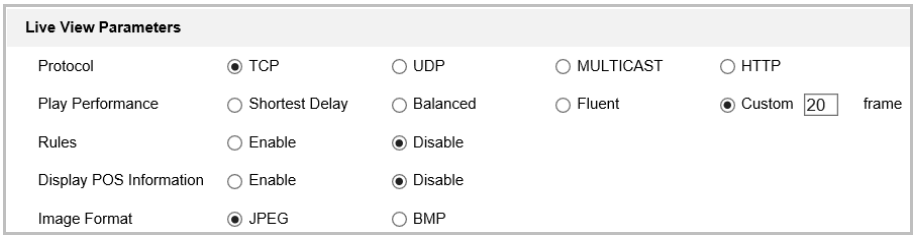


Figure 4-1 Live View Parameters

- **Record File Settings:** Set the saving path of the video files.
  - **Record File Size:** Select the packed size of manually recorded and downloaded video files. The size can be set to 256M, 512M or 1G.
  - **Save record files to:** Set the saving path for the manually recorded video files.
  - **Save downloaded files to:** Set the saving path for the downloaded video files in Playback interface.
- **Picture and Clip Settings:** Set the saving paths of the captured pictures and clipped video files.
  - **Save snapshots in live view to:** Set the saving path of the manually captured pictures in Live View interface.
  - **Save snapshots when playback to:** Set the saving path of the captured pictures in Playback interface.
  - **Save clips to:** Set the saving path of the clipped video files in Playback interface.

  You can click **Browse** to change the directory for saving video files, clips and pictures.
  You can click **Open** to directly open the video files, clips and pictures.

3. Click Save to save the settings.

4.3 Live View Page

Purpose:

The live video page allows you to view live video, capture images, realize PTZ control, set/call presets and configure video parameters.

Log in the network camera to enter the live view page, or you can click Live View on the menu bar of the main page to enter the live view page.

Note:

The functions vary depeding on different camera models. Take the actual interface as standard.

Descriptions of the Live View page:

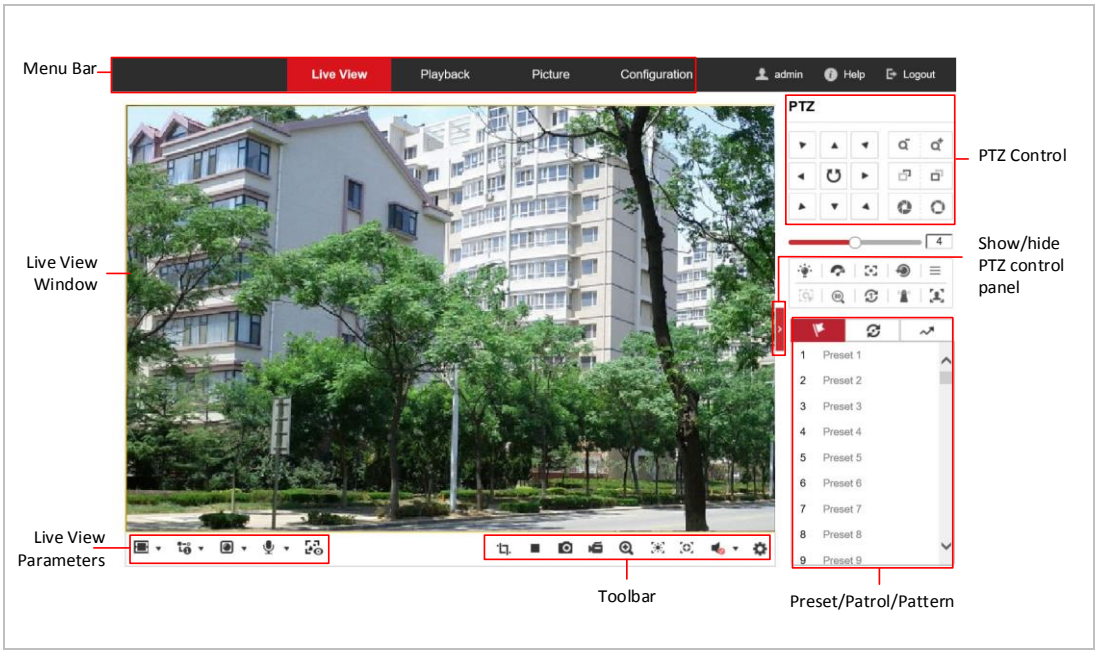


Figure 4-2 Live View Page

Menu Bar:

Click each tab to enter Live View, Playback, Picture, and Configuration page respectively.

Click to display the help file of the network camera.

Click to logout the system.

Live View Window:

Display the live video.

Toolbar:

Operations on the live view page, e.g., Count Pixel, Live View, Capture, Record, Audio on/off, Regional Exposure, Regional Focus, etc.

Note:

Audio on/off is only supported by certain camera models.

PTZ Control:

Panning, Tilting, Focusing and Zooming actions of the network, as well as the Light, Wiper, Auxiliary Focus, and Lens Initialization Control, etc.

Preset/Patrol/Pattern:

Set and call the Preset/Patrol/Pattern for the camera.

Live View Parameters:

Configure the Image Size, Stream Type, Plug-in Type.

4.4 Starting Live View

4.4.1 Live Operation

In the live view window as shown in Figure 4-3, click on the toolbar to start the live view of

the network.

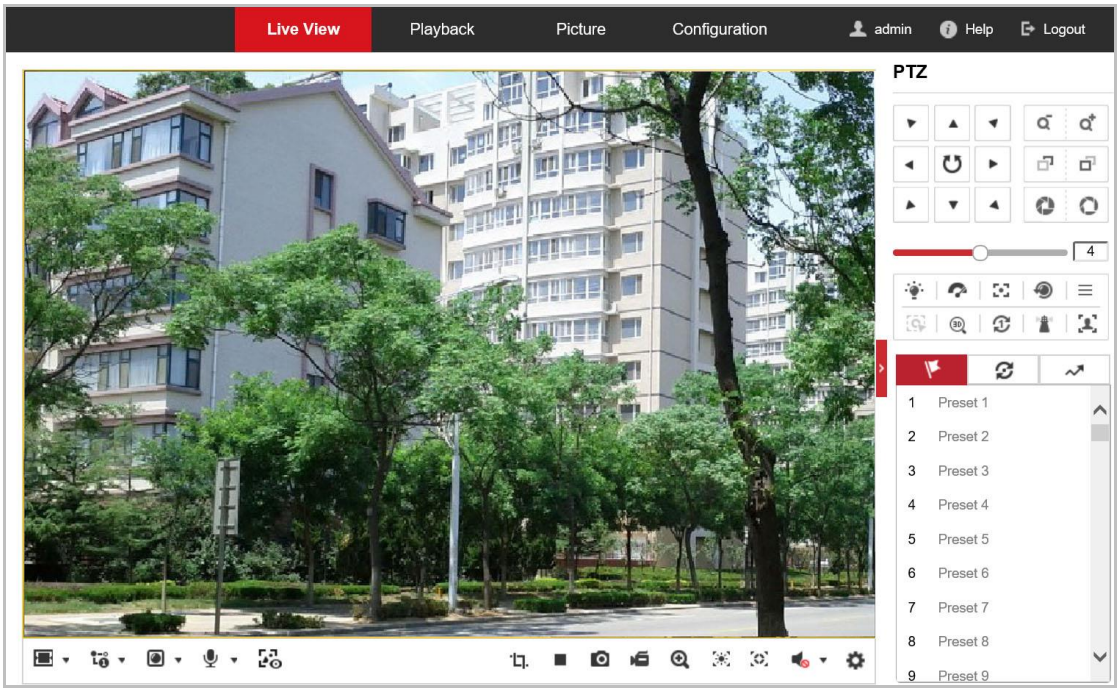


Figure 4-3 Start Live View

Table 4-1 Descriptions of the Toolbar and Live View Parameters

Icon	Description
	Click the button to enable Pixel Counter. Draw an area in live view window, and it shows the height and width of the selected area.
/	Start/stop Live view.
	Manually capture the pictures.
/	Manually start/stop recording.
/	***Steps:*** 1. Click the button to enable Digital Zoom function. 2. Draw a rectangle on the image as the target area, and the area will be zoomed in. 3. After viewing, you can click any place of the picture to get back to normal picture.
/	***Steps:*** 1. Click the button to enter the regional exposure operation mode. 2. Draw a rectangle on the image as target exposure region.
/	***Steps:*** 1. Click the button to enter the regional focus operation mode. 2. Draw a rectangle on the image as the target focus region.
/	Mute/audio on and adjust volume ***Note:*** The function is only supported by certain camera models.

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	Click the button to enable quick setup of image/video related parameters, including Specify Display, OSD and Video/Audio parameters. For detailed configuration, refer to ***Section 6.2 Configuring Video and Audio Settings*** and ***Section 6.3 Configuring Image Settings*** for more information. ***Note:*** Click to show the setting panel.
	Click to select from and display live video in 4:3/16:9/ original/original ratio/self-adaptive window size.
	Click to select from and display live video with the main/ sub/third stream. The main stream is with a relatively high resolution and needs more bandwidth. The default setting of stream type is .
	Click to select between and play the live video via player Web Components or Quick Time. ***Note:*** The live video is played via Web Components by default, and other types of players are supported for the browser, such as MJPEG, and VLC. You are required to download and install the player to play the live video.
	Steps: 1. Click and it appears. Click to enable two-way audio when the icon turns into. 2. Click the icon again to stop two-way audio. ***Note:*** The function is only supported by certain camera models.

Notes:

- Double-click on the live video to switch the current live view into full-screen or return to normal mode from the full-screen.
- Before using the two-way audio or recording with audio functions, set the **Stream Type** to **Video & Audio** referring to ***Section 6.2.1 Configuring Video Settings***.

4.4.2 Install Plug-in

Certain operation system and web browser may restrict the display and operation of the camera function. You should install plug-in or complete certain settings to ensure normal display and operation.

Operation System	Web Browser	Operation
Windows	● Internet Explorer 8+	Follow pop-up prompts to complete

	• Google Chrome 56 and earlier version • Mozilla Firefox 51 and earlier version	plug-in installation.
	• Google Chrome 57+ • Mozilla Firefox 52+ • Latest Internet Edge (Windows 10)	Click Download Plug-in to download and install plug-in.
Others	• Internet Explorer 8+	Follow pop-up prompts to complete plug-in installation to obtain high quality display and complete functions the camera offers.

4.5 Operating PTZ Control

Purpose:

In the live view interface, you can use the PTZ control buttons to control panning, tilting and zooming.

Note:

PTZ functions vary depending on different camera models.

4.5.1 PTZ Control Panel

On the live view page, click  to show the PTZ control panel or click  to hide it.

Click the direction buttons to control the pan/tilt movements.

Click the zoom/iris/focus buttons to control lens.

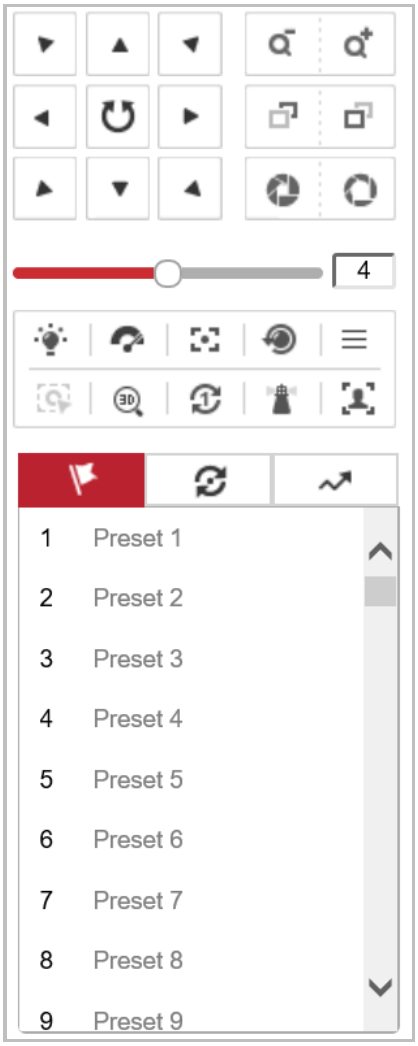


Figure 4-4 PTZ Control Panel

Table 4-2 Descriptions of PTZ Control Panel

Button	Name	Description
	PTZ Control Panel	Hold and press the directional button to pan/tilt the camera. Click , then the camera keeps panning when the icon turns into . Click the icon again to stop the camera.
	Zoom out/in	Click , then the lens zooms in. Click , then the lens zooms out.

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Button	Name	Description
	Focus near/far	Click , then the lens focuses far and the object far away gets clear. Click , then the lens focuses near and the object nearby gets clear.
	Iris close/open	When the image is too dark, click to enlarge the iris. When the image is too bright, click to stop down the iris.
	Auxiliary Functions	Refer to ***Section 4.5.2 Auxiliary Functions*** for detailed information of auxiliary functions
	Speed Adjustment	Adjust speed of pan/tilt movements.
	Preset	Refer to ***Section 4.5.3 Setting/Calling a Preset*** for detailed information of setting preset.
	Patrol	Refer to ***Section 4.5.4 Setting/Calling a Patrol*** for detailed information of setting patrol.
	Pattern	Refer to ***Section 4.5.6 Setting/Calling a Pattern*** for detailed information of setting pattern.

- **Buttons on the Preset/Patrol/Patterns interface:**

Table 4-3 Descriptions of Buttons

Button	Description
	Start the selected patrol/pattern.
	Stop current patrol/pattern.
	Set the selected preset/patrol.
	Delete the selected preset/patrol/pattern.
	Start recording a pattern.
	Stop recording the pattern.

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4.5.2 Auxiliary Functions

Note:

These functions may differ from different cameras. Please take the actual product as standard.

The Auxiliary functions panel is shown in Figure 4-5.



Figure 4-5 Auxiliary Functions

Table 4-4 Descriptions of Auxiliary Functions

Button	Name	Description
	Light	Click the button to enable/disable the light supplement of the camera.
	Wiper	Click the button to move the wiper once. The function can only be realized with wiper device.
	Auxiliary Focus	This function is reserved.
	Lens Initialization	Click the button and the lens operates the movements for initialization.
	Menu	Click the button to call the OSD menu of the device and click again to close the OSD menu.
	Manual Tracking	***Steps:*** 1. Click on the toolbar of live view interface. 2. Click a moving object in the live video. The camera will track the object automatically.
	3D Positioning	***Steps:*** 1. Click on the toolbar of live view interface. 2. 3D positioning can be operated in three ways: ● Click a position of the live video. The corresponding position will be moved to the center of the live video. ● Hold down the left mouse button and drag the mouse to the lower right on the live video. The corresponding position will be moved to the center of the live video and zoomed in. ● Hold down the left mouse button and drag the mouse to the upper left on the live video. The corresponding position will be moved to the center of the live video and zoomed out.

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	One-touch Patrol	Click to call one-touch patrol. For detailed information of setting one-touch patrol, refer to ***Section 4.5.5 One-touch Patrol***.
	One-touch Park	Click to save the current view as the preset No. 32 and start park at the current position.

4.5.3 Setting/Calling a Preset

Purpose:

A preset is a predefined image position. For the defined preset, you can click the calling button to quickly view the predetermined image position.

- **Setting a Preset:**

Steps:

1. In the PTZ control panel, select a preset number from the preset list.

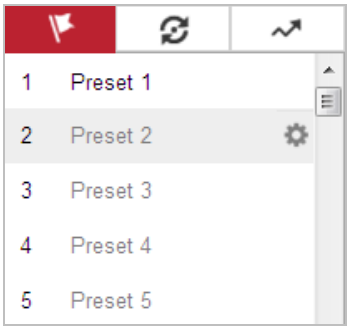


Figure 4-6 Setting a Preset

2. Use the PTZ control buttons to move the lens to the desired position.
   - Pan the camera to the right or left.
   - Tilt the camera up or down.
   - Zoom in or out.
   - Refocus the lens.
3. Click to finish the setting of the current preset.
4. Edit a preset name by double clicking on the default name such as preset 1. (The pre-defined presets are named already but not configurable. Refer to the user manual for detailed function description.)
5. You can click to delete the preset.

   Note:

   You can configure up to 272 presets.

- **Calling a Preset:**

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

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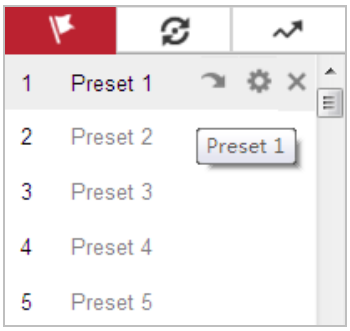


Figure 4-7 Calling a Preset

For convenient preset selection, refer to the following steps to navigate to the preset you want.

Steps:

1. Select any preset from the list.
2. Click the preset number you need on the keyboard.

Notes:

- The following presets are predefined with special commands. You can only call them but not configure them. For instance, preset 99 is the "Start auto scan". If you call the preset 99, the camera starts auto scan function.
- Pattern function varies depending on different camera models.

Table 4-5 Special Presets

Preset	Function	Preset	Function
33	Auto flip	92	Set manual limits
34	Back to initial position	93	Save manual limits
35	Call patrol 1	94	Remote reboot
36	Call patrol 2	95	Call OSD menu
37	Call patrol 3	96	Stop a scan
38	Call patrol 4	97	Start random scan
39	Day mode (IR cut filter in)	98	Start frame scan
40	Night mode (IR cut filter out)	99	Start auto scan
41	Call pattern 1	100	Start tilt scan
42	Call pattern 2	101	Start panorama scan
43	Call pattern 3	102	Call patrol 5
44	Call pattern 4	103	Call patrol 6
45	One-touch Patrol	104	Call patrol 7
46	Day/Night Auto Mode	105	Call patrol 8

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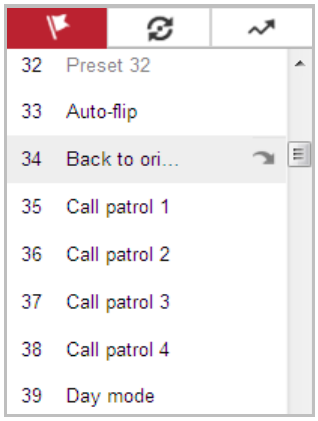


Figure 4-8 Special Preset

Note:

You may need to use the OSD (On Screen Display) menu when controlling the camera remotely. To display the OSD menu on the live view screen, you can call the preset number 95.

4.5.4 Setting/Calling a Patrol

Purpose:

A patrol is a memorized series of preset function. It can be configured and called on the patrol settings interface. There are up to 8 patrols for customizing. A patrol can be configured with 32 presets.

Before you start:

Make sure that the presets you want to add into a patrol have been defined.

- **Setting a Patrol:**

Steps:

1. In the PTZ control panel, click to enter the patrol settings interface.
2. Select a patrol number from the list and click .
3. Click to enter the adding interface of preset, as shown in Figure 4-9.



Figure 4-9 Adding Presets

4. Configure the preset number, patrol time and patrol speed.

Name	Description
Patrol Time	It is the duration staying on one patrol point. The camera moves to another patrol point after the patrol time.
Patrol Speed	It is the speed of moving from one preset to another.

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

- **Calling a Patrol:**

In the PTZ control panel, select a defined patrol from the list and click to call the patrol, as shown in Figure 4-10.

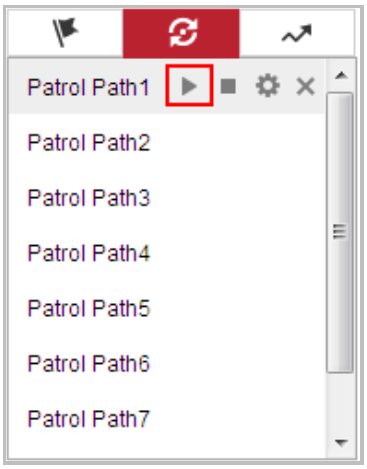


Figure 4-10 Calling a Preset

4.5.5 One-touch Patrol

Purpose:

One-touch patrol is an automatically created patrol. The system automatically add preset No.1 to No.32 to the patrol path 8. You can call the one-touch patrol and the camera moves as the patrol path 8 automatically.

Steps:

1. Set preset No.1 to No.32. Refer to ***Section 4.5.3 Setting/Calling a Preset*** for detailed information of setting preset.
2. Call preset No. 45, and the camera moves as patrol path 8.
3. Click to enter the patrol settings interface and start/stop one-touch patrol, edit the patrol time and the speed.
4. You can click of the PTZ control panel to start one-touch patrol.

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Figure 4-11 Patrol Path 8

4.5.6 Setting/Calling a Pattern

Purpose:

A pattern is a memorized series of pan, tilt, zoom, and preset functions. It can be called on the pattern settings interface. There are up to 4 patterns for customizing.

Note:

Pattern function varies depending on different camera models.

- **Setting a Pattern:**

Steps:

1. In the PTZ control panel, click to enter the pattern settings interface.
2. Select a pattern number from the list as shown in Figure 4-12.

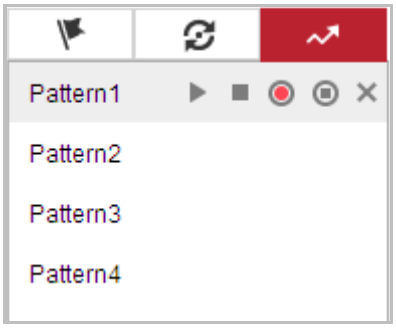


Figure 4-12 Patterns Settings Interface

3. Click to enable recording the panning, tilting and zooming actions.
4. Use the PTZ control buttons to move the lens to the desired position after the information of **PROGRAM PATTERN REMAINNING MEMORY (%)** is displayed on the screen.
   - Pan the camera to the right or left.
   - Tilt the camera up or down.
   - Zoom in or out.
   - Refocus the lens.

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5. Click  to save all the pattern settings.

- **Buttons on the Patterns interface:**

Buttons	Description
	Start the selected patrol/pattern.
	Stop current patrol/pattern.
	Set the selected preset/patrol.
	Delete the selected preset/patrol/pattern.
	Start recording a pattern.
	Stop recording the pattern.

Notes:

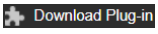
- These 4 patterns can be operated separately and with no priority level.
- When configuring and calling the pattern, proportional pan is valid; the limit stops and auto flip will be invalid; and the 3D positioning operation is not supported.

4.6 Playback

Purpose:

This section explains how to view the video files stored in the network disks or memory cards.

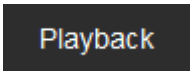
Note:

If you are using Google Chrome 57 and its above version or Mozilla Firefox 52 and its above version, plug-in installation is not compulsory. But **Picture** and **Playback** of the camera are not available. If you want to use the mentioned function, change the web browser to Internet Explorer, or click 

to download and install plug-in (only for Windows operation system).

4.6.1 Play Back Video Files

Steps:

1. Click 

on the menu bar to enter playback interface.

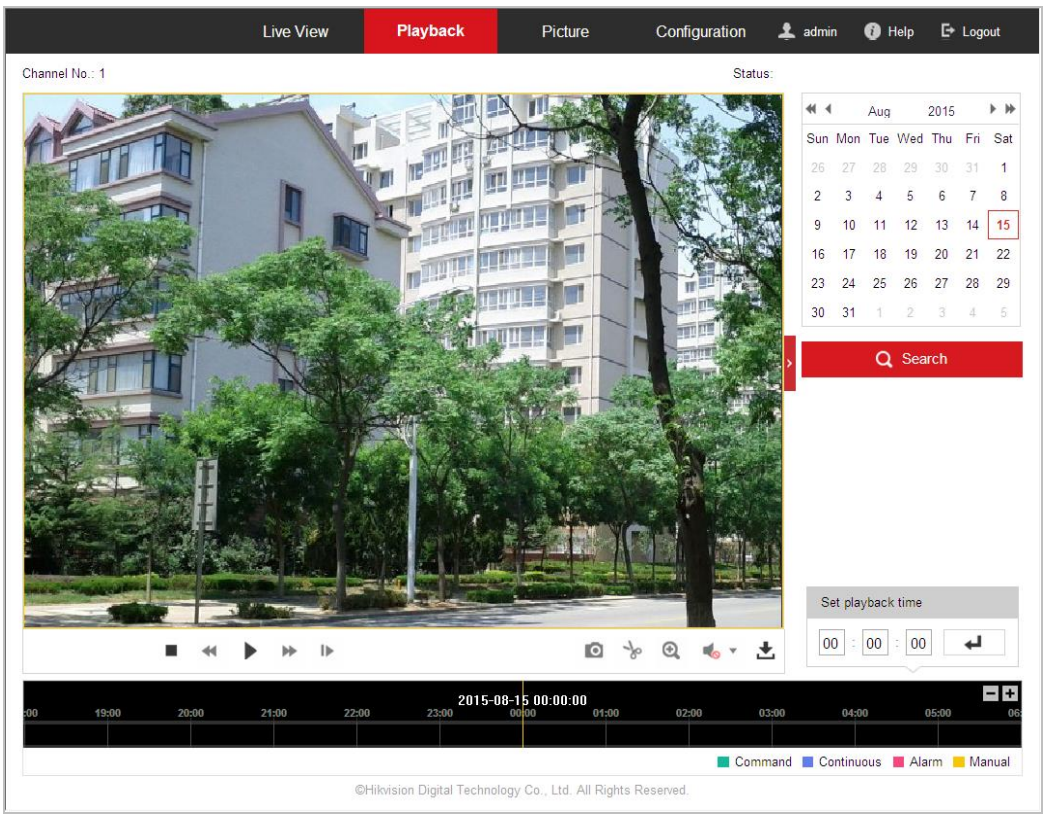


Figure 4-13 Playback Interface

2. Select the date and click Search.

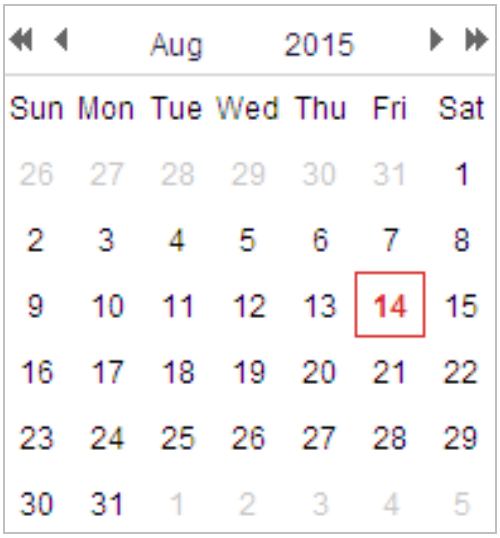


Figure 4-14 Search Video

3. Click ▶ to play the video files found on this date.

The toolbar on the bottom of Playback interface can be used to control playing process.



Figure 4-15 Playback Toolbar

Table 4-6 Description of the buttons

Button	Operation	Button	Operation
▶	Play	📷	Capture a picture
❚❚	Pause	✂ / ✂	Start/Stop clipping video files
■	Stop	🔊 ——— / 🔇	Volume up/down
◀◀	Speed down	⬇	Download
▶▶	Speed up	▶❚	Playback by frame
🔍 / 🔍	Enable/Disable digital zoom		

Notes:

- Volume function varies depending on different camera models.
- You can choose the file paths locally for downloaded playback video files and pictures in Local Configuration interface. Refer to ***Section 4.2 Configuring Local Parameters*** for details.
- Drag the progress bar with the mouse to locate the exact playback point. You can also input the time and click ↵ to locate the playback point in the **Set playback time** field. You can also click ⊟⊞ to zoom out/in the progress bar.

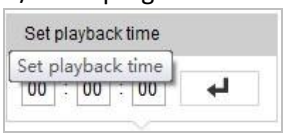


Figure 4-16 Set Playback Time

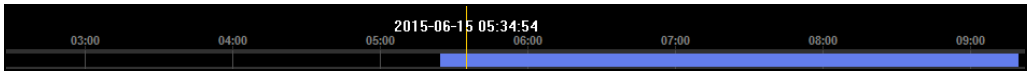


Figure 4-17 Progress Bar

The different colors of the video on the progress bar stand for the different video types as shown in Figure 4-18.

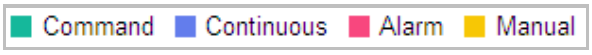


Figure 4-18 Video Types

4.6.2 Downloading Video Files

Steps:

1. Click ⬇ on the playback interface. The pop-up menu is shown in Figure 4-19.
2. Set the start time and end time. Click **Search**. The corresponding video files are listed on the right.

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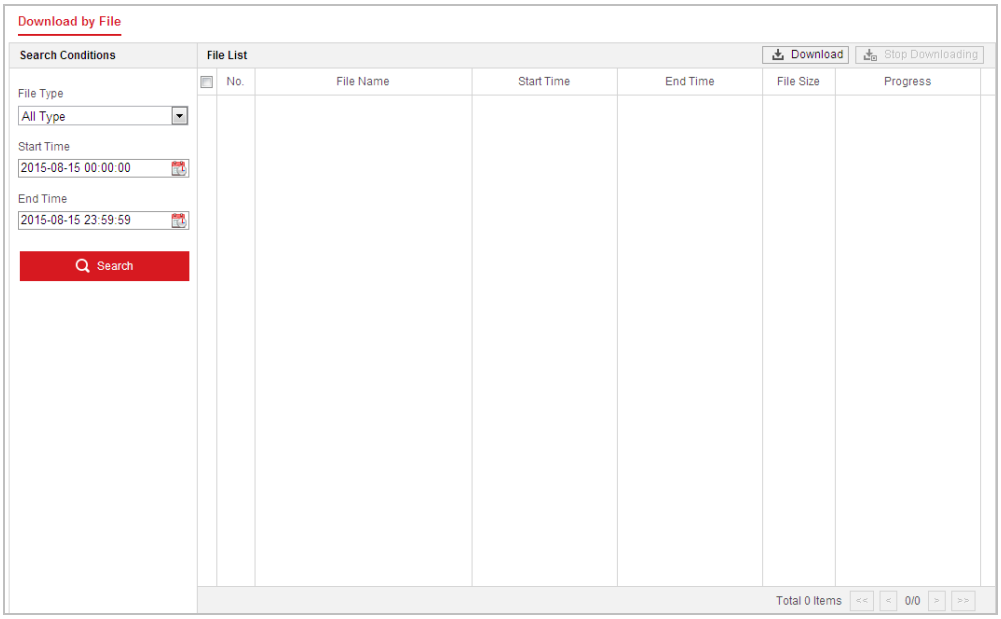


Figure 4-19 Video Downloading interface

3. Check the checkbox in front of the video files that you need to download.
4. Click Download to download the video files.

