Network Camera Module

User Manual

About Manual

The content in this manual is for reference only. The photos, graphics, diagrams, and illustrations provided in the manual are for explanation and explanation purposes only andmay differ from the specific product. Please refer to the actual product. The company mayupdate this manual due to product version upgrade or other needs. If you need the latest version of the manual, please contact us.

Safety Instruction

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

For the symbols that appear in the document, the description is as follows

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

Warnings:

- Adopt the power adapter which can meet the safety extra low voltage (SELV) standard. 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 rainor 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.
- Do not aim the lens at the strong light such as sun or incandescent lamp. The strong light cancause 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 ofthe product cover.
- Use a soft and dry cloth when clean inside and outside surfaces of the product cover. Do notuse alkaline detergents.
- Improper use or replacement of the battery may result in hazard of explosion. Use the manufacturer recommended battery type.

Table of Contents

Chapter 1 Overview

1.1 Instruction

The network camera module adopts intelligent coding compression technology and integrated audio capture technology, which minimizes the compression loss and enables it to save more transmission bandwidth and storage space at a lower bit rate. Users can access videobrowsing and configuration through a browser or client software. The built-in zoom lens can offer a wide range of monitoring with clear image. At the same time, the module has excellent low illumination performance, compact size, low power consumption, green energy saving and environmental protection.

The network camera module can be seamlessly connected to other network equipment such as dome cameras, PTZ, etc., which is widely used in large-scale monitoring scenes such as residential roads, schools, parks, squares.

2.1 Functions

- Support H.265/H.264/MJPEG Video compression, support multi-level video quality configuration, encoding complexity setting
- Main/sub/third stream, configurable Resolution and frame for each stream
- Auto focus enables the camera to focus automatically to maintain clear video images.
- Support Day/night auto shift (ICR)
- Support Motion | Alarm, Privacy Mask | Alarm, Event | Alarm
- Support audio input /output, alarm input/output, support alarm linkage
- 120 dB WDR, 3D DNR, EIS, Regional Exposure, Regional Focus
- Local storage Micro SD/SDHC/SDXC, up to 128G
- Comply with ONVIF, GB/T28181 protocol
- Various Interfaces, multiple function extensions
- Compact design, low power consumption, easy to be integrated in dome camera, PTZ, etc.

Chapter 2 Network Connection

- You shall acknowledge that the use of the product with Internet access might be under threat of security risks. For avoiding any network attacks and information leakage, strengthen your own protection. If the product does not work properly, contact your dealer or the nearest service centre.
- 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 a 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 Wiring over the LAN

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

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 Figure 2-2 to set the network camera over the LAN via a switch or a router.

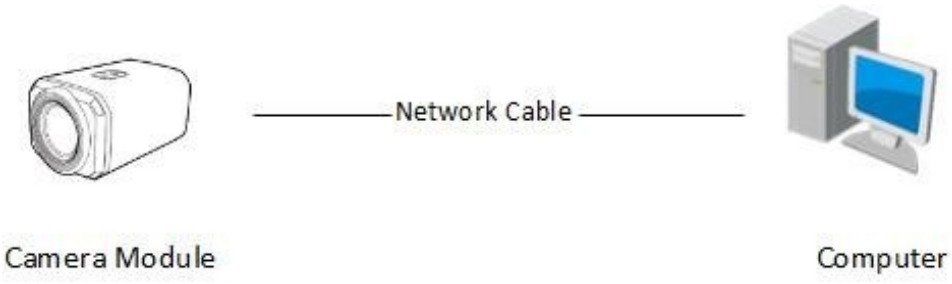


Figure 2-1 Connecting Directly

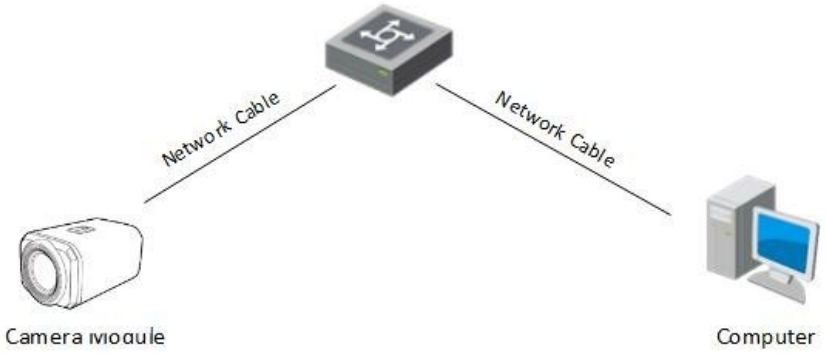


Figure 2-2 Connecting via a Switch or a Router

2.2 Activating the Camera

Purpose:

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

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

In order to protect your personal privacy and corporate data, and avoid cybersecurity issue, set a strong password that complies with security specifications is recommended.

Note:

The default IP address of the camera is 192.168.1.68.

Administrator account: admin

Initial login settings Initial account password

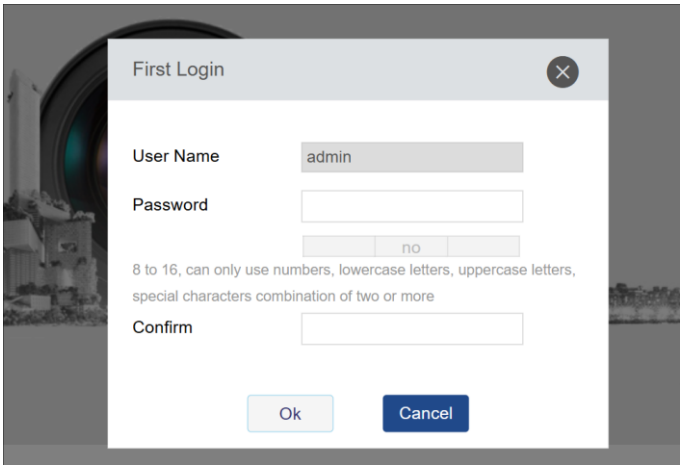


Figure 2-3 First Login

2.2.1 Activation via IP Search Software

IP Search software is used for detecting the online device, activating the device, and resetting passwords. Get the IP Search software from the supplied disk or the official website and install the IP Search according to the prompts. Follow the steps to activate the camera.

Steps:

1. Run the IP Search software to search the online devices.
2. Check the status of the device from the device list and select an inactive device.

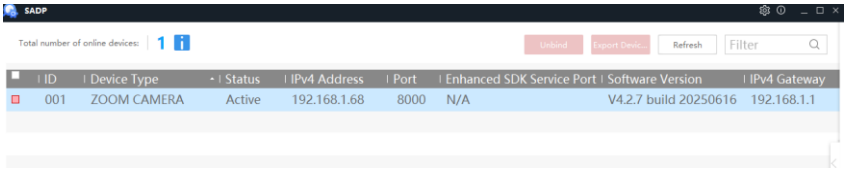


Figure 2-4 IP Search Interface

3. Choose an inactive device, click **Activate** to start activation. You can check whether the activation is completed on the pop-up window. If activation fails, make sure that the password meets the requirement and then try again.

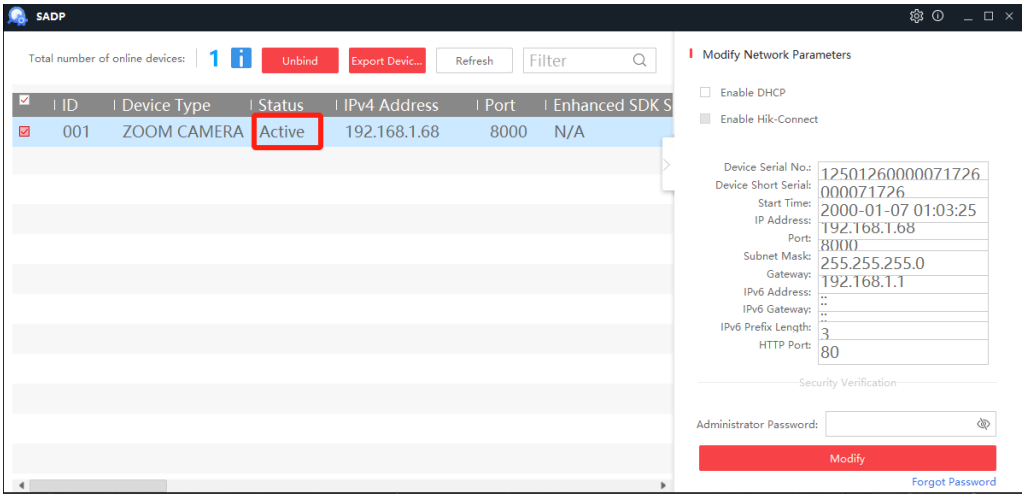


Figure 2-5 Device Active

2.2.2 Accessing by Web Browsers

Steps:

1. Change the device IP address to the same subnet with your computer by modifying theIP address manually.

   Open the web browser. In the address field, input the IP address of the network camera, e.g., 192.168.1.68 and press the Login to enter the login interface.

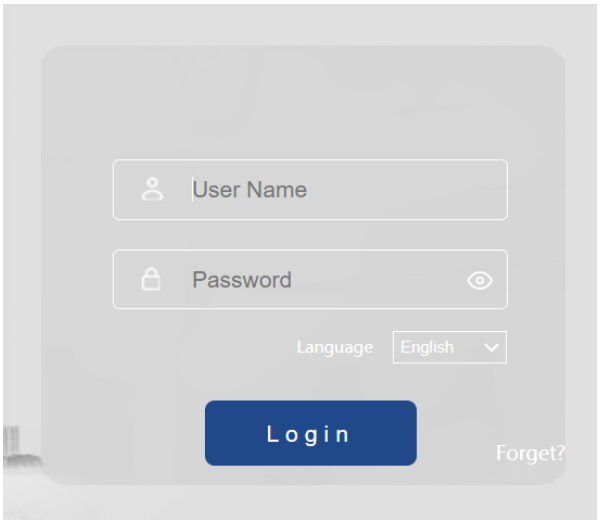


Figure 2-5 Device configuration

2. After activation, use the password to log in to the camera to continue preview configuration.
3. 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

2.3 Log in/Log out

2.3.1 Log in

close the web browser to install the plug-in. Reopen the web browser and log in again after installingthe plug-in.

use the device IP, username, password to log in to the camera to continue, as shown in Figure 2-6.

Figure 2-6 Login

Note:

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

2.3.2 Log out

Click "Log out" to log out.

2.4 Starting Live operation

1.4.1. Live Operation

In the live view window as shown in Figure 2-7, click on the toolbar to start the live view ofthe network.

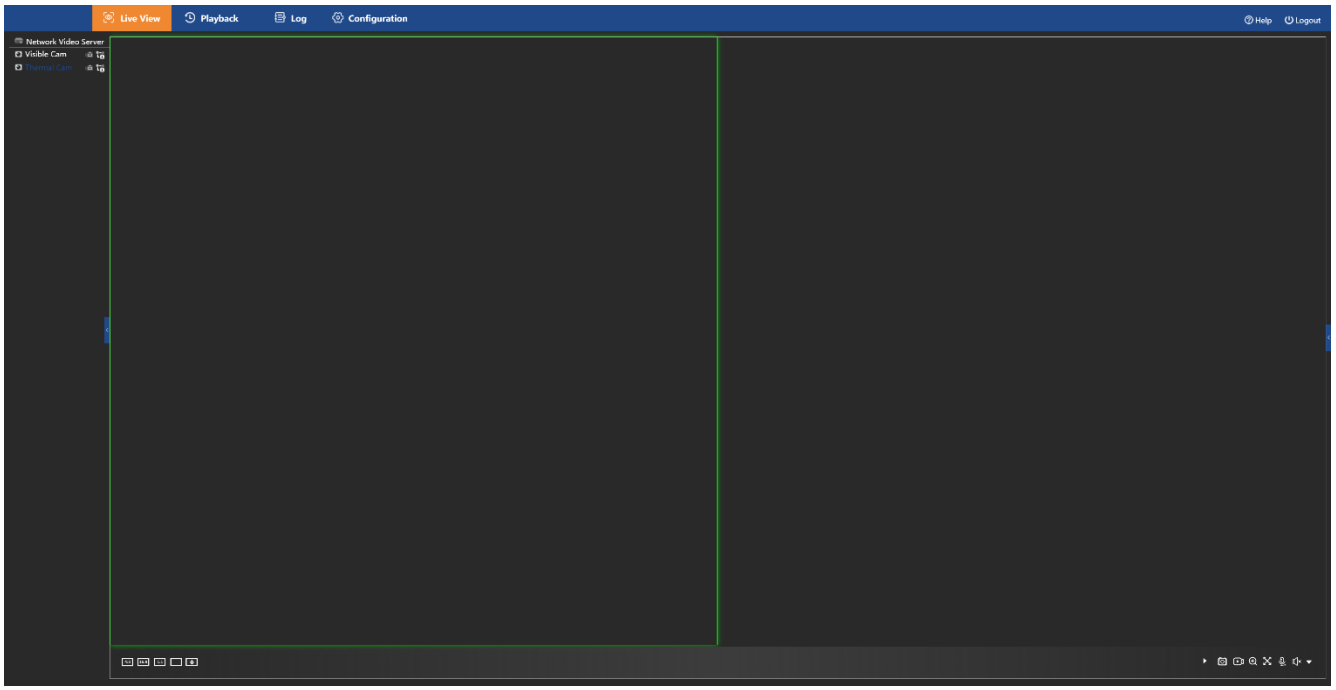


Figure 2-7 Start Live view

Table 2-1 Descriptions of the Toolbar and Live View Parameters

Icon	Description
	Click to select from and display live video in 4:3/16:9/ original/original ratio/self-adaptive window size.
	Click to select live video stream mode： main/ sub/third stream. The mainstream is relatively high resolution and needs more bandwidth. The default setting of stream type is.
	*Steps:* 1. Click and it appears. Click to enable two-way audio when the icon turns into. 2. Click the icon again to stop the two-way audio.
	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.
	Preview into full screen mode, press space bar or Esc to exit full screen mode.