4.7 Pictures

Purpose:

This section explains how to view the captured picture files stored in the network disks or the memory cards and download the captured pictures.

Note:

If you are using Google Chrome 57 and its above version or Mozilla Firefox 52 and its above version, plug-in installation is not compulsory. But **Picture** and **Playback** of the camera are not available. If you want to use the mentioned function, change the web browser to Internet Explorer, or click Download Plug-in to download and install plug-in (only for Windows operation system).

Steps:

1. Click Picture on the menu bar to enter picture interface.

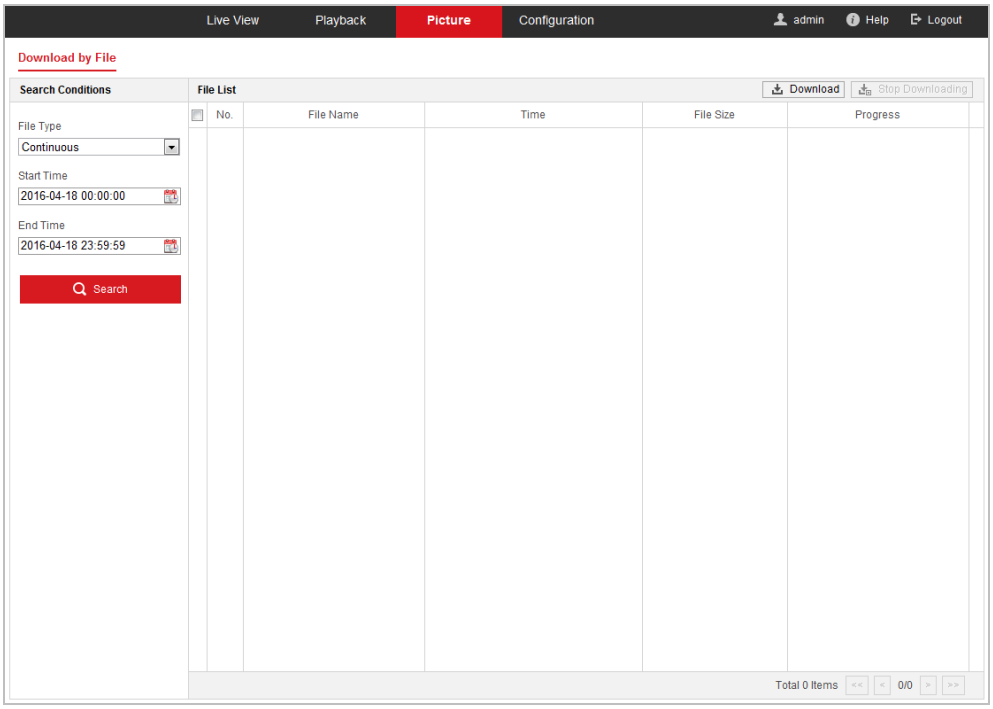


Figure 4-20 Picture Interface

2. Select the file type.
3. Set the start time and end time. Click **Search**. The corresponding picture files will be listed.
4. Check the checkbox in front of the files that you need to download.
5. Click Download to download the files.

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Chapter 5 System Configuration

5.1 Storage Settings

Before you start:

To configure record settings, make sure that you have the network storage device within the network or the memory card inserted in your camera.

5.1.1 Configuring Recording Schedule

Purpose:

There are two kinds of recording for the camera: manual recording and scheduled recording. In this section, you can follow the instructions to configure the scheduled recording. By default, the record files of scheduled recording are stored in the memory card (if supported) or in the network disk.

Steps:

1. Enter the Record Schedule settings interface:
   Configuration > Storage > Schedule Settings > Record Schedule

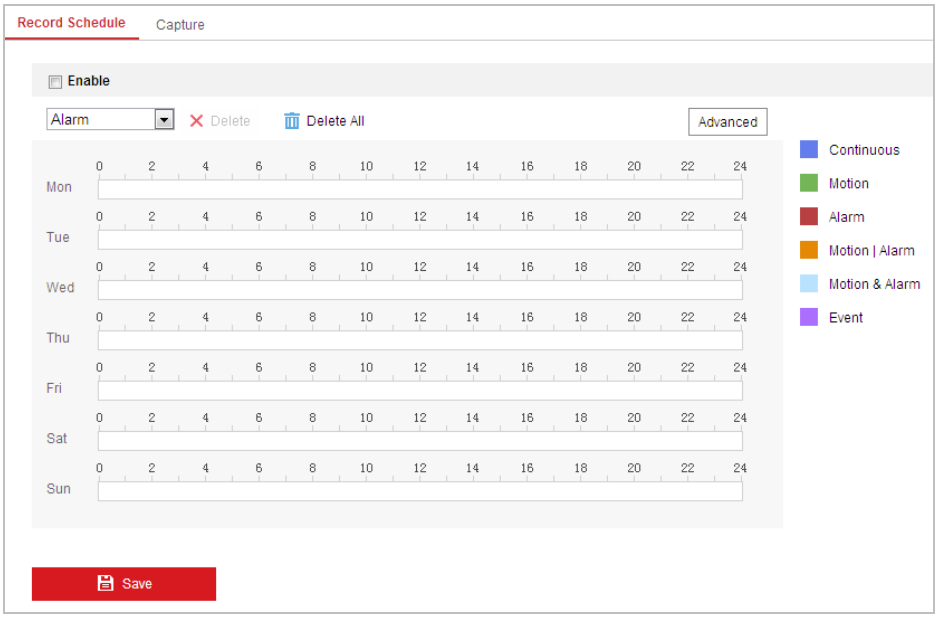


Figure 5-1 Recording Schedule Interface

2. Check the checkbox to enable scheduled recording.
3. To set the advanced settings of the camera, click Advanced to enter the advanced settings interface.

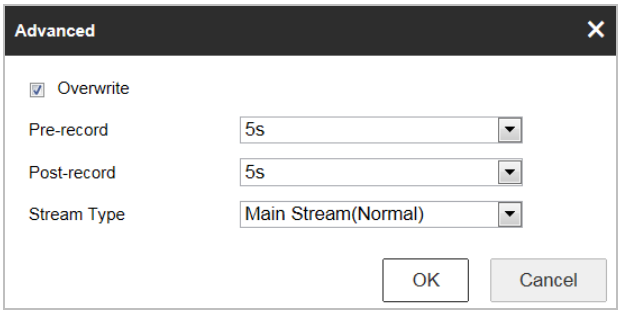


Figure 5-2 Record Parameters

- **Pre-record:** The time you set to start recording before the scheduled time or the event. For example, if an alarm triggers recording at 10:00, and the pre-record time is set as 5 seconds, the camera starts to record at 9:59:55.
  The pre-record time can be configured as No Pre-record, 5 s, 10 s, 15 s, 20 s, 25 s, 30 s or not limited.
  Note:
  The pre-record time changes according to the video bitrate.
- **Post-record:** The time you set to stop recording after the scheduled time or the event. For example, if an alarm triggered recording ends at 11:00, and the post-record time is set as 5 seconds, the camera records until 11:00:05.
  The Post-record time can be configured as 5 s, 10 s, 30 s, 1 min, 2 min, 5 min or 10 min.
- **Stream Type**: You can select the stream type for recording; Main Stream and Sub-stream are selectable. If you select Sub-stream, you can record for a longer time with the same storage capacity.
- **Overwrite**: If you enable his function and the HDD is full, the new record files overwrite the oldest record files automatically.
  Note:
  The Pre-record and Post-record parameters vary depending on different camera models.

4. Click **OK** to save the advanced setting.
5. Select a Record Type. The record type can be Continuous, Motion, Alarm, Motion | Alarm, Motion & Alarm, and Event.
   - **Normal:** If you select Continuous, the video will be recorded automatically according to the time of the schedule.
   - **Record Triggered by Motion Detection:** If you select Motion, the video will be recorded when the motion is detected. Besides configuring the recording schedule, you have to set the motion detection area and check the checkbox of **Trigger Channel** in the Linkage Method of Motion Detection settings interface. For detailed information, refer to ***Section 5.2.1 Configuring Motion Detection.***
   - **Record Triggered by Alarm:** If you select Alarm, the video will be recorded when the alarm is triggered via the external alarm input channels. Besides configuring the recording schedule, you have to set the Alarm Type and check the checkbox of **Trigger Channel** in the Linkage Method of Alarm Input settings interface. For detailed information, refer to ***Section 5.2.3 Configuring Alarm Input.***
     Note:
     The function is only supported by certain camera models.

- **Record Triggered by Motion | Alarm:** If you select Motion | Alarm, the video will be recorded when the external alarm is triggered or the motion is detected. Besides configuring the recording schedule, you have to configure the settings on the Motion Detection and Alarm Input settings interfaces.
- **Record Triggered by Motion & Alarm:** If you select Motion & Alarm, the video will be recorded when the motion and alarm are triggered at the same time. Besides configuring the recording schedule, you have to configure the settings on the Motion Detection and Alarm Input settings interfaces.

  Note:

  The function is only supported by certain camera models.
- **Record Triggered by Event:** If you select to record by event, the video will be recorded when any of the events is triggered.

6. Click 

to save the settings.

5.1.2 Configuring Capture Schedule

Purpose:

You can configure the scheduled snapshot and event-triggered snapshot. The captured picture can be stored in the local storage or network storage.

Steps:

1. Enter the Snapshot settings interface:

   Configuration > Storage > Storage Settings > Capture

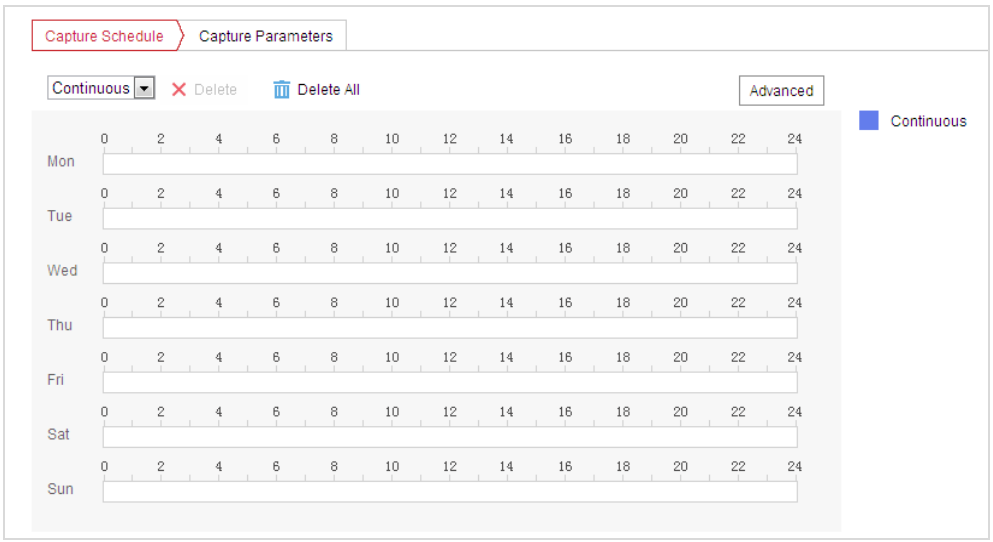
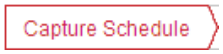


Figure 5-3 Snapshot Settings

2. Click 

to enter the Capture Schedule interface.
3. Select the timeline of a certain day, and drag the left button of the mouse to set the capture schedule (the start time and end time of the recording task).
4. After you set the scheduled task, you can click  and copy the task to other days

(optional).

5. After setting the capture schedule, you can click a capture segment to display the segment capture settings interface to edit the segment capture parameters (optional).

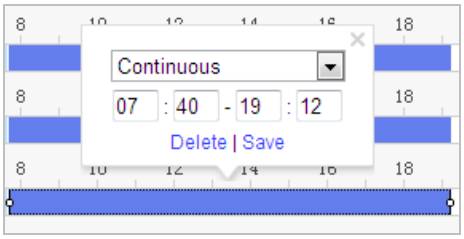


Figure 5-4 Segment Snapshot Settings

6. Click Advanced to enter the advanced setting interface. You can select the stream type of the capture.
7. Click Capture Parameters to enter the Capture Parameters Interface.
8. Check the **Enable Timing Snapshot** checkbox to enable continuous snapshot, and configure the schedule of timing snapshot. Check the **Enable Event-triggered Snapshot** checkbox to enable event-triggered snapshot.
9. Select the format, resolution, quality of the snapshot.
10. Set the time interval between two snapshots.
11. Set capture number for every capture action.
12. Click Save to save the settings.

Uploading to FTP

Notes:

- Make sure that the FTP server is online.
- This function is only available for certain camera models.

You can follow below configuration instructions to upload the snapshots to FTP.

- **Upload continuous snapshots to FTP**

Steps:

1) Configure the FTP settings and check **Upload Picture** checkbox in FTP Settings interface. Refer to ***Section 3 Configuring FTP Settings*** for more details to configure FTP parameters.
2) Check the **Enable Timing Snapshot** checkbox.
3) Click **Edit** to set the snapshot schedule. Refer to ***Section 5.2.1 Configuring Motion Detection***.

- **Upload event-triggered snapshots to FTP**

Steps:

1) Configure the FTP settings and check **Upload Picture** checkbox in FTP Settings interface. Refer to ***Section 3 Configuring FTP Settings*** for more details to configure FTP parameters.
2) Check **Upload to FTP** checkbox in Motion Detection Settings or Alarm Input interface. Refer to ***Section 5.2.1 Configuring Motion Detection***.
3) Check the **Enable Event-triggered Snapshot** checkbox.

5.1.3 Configuring Net HDD

Before you start:

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

Steps:

- **Add the network disk**

1. Enter the NAS (Network-Attached Storage) settings interface:
   Configuration > Storage > Storage Management > Net HDD

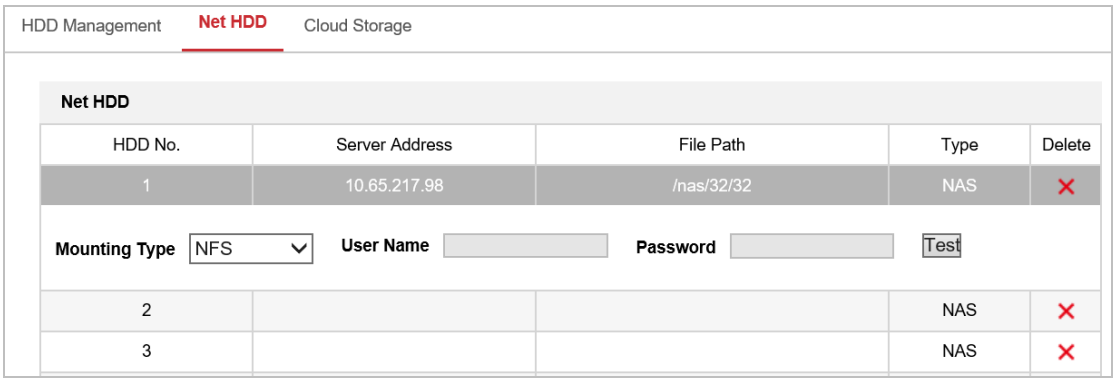


Figure 5-5 Select Net HDD Type

2. Enter the IP address and the file path of the network disk.
3. Select the mounting type. NFS and SMB/CIFS are selectable. You can set the user name and password to guarantee the security if SMB/CIFS is selected.

   Note:

   Refer to the *NAS User Manual* for creating the file path.

   - *For your privacy and to better protect your system against security risks, we strongly recommend the use of strong passwords for all functions and network devices. The password should be something of your own choosing (using a minimum of 8 characters, including upper case letters, lower case letters, numbers and special characters) in order to increase the security of your product.*
   - *Proper configuration of all passwords and other security settings is the responsibility of the installer and/or end-user.*

4. Click Save to add the network disk.

   Note:

   After having saved successfully, you need to reboot the camera to activate the settings.

- **Initialize the added network disk.**

1. Enter the HDD settings interface (**Configuration > Storage > Storage Management > HDD Management**), in which you can view the capacity, free space, status, type and property of the disk.

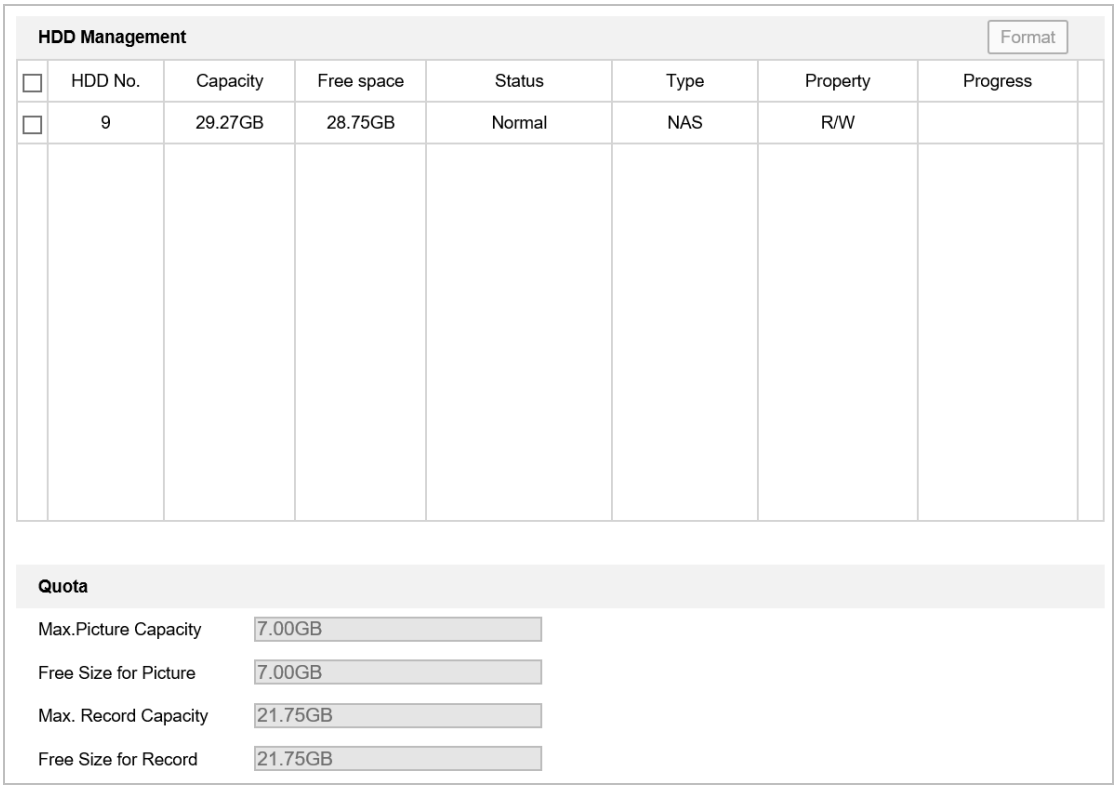


Figure 5-6 Storage Management Interface

2. If the status of the disk is **Uninitialized**, check the corresponding checkbox to select the disk and click **Format** to start initializing the disk.
3. When the initialization completed, the status of disk will become **Normal** as shown in Figure 5-7**.**

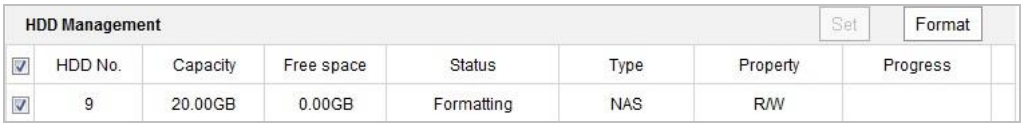


Figure 5-7 View Disk Status

- **Define the Quota for Record and Pictures**

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

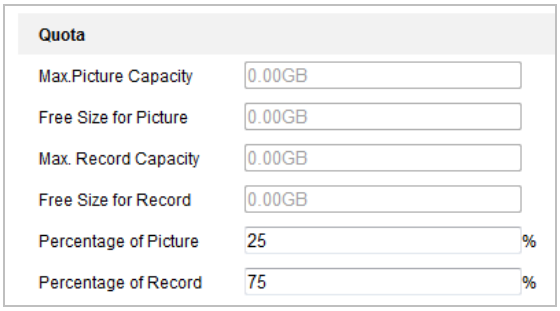


Figure 5-8 Quota Settings

Notes:

- Up to 8 NAS disks can be connected to the camera.

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- To initialize, refer to the steps of NAS disk initialization

5.1.4 Configuring Cloud Storage

Note:

Cloud Storage is only supported for certain camera models.

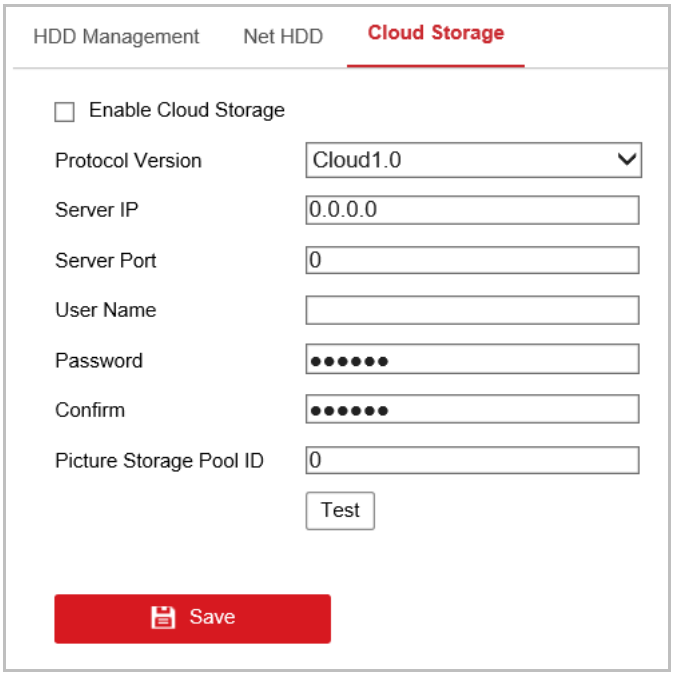


Figure 5-9 Cloud Storage configuration

Steps:

1. Enter the Cloud Storage settings interface:
   Configuration > Storage > Storage Management > Cloud Storage
2. Check the checkbox to enable this function.
3. Select Protocol Version from dropdown list.
4. Enter the Server IP. Server Port, User Name, Password, and Picture Storage Pool ID.
5. Click 

to save the settings.

5.2 Basic Event Configuration

Purpose:

This section explains how to configure the network camera to respond to alarm events, including motion detection, video tampering alarm input, alarm output and exception. These events can trigger the alarm actions, such as Send Email, Notify Surveillance Center, etc.

For example, when motion detection is triggered, the network camera sends a notification to an e-mail address.

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- On the event configuration page, click  to show the PTZ control panel or click  to hide it.
- Click the direction buttons to control the pan/tilt movements.
- Click the zoom/iris/focus buttons to realize lens control.
- The functions vary depending on different camera models.

5.2.1 Configuring Motion Detection

Purpose:

Motion detection is a feature which can trigger alarm actions and actions of recording videos when the motion occurred in the surveillance region.

Steps:

1. Enter the motion detection setting interface:
   Configuration > Event > Basic Event > Motion Detection
2. Check the checkbox of the **Enable Motion Detection** to enable this function.
   You can check the **Enable Motion Detection in PTZ Control** checkbox and when the speed dome is performing PTZ action, motion detection can also trigger alarm.
   You can check the **Enable Dynamic Analysis for Motion** checkbox if you want the detected object get marked with rectangle in the live view.
3. Select the configuration mode as **Normal** or **Expert** and set the corresponding motion detection parameters.
   - **Normal**

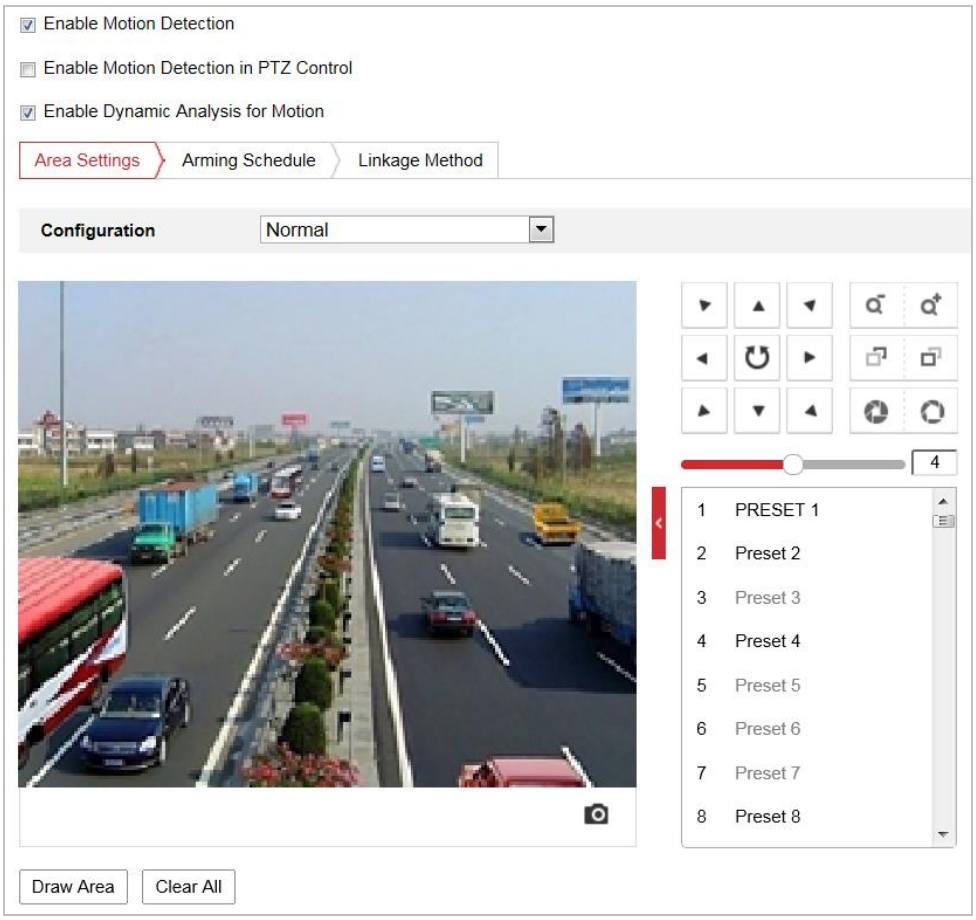


Figure 5-10 Motion Detection Settings-Normal

Steps:

(1) Click Draw Area and drag the mouse on the live video image to draw a motion detection area.

(2) Click Stop Drawing to finish drawing.

Note:

You can click Clear All to clear all of the areas.

(3) Move the slider Sensitivity 0 to set the sensitivity of the detection.

- **Expert**

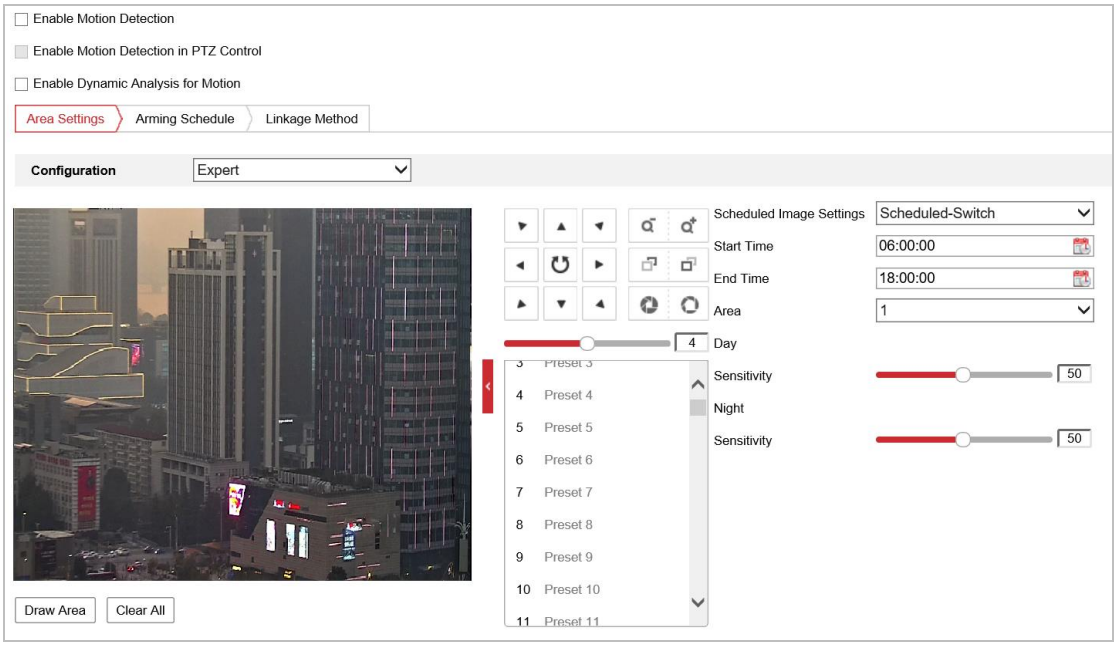


Figure 5-11 Motion Detection Settings-Expert

Steps:

(1) Set the **Scheduled Image Settings**, there are **OFF**, **Auto-Switch** and **Scheduled-Switch** selectable. If the schedule image switch mode is enabled, you can configure the detection rule for the day and night separately.

OFF: Disable the day and night switch.

Auto-Switch: Switch the day and night mode according to the illumination automatically.

Scheduled-Switch: Switch to the day mode and the night mode according to the configured time. You need to set the start time and end time.

(2) Select **Area** from the dropdown list to configure.

(3) Set the value of sensitivity.

Sensitivity: The higher the value is, the easier the alarm will be triggered.

(4) **Percentage:** When the size proportion of the moving object exceeds the predefined value, the alarm will be triggered. The less the value is, the easier the alarm will be triggered.

Note:

Percentage is only supported by certain camera models.

4. Set the **Arming Schedule** for Motion Detection.

Steps:

(1) Click Arming Schedule tab to enter the arming schedule setting interface.



Figure 5-12 Arming Schedule

(2) Select the timeline of a certain day, and drag the mouse to set the arming schedule (the start time and end time of the arming task).

(3) After you set the scheduled task, you can click and copy the task to other days (optional).

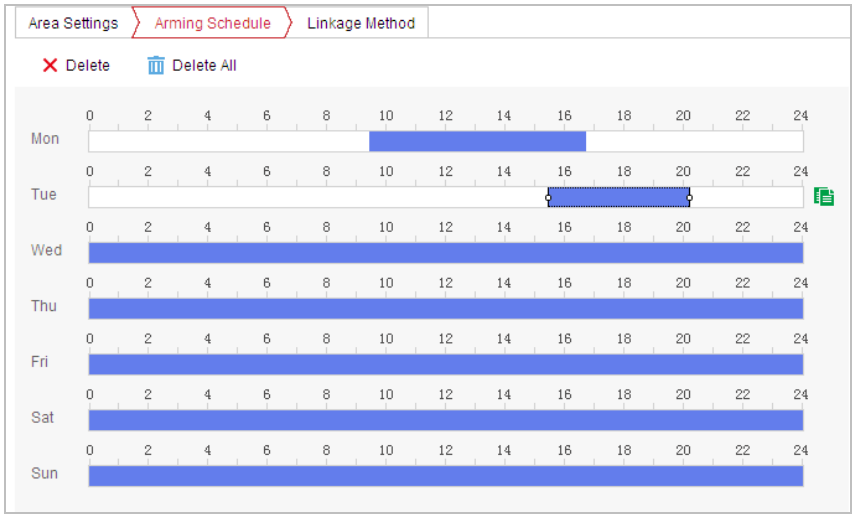


Figure 5-13 Arming Time Schedule

(4) After setting the arming schedule, you can click a segment to display the segment arming settings interface to edit the segment record parameters (optional).

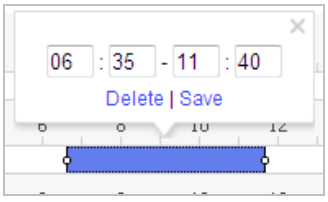


Figure 5-14 Segment Arming Settings

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(5) Click Save to save the settings.

Note:

The time of each period cannot be overlapped. Up to 8 periods can be configured for each day.

5. Set the **Alarm Actions** for Motion Detection.

Click Linkage Method tab to enter the **Linkage Method** interface.

You can specify the linkage method when an event occurs. The following contents are about how to configure the different types of linkage method.

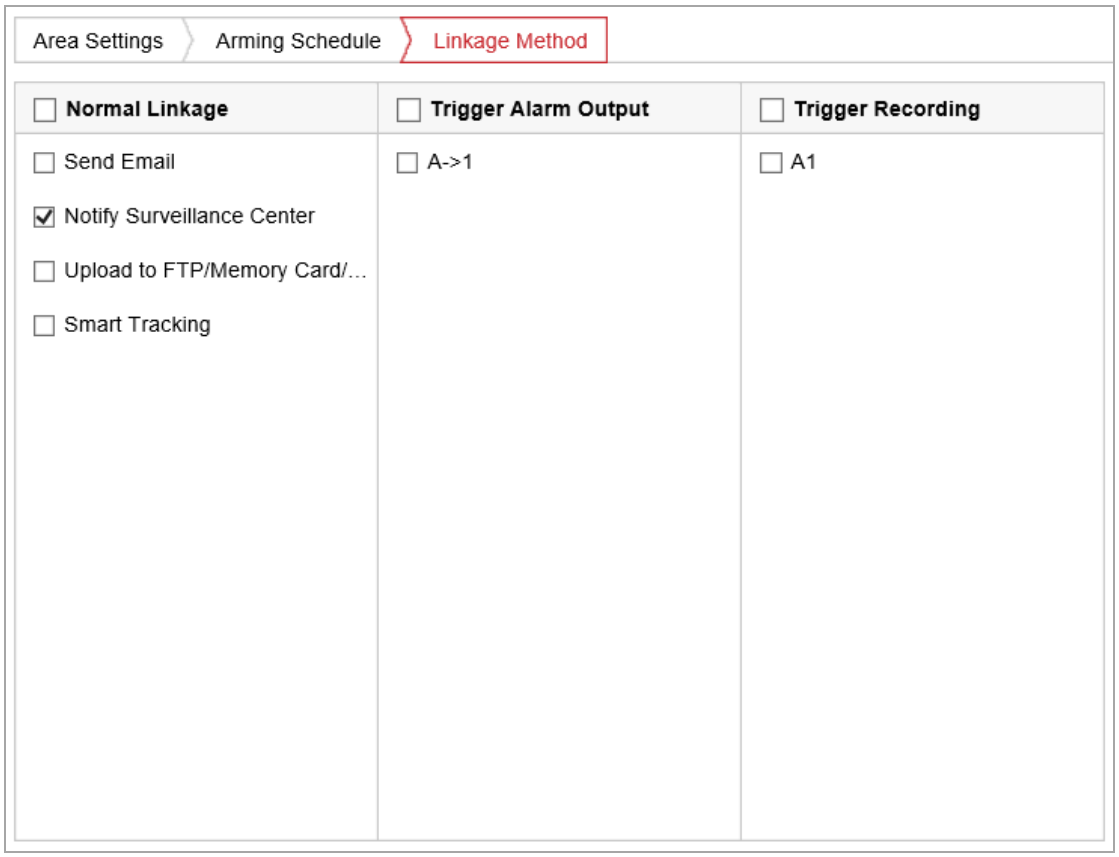


Figure 5-15 Linkage Method

Check the checkbox to select the linkage method. Send Email, Notify Surveillance Center and Upload to FTP/Memory/NAS are selectable.

- **Send Email**

  Send an email with alarm information to a user or users when an event occurs.

  Note:

  To send the Email when an event occurs, you need to refer to ***Section 3 Configuring Email Settings*** to set the Email parameters.

- **Notify Surveillance Center**

  Send an exception or alarm signal to remote management software when an event occurs.

- **Upload to FTP/Memory/NAS**

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Capture the image when an alarm is triggered and upload the picture to a FTP server.

Note:

You need a FTP server and set FTP parameters first. Refer to ***Section 6.1.2 Configuring FTP Settings*** for setting FTP parameters.

- **Smart Tracking**

  Track the moving objects automatically when an alarm is triggered.

  Notes:

  - To configure the smart tracking, you need to refer to ***Section Configuring Smart Tracking*** to set the parameters.
  - The function is only supported by certain camera models.

- **White Light Flashing**

  White light of the camera flashes when alarm happens. Flashing Duration, Flashing Frequency, and Brightness are configurable on **Flashing Alarm Light Output** page: **Configuration > Event > Basic Event**

  - **Flashing Duration:** The time period the flashing lasts when one alarm happens.
  - **Flashing Frequency:** The flashing speed of the light. High, Medium, and Low are selectable.
  - **Brightness:** The brightness of the light.

  Notes:

  - Before using the function, go to **Configuration -> System -> Maintenance -> System Service** to enabled white light in advance.
  - The function is only supported by certain camera models.

- **Audible Warning**

  Built-in speaker or connected external speaker plays warning sound when alarm happens. Sound Type and Alarm Times are configurable on **Audible Alarm Output** page: **Configuration > Event > Basic Event**

  - **Alarm Sound Type:** The content of audible warning.
  - **Alarm Times:** The repeating times of the warning.

  Notes:

  - Before using the function, go to **Configuration -> Video/Audio -> Audio** to enabled built-in speaker in advance.
  - The function is only supported by certain camera models.

- **Trigger Alarm Output**

  Trigger one or more external alarm outputs when an event occurs.

  Notes:

  - To trigger an alarm output when an event occurs, refer to ***Section 5.2.4 Configuring Alarm Output*** to set the alarm output parameters.
  - The function is only supported by certain camera models.

- **Trigger Recording**

  Record a video when an event occurs.

  Note:

  - You have to set the recording schedule to realize this function. Refer to ***Section***

5.1.1 Configuring Recording Schedule for settings the recording schedule.

- The function is only supported by certain camera models.

5.2.2 Configuring Video Tampering Alarm

Purpose:

You can configure the camera to trigger the alarm actions when the lens is covered.

Steps:

1. Enter the Video Tampering settings interface ：
   Configuration > Event > Basic Event > Video Tampering

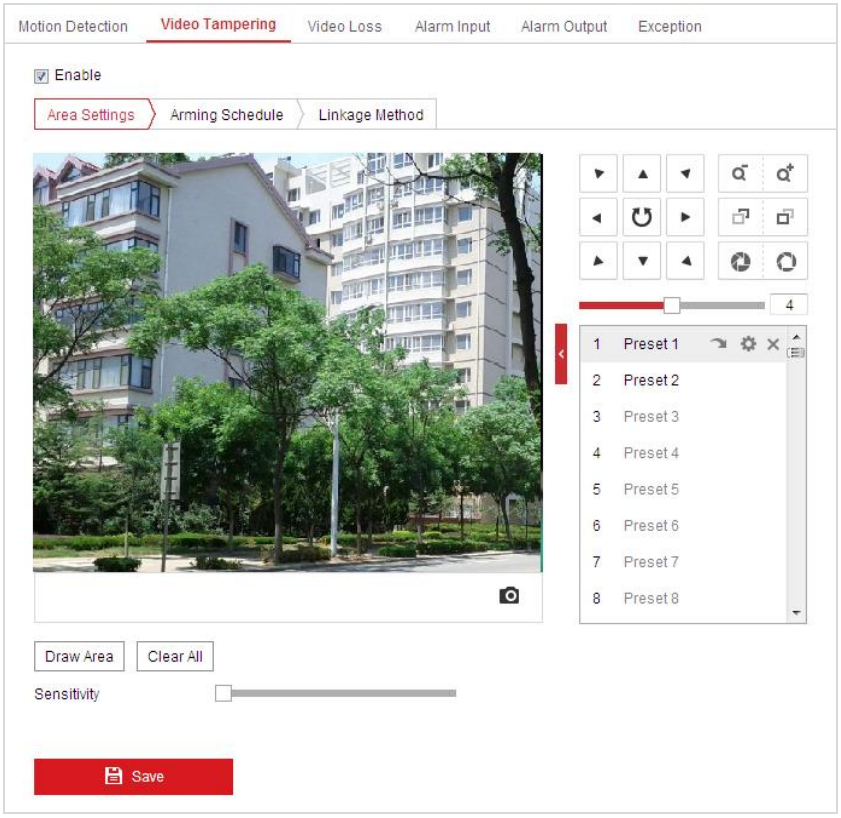


Figure 5-16 Tampering Alarm

2. Check the checkbox to enable the tampering detection.
3. Set the tampering area.
4. Set Sensitivity level. Higher level means easier to trigger.
5. Click Arming Schedule tab to enter the arming schedule setting interface. The arming schedule configuration is the same as the setting of the arming schedule for motion detection. Refer to ***Section 5.2.1 Configuring Motion Detection***.
6. Click Linkage Method tab to select the linkage method taken for tampering. Notify surveillance center, send email and trigger alarm output are selectable. Refer to ***Section 5.2.1 Configuring Motion Detection***.

7. Click  to save the settings.

5.2.3 Configuring Alarm Input

Note:

The function is only supported by certain camera models.

Steps:

1. Enter the Alarm Input settings interface:
   Configuration > Event > Basic Event > Alarm Input
2. Choose the Alarm Input No. and the Alarm Type. The alarm type can be NO (Normally Open) and NC (Normally Closed).
3. Edit the name in  to set a name for the alarm input (optional).

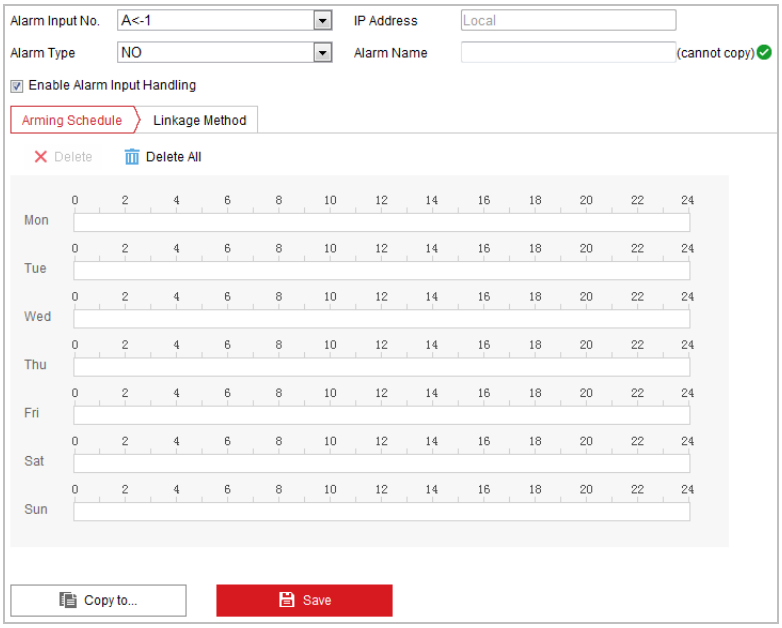
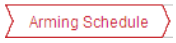


Figure 5-17 Alarm Input Settings

4. Click  tab to enter the arming schedule setting interface. The arming schedule configuration is the same as the setting of the arming schedule for motion detection. Refer to ***Section 5.2.1 Configuring Motion Detection***.
5. Click  tab to select the linkage method taken for alarm input, including Send Email, Notify Surveillance Center, and Upload to FTP/Memory Card/NAS, Trigger Alarm Output and Trigger Recording. Refer to ***Section 5.2.1 Configuring Motion Detection*** for more details.
6. You can also choose the PTZ linking for the alarm input. Check the relative checkbox and select the No. to enable Preset Calling, Patrol Calling or Pattern Calling.
7. You can copy your settings to other alarm inputs.

8. Click  to save the settings.

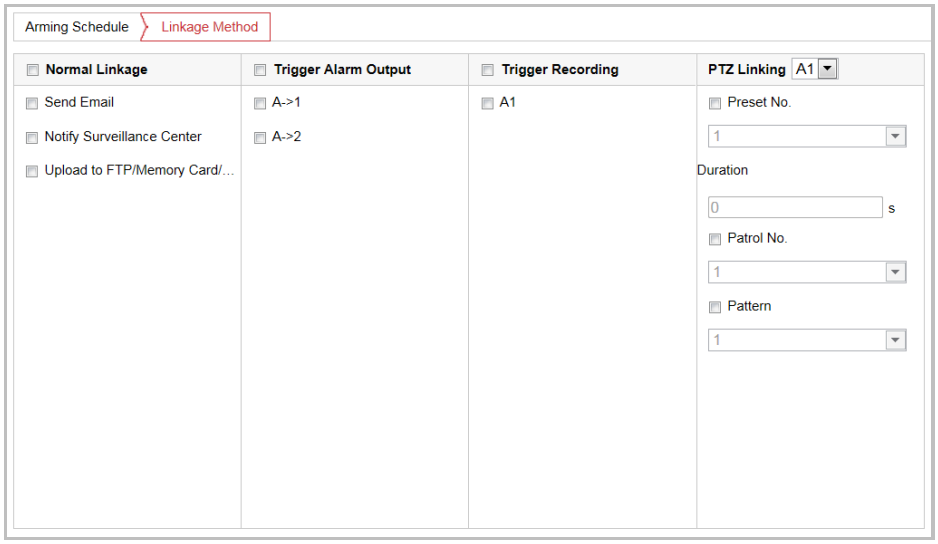


Figure 5-18 Linkage Method

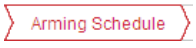
5.2.4 Configuring Alarm Output

Note:

The function is only supported by certain camera models.

Steps:

1. Enter the Alarm Output settings interface:
   Configuration> Event > Basic Event > Alarm Output
2. Select one alarm output channel in the **Alarm Output** dropdown list.
3. Set a name in  for the alarm output (optional).

4. The **Delay** time can be set to **1sec**, **5sec**, **10sec**, **30sec**, **1min**, **2min**, **5min, 10min** or **Manual**. The delay time refers to the time duration that the alarm output remains in effect after alarm occurs.
5. Click  tab to enter the arming schedule setting interface. The time schedule configuration is the same as the settings of the arming schedule for motion detection. Refer to ***Section 5.2.1 Configuring Motion Detection*** for more details.

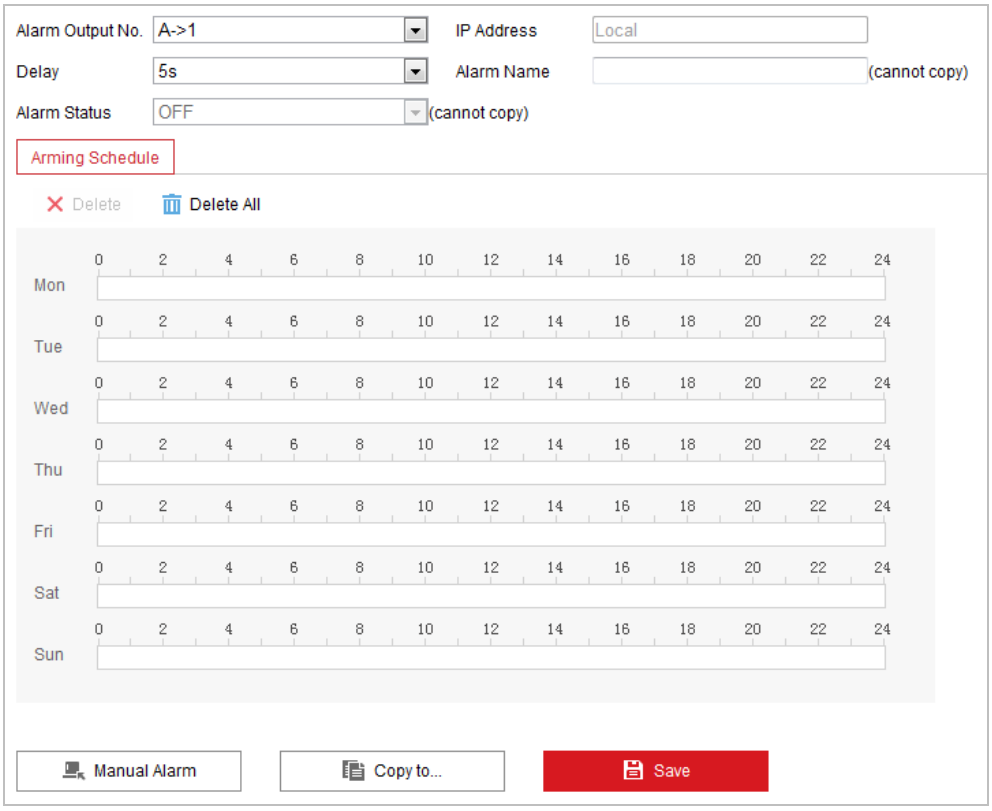


Figure 5-19 Alarm Output Settings

6. You can copy the settings to other alarm outputs.
7. Click  to save the settings.

5.2.5 Handling Exception

The exception type can be HDD Full, HDD Error, Network Disconnected, IP Address Conflicted and Illegal Login.

Steps:

1. Enter the Exception settings interface:
   Configuration > Event > Basic Event > Exception
2. Check the checkbox to set the actions taken for the Exception alarm. Refer to ***Section 5.2.1 Configuring Motion Detection***.

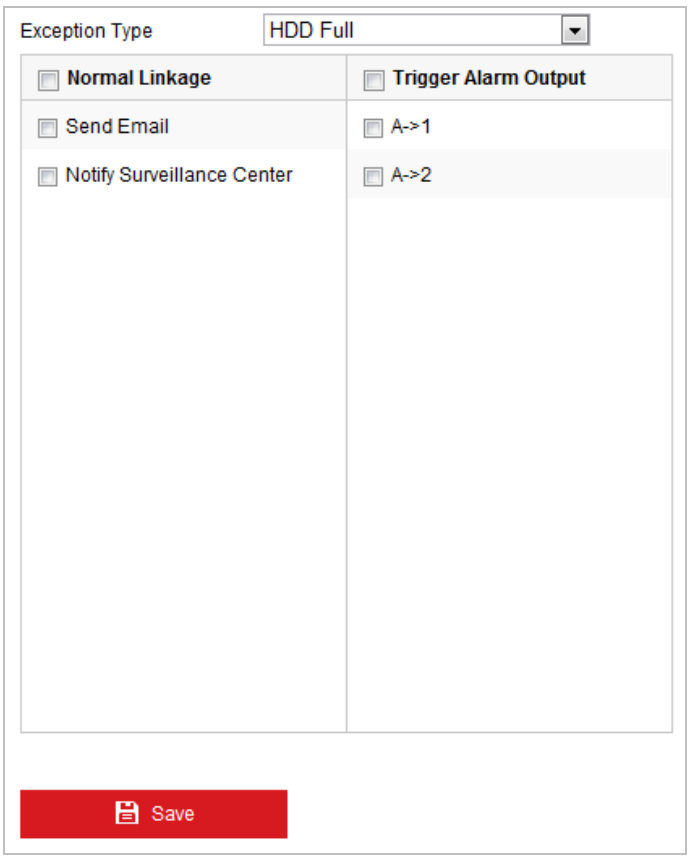


Figure 5-20 Exception Settings

3. Click Save to save the settings.

Note:

Trigger alarm output is only supported by certain camera models.

5.3 Smart Event Configuration

Note:

The functions vary depending on different camera models.

Before Smart Event Configuration, you need to set VCA Resource as Smart Event:

Configuration > System > System Settings > VCA Resource

5.3.1 Detecting Audio Exception

Note:

The function is only supported by certain camera models.

Purpose:

When you enable this function and audio exception occurs, the alarm actions will be triggered.

Steps:

1. Enter the video audio exception detection interface:

Configuration > Event > Smart Event > Audio Exception Detection

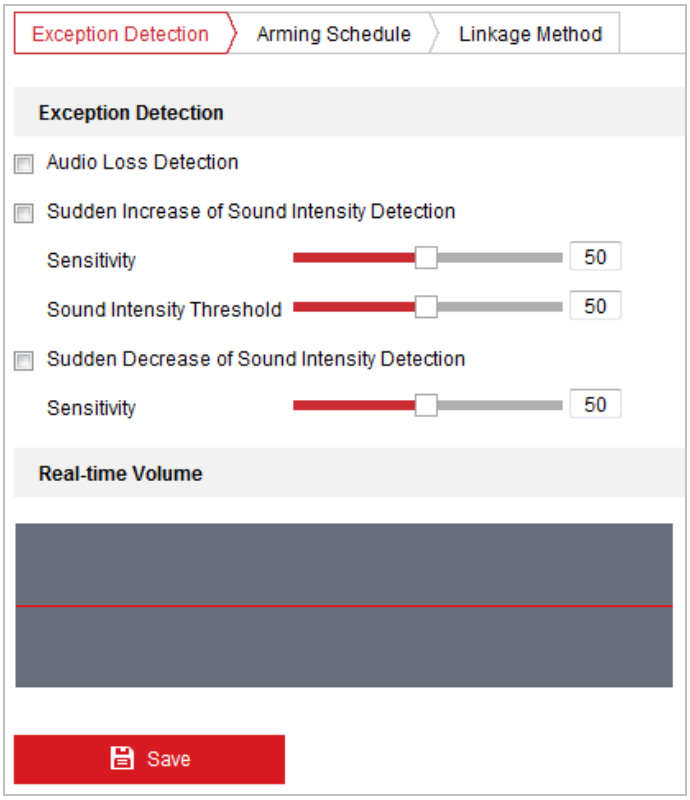


Figure 5-21 Audio Exception Detection

2. Check the checkbox of **Audio Loss Detection** to enable the audio input exception detection.
3. Check the checkbox of **Sudden Increase of Sound Intensity Detection** checkbox to enable the sudden rise detection.
   - **Sensitivity**: The smaller the value the more obvious sound change will trigger the detection.
   - **Sound Intensity Threshold**: It can filter the sound in the environment, the louder the environment sound, the higher the value should be. You can adjust it according to the actual environment.
4. Check the checkbox of **Sudden Decrease of Sound Intensity Detection** checkbox to enable the sudden drop detection.
   Sensitivity: The smaller the value the more obvious sound change will trigger the detection.
5. Click Arming Schedule tab to enter the Arming Schedule setting interface. The time schedule configuration is the same as the settings of the arming schedule for motion detection. Refer to ***Section 5.2.1 Configuring Motion Detection*** for more details.
6. Click Linkage Method tab to select the linkage method taken for the audio input exception, Send Email, Notify Surveillance Center, Trigger Alarm Output and Trigger Recording are selectable. Refer to ***Section 5.2.1 Configuring Motion Detection*** for more details.
7. Click Save to save the settings.

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5.3.2 Configuring Face Detection

Purpose:

After the face detection is enabled, a face appears in the surveillance area, it will be detected and certain actions may be triggered by the detection.

Steps:

1. Enter the face detection interface
   Configuration > Event > Smart Event > Face Detection
2. Check the **Enable Face Detection** checkbox.
3. You can check the **Enable Dynamic Analysis for Face Detection** checkbox if you want the detected face get marked with rectangle in the live view (optional).

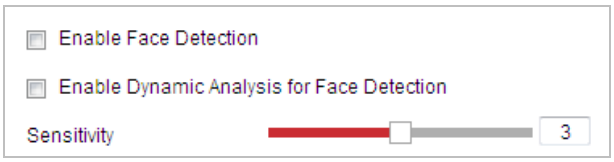


Figure 5-22 Configuring Face Detection

4. Configure the sensitivity for face detection.
   Sensitivity: The value of the sensitivity defines the size of the object which can trigger the alarm, when the sensitivity is high, a very small object can trigger the alarm.
5. Click Arming Schedule tab to enter the Arming Schedule setting interface. The time schedule configuration is the same as the settings of the arming schedule for motion detection. Refer to ***Section 5.2.1 Configuring Motion Detection*** for more details.
6. Click Linkage Method tab to select the linkage method taken for the video loss alarm, Notify Surveillance Center, Send Email, Upload to FTP, Trigger Channel, and Trigger Alarm Output are selectable. Refer to ***Section 5.2.1 Configuring Motion Detection*** for more details.
7. Click Save to save the settings.

5.3.3 Configuring Intrusion Detection

Purpose:

Intrusion detection can set an area in the surveillance scene and once the area is entered, a set of alarm action is triggered.

Steps:

1. Enter the intrusion detection interface:
   Configuration > Events > Smart Event >Intrusion Detection
2. Check the **Enable** checkbox.

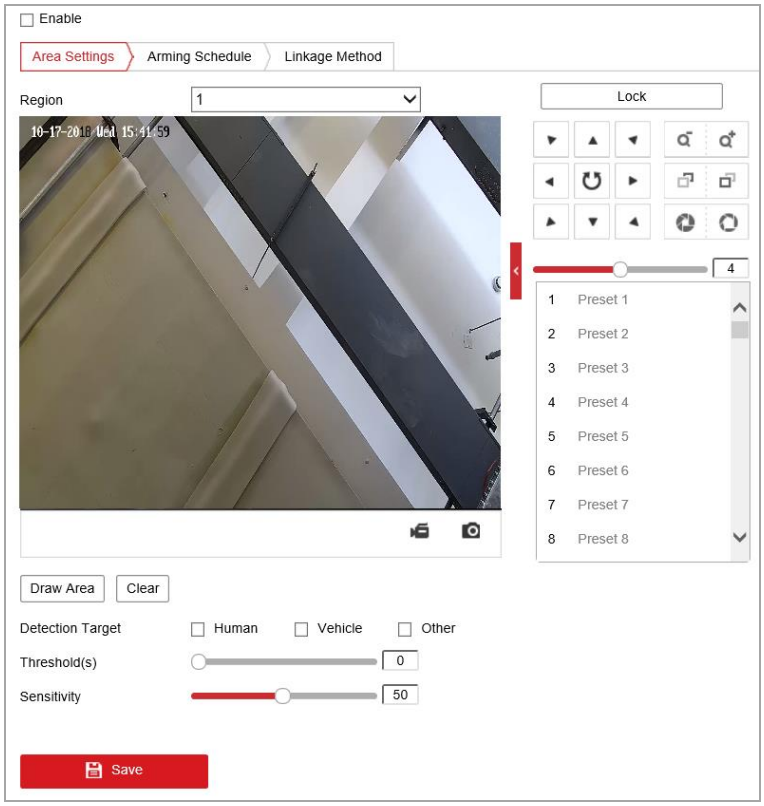


Figure 5-23 Configuring Intrusion Area

3. The event triggered and park action related PTZ movement will be locked for 180 seconds after you enter the intrusion detection interface. Optionally, you can click the Unlock(69s) button to manually activate the movement, or lock the movement when the button turns to Lock by clicking it.
4. Select a region.
5. Draw area.
   1) Select the Region No.in dropdown list.
   2) Click Draw Area to draw a rectangle on the image as a defense region.
   3) Click on the image to specify a corner of the rectangle, and right-click the mouse after four corners are configured.
6. Configure the parameters for each defense region separately.
   - **Threshold:** The threshold for the time of the object loitering in the region. If you set the value as 0, alarm is triggered immediately after the object entering the region.
   - **Sensitivity:** The value of the sensitivity defines the size of the object which can trigger the alarm, when the sensitivity is high, a very small object can trigger the alarm.