1.4.2. 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.

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.

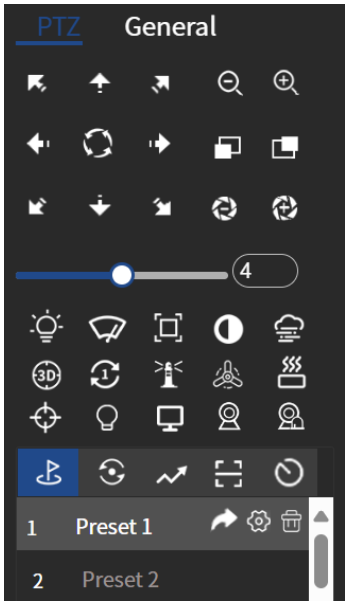
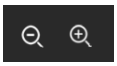
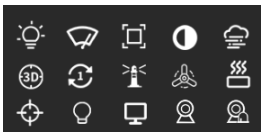


Figure 2-8 PTZ Control Panel

Table 2-2 Descriptions of the 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 touring when the icon turns into . Click the icon again to stop the camera
	Zoom	Click , then the lens zooms in. Click , then the lens zooms out.
	Focus	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	When the image is too dark, click to enlarge the iris. When the image is too bright, click to stop the iris.
	Auxiliary Functions	Light, Wiper, Auxiliary Focus, Lens Initialization, Defog, 3D Positioning, One-click cruise, One-click watching, Fan, Heater, One-click to start ranging display IR light, Page freeze, Enable the stabilization of PTU, Disable the stabilization of PTU
	Speed Adjustment	Adjust speed of pan/tilt movements.
	Preset	Refer to ***Setting/Calling a Preset*** for detailed information of setting preset.
	Cruise	Automatic scanning based on set preset points
	Synchronized Scanning	Pattern scanning settings
	Linear Sweep	Automatic scanning in the area according to the left and right limits
	Circular Scan	Automatic scanning in the area according to the upper and lower limit positions

1.4.3. 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.

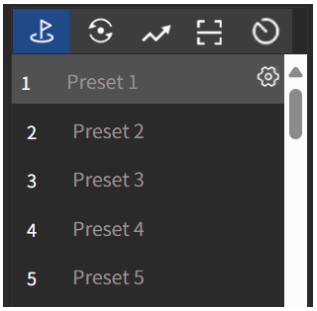


Figure 2-9 Setting a Preset

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 manualfor detailed function description.)
5. You can click to delete the preset.

Calling a Preset:

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

1.4.4. Setting/Call a Cruise

Purpose:

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

Before you start:

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

Setting Patrol:

Steps:

1. In the PTZ control panel, click  to enter the Cruise settings interface

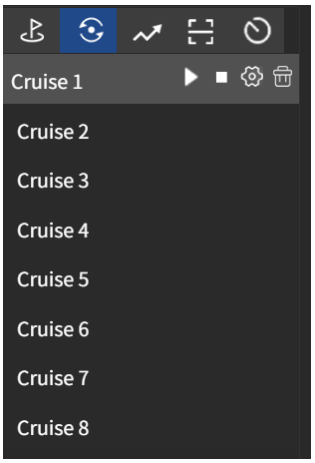


Figure 2-10 Setting Cruise

2. Select a Cruise number from the list and click  .
3. Click  to enter the adding interface of preset, as shown in Figure 2-11.

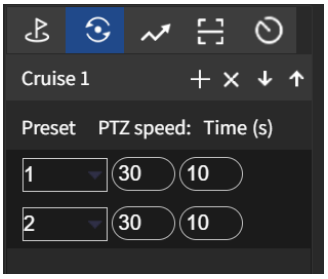


Figure 2-11 Adding Presets

4. Configure the preset number, Cruise time and cruise speed in Figure 2-12

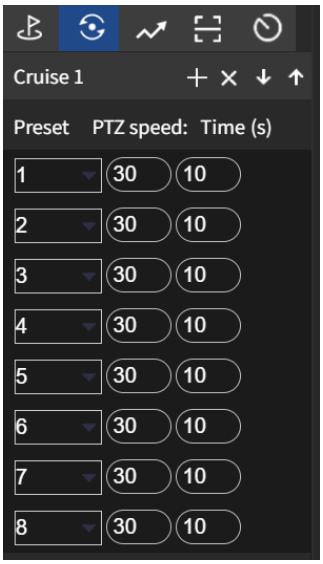


Figure 2-12 Configure Presets

5. Click Ok to save all the Cruise settings.

Calling a Cruise:

In the PTZ control panel, select a defined cruise from the list and click to call the Cruise, as shown in Figure 2-13.

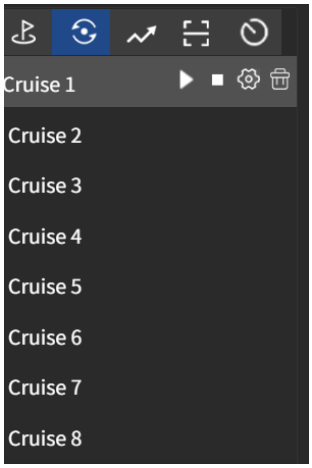


Figure 2-13 Call Cruise

1.4.5. Setting/Call 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.

Note:

Pattern function varies depending on different camera models.

Setting a Pattern:

Steps:

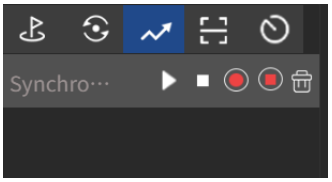


Figure 2-14 Patterns Settings Interface

1. In the PTZ control panel, click to enter the pattern settings interface. As shown inFigure 2-14.
2. Click to start the pattern.
3. Click to stop the current pattern.
4. Click to enable recording the panning, tilting and zooming actions.
5. Click to stop recording actions
6. Click to delete the selected preset/patrol/pattern.

1.4.6. Setting/Call a Linear Sweep

Purpose:

A linear Sweep can automatically scan in the area according to the left and right limits. There are up to 4 linear Sweep for customizing.

Setting a Linear Sweep:

Steps:

1. In the PTZ control panel, click  to enter the Linear Sweep settings interface. As shown in Figure 2-15.

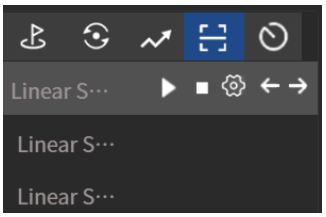


Figure 2-15 Linear Sweep Settings Interface

2. Pan Tilt the camera to desired positions, Click  to set left limit position, right limit position.
3. Click  to start Linear sweep;
4. Click  to stop Linear sweep;
5. Click  to set scanning speed;

1.5. Playback

Purpose:

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

1.5.1. Play Back Video Files

The playback interface can search, playback and download valid video files stored in the SD card andNAS disk. The specific functions are as follows:

Steps:

1. Click 

on the menu bar to enter the playback interface.

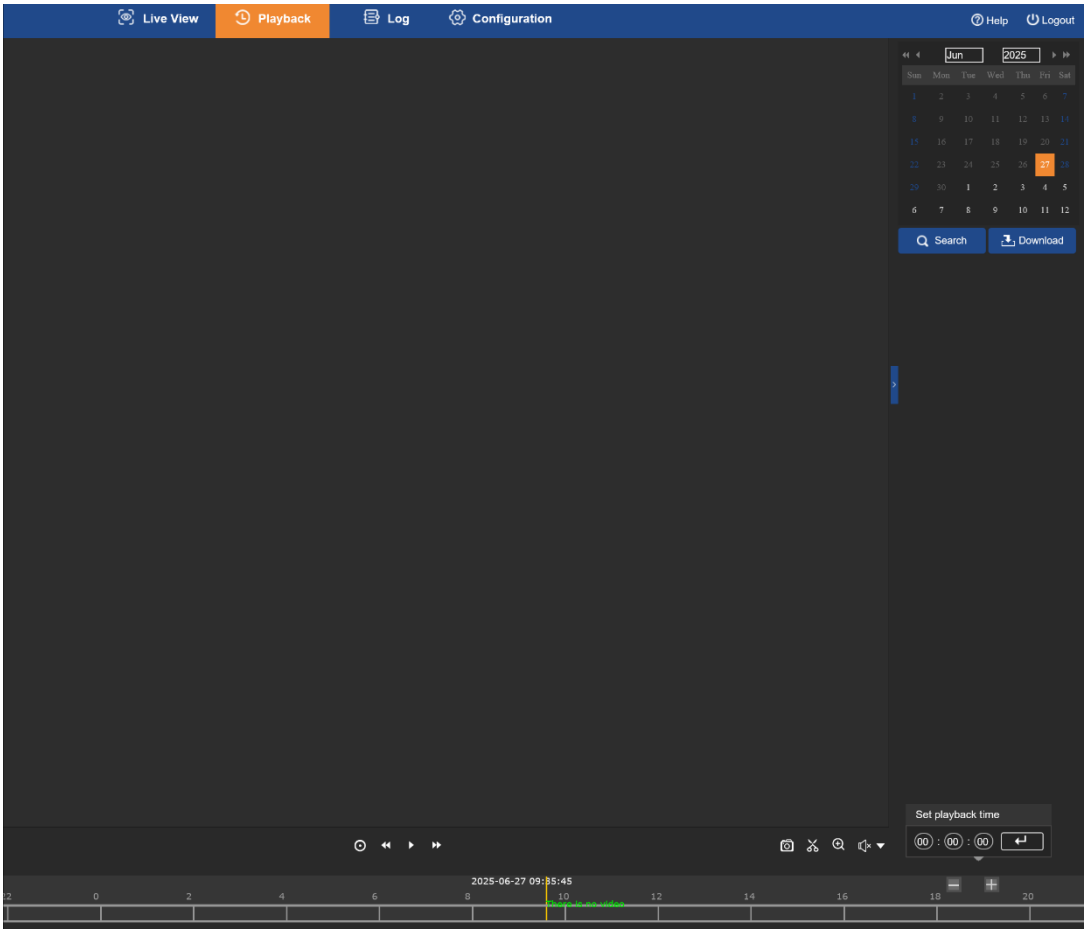


Figure 2-16 Playback Interface

2. Select the date and click Search.

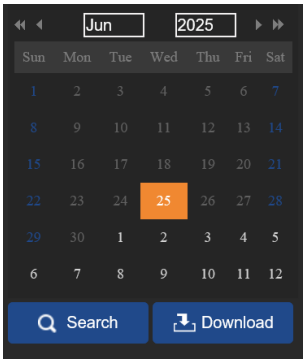


Figure 2-17 Search Video

3. Click Download on the menu bar to enter to record download interface choose the clipyou want to download

Table 2-3 Description of the buttons

Button	Operation	Button	Operation
▶	Play	📷	Capture a picture
❚❚	Pause	✂	Start/Stop clipping video files
⊙	Stop	🔍	Enable/Disable digital zoom
◀◀	Speed down	🔊 / 🔇	Volume up/down
▶▶	Speed up		

1.6. Log

Purpose:

Click the "Log" button to access the device log query interface, as shown in Figure 2-18.

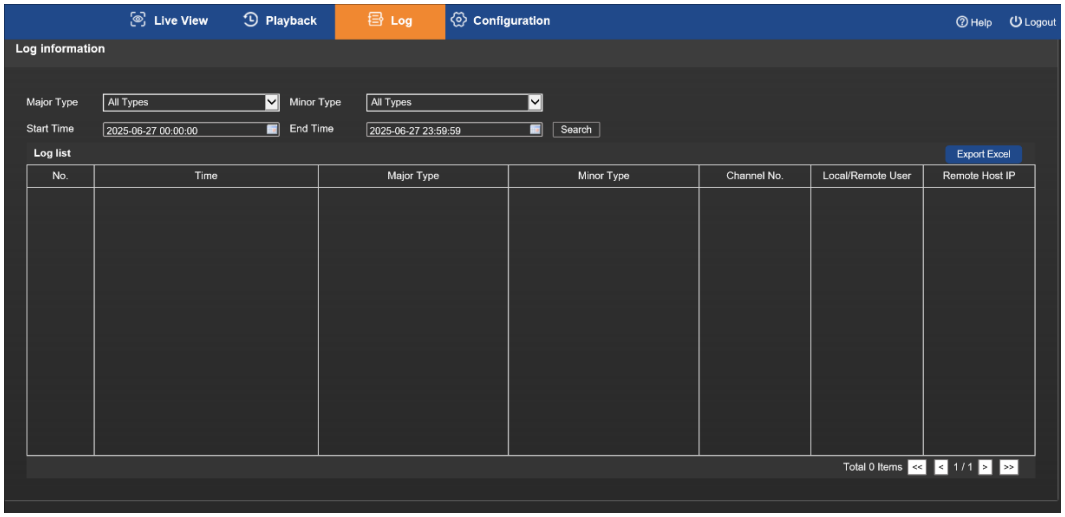


Figure 2-18 Log

1. Log Search: Select the desired primary and secondary log types, along with the time range for the search. Then click the Search button to retrieve log records that match the specified criteria.