   Note:

   For network cameras, regions can be set simultaneously before clicking **Save** button. For speed domes, you need to set 1 region and save it. Then continue to set and save the next

region.

7. Click Arming Schedule tab to enter the arming schedule setting interface. The time schedule configuration is the same as the settings of the arming schedule for motion detection. Refer to ***Section 5.2.1 Configuring Motion Detection*** for more details.
8. Click Linkage Method tab to select the linkage method taken for intrusion detection, Notify Surveillance Center, Send Email, Upload to FTP/Memory Card/NAS, Trigger Alarm Output, Trigger Recording, Smart Tracking, White Light Flashing, and Audible Warning are selectable.
   - For speed dome, you can also choose to link smart tracking. Smart Tracking should be configured in advance.
   - For certain models, White Light Flashing and Audible Warning are supported. Refer to Section ***5.2.1 Configuring Motion Detection*** for detailed configuration.
9. Click Save to save the settings.

5.3.4 Configuring Line Crossing Detection

Purpose:

The virtual plane detection can be adopted for the intrusion detection. Once the virtual plane is detected being traversed according to the configured direction, a set of alarm action is triggered.

Steps:

1. Enter the Line Crossing Detection interface:

   Configuration >Event > Smart Event > Line Crossing Detection
2. Check the **Enable** checkbox to enable the line crossing detection function.
3. Select the Line in dropdown list to configure.
4. The event triggered and park action related PTZ movement will be locked for 180 seconds after you enter the line crossing detection interface. Optionally, you can click the Unlock(69s) button to manually activate the movement, or lock the movement when the button turns to Lock by clicking it.

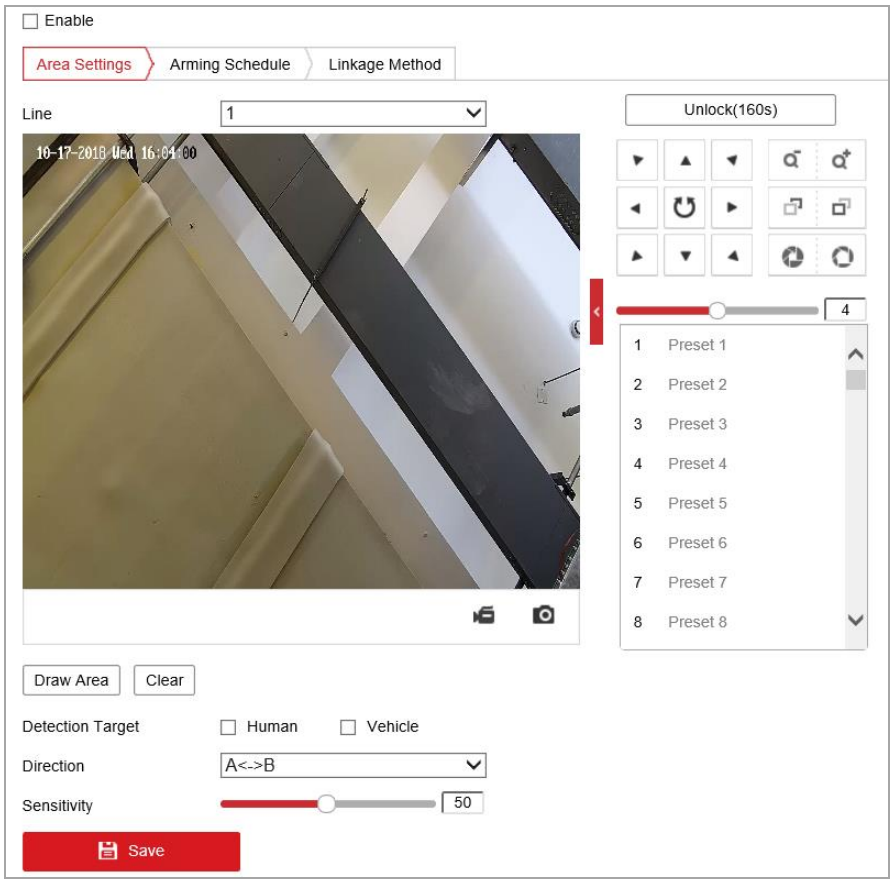


Figure 5-24 Configuring Line

5. Draw area.

   4) Click Draw Area to draw a line on the image.

   5) Click the line to switch to the editing mode.

      Drag an end to the desired place to adjust the length and angle of the line. And drag the line to adjust the location.

6. Configure the parameters for each defense region separately.

   - **Direction:** Select the detection direction in the dropdown list, there are A<->B, A->B and B->A selectable.
   - **Sensitivity:** The value of the sensitivity defines the size of the object which can trigger the alarm, when the sensitivity is high, a very small object can trigger the alarm.

     Note:

     For network cameras, regions can be set simultaneously before clicking **Save** button. For speed domes, you need to set one region and save it, then continue to set and save the next region.

7. Click Arming Schedule tab to enter the arming schedule setting interface. The time schedule configuration is the same as the settings of the arming schedule for motion detection. Refer to ***Section 5.2.1 Configuring Motion Detection*** for more details.

8. Click Linkage Method tab to select the linkage method taken for the line crossing detection,

Notify Surveillance Center, Send Email, Upload to FTP/Memory Card/NAS, Trigger Alarm Output, Trigger Recording, Smart Tracking, White Light Flashing, and Audible Warning are selectable.

- For speed dome, you can also choose to link smart tracking. Smart Tracking should be configured in advance.
- For certain models, White Light Flashing and Audible Warning are supported. Refer to ***Section 5.2.1 Configuring Motion Detection*** for detailed configuration.

9. Click Save to save the settings.

5.3.5 Configuring Region Entrance Detection

Note:

The function varied depending on different speed domes.

Purpose:

Region entrance detection function detects people, vehicle or other objects which enter a pre-defined virtual region from the outside place, and some certain actions can be taken when the alarm is triggered.

Steps:

1. Enter the Region Entrance Detection settings interface:
   Configuration> Event > Smart Event> Region Entrance Detection
2. Check the checkbox of **Enable** to enable the Region Entrance Detection function.

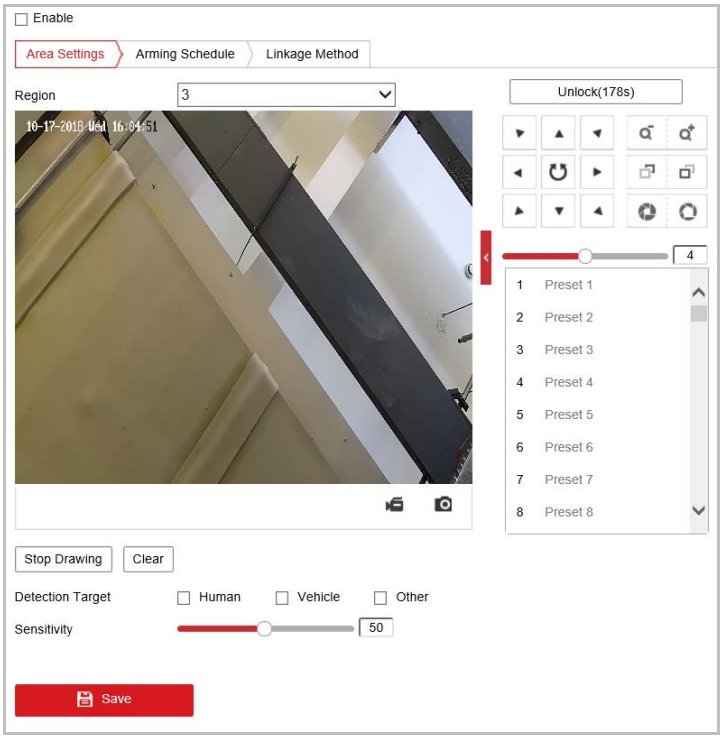


Figure 5-25 Configuring Region Entrance Detection

3. The event triggered and park action related PTZ movement will be locked for 180 seconds after you enter the line crossing detection interface. Optionally, you can click the Unlock(69s) button to manually activate the movement, or lock the movement when the button turns to Lock by clicking it.
4. Select the region from the dropdown list for detection settings.
5. Click the Draw Area button to start the region drawing.
6. Click on the live video to specify the four vertexes of the detection region, and right click to complete drawing.

   Repeat the step to configure other regions. You can click the Clear button to clear all pre-defined regions.
7. Configure the parameters for each defense region separately.
   - **Sensitivity**: The value of the sensitivity defines the size of the object which can trigger the alarm, when the sensitivity is high, a very small object can trigger the alarm.
8. Click Arming Schedule tab to enter the arming schedule setting interface. The time schedule configuration is the same as the settings of the arming schedule for motion detection. Refer to ***Section 5.2.1 Configuring Motion Detection*** for more details.
9. Click Linkage Method tab to select the linkage method taken for the region entrance alarm, Notify surveillance center, send email, upload to FTP, trigger channel, smart tracking, White Light Flashing, Audible Warning, and trigger alarm output are selectable.
   - For speed dome, you can also choose to link smart tracking. Smart Tracking should be configured in advance.
   - For certain models, White Light Flashing and Audible Warning are supported. Refer to ***Section 5.2.1 Configuring Motion Detection*** for detailed configuration.
10. Click Save to save the settings.

5.3.6 Configuring Region Exiting Detection

Purpose:

Region exiting detection function detects people, vehicle or other objects which exit from a pre-defined virtual region, and some certain actions can be taken when the alarm is triggered.

Steps:

1. Enter the Region Exiting Detection settings interface:
   Configuration> Event > Smart Event> Region Exiting Detection
2. Check the checkbox of **Enable** to enable the Region Exiting Detection function.

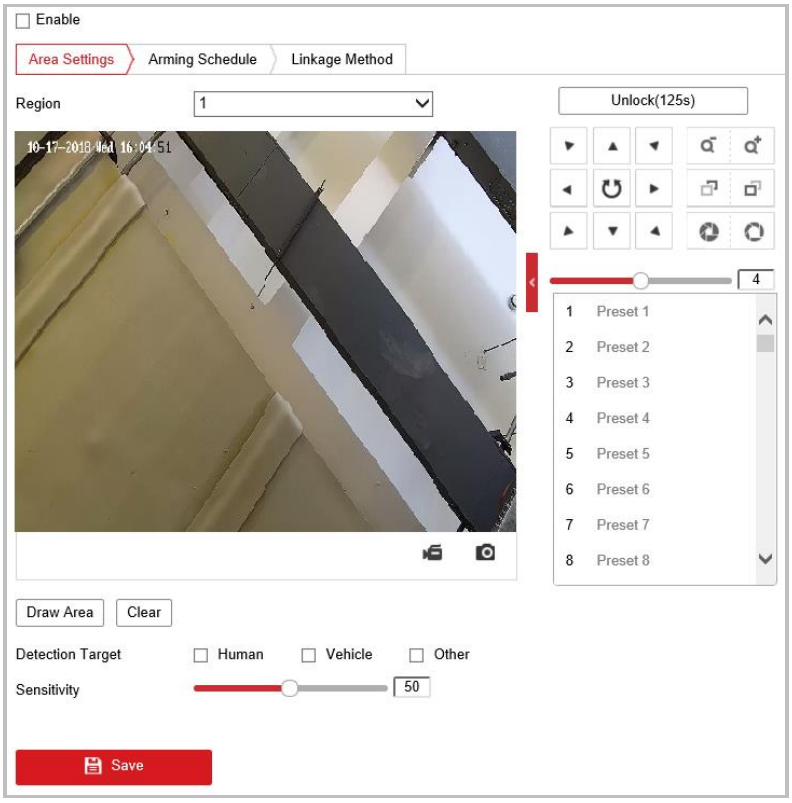


Figure 5-26 Configuring Region Exiting Detection

3. The event triggered and park action related PTZ movement will be locked for 180 seconds after you enter the line crossing detection interface. Optionally, you can click the Unlock(69s) button to manually activate the movement, or lock the movement when the button turns to Lock by clicking it.
4. Select the region from the dropdown list for detection settings.
5. Click the Draw Area button to start the region drawing.
6. Click on the live video to specify the four vertexes of the detection region, and right click to complete drawing.
   Repeat the step to configure other regions. Up to 4 regions can be set. You can click the Clear button to clear all pre-defined regions.
7. Configure the parameters for each defense region separately.
   - **Sensitivity**: The value of the sensitivity defines the size of the object which can trigger the alarm. When the sensitivity is high, a very small object can trigger the alarm.
8. Click Arming Schedule tab to enter the arming schedule setting interface. The time schedule configuration is the same as the settings of the arming schedule for motion detection. Refer to ***Section 5.2.1 Configuring Motion Detection*** for more details.
9. Click Linkage Method tab to select the linkage method taken for the region exiting alarm, Notify Surveillance Center, Send Email, Upload to FTP, Trigger Channel, Smart Tracking, White Light Flashing, Audible Warning, and Trigger Alarm Output are selectable.
   - For speed dome, you can also choose to link smart tracking. Smart Tracking should be configured in advance.

- For certain models, White Light Flashing and Audible Warning are supported. Refer to ***Section 5.2.1 Configuring Motion Detection*** for detailed configuration.

10. Click 

button to save the settings.

5.3.7 Unattended Baggage Detection

Purpose:

Unattended baggage detection function detects baggage which is left in a pre-defined virtual region, and some certain actions can be taken when the alarm is triggered.

Steps:

1. Enter the Unattended Baggage Detection settings interface:
   Configuration> Event > Smart Event> Unattended Baggage Detection
2. Check the checkbox of **Enable** to enable the Unattended Baggage Detection function.

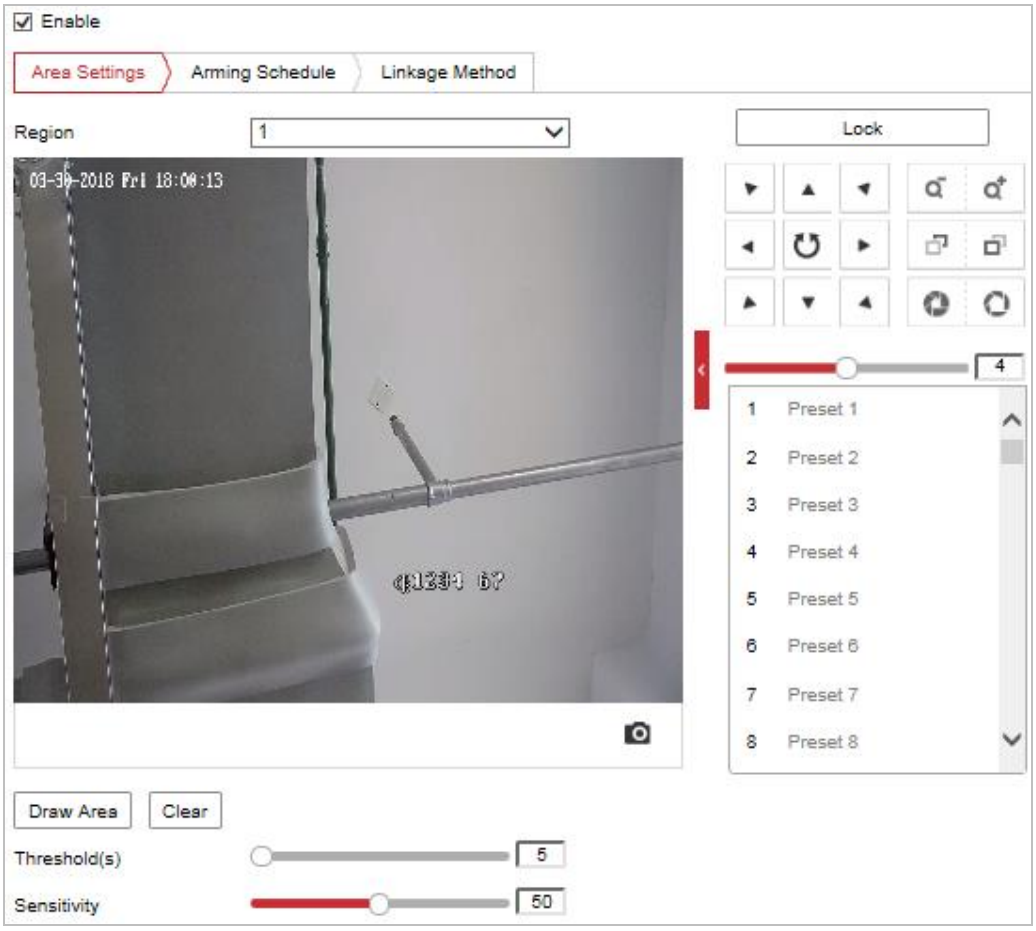
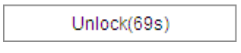
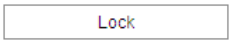


Figure 5-27 Configuring Region Exiting Detection

3. The event triggered and park action related PTZ movement will be locked for 180 seconds after you enter the unattended baggage detection interface. Optionally, you can click the 

button to manually activate the movement, or lock the movement when the button turns to 

by clicking it.

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4. Select the region from the dropdown list for detection settings.
5. Click the Draw Area button to start the region drawing.
6. Click on the live video to specify the four vertexes of the detection region, and right click to complete drawing.
   Repeat the step to configure other regions. Up to 4 regions can be set. You can click the Clear button to clear all pre-defined regions.
7. Configure the parameters for each defense region separately.
   - **Threshold Level**: If you set the value as 5, alarm is triggered immediately after the object entering the region.
   - **Sensitivity Level**: The value of the sensitivity defines the size of the object which can trigger the alarm, when the sensitivity is high, a very small object can trigger the alarm.
8. Click Arming Schedule tab to enter the arming schedule setting interface. The time schedule configuration is the same as the settings of the arming schedule for motion detection. Refer to ***Section 5.2.1 Configuring Motion Detection*** for more details.
9. Click Linkage Method tab to select the linkage method taken for the unattended baggage alarm, Notify surveillance center, send email, upload to FTP, trigger channel, smart tracking and trigger alarm output are selectable. Refer to ***Section 5.2.1 Configuring Motion Detection*** for more details.
10. Click Save button to save the settings.

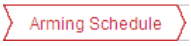
5.3.8 Object Removal Detection

Purpose:

Object removal detection function detects objects which remove in a pre-defined virtual region, and some certain actions can be taken when the alarm is triggered.

Steps:

1. Enter the Object Removal Detection settings interface:
   Configuration> Event > Smart Event> Object Removal Detection
2. Check the checkbox of **Enable** to enable the Object Removal Detection function.
3. The event triggered and park action related PTZ movement will be locked for 180 seconds after you enter the unattended baggage detection interface. Optionally, you can click the Unlock(69s) button to manually activate the movement, or lock the movement when the button turns to Lock by clicking it.
4. Select the region from the dropdown list for detection settings.
5. Click the Draw Area button to start the region drawing.
6. Click on the live video to specify the four vertexes of the detection region, and right click to complete drawing. Repeat the step to configure other regions. Up to 4 regions can be set. You can click the Clear button to clear all pre-defined regions.

7. Configure the parameters for each defense region separately.
   - **Threshold Level:** If you set the value as 5, alarm is triggered immediately after the object entering the region.
   - **Sensitivity Level:** The value of the sensitivity defines the size of the object which can trigger the alarm, when the sensitivity is high, a very small object can trigger the alarm.
8. Click 

tab to enter the arming schedule setting interface. The time schedule configuration is the same as the settings of the arming schedule for motion detection. Refer to ***Section 5.2.1 Configuring Motion Detection*** for more details.
9. Click 

tab to select the linkage method taken for the object removal alarm, Notify Surveillance Center, Send Email, Upload to FTP, Trigger Channel, Smart Tracking and Trigger Alarm Output are selectable. Refer to ***Section 5.2.1 Configuring Motion Detection*** for more details.
10. Click 

button to save the settings.

5.4 PTZ Configuration

- On the event configuration page, click  to show the PTZ control panel or click  to hide it.
- Click the direction buttons to control the pan/tilt movements.
- Click the zoom/iris/focus buttons to realize lens control.
- The functions vary depending on different camera models.

5.4.1 Configuring Basic PTZ Parameters

Purpose:

You can configure the basic PTZ parameters, including proportional pan, preset freezing, preset speed, etc.

Steps:

1. Enter the Basic Settings interface:
   Configuration > **PTZ** > **Basic Settings**

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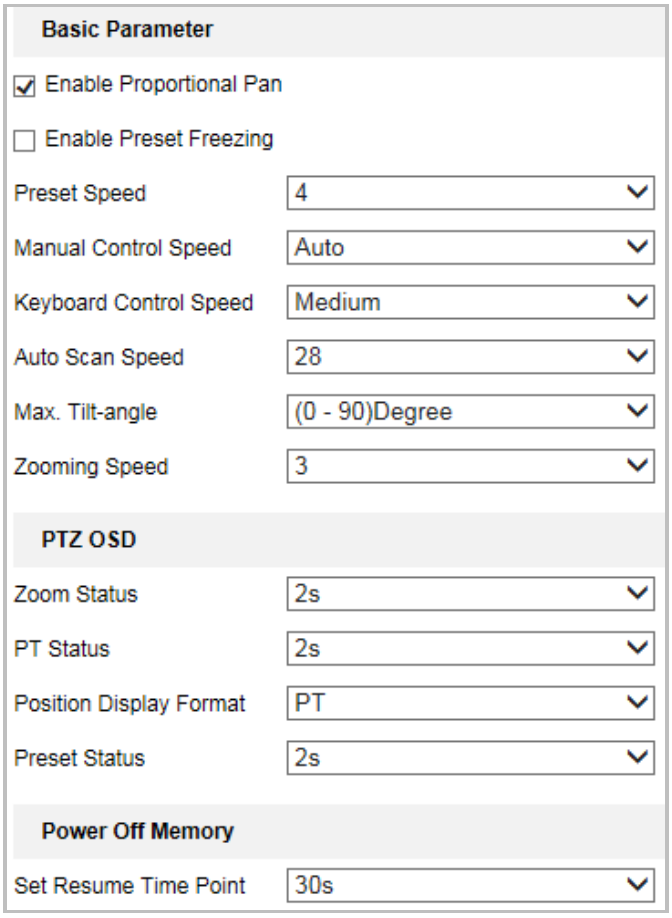


Figure 5-28 Basic Settings

2. Configure the following settings:

- **Basic Parameters:** Set the basic parameters of PTZ.
  - **Proportional Pan:** If you enable this function, the pan/tilt speeds change according to the amount of zoom. When there is a large amount of zoom, the pan/tilt speed will be slower for keeping the image from moving too fast on the live view image.
  - **Preset Freezing:** This function enables the live view to switch directly from one scene defined by a preset to another, without showing the middle areas between these two, to ensure the surveillance efficiency. It can also reduce the use of bandwidth in a digital network system.

    Note:

    Preset freezing function is invalid when you calling a pattern.
  - **Preset Speed:** You can set the speed of a defined preset from 1 to 8.
  - **Manual Control Speed**: The manual control speed can be set as Compatible, Pedestrian, Non-motor Vehicle, Motor Vehicle or Auto.
    - Compatible: The control speed is same as the Keyboard Control Speed.
    - Pedestrian: Choose the **Pedestrian** when you monitor the pedestrians.
    - Non-motor Vehicle: Choose the **Non-motor Vehicle** when you monitor the non-motor vehicles.
    - Motor Vehicle: Choose the **Motor Vehicle** when you monitor the motor vehicles.
    - Auto: You are recommended to set it as **Auto** when the application scene of the speed dome is complicated.

- **Keyboard Control Speed:** Define the speed of PTZ control by a keyboard as Low, Medium or High.
- **Auto Scan Speed:** The scan speed can be set from level 1 to 40.
- **Max. Tilt-angle**: Set the tilt-angle of the speed dome from the dropdown list.
- **Zooming Speed**: The zoom speed is adjustable from level 1 to 3.

- **PTZ OSD:** Set the on-screen display duration of the PTZ status.
  - **Zoom Status:** Set the OSD duration of zooming status as 2 seconds, 5 seconds, 10 seconds, NC (Normally Closed), or NO (Normally Open).
  - **PT Status:** Set the azimuth angle display duration while panning and tilting as 2 seconds, 5 seconds, 10 seconds, NC (Normally Closed), or NO (Normally Open).
  - **Position Display Format:** Set the position display format as PT or Direction and the position parameter displays in corresponding format.

    Note:

    The function is only supported by certain camera models.
  - **Preset Status:** Set the preset name display duration while calling the preset as 2 seconds, 5 seconds, 10 seconds, NC (Normally Closed), or NO (Normally Open).
- **Power-off Memory:** The speed dome can resume its previous PTZ status or actions after it restarted from a power-off. You can set the time point to which the dome resumes its PTZ status. You can set it to resume the status of 30 seconds, 60 seconds, 300 seconds or 600 seconds before power-off.

3. Click 

to save the settings.

5.4.2 Configuring PTZ Limits

Purpose:

The speed dome can be programmed to move within the configurable PTZ limits (left/right, up/down).

Steps:

1. Enter the Limit configuration interface:

   Configuration > **PTZ** > **Limit**

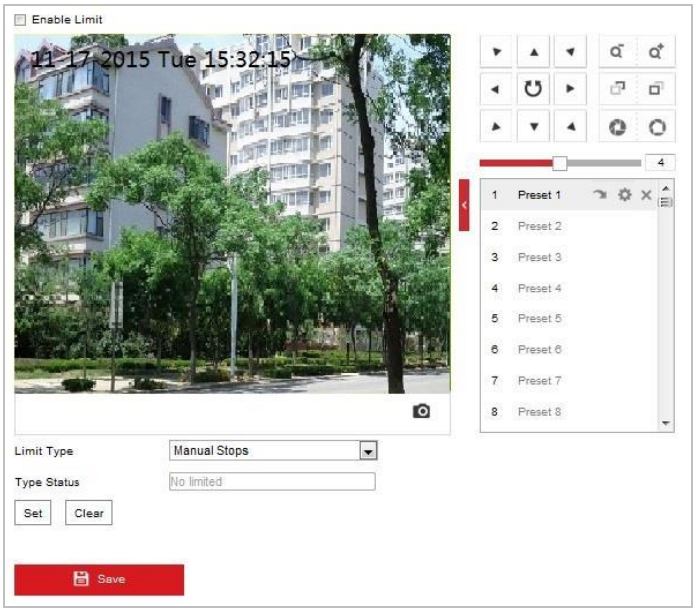


Figure 5-29 Configure the PTZ Limit

2. Click the **Enable Limit** checkbox and choose the limit type as manual stops or scan stops.

- **Manual Stops:**
  When manual limit stops are set, you can operate the PTZ control panel manually only in the limited surveillance area.
- **Scan Stops:**
  When scan limit stops are set, the random scan, frame scan, auto scan, tilt scan, panorama scan is performed only in the limited surveillance area.

Note:

Manual Stops of **Limit Type** is prior to **Scan Stops.** When you set these two limit types at the same time, **Manual Stops** is valid and **Scan Stops** is invalid.

3. Click the PTZ control buttons to find the left/right/up/down limit stops; you can also call the defined presets and set them as the limits of the speed dome.
4. Click **Set** to save the limits or click **Clear** to clear the limits.
5. Click Save to save the settings.

5.4.3 Configuring Initial Position

Purpose:

The initial position is the origin of PTZ coordinates. It can be the factory default initial position. You can also customize the initial position according to your own demand.

- **Customize an Initial Position:**

Steps:

1. Enter the Initial Position configuration interface:
   Configuration > **PTZ** > **Initial Position**



Figure 5-30 PTZ Configuration

2. Click the PTZ control buttons to find a position as the initial position of the speed dome; you can also call a defined preset and set it as the initial position of the speed dome.
3. Click **Set** to save the position.

- **Call/delete an Initial Position:**

You can click to call the initial position. You can click to delete the initial position and restore the factory default initial position.

5.4.4 Configuring Park Actions

Purpose:

This feature allows the camera to start a predefined park action (scan, preset, pattern and etc.) automatically after a period of inactivity (park time).

Notes:

- **Scheduled Tasks** function is prior to **Park Action** function. When these two functions are set at the same time, only the **Scheduled Tasks** function takes effect.
- Park function varies depending on different camera models.

Steps:

1. Enter the Park Action settings interface:
   Configuration > **PTZ** > **Park Action**



Figure 5-31 Set the Park Action

2. Check the **Enable Park Action** checkbox.
3. Set the **Park Time** as the inactivity time of the camera before it starts the park actions.
4. Choose **Action Type** from the dropdown list.
5. If you select Patrol, Pattern, or Preset as Action Type, you need to select Action Type ID from the dropdown list.
6. Click 

to save the settings.