2. Log Information: The log list displays the following details: Index, Time, Primary Type, Secondary Type, Device Channel Number, Local/Remote User, and Remote Host Address.

3. Log Export: Click the export button to save the retrieved logs to a local path.

Chapter 3 Local Parameters

3.1. Configuring Local Parameters

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

Steps:

1. Enter the Local Configuration interface:

Configuration > Local

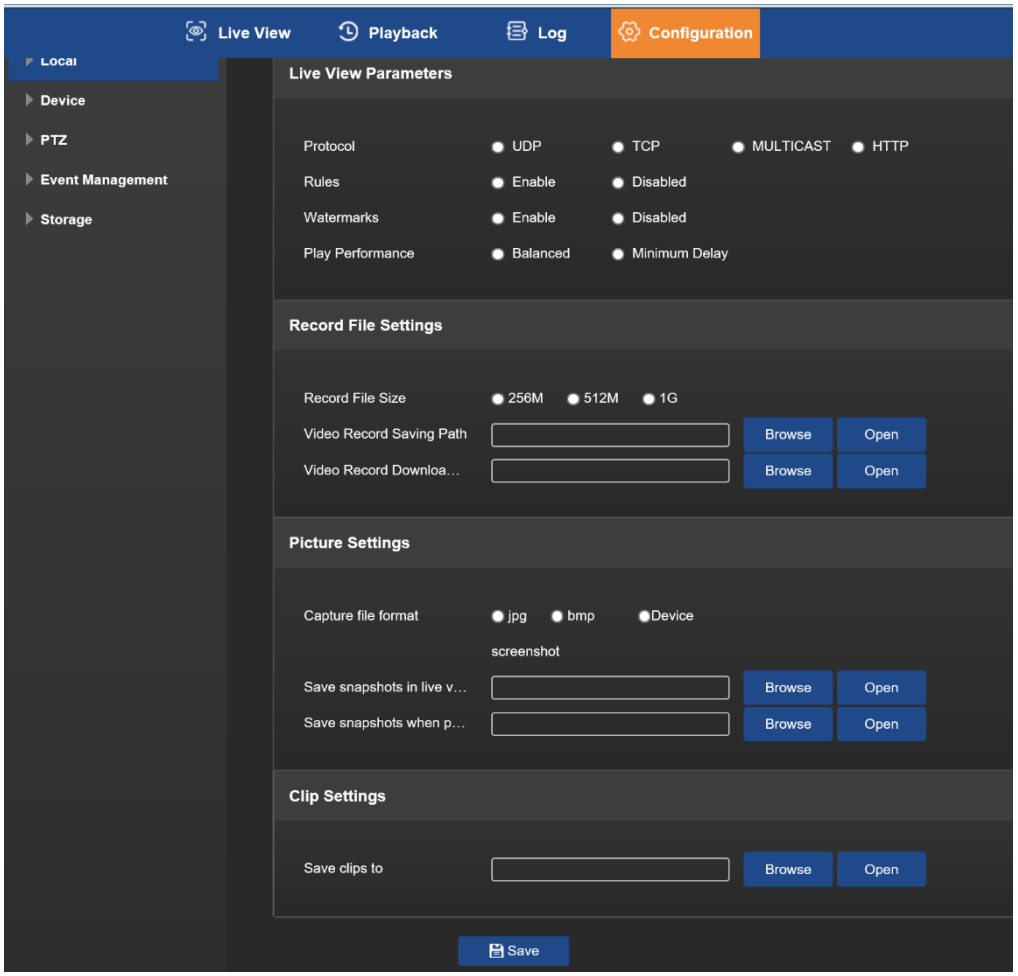


Figure 3-1 Local configuration

2. Configure the following settings:

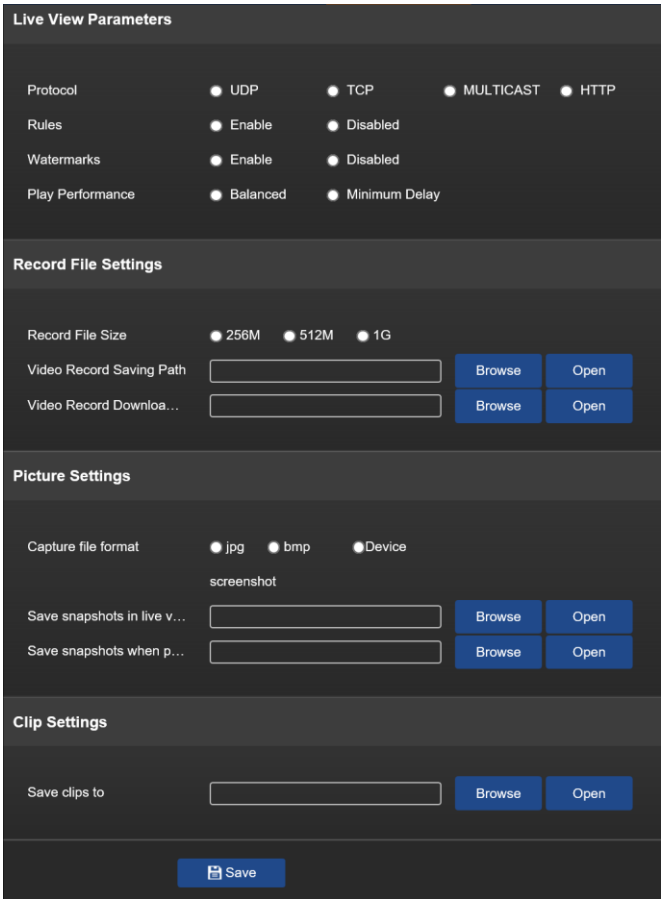


Figure 3-2 Live View Parameters

Live View Parameters: Set the Protocol, Rules, Play Performance.

- **Protocol:** TCP (default), UDP, MULTICAST and HTTP are selectable.
- **Rules:** You can enable or disable the rules of dynamic analysis for motion here.
- **Watermarks:** Enable the function, MAC info, series number is displayed in the live image.
- **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.

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.
- **Video Record Saving Path:** Set the saving path for the manually recorded video files.
- **Video Record Download:** 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.

3.2. Device

Steps:

Enter the Local Configuration interface: **Configuration > Device.**

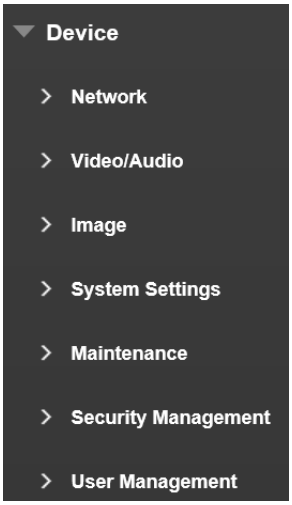


Figure 3-3 Device Setting

3.2.1. Network

3.2.1.1. TCP/IP

Purpose:

TCP/IP settings must be properly configured before you operate the camera over the network.

IPv4and IPv6 are both supported.

Steps:

1. Enter TCP/IP settings interface:

Configuration > Network > Basic Settings>TCP/IP

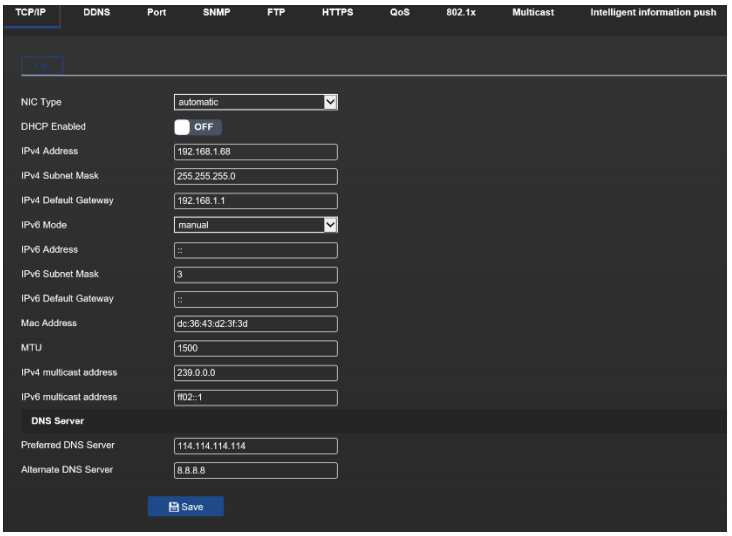


Figure 3-4 TCP/IP Settings

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

to save the above settings.

Notes:

- **Network Interface Configuration**: You can configure the *Network Interface Type*, *Device IPv4 Address*, *IPv4 Subnet Mask*, and *IPv4 Default Gateway*. When **Obtain IP Address Automatically** is set to **ON**, the device will automatically acquire a network address and related network parameters.
- **IPv6 Support**: Some devices support the IPv6 network communication protocol. Users can configure the **IPv6 Mode**, which includes three options: *Manual*, *Automatic Acquisition*, and *Router Advertisement*. Please select the appropriate mode according to your actual network requirements.
- **Physical Address**: Displays the current physical address of the device. This address is fixed and cannot be modified.
- **MTU**: The Maximum Transmission Unit can be configured here. It refers to the largest size of a data packet that can be transmitted over the network using the TCP/UDP protocol.
- **Multicast Address**: Can be configured as needed based on actual requirements.
- **DNS Server Configuration**: You may set the *Preferred DNS Server* and *Alternate DNS Server*. Correct DNS addresses must be set to enable proper domain name access.

3.2.1.2. DDNS

Purpose:

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

Before you start:

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

Steps:

1. Enter the DDNS settings interface:

Configuration > Device > Network > 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.

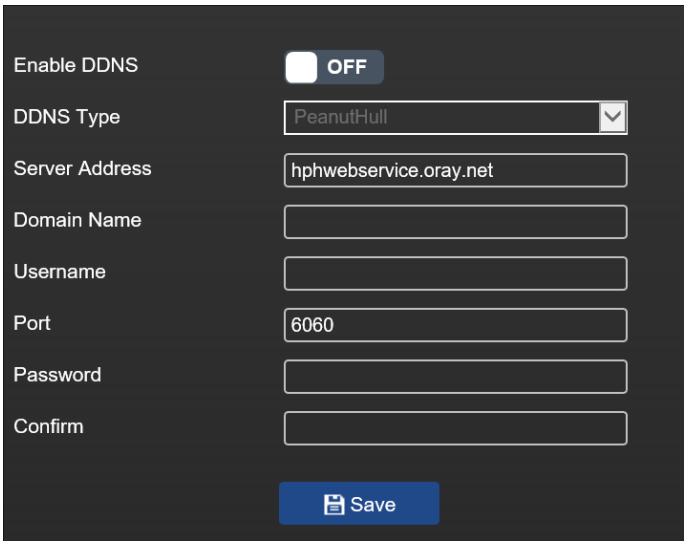


Figure 3-5 DDNS Settings

- Enter **Server Address** of NO-IP.
- In the **Domain** text field, enter the domain name obtained from the NO-IP website.
- Enter the **Port** of NO-IP server.

3.2.1.3. Port

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 > Device > Network > Port

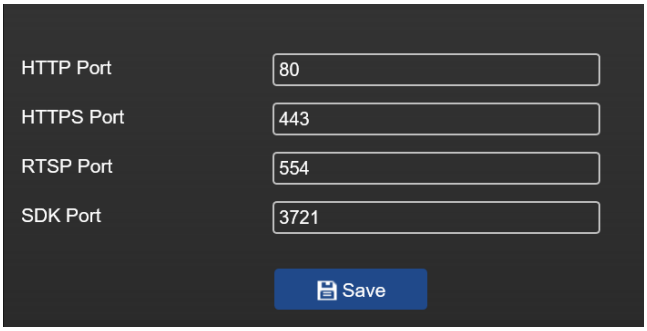


Figure 3-6 Port Settings

2. Set the HTTP port, RTSP port and port of the camera.
   - **HTTP Port**: The default port number is 80.
   - **HTTPS Port**: The default port number is 443.
   - **RTSP Port**: The default port number is 554.
   - **SDK Port**: The default port number is 3721.
3. Click Save to save the settings.

3.2.1.4. SNMP

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 centre.

Note:

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

Steps:

1. Enter the SNMP settings interface: **Configuration > Device > Network > SNMP**

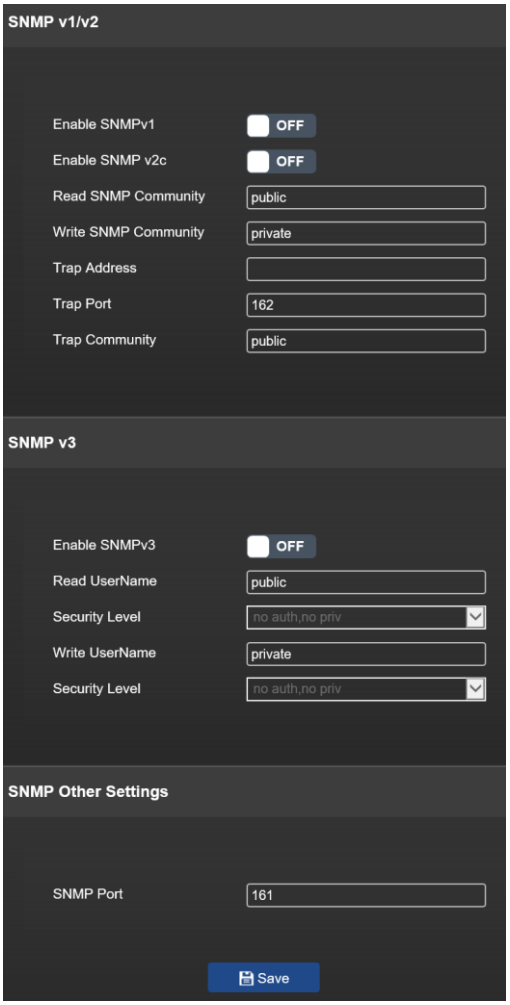


Figure 3-7 SNMP Settings

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:

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

3.2.1.5. FTP

Purpose:

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

Steps:

1. Enter the FTP settings interface:

   Configuration > Device > Network > SNMP > FTP

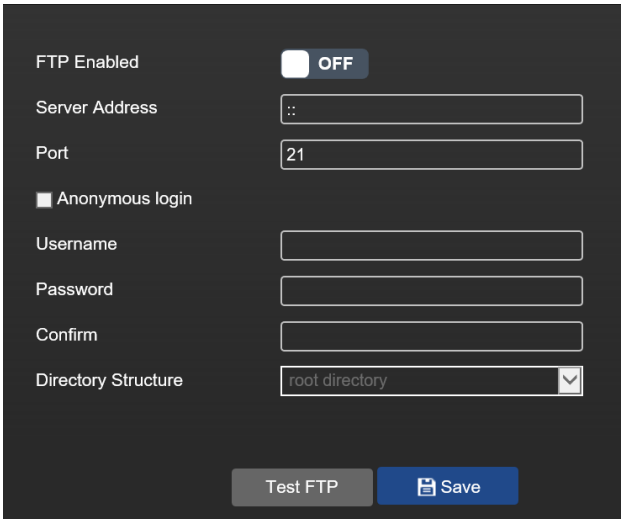


Figure 3-8 FTP Settings

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

Note:

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

Setting the directory in FTP server for saving files:

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

- **Root directory**: The files will be saved in the root of FTP server.
- **First-class directory**: The files will be saved in a folder in FTP server. The name of folder canbe defined.
- **Secondary 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.

3. Click Save to save the settings. You can click **Test** to confirm the configuration.

Note:

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

3.2.1.6. HTTPS

Purpose:

You can set up an HTTP channel with a focus on security.

Steps:

1. Enter the HTTPS settings interface:

   Configuration > Device > Network > SNMP > HTTPS

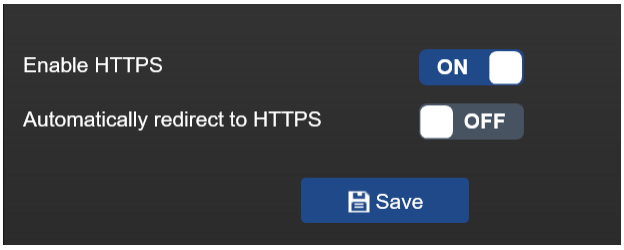


Figure 3-9 HTTPS Settings

- Enable HTTPS: When this option is enabled, the device can be accessed securely using the HTTPS protocol.
- Automatic HTTPS Redirection: Enables automatic redirection from HTTP to HTTPS during login attempts, ensuring secure access.

2. Click Save to save the settings.

3.2.1.7. Certifications

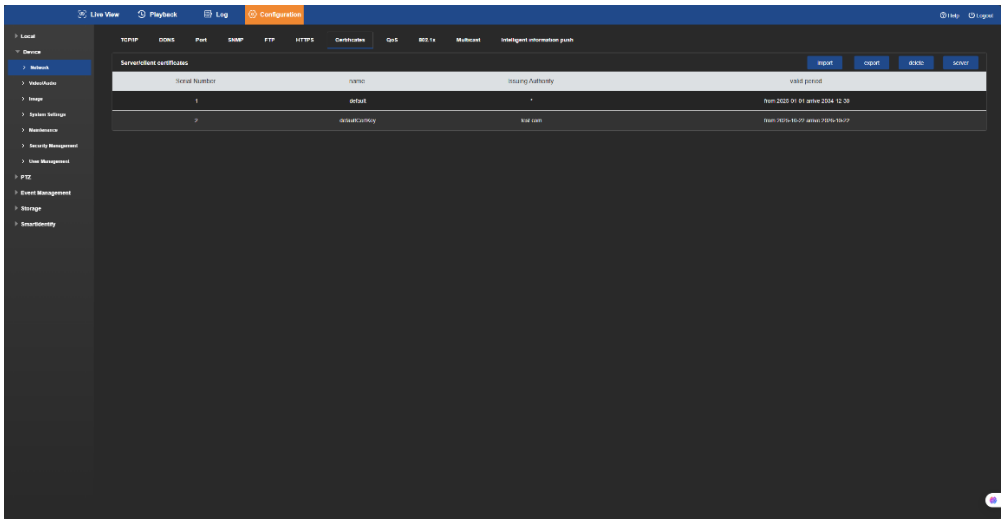
Purpose:

Import and manage the certificates and private keys required for HTTPS.

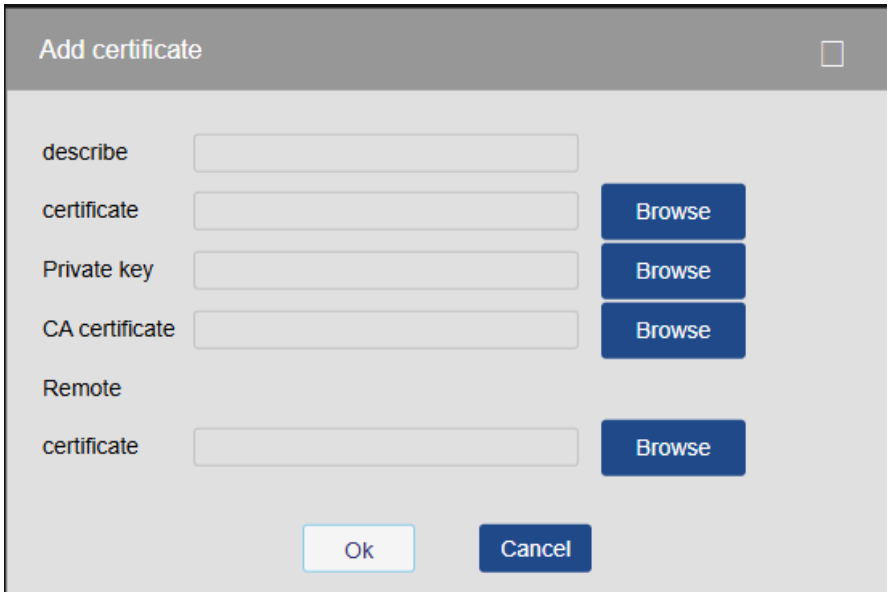
Steps:

1. Enter the Certification interface

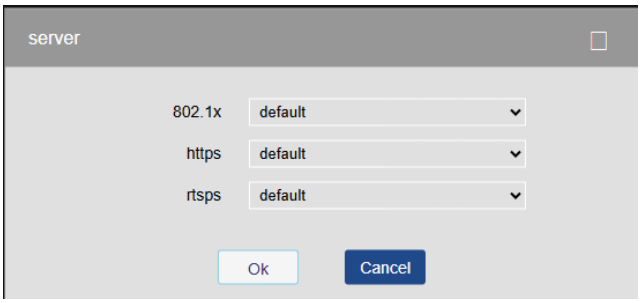
   Configuration > Device > Network > Certification



2. Manually import certificates by selecting the required certificate, private key, CA certificate, or remote certificate for importation.



3. Server configuration: select the certificate file corresponding to the required protocol channel.



3.2.1.8. QoS

Purpose:

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

Steps:

1. Enter the QoS settings interface:

   Configuration > Device > Network > QoS

Figure 3-10 QoS Settings

2. Configure the QoS settings, including Video/Audio DSCP, Event/Alarm DSCP and Management DSCP.
3. Click Save 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.

3.2.1.9. 802.1X

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.

Steps:

1. Connect the network camera to your PC directly with an Ethernet cable.
2. Enter the 802.1X settings interface:

   Configuration > Device > Network > 802.1X

Figure 3-11 802.1X Settings

3. Check the **Enable IEEE 802.1X** checkbox to enable it.
4. Select a preferred protocol **EAP-MD5**.

   EAP-LEAP and EAP-MD5

   If you use EAP-LEAP or EAP-MD5, the authentication server must be configured.

   Apply and register a username and password for 802.1X in the server.

   Input the username and password to access the server.

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 username and password.
7. Click Save to finish the settings.
8. After the configuration, connect the camera to the protected network.

3.2.1.10. Multicast

Purpose:

Turning on this option activates the device’ s multicast functionality.

Steps:

1. Enter the Multicast settings interface:

   Configuration > Device > Network > Multicast

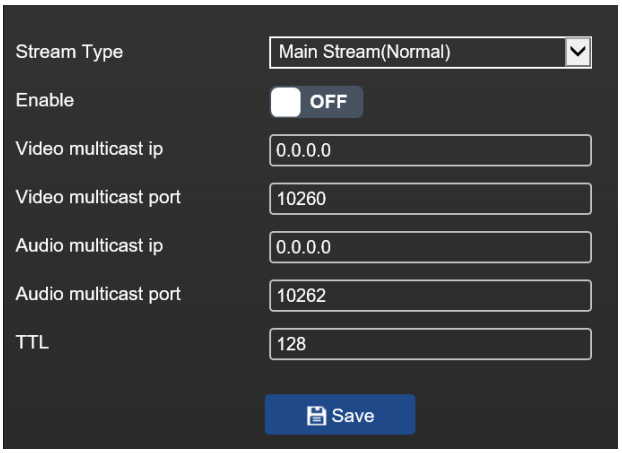


Figure 3-12 Multicast Settings

- **Stream Type**: you can choose between the main-stream and the sub-stream for streaming output.
- **Enable Multicast**: Turning on this option activates the device’ s multicast functionality.
- **Video Multicast Address**: The IP address used for receiving the video stream via multicast.
- **Username and Password**: The credentials required to connect to the device.

2. Click Save to finish the settings

3.2.1.11. Intelligent information push

Purpose:

Activate the intelligent information push feature of the device.

Steps:

1. Enter the Multicast settings interface:

   Configuration > Device > Network > Intelligent information push

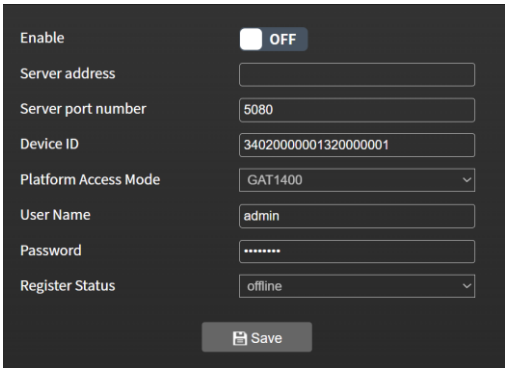


Figure3-13 Intelligent information push Setting

Enable: Enables intelligent information push feature of the device.

Server Address: The IP address of the information platform service.

Server Port Number: The port number is used to connect to the information platform service.

Device ID: The unique identification code for accessing the information platform.

Platform Access Mode: GAT1400

Username: The username for accessing the platform.

Password: The password corresponding to the access username.

Register Status: Indicates whether the device has successfully connected to the platform – Online/Offline.

3.2.2. Video / Audio

3.2.2.1. Video

Steps:

1. Enter the Video settings interface:

   Configuration > Device > Video/Audio > Video

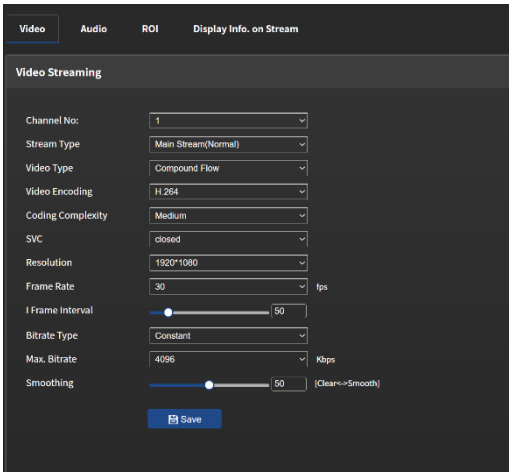


Figure3-14 Configure Video Settings

   Select the **Stream Type** of the camera to Mainstream (Normal), Sub-stream or Third Stream.