5.4.5 Configuring Privacy Mask

Purpose:

Privacy mask enables you to cover certain areas on the live video to prevent certain spots in the surveillance area from being live viewed and recorded.

Steps:

1. Enter the Privacy Mask settings interface:
   Configuration > **PTZ** > **Privacy Mask**

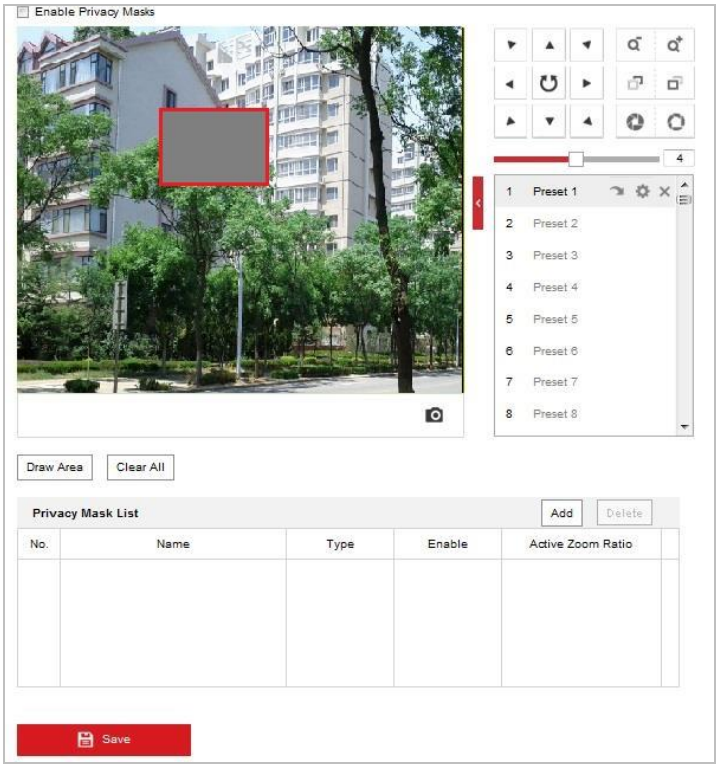


Figure 5-32 Draw the Privacy Mask

2. Click the PTZ control buttons to find the area you want to set the privacy mask.
3. Click Draw Area ; drag the mouse in the live video window to draw the area.
4. You can drag the corners of the red rectangle area to draw a polygon mask.
5. Click Stop Drawing to finish drawing or click Clear All to clear all of the areas you set without saving them.
6. Click Add to save the privacy mask, and it will be listed in the **Privacy Mask List** area.
7. Modify the mask settings.
   - **Type:** you can specify a desired color for the mask or set it as mosaic.
     Note:
     The mosaic option may not be supported by certain camera models.
   - **Active Zoom Ratio:** The set mask is only valid when the camera zoom ratio is equal to or larger than the set value. Click to check or change current zoom ratio (The zoom ratio value is displayed on image).

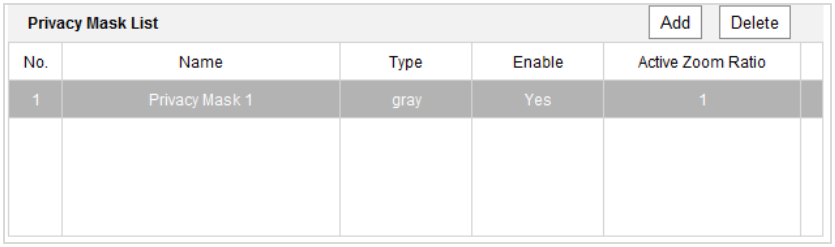


Figure 5-33 Privacy Mask List

8. Check the checkbox of **Enable Privacy Mask** to enable this function.

5.4.6 Configuring Scheduled Tasks

Purpose:

You can configure the network speed dome to perform a certain action automatically in a user-defined time period.

Steps:

1. Enter the Scheduled Task settings interface:
   Configuration> **PTZ** > **Scheduled Tasks**

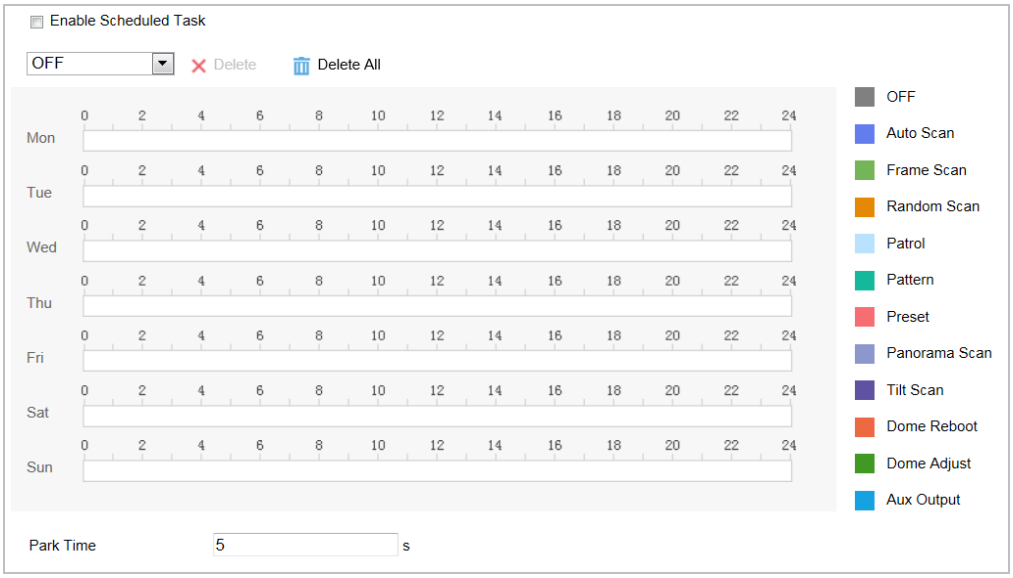


Figure 5-34 Configure Scheduled Tasks

2. Check the **Enable Scheduled Task** checkbox.
3. Set the **Park Time**. You can set the park time (a period of inactivity) before the speed dome starts the scheduled tasks.
4. Select the task type from the dropdown list.
5. Select the timeline of a certain day, and drag the mouse to set the recording schedule (the start time and end time of the recording task).
6. After you set the scheduled task, you can click and copy the task to other days (optional).

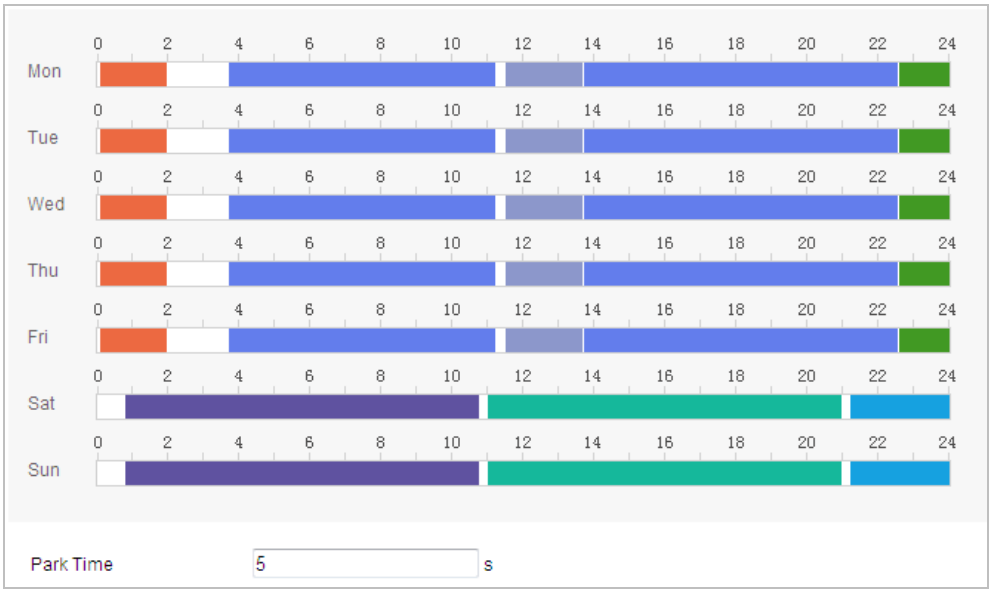


Figure 5-35 Edit the Schedule and Task Type

7. Click Save to save the settings.

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5.4.7 Clearing PTZ Configurations

Purpose:

You can clear PTZ configurations in this interface, including all presets, patrols, privacy masks, PTZ limits, scheduled tasks and park actions.

Steps:

1. Enter the Clearing Configuration interface:

   Configuration > PTZ > Clear Config

2. Check the checkbox of the items you want to clear.

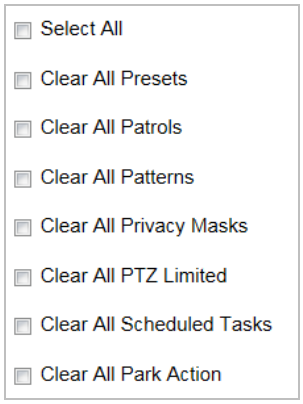


Figure 5-36 Clear Config

3. Click  to clear the settings.

5.4.8 Configuring Smart Tracking

Purpose:

The speed dome tracks the moving objects automatically after you configure this function.

Note:

The VCA speed dome do not support this function.

Steps:

1. Enter the Smart Tracking settings interface:

   Configuration > PTZ > Smart Tracking

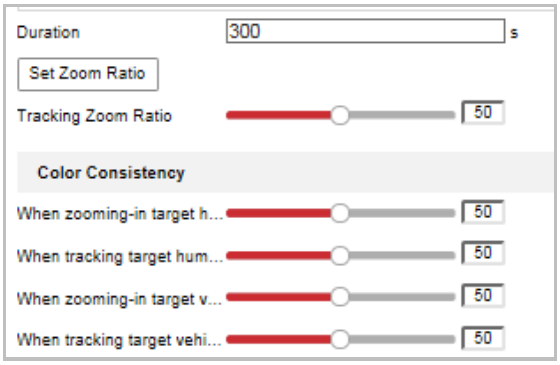


Figure 5-37 Configure Smart Tracking

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2. Check the **Enable Smart Tracking** check box to enable smart tracking function.
3. Set Zoom Ratio for tracking. You can set a fixed zoom ratio, or you can let the camera calculates the actual zoom ratio automatically.
   - Set a Fixed Zoom Ratio
     1. Move the **Tracking Zoom Ratio** cursor to 1.
     2. Select a target in the live image and adjust the PTZ buttons to see the target at desired size.
     3. Click **Set Zoom Ratio** to set the current zoom ratio as the zoom ratio.
   - Camera Calculates Zoom Ratio Automatically

     Adjust the **Tracking Zoom Ratio** to a desired value. Then the camera determines the actual zoom ratio dynamically according to the detected target size and the set value. Larger value means larger zoom ratio.

   Note:

   As long as you set the **Tracking Zoom Ratio** value not as 0, the zoom ratio you set manually is invalid.
4. Set **Duration**. The speed dome stops tracking when the duration time is up.
5. Set **Color Consistency.**

   Color Consistency: The camera checks the color of the detected target several times during tracking and compares the color resemblance to determine whether it should continue tracking the target or not. If the returned resemblance is lower than the set value, the camera stops tracking.

   You can set the resemblance thresholds for different targets at different tracking stages. Higher value means higher resemblance requirement to continue tracking.

5.4.9 Prioritize PTZ

Steps:

1. Enter the Prioritize PTZ interface:

   Configuration > **PTZ** > **Prioritize PTZ**.

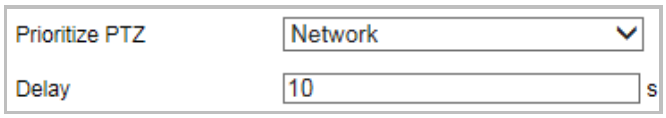


Figure 5-38 Prioritize PTZ

2. Select Network or RS-485 from the dropdown list
3. Set the delay time.
4. Click 

to save the settings.

5.4.10 Position Settings

Purpose:

You can configure the position settings in this interface, including the position information of the

device.

Note: Position settings may not be supported by certain camera models.

Steps:

1. Enter the Position Settings interface:
   Configuration > PTZ > Position Settings

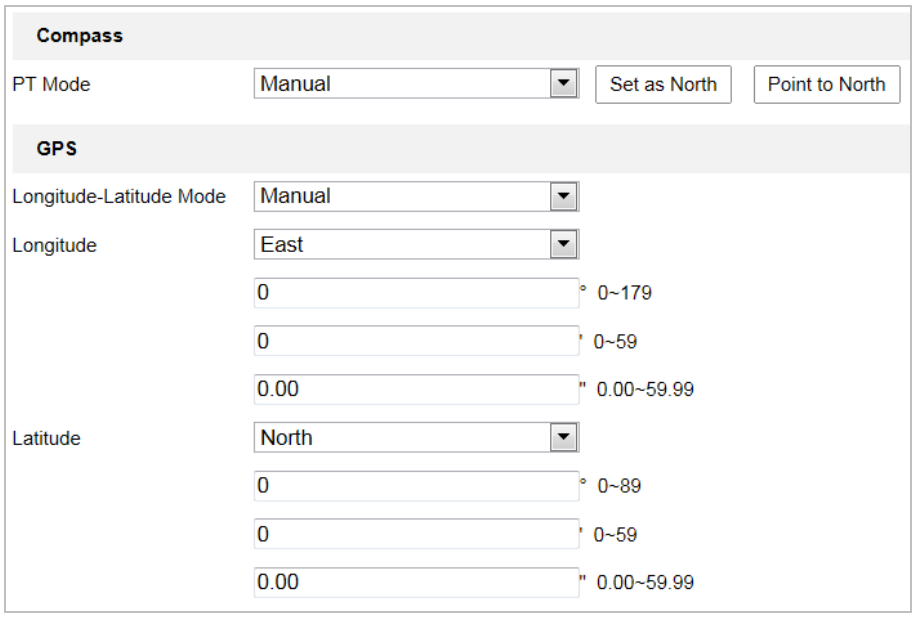


Figure 5-39 Position Settings

2. Manually find the north position for the speed dome in Live View interface, and click **Set at North** to set the north direction.
3. After the speed dome changes its direction, you can click **Point to North** and the speed dome turns back to the north direction.
4. You can manually set GPS information of certain camera including **Longitude** and **Latitude**.
5. Click Save to save the settings.

5.4.11 Rapid Focus

Purpose:

Rapid Focus is a function to reduce time of focusing comparing with that of normal focusing. To use the function, calibration should be done first.

Note: Rapid focus may not be supported by certain camera models.

Steps:

1. Enter the rapid focus interface
   Configuration > PTZ > Rapid Focus

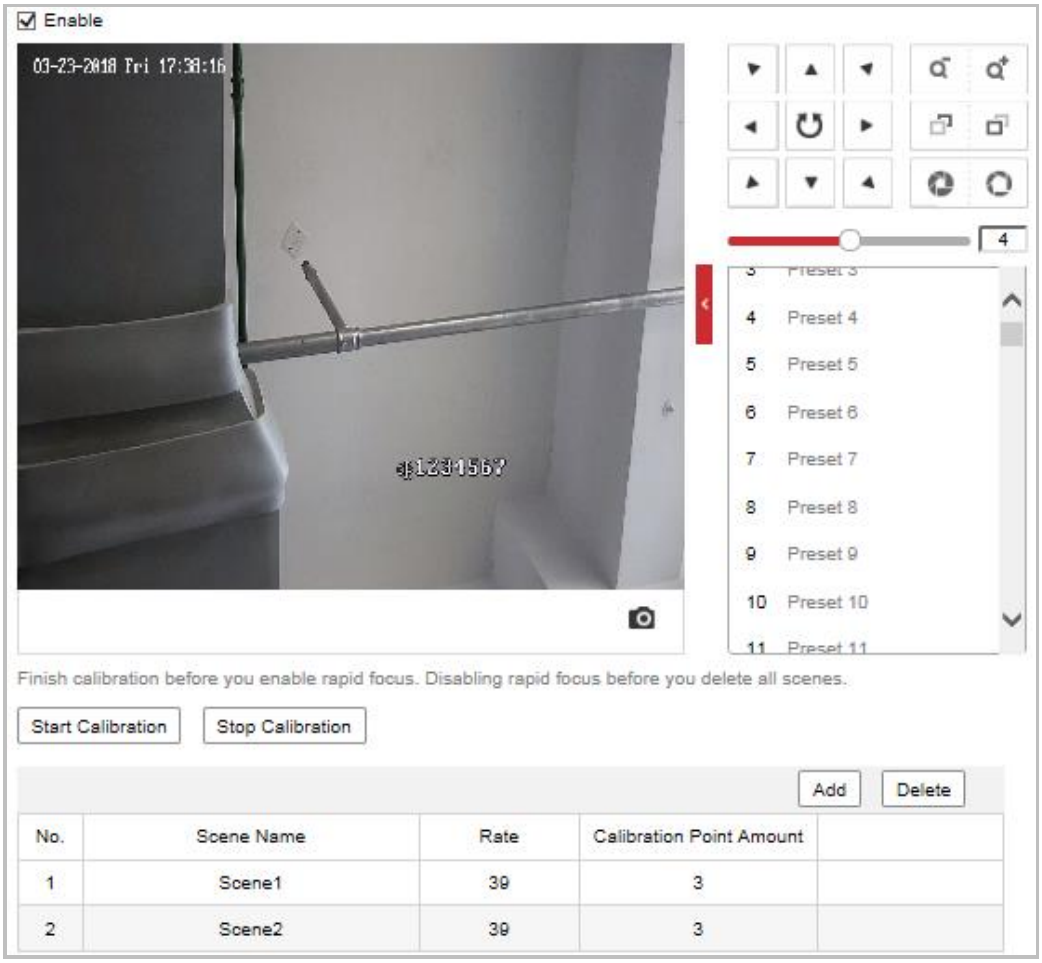


Figure 5-40 Rapid Focus

2. Check **Enable** to enable the function.
3. Calibrate the camera.

(1) Add scenes for calibration.

a. Adjust the camera to a desired scene via PTZ control buttons.

b. Click **Add** to add the scene, and input **Rate** and **Calibration Point Amount** of the scene.

c. Repeat above steps to add other scenes.

(2) Adjust calibration line.

a. Select an added scene, and a red line appears on live image.

b. Adjust the length and position of the line by dragging its two endpoints.

Notes:

- The red line is recommended to stay in the center of the scene and to cover ground at the same time.
- If the line is not in the center, use PTZ control to adjust the scene.

(3) Click **Start Calibration**, and calibration status appears on the live image.

4. Save the settings after successful calibration.

Chapter 6 Camera Configuration

6.1 Configuring Network Settings

Note:

The functions vary depending on different camera models.

6.1.1 Basic Settings

Configuring TCP/IP Settings

Purpose:

TCP/IP settings must be properly configured before you operate the camera over network. IPv4 and IPv6 are both supported.

Steps:

1. Enter TCP/IP settings interface:
   Configuration > Network > Basic Settings > TCP/IP

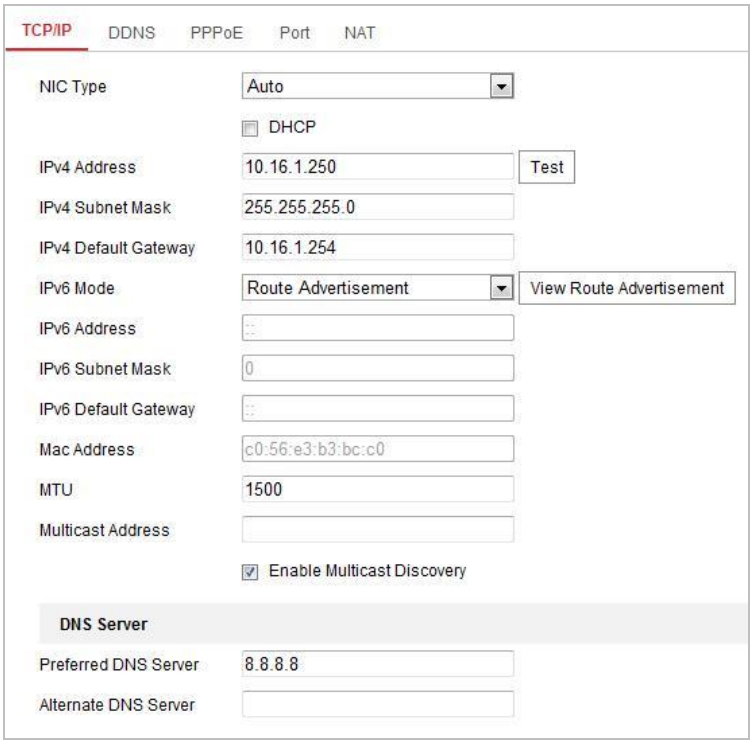


Figure 6-1 TCP/IP Settings

2. Configure the NIC settings, including the **IPv4(IPv6) Address**, **IPv4(IPv6) Subnet Mask** and **IPv4(IPv6) Default Gateway**.

3. Click Save to save the above settings.

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You can click **Test** to make sure that the IP address is valid.

Notes:

- If the DHCP server is available, you can check ☐ DHCP to automatically obtain an IP address and other network settings from that server.
- The valid value range of Maximum Transmission Unit (MTU) is 1280 to 1500.
- The Multicast sends a stream to the multicast group address and allows multiple clients to acquire the stream at the same time by requesting a copy from the multicast group address. Before utilizing this function, you have to enable the Multicast function of your router and configure the gateway of the network camera.
- If the DNS server settings are required for some applications (e.g., sending email), you should properly configure the **Preferred DNS Server** and **Alternate DNS server**.



Figure 6-2 DNS Server Settings

Note:

The router must support the route advertisement function if you select **Route Advertisement** as the IPv6 mode.

Configuring DDNS Settings

Purpose:

If your camera is set to use PPPoE as its default network connection, you can use the Dynamic DNS (DDNS) for network access.

***Before you start*:**

Registration on the DDNS server is required before configuring the DDNS settings of the camera.

- *For your privacy and to better protect your system against security risks, we strongly recommend the use of strong passwords for all functions and network devices. The password should be something of your own choosing (using a minimum of 8 characters, including upper case letters, lower case letters, numbers and special characters) in order to increase the security of your product.*
- *Proper configuration of all passwords and other security settings is the responsibility of the installer and/or end-user.*

Steps:

1. Enter the DDNS settings interface:
   Configuration > Network > Basic Settings > DDNS
2. Check the **Enable DDNS** checkbox to enable this feature.
3. Select **DDNS Type**. Two DDNS types are selectable: DynDNS and NO-IP.
   - **DynDNS:**

   Steps:

   (1) Enter **Server Address** of DynDNS (e.g. members.dyndns.org).

(2) In the **Domain** text field, enter the domain name obtained from the DynDNS website.

(3) Enter the **Port** of DynDNS server.

(4) Enter the **User Name** and **Password** registered on the DynDNS website.

(5) Click Save to save the settings.

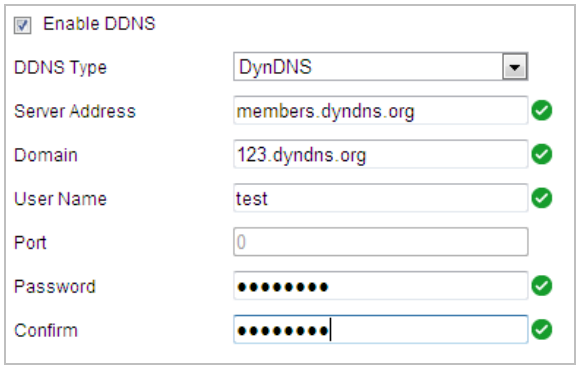


Figure 6-3 DynDNS Settings

- **NO-IP:**

Steps:

(1) Enter **Server Address** of NO-IP.

(2) In the **Domain** text field, enter the domain name obtained from the NO-IP website.

(3) Enter the **Port** of NO-IP server.

(4) Enter the **User Name** and **Password** registered on the NO-IP website.

(5) Click Save to save the settings.

Configuring PPPoE Settings

Purpose:

If you have no router but only a modem, you can use Point-to-Point Protocol over Ethernet (PPPoE) function.

Steps:

1. Enter the PPPoE settings interface:

   Configuration > Network > Basic Settings > PPPoE



Figure 6-4 PPPoE Settings

2. Check the **Enable PPPoE** checkbox to enable this feature.
3. Enter **User Name**, **Password**, and **Confirm** password for PPPoE access.

   Note:

   The User Name and Password should be assigned by your ISP.

- *For your privacy and to better protect your system against security risks, we strongly recommend the use of strong passwords for all functions and network devices. The password should be something of your own choosing (using a minimum of 8 characters, including upper case letters, lower case letters, numbers and special characters) in order to increase the security of your product.*
- *Proper configuration of all passwords and other security settings is the responsibility of the installer and/or end-user.*

4. Click Save to save and exit the interface.

Configuring Port Settings

Purpose:

You can set the port No. of the camera, e.g., HTTP port, RTSP port and HTTPS port.

Steps:

1. Enter the Port settings interface:
   Configuration > Network > Basic Settings > Port

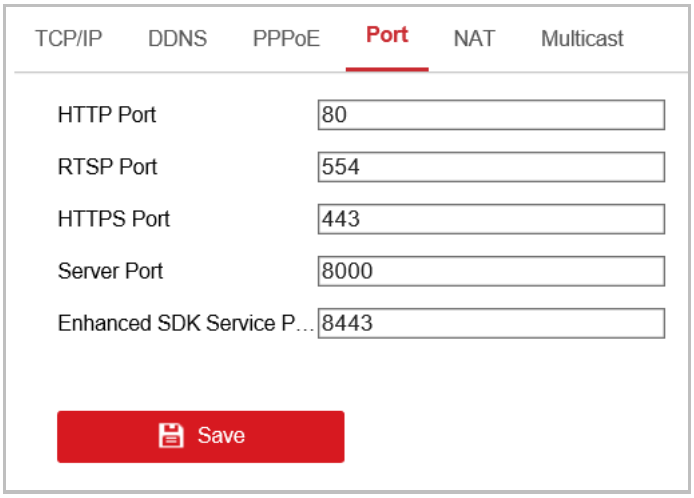


Figure 6-5 Port Settings

2. Set the HTTP port, RTSP port and port of the camera.
   - **HTTP Port**: The default port number is 80.
   - **RTSP Port**: The default port number is 554.
   - **HTTPS Port**: The default port number is 443.
   - **Server Port**: The default port number is 8000.

   Note:

   When you use client software to visit the camera and you have changed the server port number, you have to input the correct server port number in login interface to access to the camera.

   - **Enhanced SDK Service Port:** The default server port number is 8443, and it can be changed to any port number ranges from 2000 to 65535.

3. Click Save to save the settings.

Configuring NAT (Network Address Translation) Settings

Purpose:

Universal Plug and Play (UPnP™) is a networking architecture that provides compatibility among networking equipment, software and other hardware devices. The UPnP protocol allows devices to connect seamlessly and to simplify the implementation of networks in the house and corporate environments.

With the function enabled, you don't need to configure the port mapping for each port, and the camera is connected to the Wide Area Network via the router.

Steps:

1. Enter the UPnP™ settings interface.

   Configuration >Network > Basic Settings > NAT

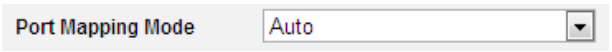
2. Check the checkbox to enable the UPnP™ function.

   Note:

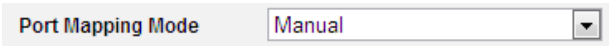
   You can edit the Friendly Name of the camera. This name can be detected by corresponding device, such as a router.

3. Set the port mapping mode:

   To port mapping with the default port numbers:

   Choose 

   To port mapping with the customized port numbers:

   Choose 

   And you can customize the value of the port number by yourself.

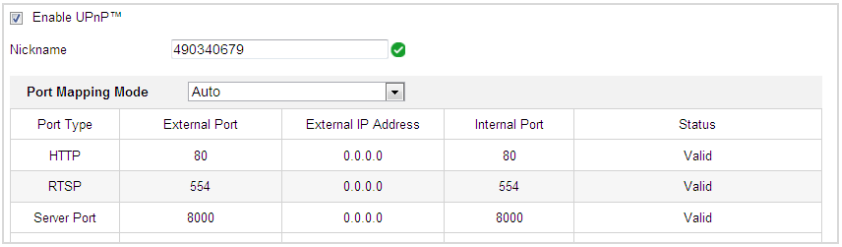


Figure 6-6 Port Mapping Mode

4. Click Save to save the settings.

Configuring Multicast

Purpose:

Multicast is group communication where data transmission is addressed to a group of destination devices simultaneously. After setting up active multicast, you can send the source efficiently to multiple devices.

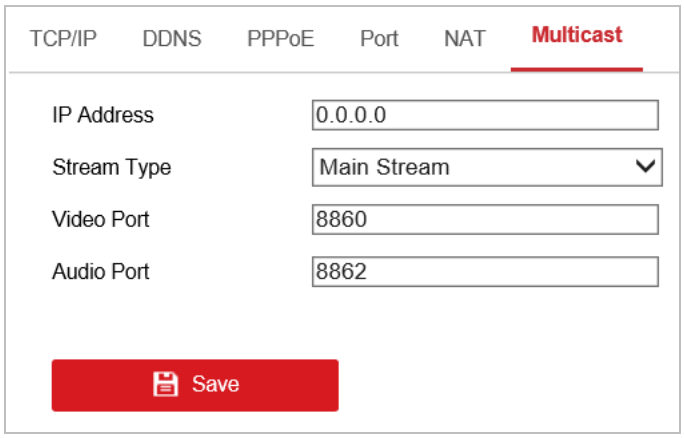


Figure 6-7 Setting Multicast

Steps:

1. Enter the Multicast setting interface.
   Configuration >Network > Basic Settings > Multicast
2. Set IP Address, Stream Type, Video Port, and Audio Port of the camera.
   Notes:
   - IP Address stands for the address of multicast.
   - Video port and audio port of each video stream of each camera channel can be specified by selecting a stream in Video Stream and inputting port number in Video Port and Audio Port.
3. Click 

to save the settings.