2. 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 signalwill 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**, 5 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:

3. Click  to save the settings.

3.2.2.2. Audio

Steps:

1. Enter the Audio settings interface:

   Configuration > Device > Video/Audio > Audio

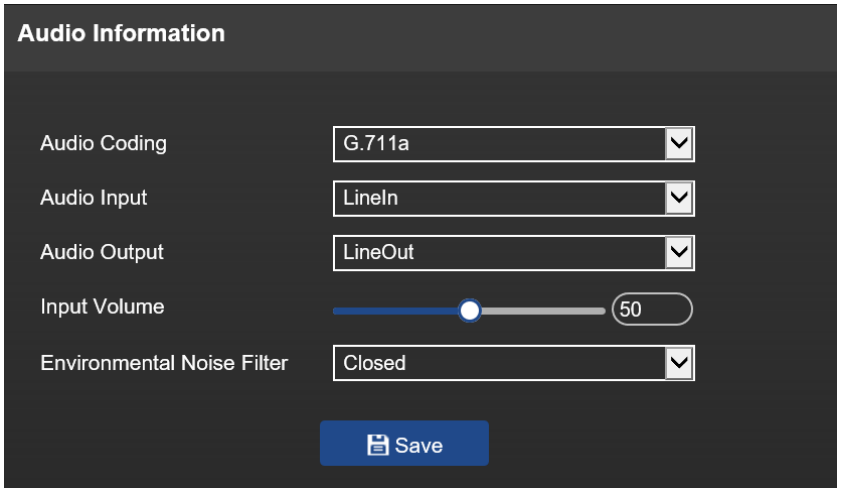


Figure 3-15 Audio Settings

1. Configure the following settings.
   - **Audio Encoding:** G.711ulaw, G.711alaw, 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.

2. Click Save to save the settings.

3.2.2.3. ROI

Purpose:

ROI (Region of Interest) encoding is used to enhance the quality of images which are specified in advance.

1. Enter the ROI settings interface:

   Configuration>Device>Video/Audio>ROI

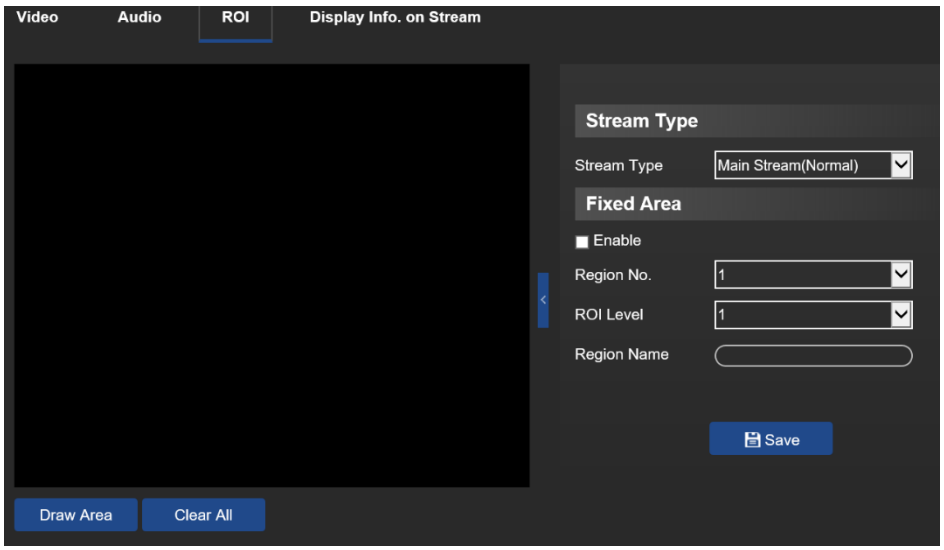


Figure 3-16 Region Setting

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

3.2.2.4. 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.

3.2.3. Image

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 >Device> Image

2. You can select the **Scene** in the dropdown list with different predefined image parameters.
3. Set the image parameters of the camera.

3.2.3.1. Image Setting

Steps:

Enter the Image Setting interface:

Configuration >Device> Image> Image Setting

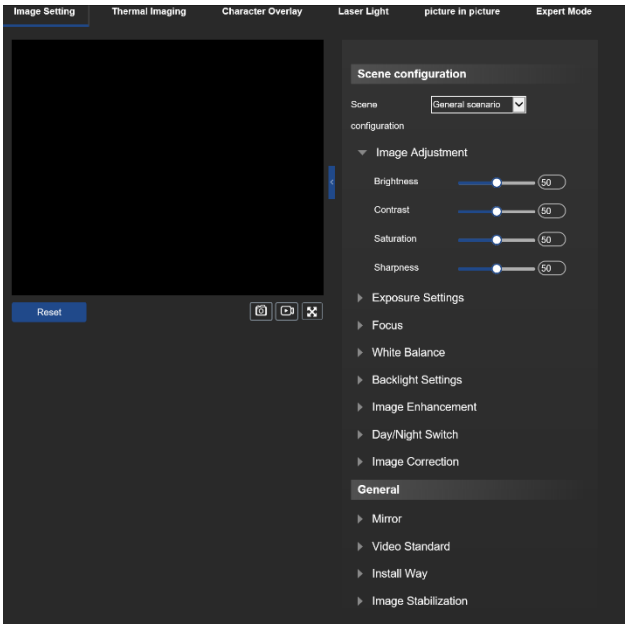


Figure 3-17 Display Setting

Image Adjustment

Brightness

This feature is used to adjust the brightness of the image.

Contrast

This feature enhances the difference in colour and light between parts of an image.

Saturation

This feature is used to adjust colour saturation of the image.

Sharpness

Sharpness 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, Manual, Aperture-Priority,** and **Shutter-Priority**

- 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.

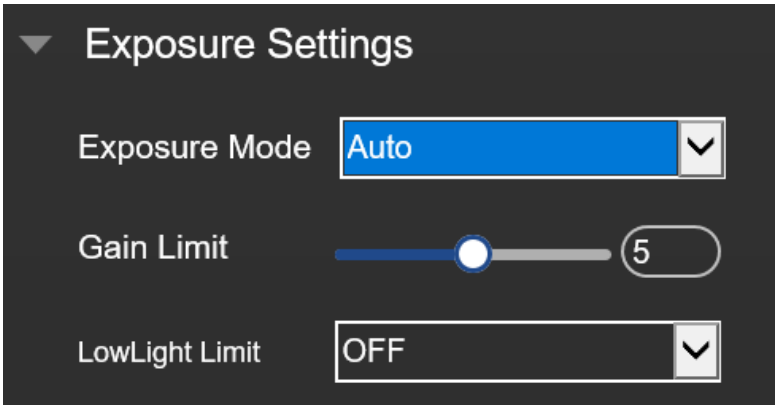


Figure 3-18 Exposure Setting

- Manual Priority:

  Manual adjustment of aperture, shutter speed, and gain

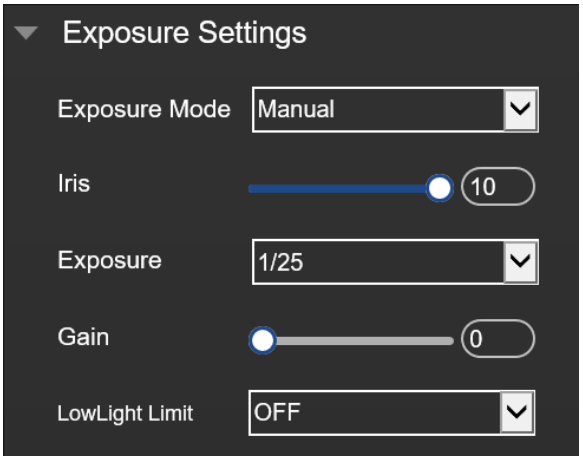


Figure 3-19 Exposure Setting

- Aperture Priority:

  The aperture operates at a predefined fixed value, whereas the shutter speed and gain are automatically regulated.

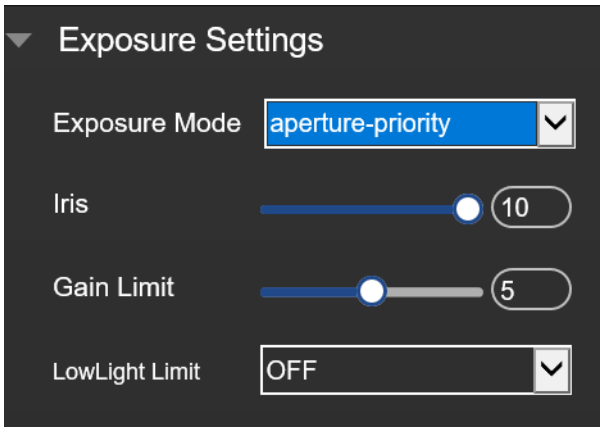


Figure 3-20 Exposure Setting

- Shutter Priority:

  The value of shutters 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.

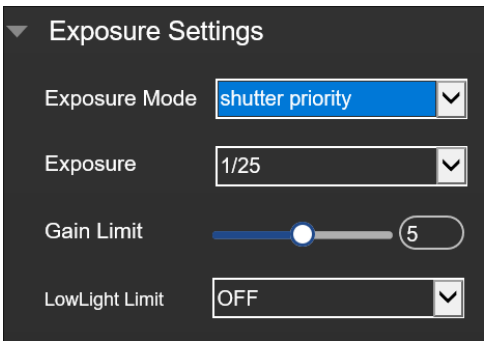


Figure 3-21 Exposure Setting

Focus Settings

Focus Mode

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

- Auto:

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

- Semi-auto:

  The camera 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, 30cm, 1.0m, 1.5m, 3m, 6m, 10m, 20m and 50m.

White Balance

The **White Balance** mode can be set to **Auto** and **Manual.**

Auto White Balance

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

Manual White Balance:

In **MWB** mode, you can adjust the colour temperature manually to meet your own demand as shown in Figure 3-22.

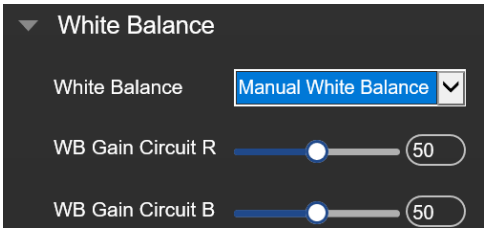


Figure 3-22 Manual White Balance

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.

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.

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 thefield 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 3-23.

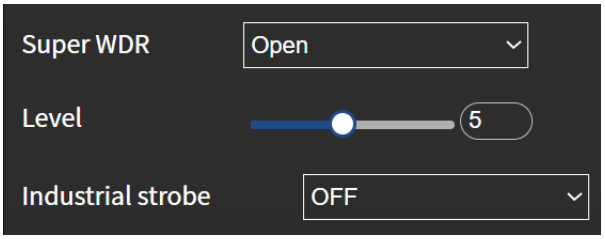


Figure 3-23 WDR

ImageEnhancement

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 3-24. The level ranges from 0 to 100.

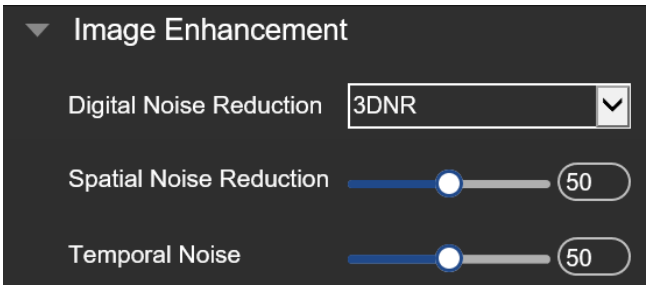


Figure 3-24 3D Digital Noise Reduction

Defog Mode

You can enable or disable Defog function as shown in Figure 3-25.

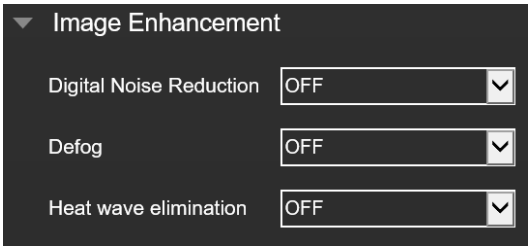


Figure 3-25 Defog Mode

Heat wave elimination

You can set **Heat wave elimination** function and adjust the Heat wave elimination Level **as shown** in Figure 3-26. The level ranges from 0 to 100

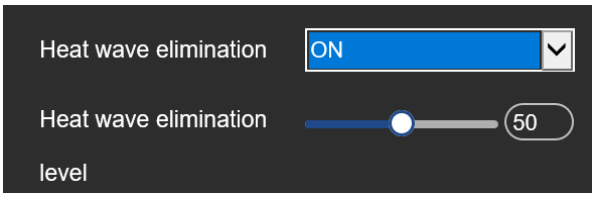


Figure 3-26 Heat wave elimination

Day/Night Switch

Day/Night Switch Mode

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

Note:

This function varies depending on the models of camera.