6.1.2 Advanced Settings

Configuring SNMP Settings

Purpose:

You can use SNMP to get camera status and parameters related information.

Before you start:

Before setting the SNMP, use the SNMP software and manage to receive the camera information via SNMP port. By setting the Trap Address, the camera can send the alarm event and exception messages to the surveillance center.

Note:

The SNMP version you select should be the same as that of the SNMP software.

Steps:

1. Enter the SNMP settings interface:
   Configuration > Network > Advanced Settings > SNMP

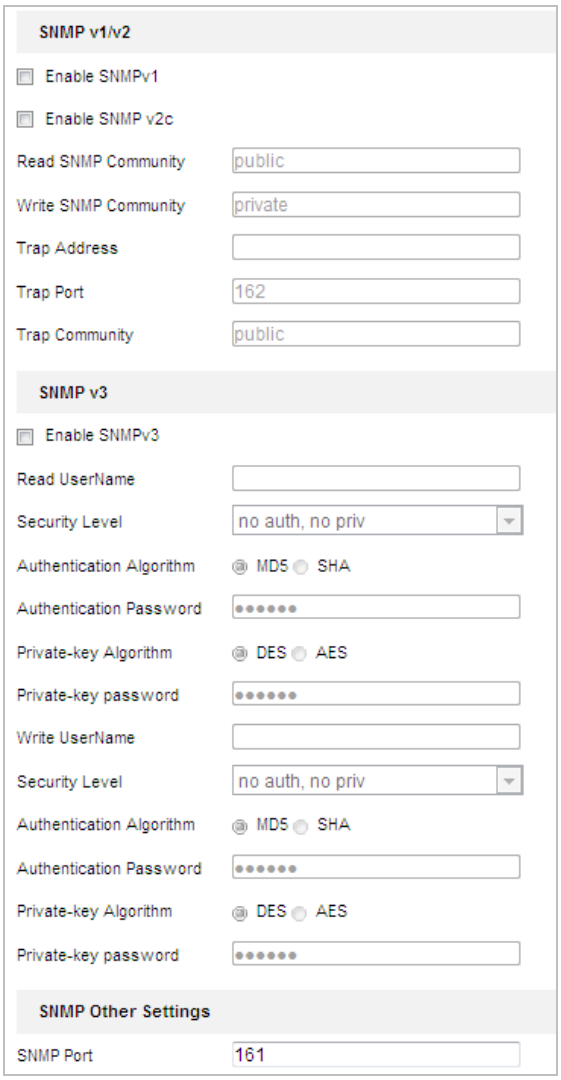


Figure 6-8 SNMP Settings

2. Check the corresponding version checkbox (**Enable SNMP v1**, **Enable SNMP v2c**, **Enable SNMP v3**) to enable the feature.
3. Configure the SNMP settings.

   Note:

   The configuration of the SNMP software should be the same as the settings you configure here.
4. Click Save to save and finish the settings.

Configuring FTP Settings

Purpose:

You can set a FTP server and configure the following parameters for uploading captured pictures.

Steps:

1. Enter the FTP settings interface:

   Configuration > Network > Advanced Settings > FTP

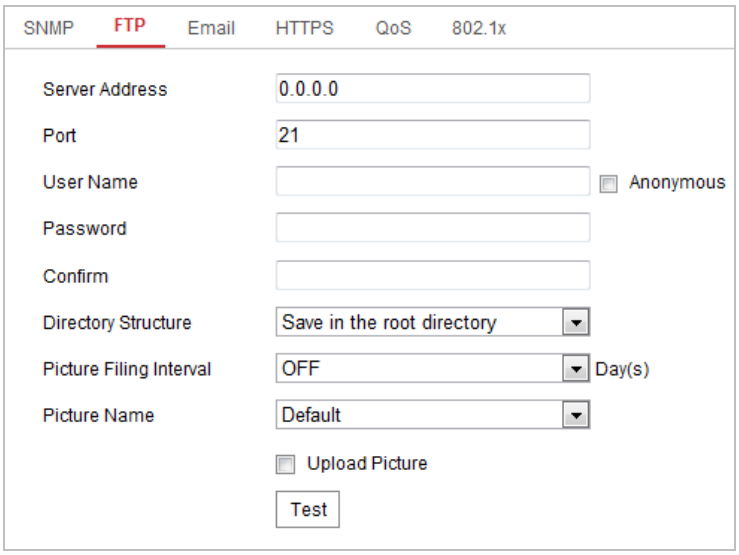


Figure 6-9 FTP Settings

2. Configure the FTP settings, including server address, port, user name, password, and directory.

Note:

The server address supports both the domain name and IP address formats.

- *For your privacy and to better protect your system against security risks, we strongly recommend the use of strong passwords for all functions and network devices. The password should be something of your own choosing (using a minimum of 8 characters, including upper case letters, lower case letters, numbers and special characters) in order to increase the security of your product.*
- *Proper configuration of all passwords and other security settings is the responsibility of the installer and/or end-user.*

- **Setting the directory in FTP server for saving files**:

  In the **Directory Structure** field, you can select the root directory, parent directory and child directory.

  - **Root directory**: The files will be saved in the root of FTP server.
  - **Parent directory**: The files will be saved in a folder in FTP server. The name of folder can be defined as shown in Figure 6-10.

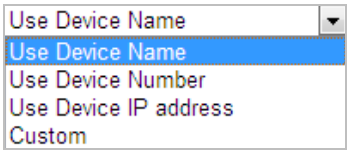


Figure 6-10 Parent Directory

  - **Child directory**: It is a sub-folder which can be created in the parent directory. The files will be saved in a sub-folder in FTP server. The name of folder can be defined as shown in Figure 6-11.

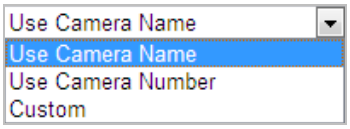


Figure 6-11 Child Directory

- **Upload type:** To enable uploading the captured picture to the FTP server.

3. Click  to save the settings.

4. You can click **Test** to confirm the configuration.

Note:

If you want to upload the captured pictures to FTP server, you also have to enable the continuous snapshot or event-triggered snapshot in **Snapshot** interface.

Configuring Email Settings

Purpose:

The system can be configured to send an Email notification to all designated receivers if an alarm event is detected, e.g., motion detection event, video loss, video-tampering, etc.

Before you start:

Configure the DNS Server settings under **Configuration> Network > Basic Settings > TCP/IP** before using the Email function.

Steps:

1. Enter the Email settings interface:

   Configuration> Network > Advanced Settings > Email

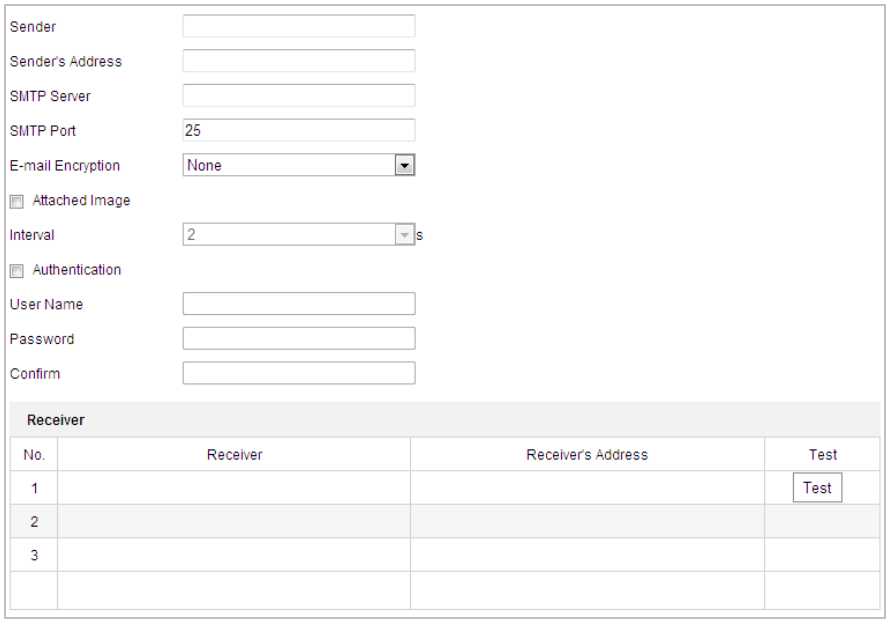


Figure 6-12 Email Settings

2. Configure the following settings:

- **Sender:** The name of the email sender.
- **Sender's Address:** The email address of the sender.
- **SMTP Server:** The SMTP Server IP address or host name (e.g., smtp.263xmail.com).

- **SMTP Port:** The SMTP port. The default TCP/IP port for SMTP is 25.
- **E-mail encryption:** None, SSL, and TLS are selectable. When you select SSL or TLS and disable STARTTLS, e-mails will be sent after encrypted by SSL or TLS. The SMTP port should be set as 465 for this encryption method. When you select SSL or TLS and enable STARTTLS, emails will be sent after encrypted by STARTTLS, and the SMTP port should be set as 25.

Note:

STARTTLS protocol must be supported by the email server for e-mail encryption with STARTTLS. When it is not supported by the email server and the checkbox of Enable STARTTLS is checked, the email will not be encrypted.

- **Attached Image:** Check the checkbox of **Attached Image** if you want to send emails with attached alarm images.
- **Interval:** The interval refers to the time between two actions of sending attached pictures.
- **Authentication** (optional): If your email server requires authentication, check this checkbox to use authentication to log in to this server and enter the login user name and password.



- *For your privacy and to better protect your system against security risks, we strongly recommend the use of strong passwords for all functions and network devices. The password should be something of your own choosing (using a minimum of 8 characters, including upper case letters, lower case letters, numbers and special characters) in order to increase the security of your product.*
- *Proper configuration of all passwords and other security settings is the responsibility of the installer and/or end-user.*

- **Receiver:** Select the receiver to which the email is sent. Up to 2 receivers can be configured.
- **Receiver:** The name of the user to be notified.

Receiver's Address: The email address of user to be notified. (Optional: click **Test** to make sure that the email server can send email out.)

3. Click 

to save the settings.

Configuring Platform Settings

Purpose:

Platform access provides you an option to manage the devices via platform.

Note:

This function varies depending on different speed dome models.

Steps:

1. Enter the Platform settings interface:

   Configuration> Network > Advanced Settings > Platform Access

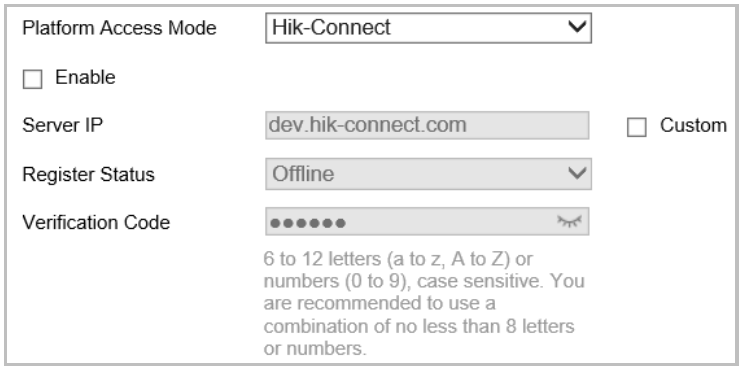


Figure 6-13 Platform Access

2. Check the **Enable** checkbox to enable the platform access function of the device.
3. Select the Platform Access Mode.

   If you select Platform Access Mode as Hik-Connect,

   1) Click and read "Terms of Service" and "Privacy Policy" in pop-up window.
   2) Create a verification code or change the verification code for the camera.

   Notes:

   - The verification code is required when you add the camera to Hik-Connect app.
   - For more information about the Hik-Connect app, refer to Hik-Connect Mobile Client User Manual.
4. You can use the default server address. Or you can check the **Custom** checkbox on the right and input a desired server address.
5. Click Save to save the settings.

   Note:

   Hik-Connect is an application for mobile devices. With the App, you can view live image of the camera, receive alarm notification and so on.

Configuring HTTPS Settings

Purpose:

HTTPS consists of SSL&HTTP. It is used for encryption transmission, identity authentication network protocol which enhances the security of WEB accessing.

- *For your privacy and to better protect your system against security risks, we strongly recommend the use of strong passwords for all functions and network devices. The password should be something of your own choosing (using a minimum of 8 characters, including upper case letters, lower case letters, numbers and special characters) in order to increase the security of your product.*
- *Proper configuration of all passwords and other security settings is the responsibility of the installer and/or end-user.*

Steps:

1. Enter the HTTPS settings interface.

   Configuration > Network > Advanced Settings > HTTPS

2. Create the self-signed certificate or authorized certificate.

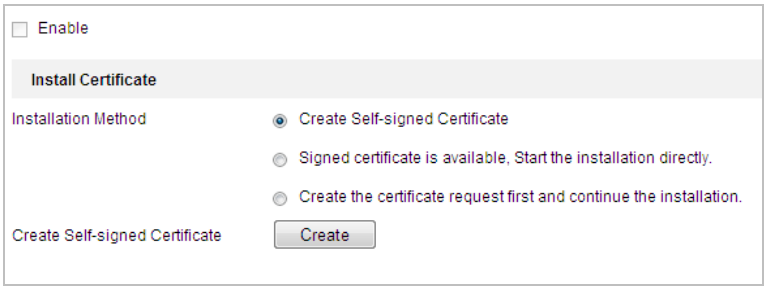


Figure 6-14 Create Certificate

OPTION 1: Create the self-signed certificate

(1) Select Create Self-signed Certificate.

(2) Click **Create** to create the following dialog box.

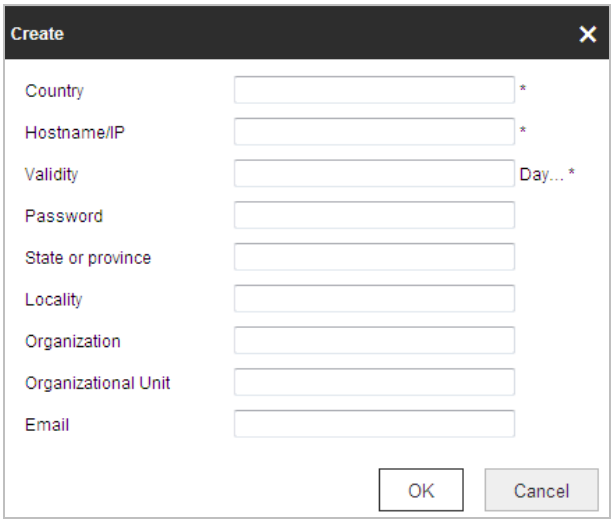


Figure 6-15 Create Self-signed Certificate

(3) Enter the country, host name/IP, validity and other information.

(4) Click **OK** to save the settings.

OPTION 2: Start the installation when signed certificate is available.

(1) Select Signed certificate is available, Start the installation directly.

(2) Click **Browse** to upload the available certificate.

(3) Click **Install** button to install the certificate.

(4) Click **OK** to save the settings.

OPTION 3: Create certificate request first and continue the installation.

(1) Select Create certificate request first and continue the installation.

(2) Click **Create** to create the certificate request, and fulfill the required information.

(3) Download the certificate request and submit it to the trusted certificate authority for signature.

(4) After receiving the signed valid certificate, import the certificate to the device.

(5) Click **OK** to save the settings.

3. There will be the certificate information after you successfully create and install the certificate.

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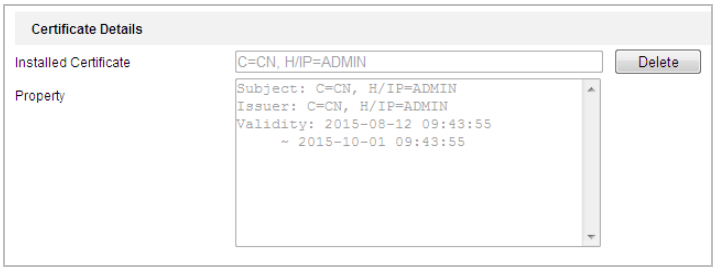


Figure 6-16 Installed Certificate Property

Notes:

- The default port number of HTTPS is 443. The port value ranges from 1 to 65535.
- When the port number is the default number 443, the format of the URL is ***https://IP address,*** eg., https://192.168.1.64.
- When the port number is not the default number 443, the format of the URL is ***https://IP address:port number***, eg., https://192.168.1.64:81.

Configuring QoS Settings

Purpose:

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

Steps:

1. Enter the QoS settings interface:
   Configuration > Network > Advanced Configuration > QoS

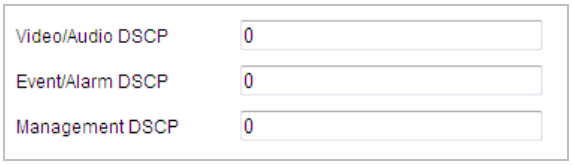


Figure 6-17 QoS Settings

2. Configure the QoS settings, including Video/Audio DSCP, Event/Alarm DSCP and Management DSCP.
   The valid DSCP value ranges from 0 to 63. The higher the DSCP value is, the higher the priority is.
3. Click 

to save the settings.

Notes:

- Make sure that you enable the QoS function of your network device (such as a router).
- It will ask for a reboot for the settings to take effect.

Configuring 802.1X Settings

Purpose:

The camera supports IEEE 802.1X standard.

IEEE 802.1X is a port-based network access control. It enhances the security level of the LAN.

When devices connect to this network with IEEE 802.1X standard, the authentication is needed. If the authentication fails, the devices don't connect to the network.

The protected LAN with 802.1X standard is shown in Figure 6-18

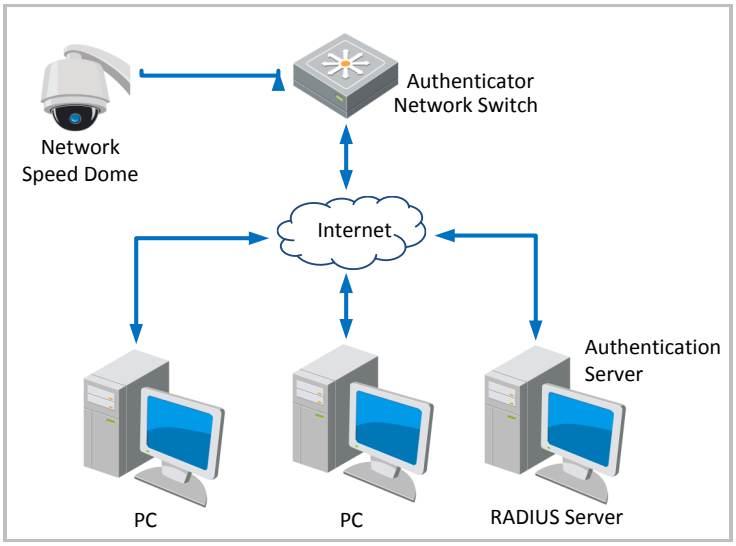


Figure 6-18 Protected LAN

- Before connecting the Network Camera to the protected LAN, apply a digital certificate from a Certificate Authority.
- The network camera requests access to the protected LAN via the authenticator (a switch).
- The switch forwards the identity and password to the authentication server (RADIUS server).
- The switch forwards the certificate of authentication server to the network camera.
- If all the information is validated, the switch allows the network access to the protected network.

- *For your privacy and to better protect your system against security risks, we strongly recommend the use of strong passwords for all functions and network devices. The password should be something of your own choosing (using a minimum of 8 characters, including upper case letters, lower case letters, numbers and special characters) in order to increase the security of your product.*
- *Proper configuration of all passwords and other security settings is the responsibility of the installer and/or end-user.*

Steps:

1. Connect the network camera to your PC directly with a network cable.
2. Enter the 802.1X settings interface:
   Configuration > Network > Advanced Settings > 802.1X

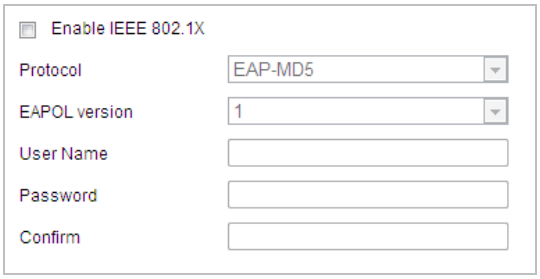


Figure 6-19 802.1X Settings

3. Check the **Enable IEEE 802.1X** checkbox to enable it.
4. Select a preferred protocol. **EAP-LEAP**, **EAP-TLS**, and **EAP-MD5** are selectable.
   - **EAP-LEAP and EAP-MD5**

     If you use EAP-LEAP or EAP-MD5, the authentication server must be configured. Apply and register a user name and password for 802.1X in the server.

     Input the user name and password to access the server.
   - **EAP-TLS**

     If you use EAP-TLS, input Identify, Private Key Password, and upload CA Certificate, User Certificate and Private Key.
5. Set the EAPOL version. The EAPOL version must be identical with that of the router or the switch.
6. Configure the 802.1X settings, including user name and password.
7. Click Save to finish the settings.

   Note:

   The camera reboots when you save the settings.
8. After the configuration, connect the camera to the protected network.

Integration Protocol

Purpose:

If you need to access to the camera through the third party platform, you can enable Hikvision-CGI function. And if you need to access to the device through ONVIF protocol, you can configure ONVIF user in this interface. Refer to ONVIF standard for detailed configuration rules.

Steps:

1. Enter the Integration Protocol configuration interface.

   Configuration > Network > Advanced Settings > Integration Protocol

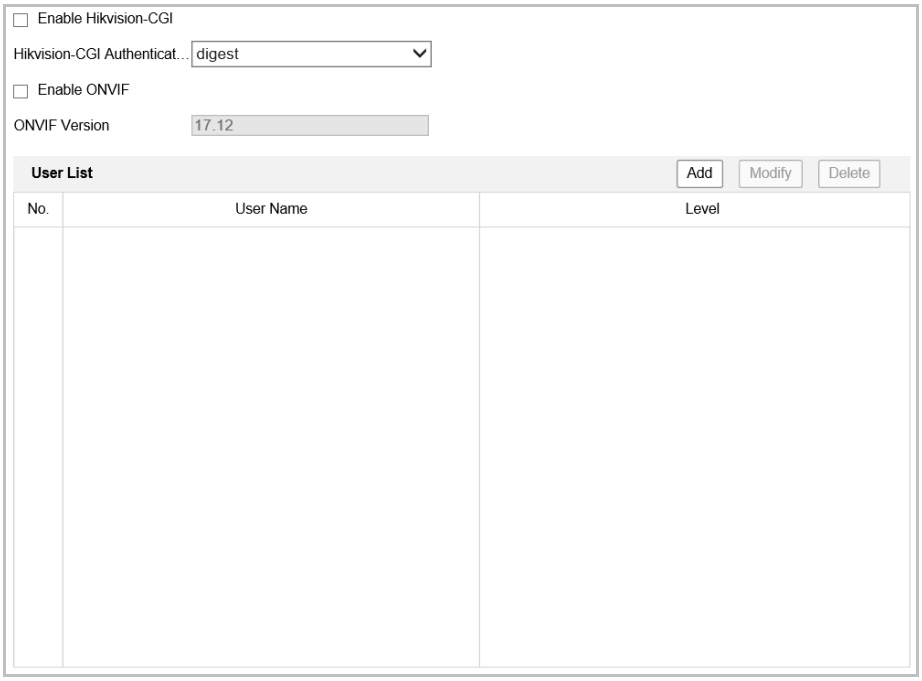


Figure 6-20 Integration Protocol Settings

2. Check the **Enable Hikvision-CGI** checkbox and then select the authentication from the dropdown list. Then you can access to the camera through the third party platform.
3. Check the **Enable ONVIF** checkbox to enable the function.
4. Click **Add** to add a new ONVIF user. Set the user name and password, and confirm the password. You can set the user as media user, operator, and administrator.
5. Click **Modify** to modify the information of the added ONVIF user.
6. Click **Delete** to delete the selected ONVIF user.
7. Click Save to save the settings.

Network Service

Purpose:

You can control the ON/OFF status of certain protocol that the camera supports.

Notes:

Supported services vary according to camera models.

Keep unused function OFF for security concern.

- **SDK Service** and **Enhanced SDK Service**

  If you want to add the device to the client software, you should enable SDK Service or Enhanced SDK Service.

  SDK Service: SDK protocol is used.

  Enhanced SDK Service: SDK over TLS protocol is used. Communication between the device and the client software is secured by using TLS (Transport Layer Security) protocol.

- **TLS (Transport** Layer **Security)**

  The device offers TLS 1.1 and TLS 1.2. Enable one or more protocol versions according

to your need.

6.2 Configuring Video and Audio Settings

6.2.1 Configuring Video Settings

Steps:

1. Enter the Video settings interface:
   Configuration > Video/Audio > Video

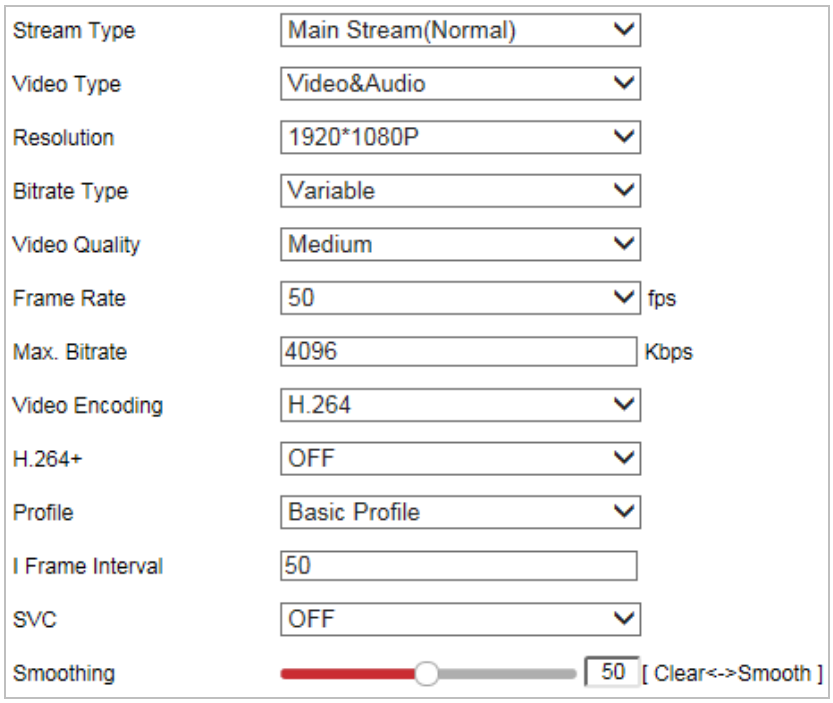


Figure 6-21 Configure Video Settings

2. Select the **Stream Type** of the camera to Main Stream (Normal), Sub-stream or Third Stream. The main stream is usually for recording and live viewing with good bandwidth, and the sub-stream can be used for live viewing when the bandwidth is limited. Refer to the ***Section 4.2 Configuring Local Parameters*** for switching the main stream and sub-stream for live viewing.
3. You can customize the following parameters for the selected stream.

   Note:

   The parameters vary depending on different camera models.

   - **Video Type**:

   Select the stream type to video stream, or video & audio composite stream. The audio signal will be recorded only when the **Video Type** is **Video & Audio**.

   - **Resolution:**

   Select the resolution of the video output.

   - **Bitrate Type:**

   Select the bitrate type to constant or variable.

- **Video Quality:**

When bitrate type is selected as **Variable**, 6 levels of video quality are selectable.

- **Frame Rate:**

The frame rate is to describe the frequency at which the video stream is updated and it is measured by frames per second (fps). A higher frame rate is advantageous when there is movement in the video stream, as it maintains image quality throughout.

- **Max. Bitrate:**

Set the Max. Bitrate. Higher value corresponds to higher video quality, while the higher bandwidth is required.

- **Video Encoding:**

Select **Video Encoding** from the dropdown list for different stream type.

- **H.264+/H.265+:**

Set it as ON or OFF.

- **H.264+:** If you set the main stream as the stream type, and H.264 as the video encoding, you can see H.264+ available. H.264+ is an improved compression coding technology based on H.264. By enabling H.264+, users can estimate the HDD consumption by its maximum average bitrate. Compared to H.264, H.264+ reduces storage by up to 50% with the same maximum bitrate in most scenes.
- **H.265+:** If you set the main stream as the stream type, and H.265 as the video encoding, you can see H.265+ available. H.265+ is an improved compression coding technology based on H.265. By enabling H.265+, users can estimate the HDD consumption by its maximum average bitrate. Compared to H.265, H.265+ reduces storage by up to 50% with the same maximum bitrate in most scenes.

  Notes:

  - H.265+/H.265 function varies depending on different speed dome models.
  - You need to reboot the camera if you want to turn on or turn off the H.264+/H.265+. If you switch from H.264+ to H.265+ directly, and vice versa, a reboot is not required by the system.

- **Profile:**

Basic Profile, Main Profile and High Profile are selectable.

- **I Frame Interval:**

Set the I-Frame interval from 1 to 400.

- **SVC:**

Scalable Video Coding is an extension of the H.264/AVC standard. Select OFF/ON to disable/enable the SVC function. Select Auto, and the device will automatically extract frames from the original video when the network bandwidth is insufficient.