Day:

In **Day** mode, the camera displays colour image. It is used for normal lighting conditions.

Night:

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

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, 3,4,5,6,7.

Photoresistor:

Day/night image switching is controlled via a photoresistor integrated with the device.

Image Correction

Gamma correction adjusts the image's gamma curve to enhance both dark and bright areas, improving overall contrast. This setting also controls the level of noise reduction, with different levels affecting contrast enhancement.

General

Mirror

Options for symmetrical adjustment — including 'Left/Right', 'Up/Down', and 'Centre' allow switching the mirrored orientation of the video display.

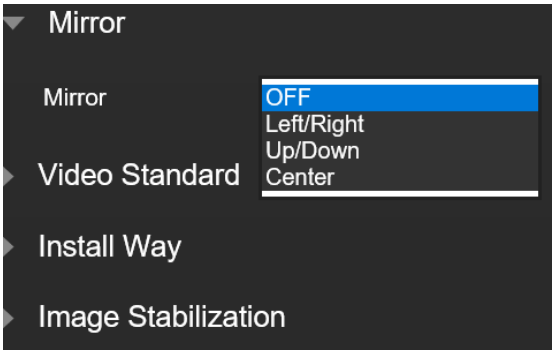


Figure 3-27 Mirror mode

Video Standard

Format Switching: Select between "50Hz" and "60Hz" according to regional requirements. Format switching is applicable to certain models only and requires the network camera to be restarted after changes. When set to 50Hz, the live frame rate is 25 fps; when set to 60Hz, it is 30 fps. Some models support 50/60 fps.

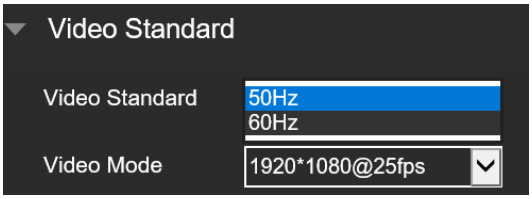


Figure 3-28 Video Standard Mode

Install Way

When the device is installed in conjunction with a PTZ camera, and a 180-degree image rotation is configured, the pan-tilt control directions must be correspondingly adjusted to ensure accurate directional alignment and control functionality.

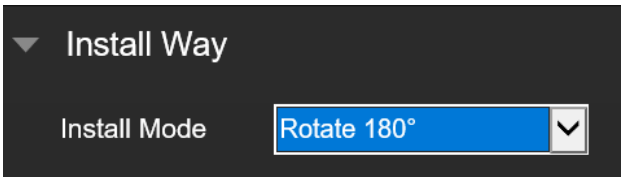


Figure 3-29 Install Way

Image Stabilization

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

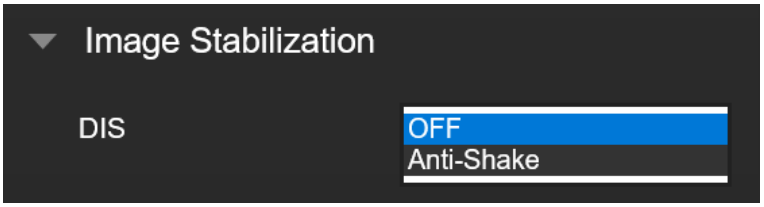


Figure 3-30 DIS

3.2.3.2. Character Overlay

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 > Device >Image > Character Overlay

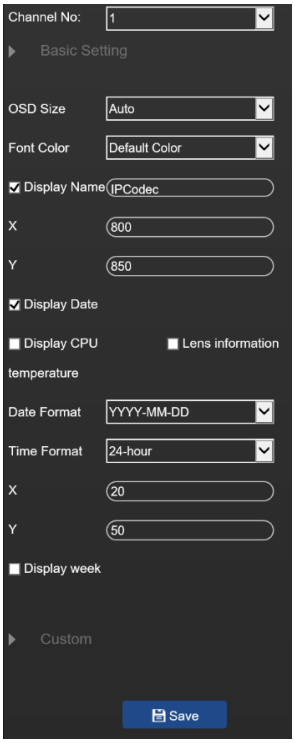


Figure 3-31 Character Overlay Setting

2. Select from the dropdown list to set the Date Format, Display Mode, OSD Size, Font Colour.
3. You can use the mouse to drag the text frame OSD position.

3.2.3.3. Laser Light

Purpose:

The illumination is controlled through the laser device settings. Connection via RS-485 allows the device to work in coordination with the laser.

Note:

This function varies according to different camera models.

Steps:

Enter the OSD settings interface:

Configuration > Device >Image > Laser Light

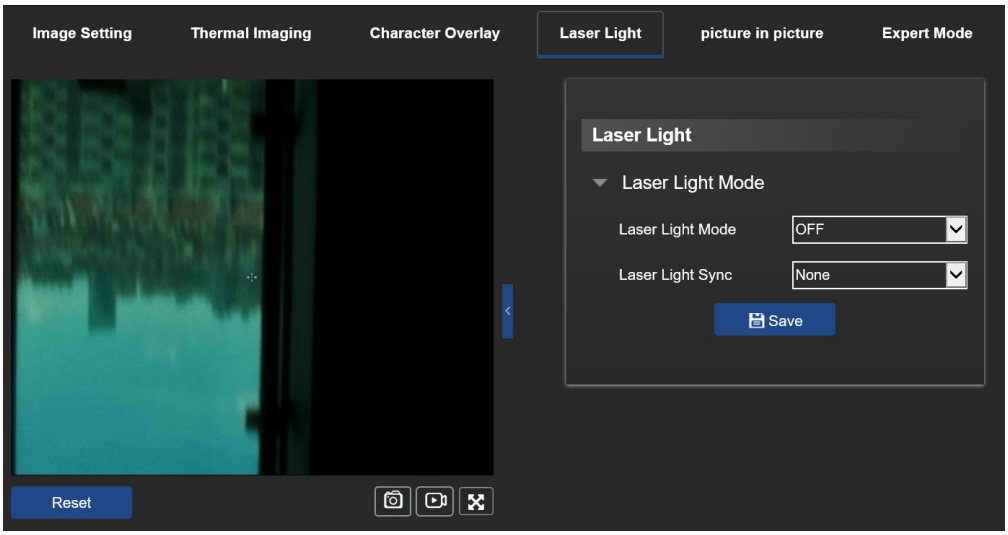


Figure 3-32 Laser Light Setting

The illumination is controlled based on the laser device configuration. A connection via RS-485 enables coordinated operation between the device and the laser.

Lighting options include Off, Manual, and Zoom Priority.

In Manual mode, both brightness and beam angle can be adjusted within a range of 0 to 100.

In Zoom Priority mode, the angle coefficient can be set between 0.4 and 1.6, allowing the lighting parameters to adjust automatically in sync with zoom level.

Illumination triggering modes include No Linkage, Day/Night Switch, and Scheduled Activation, allowing the light to turn on based on different conditions.

3.2.3.4. Picture in Picture

Configuration > Device >Image > Picture in picture

Purpose:

The Picture-in-Picture (PIP) mode allows simultaneous display of two video streams within a

single screen. A smaller secondary window is overlaid on the main video feed, enabling users to monitor a zoomed-in area or a different channel without losing sight of the overall scene.

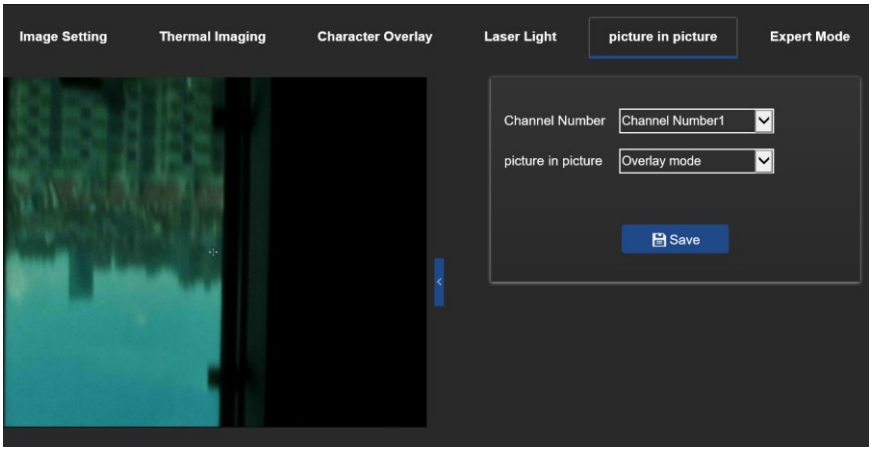


Figure 3-33 Picture in Picture Setting

3.2.4. System Settings

3.2.4.1. Device Information

Enter the Device Information interface: Configuration > Device > System Settings > Device Information

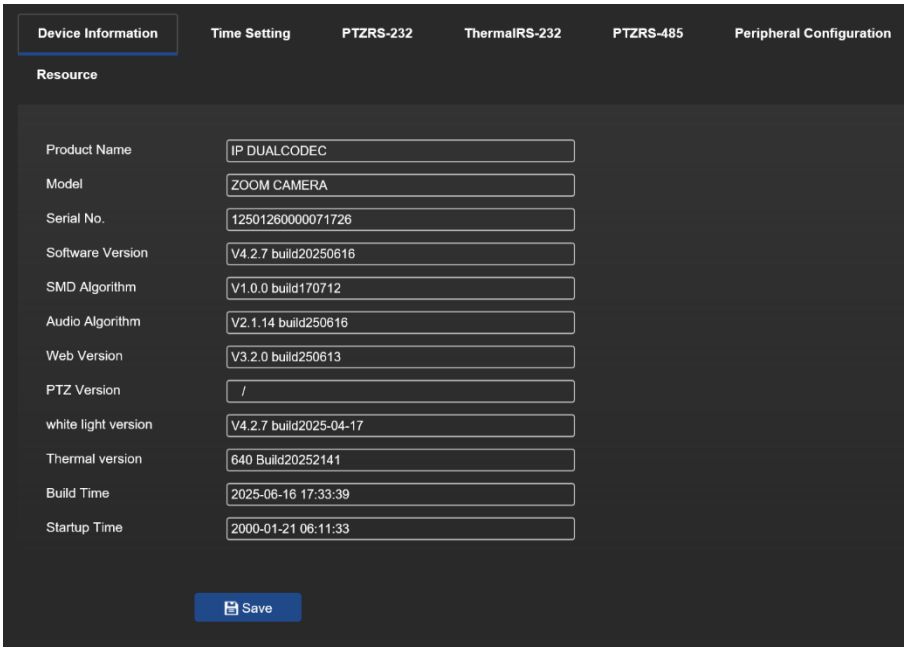


Figure 3-30 Device Information

1. The Device Information interface displays details such as Device Model, Serial Number, Software Version, and WEB Version.
2. You can edit the Device Name and click the Save button to apply the changes.

3.2.4.2. Time Setting

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 Day-light 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 > Device > System Settings > Time Setting

Configuring Time Synchronization Manually

Steps:

1. Check the **Manual Time Sync** radio button.
2. Click Save to save the settings.

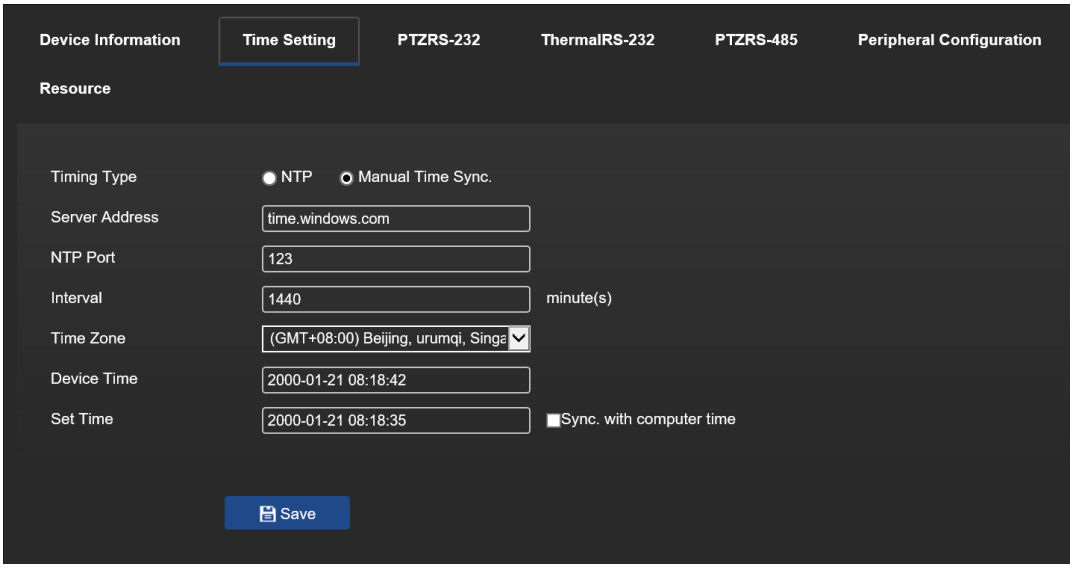


Figure 3-33 Time Settings

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, select the Time Zone in which the camera is located.

3.2.4.3. PTZRS-232&THERMAL RS232

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 PTU models.

Steps:

1. Enter RS-232 Port setting interface:

Configuration> Device > System Settings > RS-232

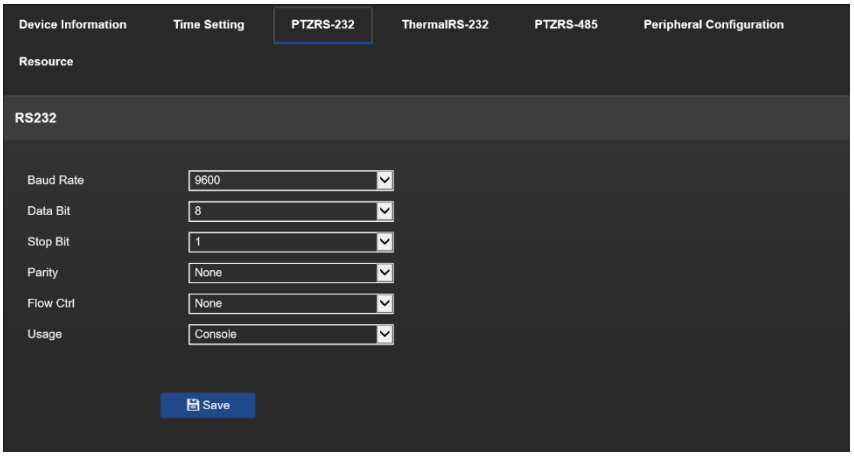


Figure 3-34 PTZRS-232 Settings

2. Configure the Baud Rate, Data Bit, Stop Bit, Parity, Flow Control, and Usage.
3. Click Save to save the settings.

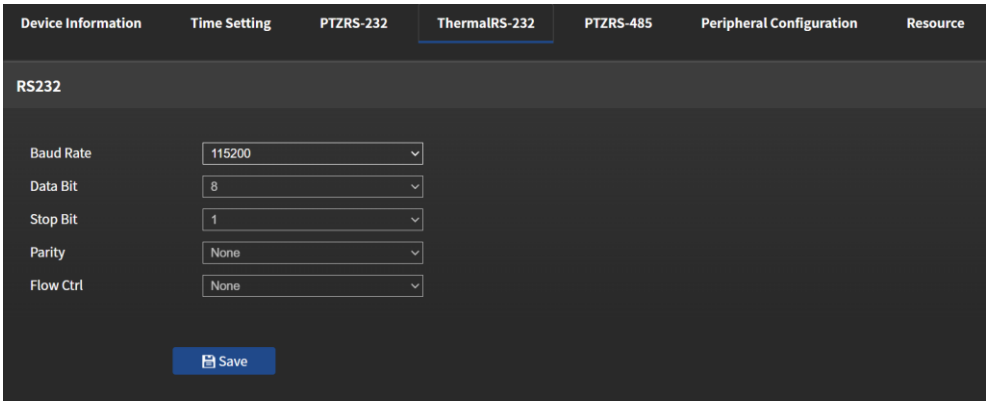


Figure 3-35 Thermal RS-232

4. Configure the Baud Rate, Data Bit, Stop Bit, Parity, and Flow Control.
5. Click Save to save the settings.

3.2.4.4. PTZRS-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 PTU.

Steps:

1. Enter RS-485 Port Setting interface:

   Configuration> Device > System Settings > RS-485

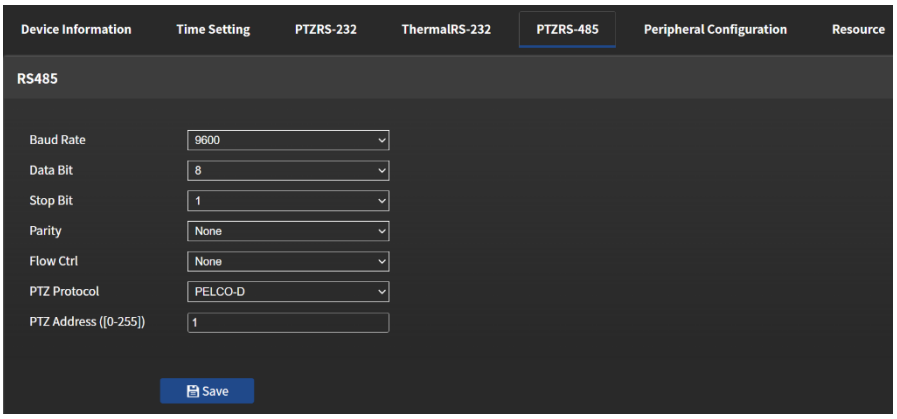


Figure 3-36 RS-485 Settings

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

Note:

- RS-485 function varies depending on different PTU models.
- The Baud rate, PTZ Protocol and PTZ Address parameters of the camera should be the same as those of the control device.

3.2.4.5. Peripheral Configuration

Purpose:

Enable coordinated control of different supplementary lights, such as infrared and white lights.

Steps:

1. Enter the Maintenance interface: **Configuration** > **Device** > **System Setting** > **Peripheral Configuration**

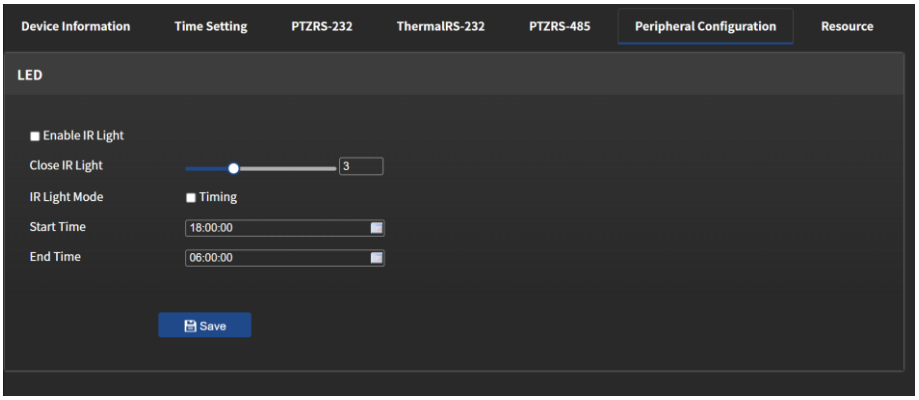


Figure 3-37 Peripheral Configuration

2. Enable IR Light: Turns on the supplementary light when enabled.
3. Close IR Light: Adjustable from 0 to 10.
4. Light Activation Mode: Timer mode available; the supplementary light operates within the preset time period.

3.2.4.6. Resource

Steps:

1. Enter the Maintenance interface:

   Configuration > **Device** > **System Setting** >**Resource**

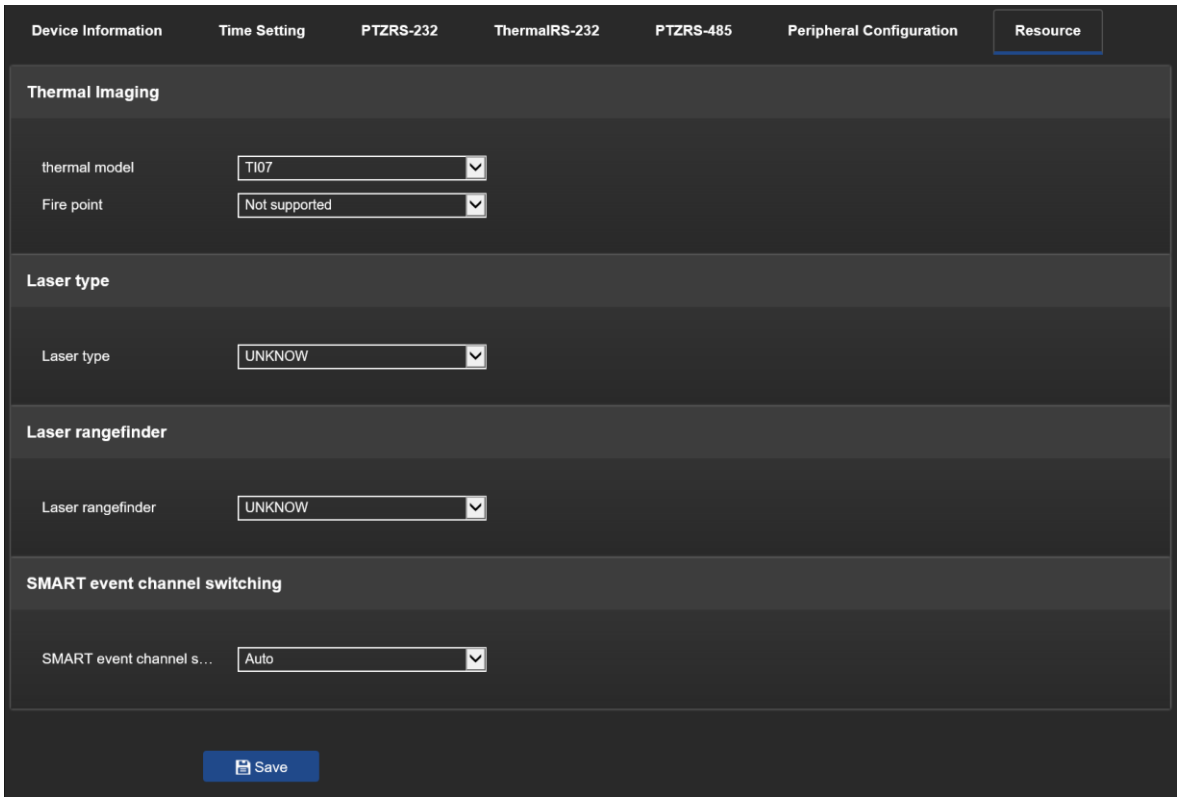


Figure 3-38 Resource

- **Thermal Imaging**: Select the appropriate thermal model
- **Laser Type**: Select the corresponding laser manufacturer.
- **Laser Model**: Select the appropriate laser model.
- **Laser Rangefinder Manufacturer**: Select the corresponding rangefinder manufacturer.
- **Rangefinder Model**: Select the appropriate rangefinder model.
- **SMART event channel switching**: Auto, Visible, Thermal is available.

3.2.5. Maintenance

Enter the Maintenance interface:

Configuration > **Device** > **Maintenance**

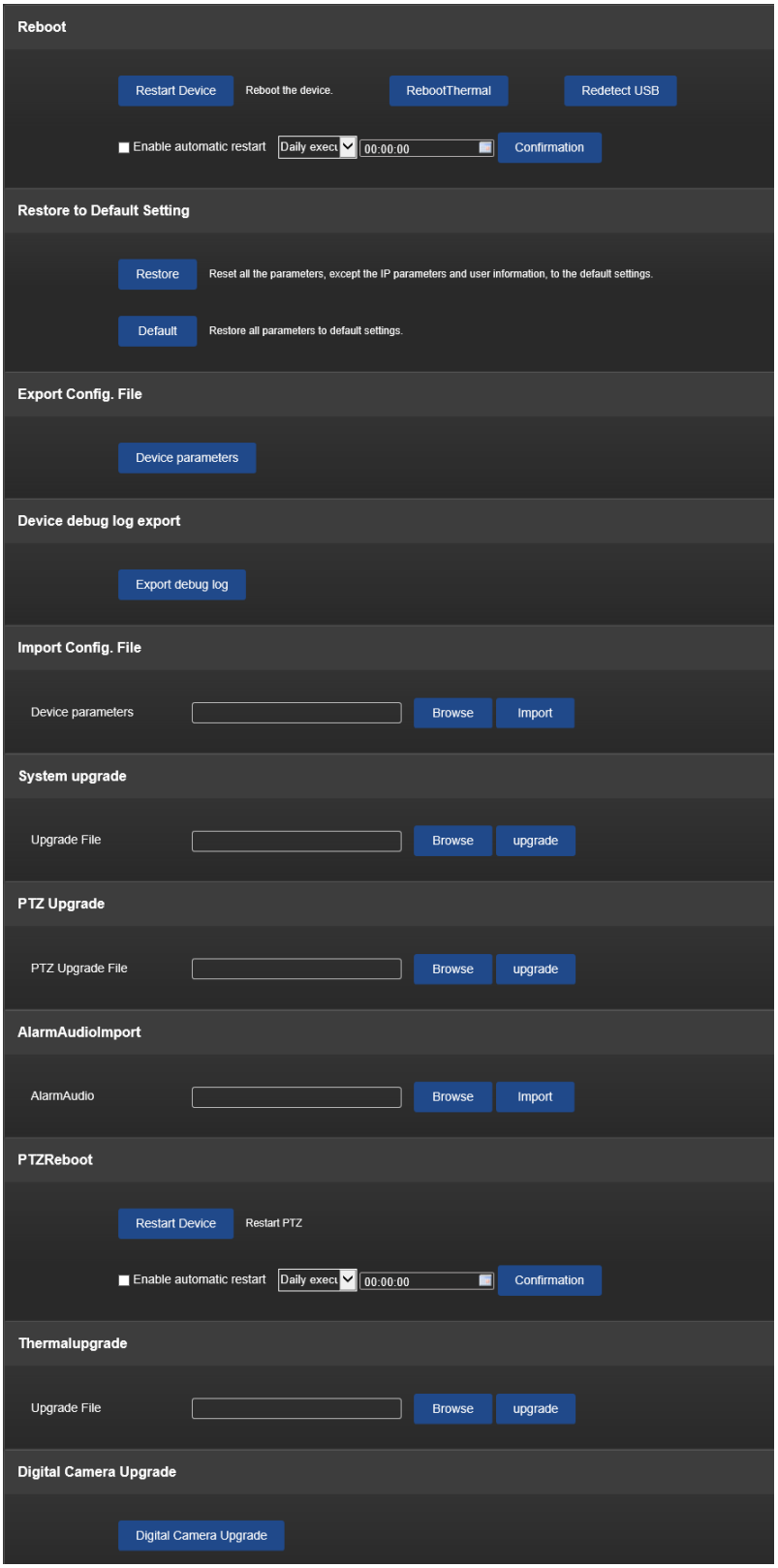


Figure 3-39 system maintain

Click Restart Device to reboot the network camera.