- **Smoothing:**

It refers to the smoothness of the stream. The higher value of the smoothing, the better fluency of the stream, though, the video quality may not be so satisfied. The lower value of the smoothing, the higher quality of the stream, though it may appear not fluent.

4. Click 

to save the settings.

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6.2.2 Configuring Audio Settings

Note: Audio Settings may not be supported by certain camera models.

Steps:

1. Enter the Audio settings interface

   Configuration > Video/Audio > Audio

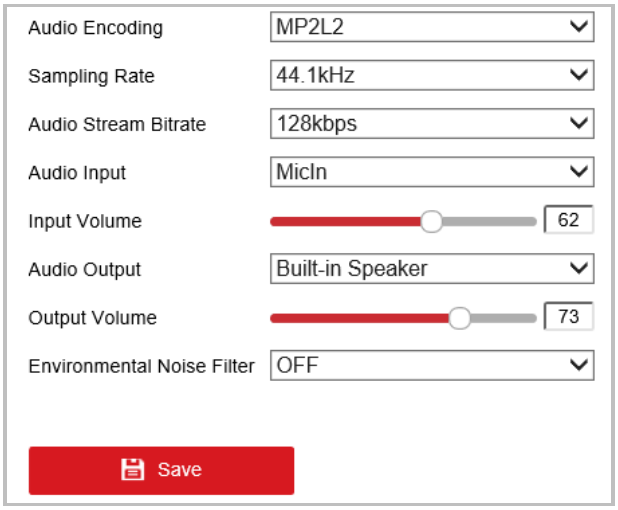


Figure 6-22 Audio Settings

2. Configure the following settings.
   - **Audio Encoding:** G.722.1, G.711ulaw, G.711alaw, MP2L2, G.726 and PCM are selectable.
   - **Audio Input:** When an intercom is connected to the camera, you need to set this option to **LineIn**. When a microphone is connected to the camera, you need to set this option to **MicIn**.
   - **Audio Stream Bitrate:** When the Audio Encoding is selected as MP2L2, you can configure the Audio Stream Bitrate in the dropdown list. The greater the value is, the better the audio quality will be.
   - **Sampling Rate:** When the Audio Encoding is selected as MP2L2 or PCM, you can configure the Sampling Rate in the dropdown list. The greater the value is, the better the audio quality will be.
   - **Input Volume:** Slide the **bar** to turn up/down the volume.
   - **Audio Output: Close**, **LineOut** and **Built-in Speaker** are selectable. If **Close** is selected, related audio playing function is disabled, for example the audible warning of linkage method. Select **LineOut** for connected external speaker and **Built-in Speaker** for the built-in speaker the device has.
   - **Output Volume:** Slide the **bar** to turn up/down the volume.

   Note:

   Audio Output, LineOut, and Output Volume are only supported on certain cameras.

   Environmental Noise Filter: Select ON or OFF in the dropdown list to enable or disable the function. It's recommended to enable the function when sampling rate is lower than 32 kHz.

3. Click 

to save the settings.

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6.2.3 Configuring ROI Settings

Purpose:

ROI (Region of Interest) encoding is used to enhance the quality of images which are specified in advance. There are two different ROI methods: **Fixed Region** and **Dynamic Region**. When **Fixed Region** is enabled, image quality of ROI area will be enhanced and image quality of other areas will be reduced. When **Dynamic Region** is enabled, image quality of tracking target will be enhanced.

Note:

ROI function varies depending on different camera models.

Enter the ROI settings interface:

Configuration >Video/Audio > ROI

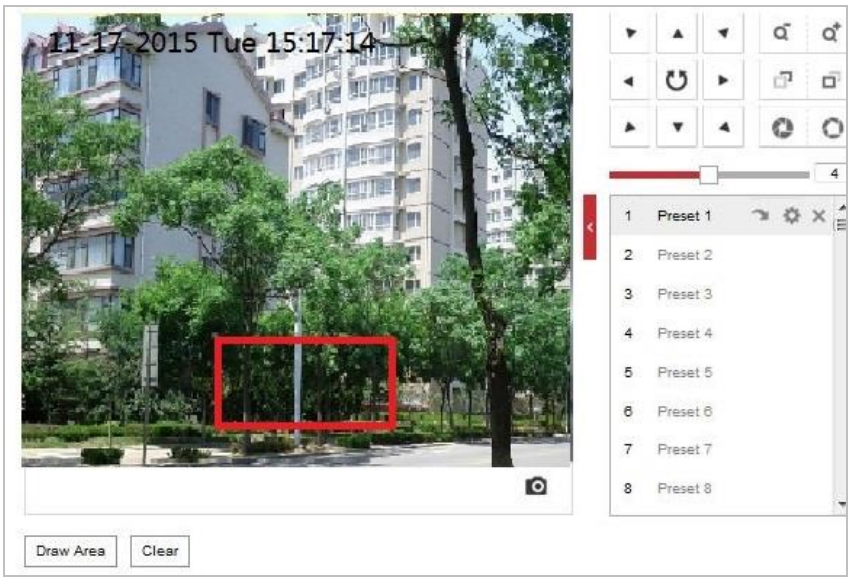


Figure 6-23 Region of Interest (1)

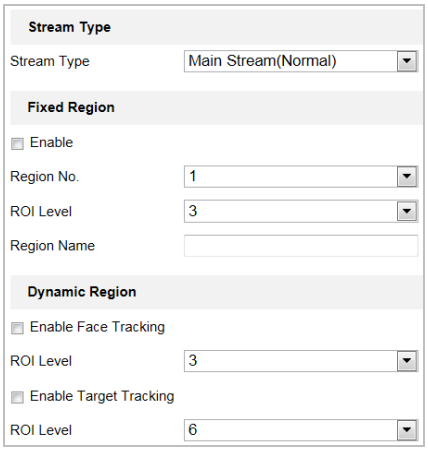


Figure 6-24 Region of Interest (2)

- **ROI for Fixed Region**

Steps:

1. Check **Enable** checkbox to enable the **Fixed Region** function.

2. Select a stream type. You can set the ROI function for Main Stream(Normal), Sub-stream or Third Stream.
3. Click Draw Area and then drag the mouse to draw a red frame in the live view image. You can click Clear to clear it.

   Note:

   The number of areas supported in ROI function varies depending different camera models
4. Select the **Region No.** from the dropdown list.
5. Adjust the **ROI level**. The higher the value, the better image quality in the red frame.
6. Enter a **Region Name**.

- **ROI for Dynamic Region**

Steps:

1. Check **Enable Face Tracking** checkbox to enable face tracking, and the captured face picture is set as region of interest. Adjust the **ROI level**.
2. Click Save to save the settings.

Note:

ROI for Dynamic Region is only available for certain cameras models.

6.2.4 Display Info. on Stream

Check the **Enable Dual-VCA** checkbox, and the information of the objects will be marked in the video stream. Then, you can set rules on the connected rear-end device to detect the events including line crossing, intrusion, etc.

6.3 Configuring Image Settings

- On the **Image** configuration page, click  to show the PTZ control panel or click  to hide it.
- Click the direction buttons to control the pan/tilt movements.
- Click the zoom/iris/focus buttons to realize lens control.
- The functions vary depending on different camera models.

6.3.1 Configuring Display Settings

Purpose:

Configure the Image Adjustment, Exposure Settings, Focus, Day/Night Switch, Backlight Settings, White Balance, Image Enhancement, Video Adjustment, and other parameters in display settings.

Notes:

- The parameters in **Display Settings** interface vary depending on different camera models.

- You can double click the live view to enter full screen mode and double click it again to exit.

Steps:

1. Enter the Display Settings interface:
   Configuration > Image> Display Settings
2. You can select the **Scene** in the dropdown list with different predefined image parameters.
3. Set the image parameters of the speed dome.

Image Adjustment

- **Brightness**
  This feature is used to adjust brightness of the image.
- **Contrast**
  This feature enhances the difference in color and light between parts of an image.
- **Saturation**
  This feature is used to adjust color saturation of the image.
- **Sharpness**
  Sharpness function enhances the detail of the image by sharpening the edges in the image.

Exposure Settings

- **Exposure Mode**
  The **Exposure Mode** can be set to **Auto, Iris Priority, Shutter Priority,** and **Manual.**
  - Auto:
    The iris, shutter and gain values will be adjusted automatically according to the brightness of the environment.
    You can limit the changing ranges of iris and shutter in **Auto** mode for better exposure effect.
  - Iris Priority:
    The value of iris needs to be adjusted manually. The shutter and gain values will be adjusted automatically according to the brightness of the environment.
    You can limit the changing range of shutter in **Iris Priority** mode for better exposure effect.

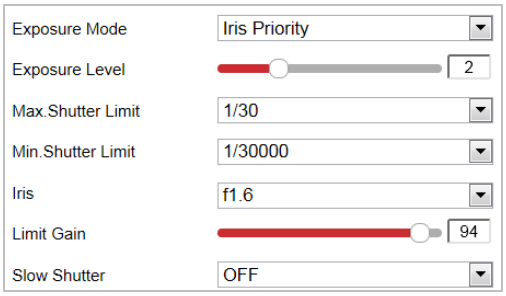


Figure 6-25 Manual Iris

  - Shutter Priority:
    The value of shutter needs to be adjusted manually. The iris and gain values will be adjusted automatically according to the brightness of the environment.
    You can limit the changing range of iris in **Shutter Priority** mode for better exposure

effect.

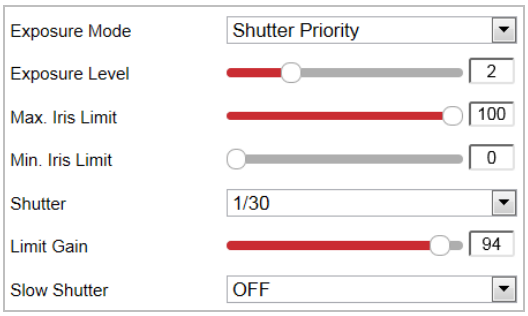


Figure 6-26 Manual Shutter

- Manual:

  In **Manual** mode, you can adjust the values of **Gain**, **Shutter**, and **Iris** manually.

  Note:

  This function varies depending on the camera models.

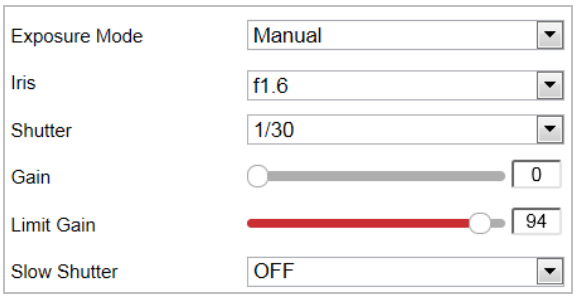


Figure 6-27 Manual Mode

✧ **Limit Gain**

This feature is used to adjust gain of the image. The value ranges from 0 to 100.

✧ **Slow Shutter**

This function can be used in underexposure condition. It lengthens the shutter time to ensure full exposure.

✧ **Slow Shutter Level**

When slow shutter is set as ON, you can select the slow shutter level from the dropdown list. The slow shutter lever can be set to **Slow Shutter*1.25, *1.5, *2, *3, *4, *6, *8**.

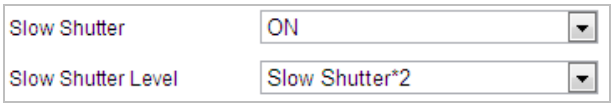


Figure 6-28 Slow Shutter

Focus Settings

- **Focus Mode**

  The **Focus Mode** can be set to **Auto**, **Manual**, and **Semi-auto**.

  - Auto**:**

    The speed dome focuses automatically at any time according to objects in the scene.

  - Semi-auto:

The speed dome focuses automatically only once after panning, tilting and zooming.

- Manual:

  In **Manual** mode, you need to use on the control panel to focus manually.

- **Min. Focus Distance**

This function is used to limit the minimum focus distance. The value can be set to 10cm, 50cm, 1.0m, 1.5m, 3m, 6m, 10m and 20m.

Note:

The minimum focus value varies depending on different camera models.

Day/Night Switch

- **Day/Night Switch Mode**

  The **Day/Night Switch** mode can be set to **Auto, Day, Night** and **Scheduled-Switch**.

  Note:

  This function varies depending on the models of speed dome.

  - **Auto**:

    In **Auto** mode, the day mode and night mode can switch automatically according to the light condition of environment. The switching sensitivity can be set to *1, 2, 3*.

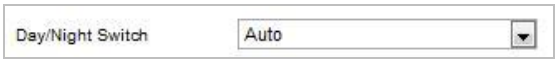


Figure 6-29 Auto Mode Sensitivity

  - **Day**:

    In **Day** mode, the speed dome displays color image. It is used for normal lighting conditions.

  - **Night**:

    In **Night** mode, the image is black and white. **Night** mode can increase the sensitivity in low light conditions.

  - **Scheduled-Switch:**

    In **Scheduled-Switch** mode, you can set the start and end time for day mode as shown in Figure 6-30. The rest is the time for night mode.

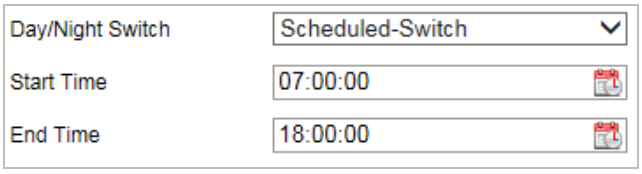


Figure 6-30 Day Night Schedule

- **Supplement Light**

  - **Smart Supplement Light:** It controls the power of light automatically to make image of proper exposure level. If the light supplement is on and the image center is overexposure, you can enable this function.
  - **IR Light Mode/Laser Mode:** It controls the On/Off status of supplememt light.
  - **Brightness Limit:** It controls the the upper limit of supplement light power.

  Note:

  To use supplement light, you have to enable the supplement light first.

  Go to **Configuration > System > Maintenance > System Service.**

Backlight Settings

- **BLC (Back Light Compensation)**

If there's a bright backlight, the subject in front of the backlight appears silhouetted or dark. Enabling **BLC** (back light compensation) function can correct the exposure of the subject. But the backlight environment is washed out to white.

- **WDR (Wide Dynamic Range)**

The wide dynamic range (WDR) function helps the camera provide clear images even under back light circumstances. When there are both very bright and very dark areas simultaneously in the field of view, WDR balances the brightness level of the whole image and provide clear images with details.

You can enable or disable the WDR function as shown in Figure 6-31.

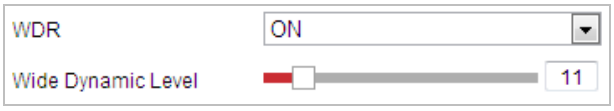


Figure 6-31 WDR

- **HLC**

HLC (High Light Compensation) makes the camera identify and suppress the strong light sources that usually flare across a scene. This makes it possible to see the detail of the image that would normally be hidden.

White Balance

The **White Balance** mode can be set to **Auto**, **MWB**, **Outdoor**, **Indoor**, **Fluorescent Lamp**, **Sodium Lamp,** and **ATW**.

- **Auto**

In **Auto** mode, the camera retains color balance automatically according to the current color temperature.

- **Manual White Balance:**

In **MWB** mode, you can adjust the color temperature manually to meet your own demand as shown in Figure 6-32.

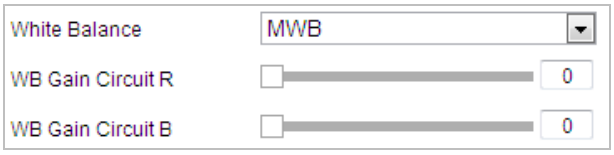


Figure 6-32 Manual White Balance

- **Outdoor**

You can select this mode when the speed dome is installed in outdoor environment.

- **Indoor**

You can select this mode when the speed dome is installed in indoor environment.

- **Fluorescent Lamp**

You can select this mode when there are fluorescent lamps installed near the speed dome.

- **Sodium Lamp**

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You can select this mode when there are sodium lamps installed near the speed dome.

- **ATW**

In **ATW** mode, white balance is continuously being adjusted in real-time according to the color temperature of the scene illumination.

Image Enhancement

Note:

The functions vary depending on different camera models.

- **3D Digital Noise Reduction**

You can set **Digital Noise Reduction** function to **Normal** and adjust the **Noise Reduction Level** as shown in Figure 6-33. The level ranges from 0 to 100.

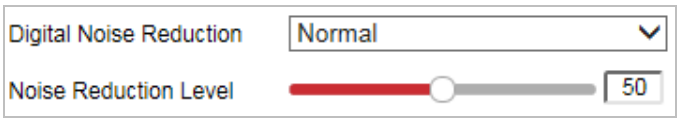


Figure 6-33 3D Digital Noise Reduction

If you are a professional technician, you can set it to **Expert** Mode then adjust **Space DNR Level** and **Time DNR Level**. The level ranges from 0 to 100.



Figure 6-34 Expert Mode

- **Defog Mode**

You can set the **Defog Mode** to Auto, ON or OFF as you need.

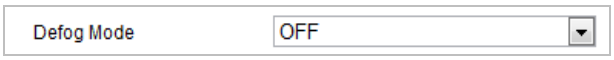


Figure 6-35 Defog Mode

- **EIS (Electronic Image Stabilization)**

You can set the **EIS** to ON or OFF as you need.

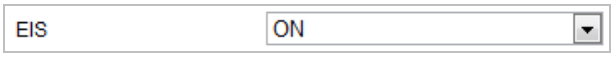


Figure 6-36 Electronic Image Stabilization

- **OIS (Optical Image Stabilization)**

You can set the **OIS** to NORMAL, EXPERT, or OFF as you need.

Note:

The function is only available for certain camera models.

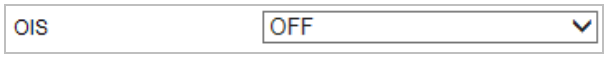


Figure 6-37 Optical Image Stabilization

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Video Adjustment

Note:

The function is only available for certain camera models.

- **Mirror**

  If you turn the **MIRROR** function on, the image will be flipped. It is like the image in the mirror. The flip direction can be set to OFF or CENTER.

- **Video Standard**

  You can set the **Video Standard** to 50 Hz (PAL) or 60 Hz (NTSC) according to the video system in your country.

- **Capture Mode**

  You can disable this function or select the capture mode from the list.

Other

- **Lens Initialization**

The lens operates the movements for initialization when you enable **Lens Initialization.**

- **Zoom Limit**

You can set **Zoom Limit** value to limit the maximum value of zooming. The value can be selected from the list.

- **Local Output**

You can select the output mode to ON or OFF.

Note:

The functions vary depending on different camera models.

6.3.2 Configuring OSD Settings

Purpose:

OSD (On-screen Display) refers to the camera name, time/date, customized information displayed on the live view.

Note:

This function varies according to different camera models.

Steps:

1. Enter the OSD settings interface:
   Configuration > Image > OSD Settings
2. Select Character Set. If Korean is required to display on screen, select *EUC-KR*. Otherwise, select *GBK*.

   Note:

   Changing character set requires device reboot.
3. Check the corresponding checkbox to select the display of camera name, date or week if required.
4. Edit the camera name in the text field of **Camera Name**.
5. Select from the dropdown list to set the Time Format, Date Format, Display Mode, OSD Size，Font Color and Alignment.

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6. You can use the mouse to drag the text frame IPdome in the live view window to adjust the OSD position.



Figure 6-38 Adjust OSD Location

7. Click Save to activate above settings.

Configuring Text Overlay Settings

Purpose:

You can customize the text overlay.

Steps:

1. Enter the Text Overlay settings interface:
   Configuration > **Image** > **OSD Settings**
2. Check the checkbox in front of textbox to enable the on-screen display.
3. Input the characters in the textbox.
4. Use the mouse to drag the red text frame Text in the live view window to adjust the text overlay position.
5. Click Save to save the settings.

6.3.3 Configuring Image Parameters Switch

Purpose:

You can configure **Link to Preset** or **Scheduled-Switch** in order to switch to linked scene in certain time.

- **Link to Preset:** Set the time period and linked scene for the preset and check the

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corresponding checkbox to go to the linked scene in the configured time period.

- **Scheduled-Switch:** Set the time period and linked scene and it will go to the linked scene in the configured time period when you check the corresponding checkbox.

Note:

This function varies depending on different camera models

Steps:

1. Enter the Image Parameters Switch interface:
   Configuration > Image > Image Parameters Switch
2. Check the checkbox of **Link to Preset** or **Scheduled-Switch** to enable the function. (Only one function can be enabled in the same time.)
3. When you enable the function of **Link to Preset**, select one preset from the dropdown list, check the corresponding checkbox, set the time period and the linked scene for the selected preset. (Up to 4 periods can be configured for one preset.)

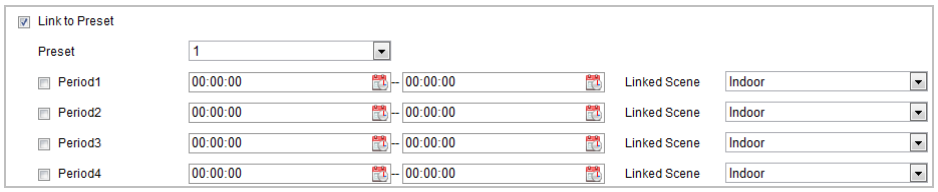


Figure 6-39 Link to Preset

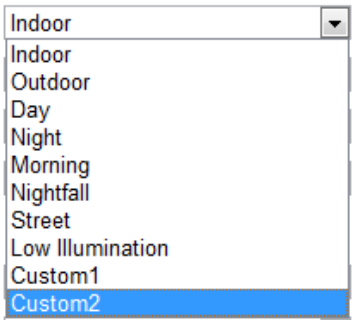


Figure 6-40 Linked Scene

4. When you enable the function of **Scheduled-Switch**, check the corresponding checkbox, set the time period and the linked scene.

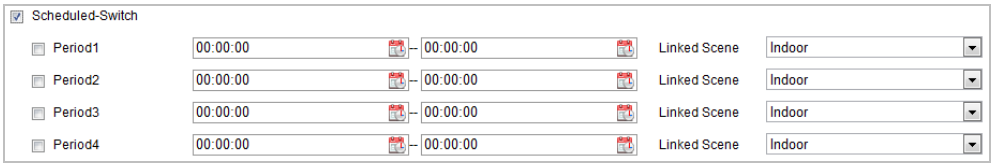


Figure 6-41 Schedule-Switch

5. Click 

to save the settings.

Note:

The two functions are not enabled by default.

6.4 Configuring System Settings

6.4.1 System Settings

Viewing Basic Information

Enter the Device Information interface:

Configuration > System > System Settings > Basic Information

In the **Basic Information** interface, you can edit the Device Name and Device No.

Other information of the camera, such as Model, Serial No., Firmware Version, Encoding Version, Web Version, Plugin Version, Number of Channels, Number of HDDs, Number of Alarm Input, Number of Alarm Output, and Firmware Version Property are displayed. The information cannot be changed in this menu. It is the reference for maintenance or modification in future.

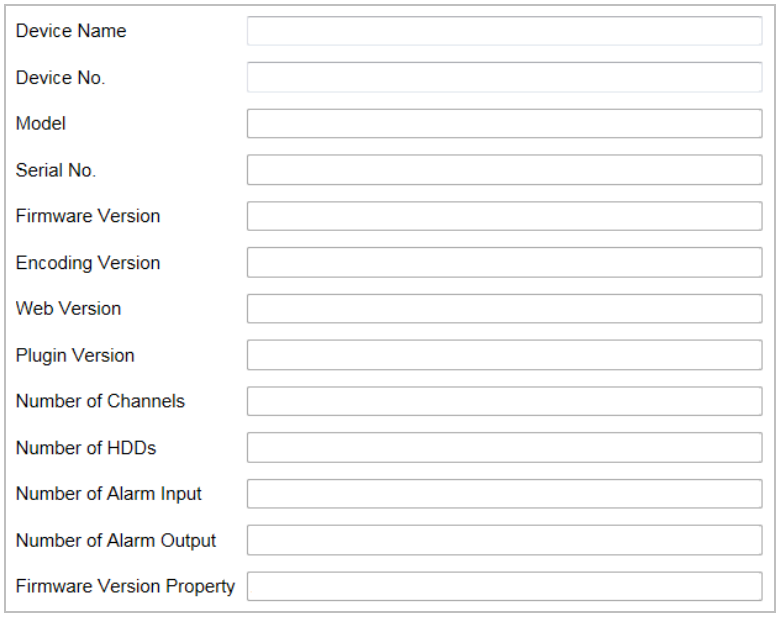


Figure 6-42 Device Information

Time Settings

Purpose:

You can follow the instructions in this section to configure the time which can be displayed on the video. There are Time Zone, Time Synchronization, and Daylight Saving Time (DST) functions for setting the time. Time Synchronization consists of auto mode by Network Time Protocol (NTP) server and manual mode.

Enter the Time Settings interface:

Configuration > System > System Settings > Time Settings

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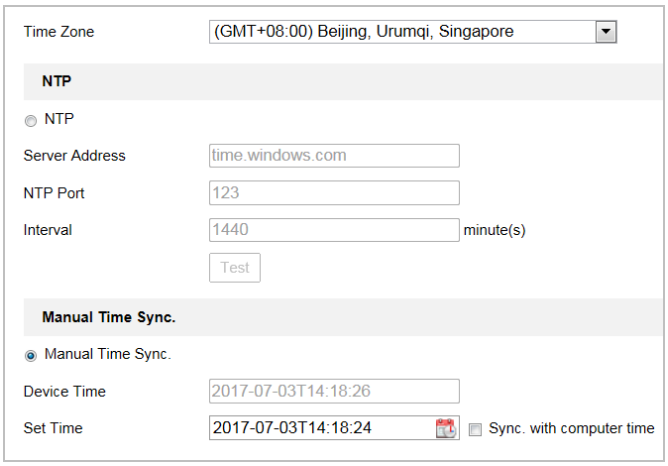


Figure 6-43 Time Settings

- **Configuring Time Synchronization by NTP Server**

Steps:

1. Check the radio button to enable the **NTP** function.
2. Configure the following settings:

   Server Address: IP address of NTP server.

   NTP Port: Port of NTP server.

   Interval: The time interval between the two synchronizing actions by NTP server. It can be set from 1 to 10080 minutes.

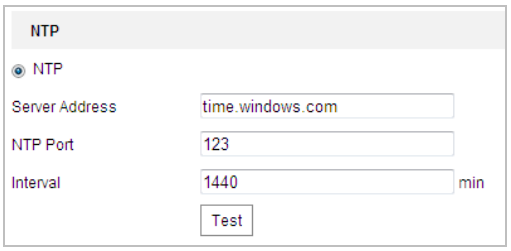


Figure 6-44 Time Sync by NTP Server

You can click Test to make sure that the NTP server is connected.

Note:

If the camera is connected to a public network, you should use a NTP server that has a time synchronization function, such as the server at the National Time Center (IP Address: 210.72.145.44). If the camera is set in a customized network, NTP software can be used to establish a NTP server for time synchronization.

- **Configuring Time Synchronization Manually**

Steps:

1. Check the **Manual Time Sync** radio button.
2. Click to set the system time from the pop-up calendar.
3. Click Save to save the settings.

Note:

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You can also check the **Sync with local time** checkbox to synchronize the time of the camera with the time of your computer.

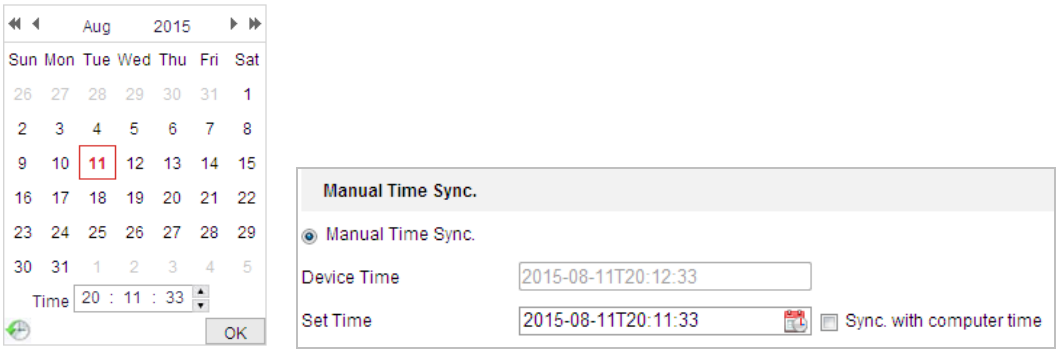


Figure 6-45 Time Sync Manually

- **Select the Time Zone**

Purpose:

When the camera is taken to another time zone, you can use the **Time Zone** function to adjust the time. The time will be adjusted according to the original time and the time difference between the two time zones.

From the **Time Zone** dropdown menu as shown in Figure 6-46, select the Time Zone in which the camera locates.

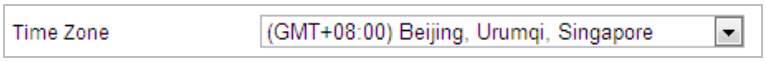


Figure 6-46 Time Zone Settings

Configuring DST (Daylight Saving Time)

Purpose:

Daylight Saving Time (DST) is a way of making better use of the natural daylight by setting your clock forward one hour during the summer months, and back again in the fall.

If there is the habit of adjusting clocks forward in your country in certain time period of a year, you can turn this function on. The time will be adjusted automatically when the Daylight Saving Time (DST) comes.

Steps:

1. Enter the **DST** interface by **Configuration > System > System Settings > DST**



Figure 6-47 DST Settings

2. Check the **Enable DST** checkbox to enable the DST function.
3. Set the date of the DST period.
4. Click 

to save the settings.

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Configuring RS-232

The RS-232 port can be used in two ways:

- Parameters Configuration: Connect a computer to the camera through the serial port. Device parameters can be configured by using software such as HyperTerminal. The serial port parameters must be the same as the serial port parameters of the camera.
- Transparent channel: Connect a serial device directly to the camera. The serial device will be controlled remotely by the computer through the network.

Note:

RS-232 function varies depending on different speed dome models.

Steps:

1. Enter RS-232 Port setting interface:

   Configuration> System > System Settings > RS-232

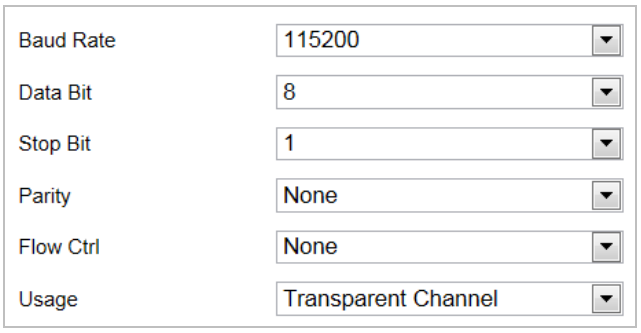


Figure 6-48 RS-232 Settings

2. Configure the Baud Rate, Data Bit, Stop Bit, Parity, Flow Control, and Usage.

   Note:

   If you want to connect the camera through RS-232 port, the parameters of the RS-232 should be exactly the same with the parameters you configured here.

3. Click 

to save the settings.

RS-485

Purpose:

The RS-485 serial port is used to control the PTZ of the camera. The configuring of the PTZ parameters should be done before you control the PTZ unit.

Note:

RS-485 function varies depending on different speed dome models.

Steps:

1. Enter RS-485 Port Setting interface:

   Configuration> System > System Settings > RS-485

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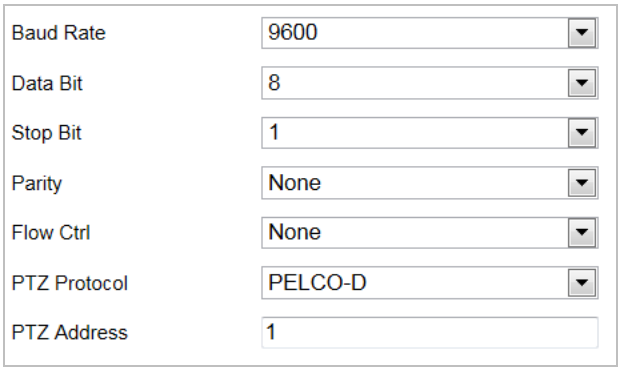


Figure 6-49 RS-485 Settings

2. Set the RS-485 parameters and click Save to save the settings.

Note:

The Baud rate, PTZ Protocol and PTZ Address parameters of the camera should be exactly the same as those of the control device.

About

Click **View License**, you can check Open Source Software Licenses.

6.4.2 Maintenance

Upgrade & Maintenance

- **Rebooting the Camera**

Steps:

3. Enter the Maintenance interface:

   Configuration > **System** > **Maintenance** > **Upgrade & Maintenance:**

4. Click Reboot to reboot the network camera.

- **Restoring Default Settings**

Steps:

1. Enter the Maintenance interface:
   Configuration > **System** > **Maintenance** > **Upgrade & Maintenance**
2. Click Restore or Default to restore the default settings.

Note:

Clicking Default restores all the parameters to default settings including the IP address and user information. Use this button with caution.

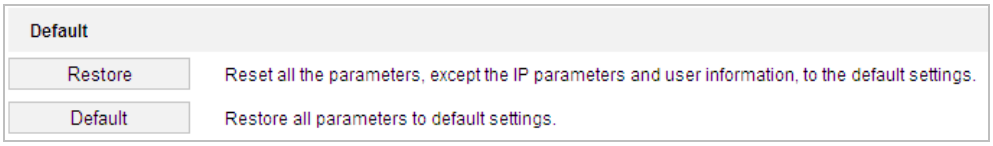


Figure 6-50 Restore Default Settings

- **Exporting Configuration File**

Steps:

1. Enter the Maintenance interface:
   Configuration > **System** > **Maintenance > Upgrade & Maintenance**
2. Click **Device Parameters** and set the encryption password to export the current configuration file.
3. Set the saving path to save the configuration file in local storage.
4. Click **Diagnose Information** to download the log and system information.

- **Importing Configuration File**

Steps:

1. Enter the Maintenance interface:
   Configuration > **System** > **Maintenance > Upgrade & Maintenance**
2. Click **Browse** to select the saved configuration file.
3. Input the encryption password you have set when exporting the configuration file.
4. Click **Import** to import configuration file.

   Note:

   You need to reboot the camera after importing configuration file.

- **Upgrading the System**

Steps:

1. Enter the Maintenance interface:
   Configuration >**System** > **Maintenance** > **Upgrade & Maintenance**
2. Select Firmware or Firmware Directory.
   - **Firmware**: when you select **Firmware**, you need to find the firmware in your computer to upgrade the device.
   - **Firmware Directory**: You need to find the directory where the firmware locates. The device can find the firmware in the directory automatically.
3. Click **Browse** to select the local upgrade file and then click **Upgrade** to start remote upgrade.

   Note:

   The upgrading process will take 1 to 10 minutes. Don't disconnect power of the camera during the process. The camera reboots automatically after upgrading.

Log Searching

Purpose:

The operation, alarm, exception and information of the camera can be stored in log files. You can also export the log files on your demand.

Before you start:

Configure network storage for the camera or insert a memory card in the camera.

Steps:

1. Enter the Log interface:
   Configuration > **System** > **Maintenance** > **Log**

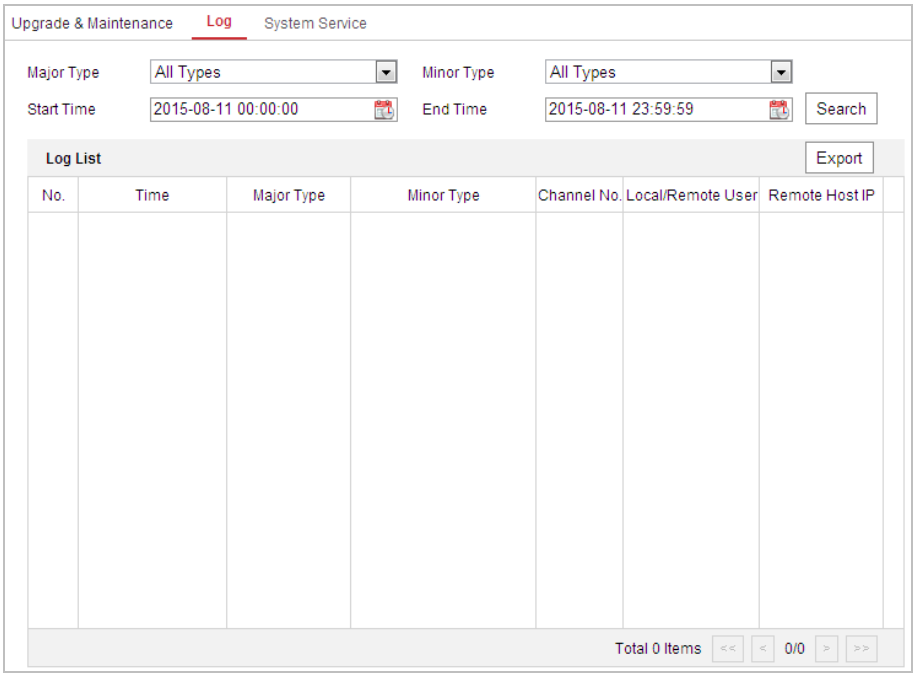


Figure 6-51 Log Searching Interface

2. Set the log search conditions to specify the search, including the Major Type, Minor Type, Start Time and End Time as shown in Figure 6-51.
3. Click Search to search log files. The matched log files will be displayed on the **Log** interface.
4. To export the log files, click **Save Log** to save the log files in your computer.

System Service

Steps:

1. Enter the interface of configuring the remote connection:
   Configuration > System > Maintenance > System Service
2. Check the checkbox to enable supplement light function if the device supports the function.
3. Input a number in text field as the upper limit of the remote connection number. For example, when you specify the remote connection number as 10, then the 11th remote connection cannot be established.

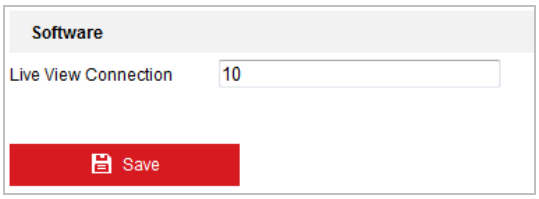


Figure 6-52 Live View Connection Settings

4. Click Save button to activate the settings.

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Security Audit Log

Purpose:

The Security Audit Log refers to the security operation logs. You can search and analyze the security log files of the camera so that to find out the illegal intrusion and troubleshooting the security events.

Security audit logs can be saved on device flash. The log will be saved every half hour after device booting.

Due to limited saving space of the flash, you can also save the logs on a log server. Configure the server settings at Advanced Settings.

- **Searching Logs**

Steps:

1. Enter the Security Audit Log interface:
   Configuration > System > Maintenance > Security Audit Log
2. Set the log search conditions to specify the search, including the Major Type, Minor Type, Start Time and End Time.

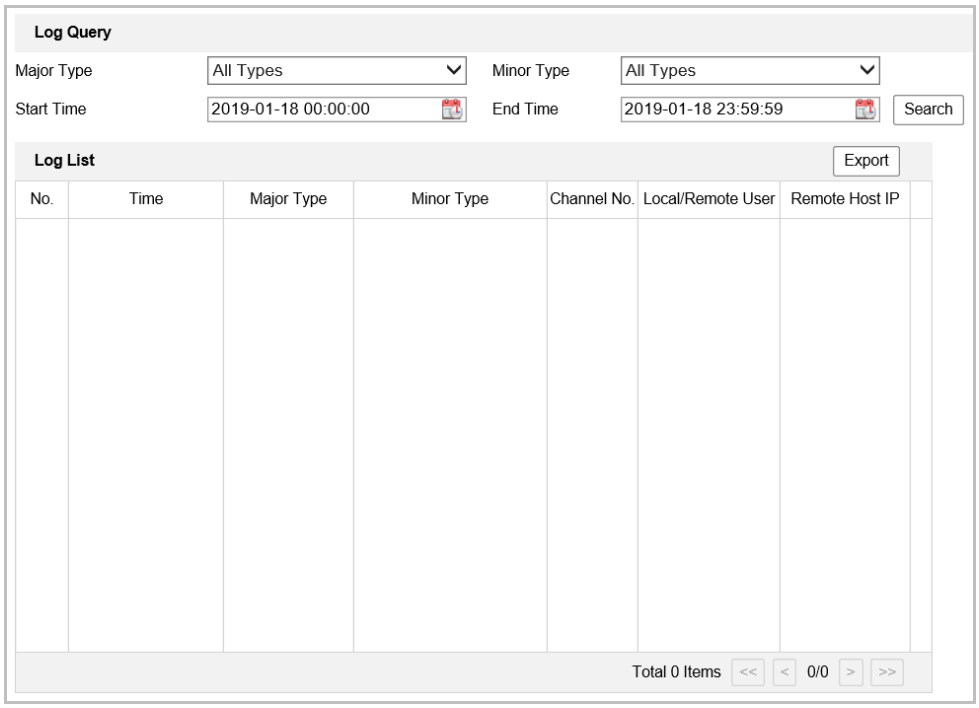


Figure 6-53 Log Query Interface

3. Click Search to search log files. The matched log files will be displayed on the Log list interface.
4. To export the log files, click Export to save the log files in your computer.

- **Setting Log Server**

Steps:

1. Check Enable Log Upload Server.
2. Input Log Server IP and Log Server Port.
3. Click Test to test settings.
4. Install certificates. Client certificate and CA certificate are required.
   - Client Certificate
     (1) Click Create button to create the certificate request. Fill in the required

information in the popup window.

(2) Click Download to download the certificate request and submit it to the trusted certificate authority for signature.

(3) Install the signed certificate to the device.

- CA Certificate

(1) Install the CA certificate to the device.

6.4.3 Security

Configuring Authentication Security

Purpose:

You can specifically secure the stream data of live view.

Steps:

1. Enter the Authentication interface:
   Configuration> **System**> **Security** > **Authentication**
2. Set the **RTSP Authentication/WEB Authentication** type from the dropdown list. Digest and digest/basic are selectable.
3. Click 

to save the settings.

Configuring IP Address Filter

Purpose:

With this function on, the camera allows certain IP addresses whether to log in or not.

Steps:

1. Enter IP Address Filter interface:
   Configuration > **System** > **Security** > **IP Address Filter**

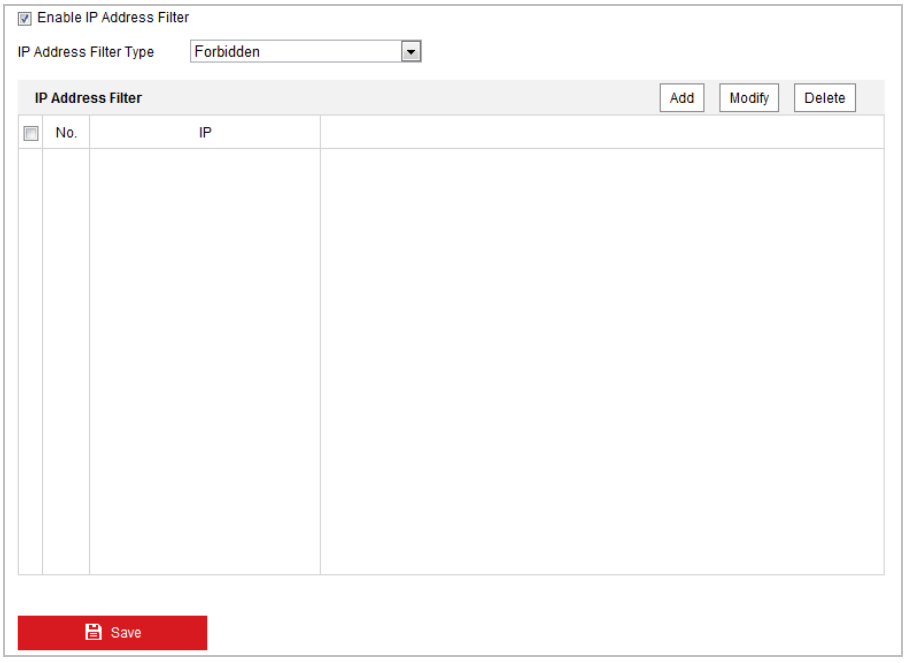


Figure 6-54 IP Address Filter

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2. Check the checkbox of **Enable IP Address Filter**.
3. Select the type of IP Address Filter in the dropdown list, Forbidden and Allowed are selectable.
4. Set the IP Address Filter list.

- **Add an IP Address**

Steps:

(1) Click **Add** to add an IP.

(2) Input the IP Adreess.



Figure 6-55 Add an IP

(3) Click **OK** to finish adding.

- **Modify an IP Address**

Steps:

(1) Click an IP address from filter list and click **Modify**.

(2) Modify the IP address in the text filed.



Figure 6-56 Modify an IP

(3) Click **OK** to finish modifying.

- **Delete an IP Address**

  Click an IP address from filter list and click **Delete**.

- **Delete all IP Addresses**

  Click **Clear** to delete all the IP addresses.

5. Click 

to save the settings.

Configuring Security Service

Steps:

1. Enter the Security Service interface:
   Configuration> **System** > **Security** > **Security Service**
2. Check the checkbox to enable the Illegal Login Lock function.
   Illegal Login Lock: Enabling illegal login lock function is to automatically lock the device IP after the user performing certain failed password attempts. The number of allowed

attempts is configurable.

3. Click  to save the settings.

Configuring Advanced Security

Purpose:

Advanced security offers options to manage more network security settings of the device.

- **Security Reinforce**

  Security reinforce is a solution to enhance network security. With the function enabled, risky functions, protocols, ports of the device are disabled and more secured alternative functions, protocols and ports are enabled.

Function	Status
Control Timeout Settings	Enabled
Digest Algorithm	MD5 is disabled. SHA256 is enabled
ONVIF	Disabled
TLS	TLS1.1 is disabled. TLS1.2 is enabled
SDK	SDK Service is disabled. Enhanced SDK Service is enabled
SNMP	Disabled
RTSP Authentication and HTTP Authentication	Only digest is supported
HTTPS	Enabled
HTTPS Browsing	Enabled. Accessing the device can only use HTTPS protocol
IEEE 802.1X	Only EAP-TLS (TLS1.2) is supported. The function is disabled

- **Control Timeout Settings**

  If you enable the function and set timeout period, you will be logged out when you make no operation to the device via web browser (Viewing live image and playback are not included.) for the set timeout period.

- **Algorithm**

  Displays the currently active digest algorithm. If Security Reinforce is enabled, MD5 is disabled and SHA256 is enabled instead.

6.4.4 User Account

Manage Users

Enter the User Management interface**:**

Configuration > **System** > **User Management**

The **admin** user has access to create, modify or delete other accounts, and grant different permission to different user levels. We highly recommend administrator to manage the device

accounts and user permissions properly. Up to 31 user accounts can be created.

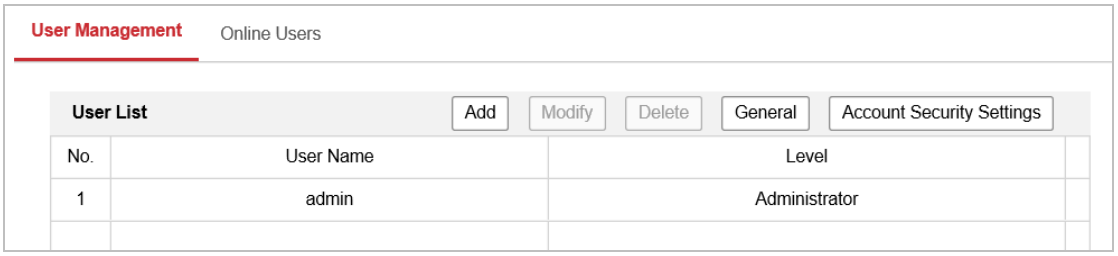


Figure 6-57 User Information

- **Add a User**

Steps:

1. Click Add to add a user.
2. Input the new **User Name**, select **Level** and input **Password**.

   - *For your privacy and to better protect your system against security risks, we strongly recommend the use of strong passwords for all functions and network devices. The password should be something of your own choosing (Using a minimum of 8 characters, including at least three of the following categories: upper case letters, lower case letters, numbers, and special characters.) in order to increase the security of your product.*
   - *Proper configuration of all passwords and other security settings is the responsibility of the installer and/or end-user.*

   Note:

   The level indicates the permissions you give to the user. You can define the user as **Operator** or **User**.
3. In the **Basic Permission** field and **Camera Configuration** field, you can check or uncheck the permissions for the new user.
4. Click OK to finish the user addition.

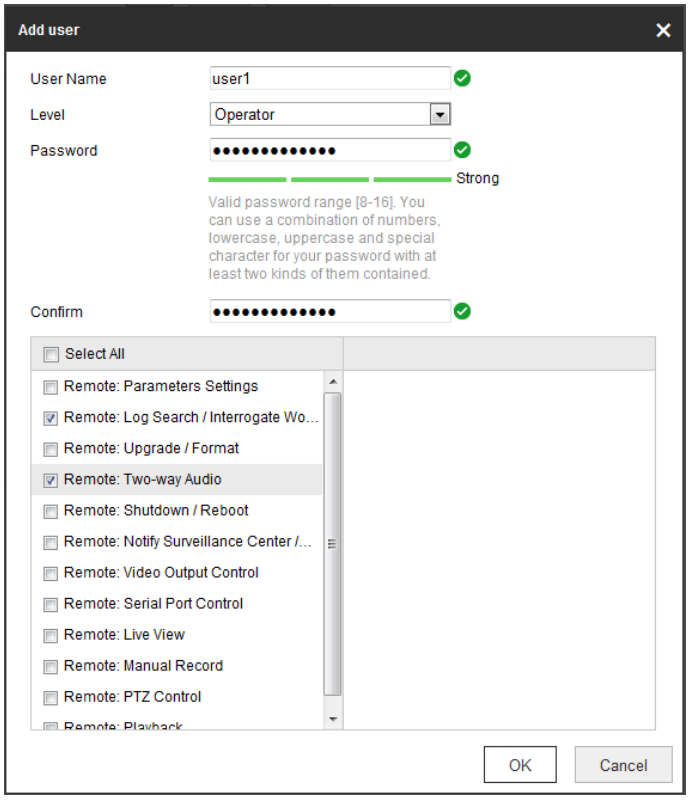


Figure 6-58 Add a User

- **Modify a User**

Steps:

1. Click to select the user from the list and click Modify.
2. Modify the **User Name**, **Level** or **Password**.
3. In the **Basic Permission** field and **Camera Configuration** field, you can check or uncheck the permissions.
4. Click OK to finish the user modification.

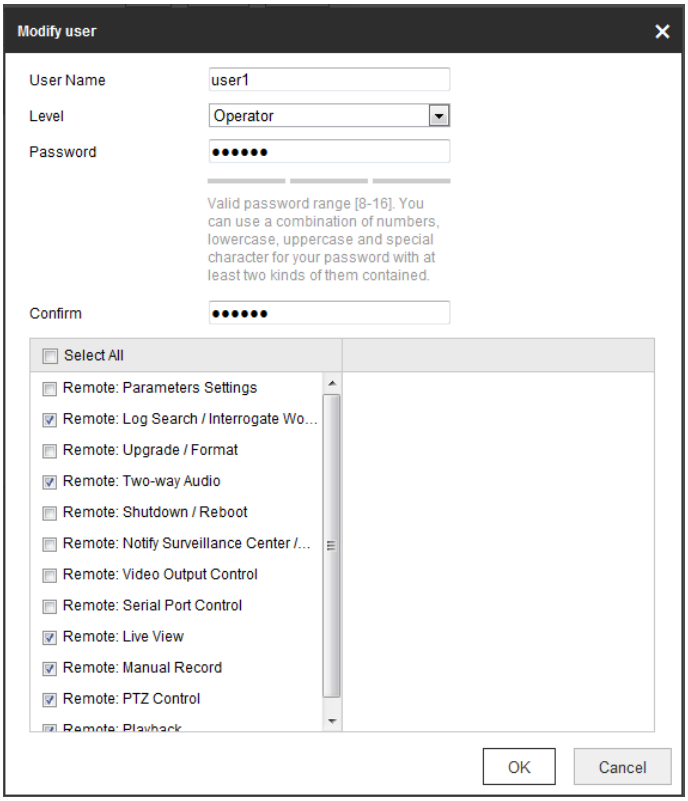


Figure 6-59 Modify a User

- **Delete a User**

Steps:

1. Click the user name you want to delete and click Delete.
2. Click OK on the pop-up dialogue box to delete the user.

Recover Admin Password

Purpose:

The camera allows admin password recovery via security question or verification code received by configured e-mail address.

Recovery password operation is only available to administrator.

- **Setup Security Question or E-mail Address for Verification Code**

  You should setup security questions or E-mail address to receive verification code.

  Steps

  1. Click **Account Security Settings** to enter setting interface.
     Configuration > System > User Management > User Management
  2. Select security questions and input your answers.
  3. Input your E-mail address for password recovery.
  4. Save the settings.
- **Password Recovery Operation**

Before you start:

The PC used to reset password and the camera should belong to the same IP address segment of the same LAN.

Steps:

1. Enter login interface via web browser.
2. Click **Forget Password**.
3. Follow pop-up message to complete operation.

Online Users

Enter the Online Users configuration interface**:**

Configuration > **System** > **User Management** > **Online Users**

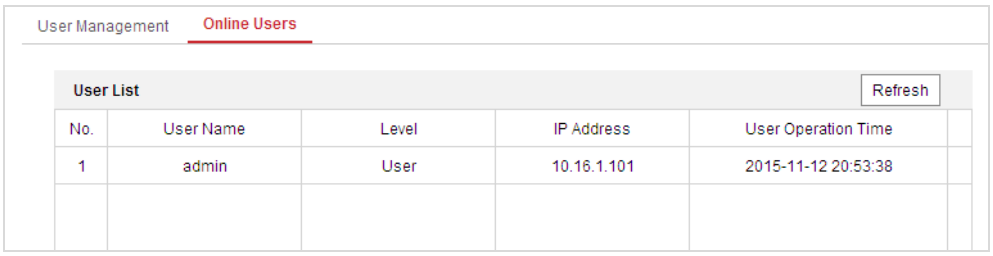


Figure 6-60 Online Users

You can see the current users who are visiting the device through this interface.

User information, such as user name, level, IP address, and operation time, is displayed in the User List. Click **Refresh** to refresh the list.

Note:

Administrator can control the **Simultaneous Login**. Click **General** on **User Management** page, and set desired number. Admin password is required for this operation.

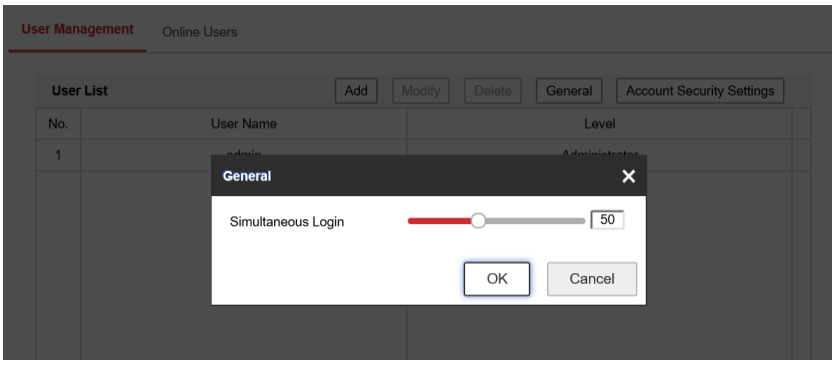


Figure 6-61 Simultaneous Login

Appendix

SADP Software Introduction

● Description of SADP

SADP (Search Active Devices Protocol) is a kind of user-friendly and installation-free online device search tool. It searches the active online devices within your subnet and displays the information of the devices. You can also modify the basic network information of the devices using this software.

● Search active devices online

♦ **Search online devices automatically**

After launch the SADP software, it automatically searches the online devices every 15 seconds from the subnet where your computer locates. It displays the total number and information of the searched devices in the Online Devices interface. Device information including the device type, IP address and port number, etc. will be displayed.

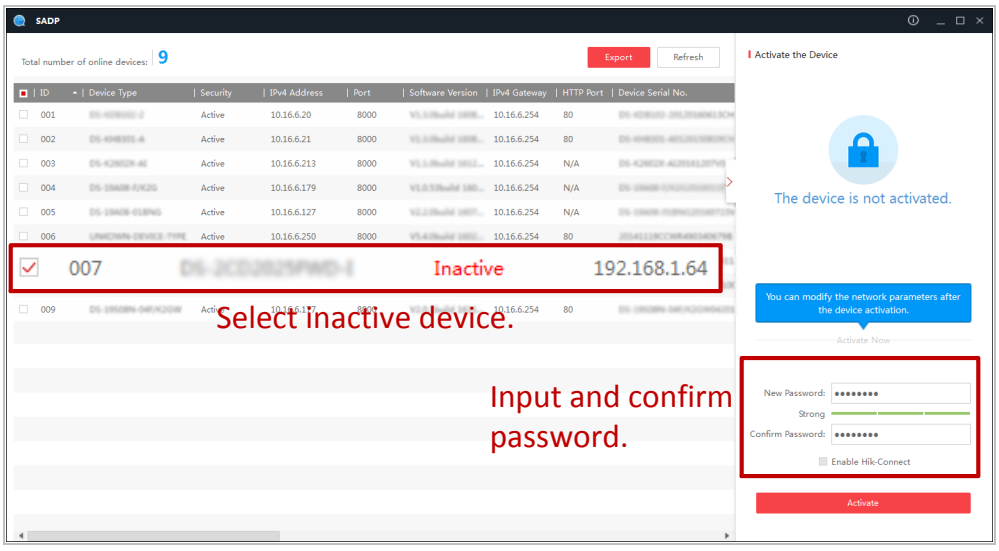


Figure A.1.1 Searching Online Devices

NOTE

Device can be searched and displayed in the list in 15 seconds after it went online; it will be removed from the list in 45 seconds after it went offline.

♦ **Search online devices manually**

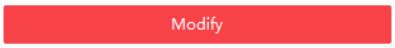
You can also click Refresh to refresh the online device list manually. The newly searched devices will be added to the list.

NOTE

You can click  or  on each column heading to order the information; you can click  to expand the device table and hide the network parameter panel on the right side, or click  to show the network parameter panel.

Modify network parameters

Steps:

1. Select the device to be modified in the device list and the network parameters of the device will be displayed in the **Modify Network Parameters** panel on the right side.
2. Edit the modifiable network parameters, e.g. IP address and port number.
3. Enter the password of the admin account of the device in the **Password** field and click 

to save the changes.



- *For your privacy and to better protect your system against security risks, we strongly recommend the use of strong passwords for all functions and network devices. The password should be something of your own choosing (using a minimum of 8 characters, including upper case letters, lower case letters, numbers and special characters) in order to increase the security of your product.*
- *Proper configuration of all passwords and other security settings is the responsibility of the installer and/or end-user.*

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Figure A.1.2 Modify Network Parameters



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