Restore to Default Setting

Steps:

1. Enter the Maintenance interface:

Configuration > Device > Maintenance

2. Click Restore or Default to restore the default settings.

Exporting Config. File

1. Enter the Maintenance interface:

   Configuration > Device > 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 Config. File

Steps:

1. Enter the Maintenance interface:

   Configuration > Device > 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.

System upgrade

Steps:

1. Enter the Maintenance interface:

   Configuration > Device > Maintenance

2. Click **Browse** to select the local upgrade file and then click **Upgrade** to start remote upgrade.

PTZ Upgrade

Steps:

1. Enter the Maintenance interface:

   Configuration > Device > Maintenance

2. Click **Browse** to select the local upgrade file and then click **Upgrade** to start remote upgrade.

Alarm Audio Import

Steps:

1. Enter the Maintenance interface:

   Configuration > Device > Maintenance

2. Click **Browse** to select the local upgrade file and then click **Upgrade** to start remote upgrade.

PTZ Reboot

Steps:

1. Enter the Maintenance interface:

   Configuration > Device > Maintenance

2. Click 

to reboot the network camera.

Thermal upgrade

Steps:

1. Enter the Maintenance interface:

   Configuration > Device > Maintenance

2. Click **Browse** to select the local upgrade file and then click **Upgrade** to start remote upgrade.

Digital Camera Upgrade

Click 

to update the digital camera.

3.2.6. Security

3.2.6.1. Security Service

1. Enter the Security Service interface:

   Configuration> Device > Security > Security Service

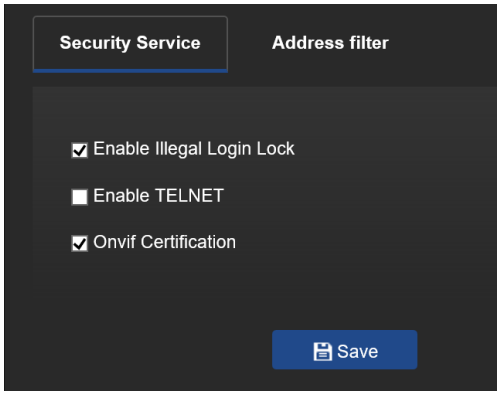


Figure 3-40 Security Service

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 attempts allowed is configurable.

3. Click 

to save the settings.

3.2.6.2. Address Filter

1. Enter the Security Service interface:

Configuration> Device > Security > Address Filter

Figure 3-41 Security Service

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.

(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.

(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 Save to save the setting.

3.2.7. Users Management

3.2.7.1. Users List

Enter the User Management interface:

Configuration > Device > User Management

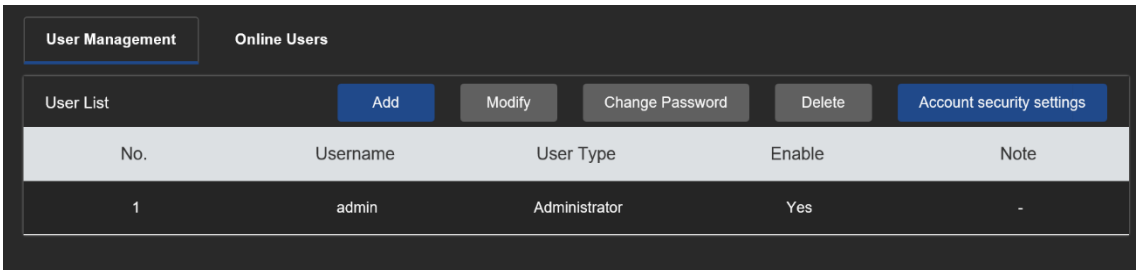


Figure 3-42 User Information

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 5 user accounts can be created.

Add a User

Steps:

1. Click Add to add a user.
2. Input the new **Username**, select **Level** and input **Password**.
3. In the **Permission Configuration** field, you can check or uncheck the permissions for the new user.
4. Click Ok to finish the user addition.

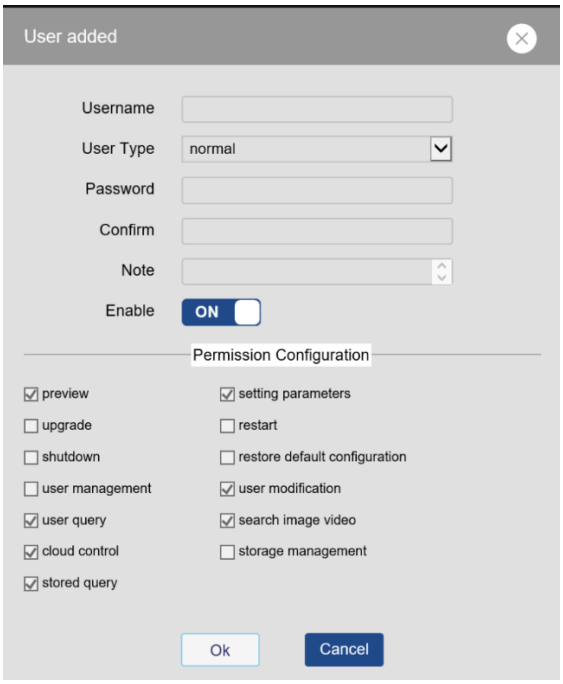


Figure 3-43 Add a User

Modify a User

Steps:

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

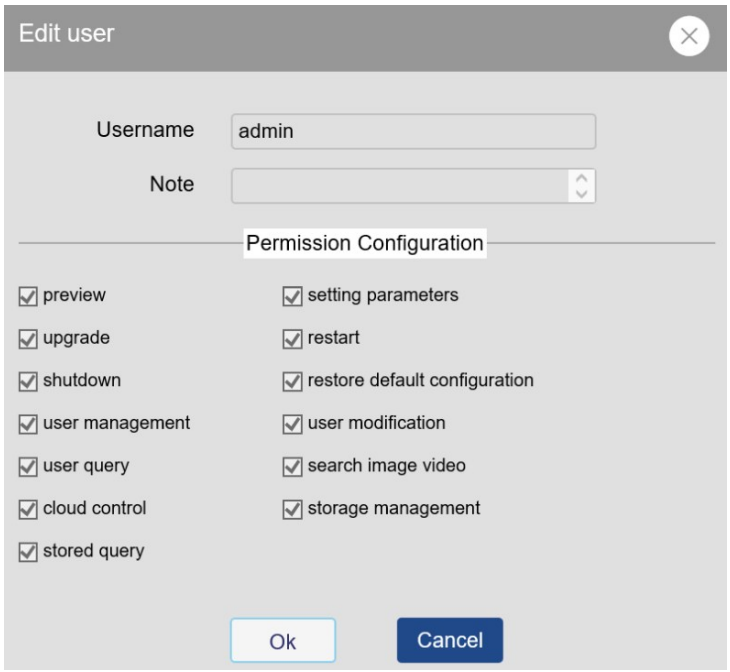


Figure 3-44 Modify a User

Change Password

Steps:

1. Click to select the user from the list and click Change Password.
2. Input a user-defined **Username, Original password, New Password,** and Confirm **the user-defined Password.**
3. Click Ok to finish the password changing.

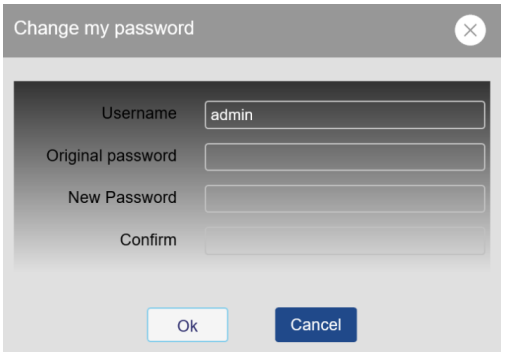


Figure 3-45 Change Password

Delete a User

Steps:

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

Account Security Setting

1. Click to select the user from the list and click Account security settings.
2. Configuration the security question and answer.
3. Click Ok to finish the user modification.

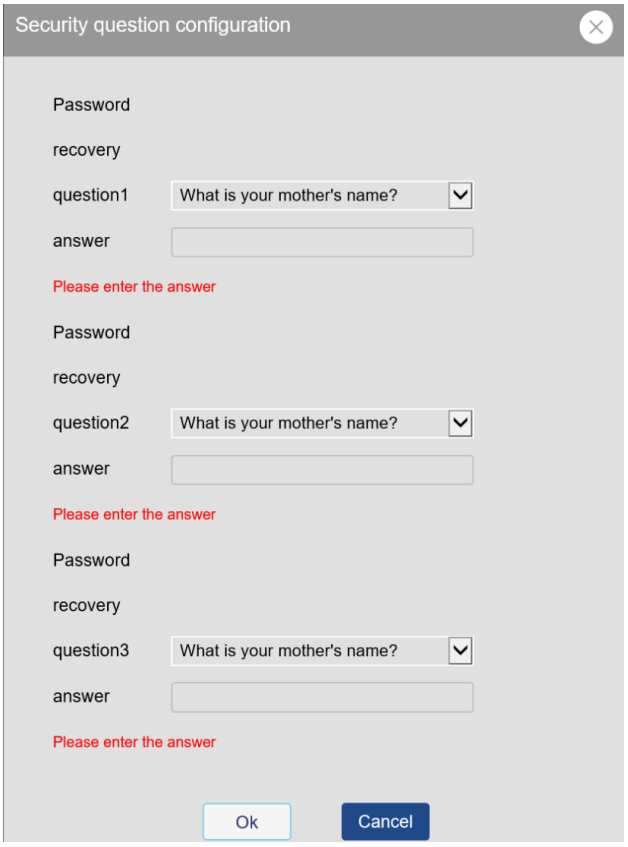


Figure 3-46 Account Security Setting

3.2.7.2. Online User

Enter the Online Users configuration interface:

Configuration > Device > User Management >Online User

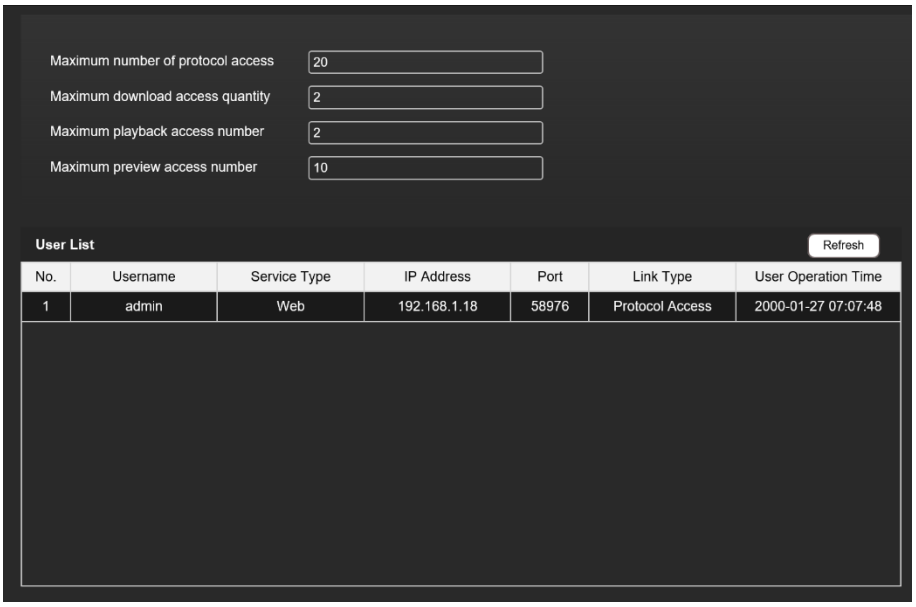


Figure 3-47 Online Users

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

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

3.3. PTZ

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

3.3.1. Basic

Steps:

1. Enter the Basic Settings interface:

   Configuration > PTZ > Basic

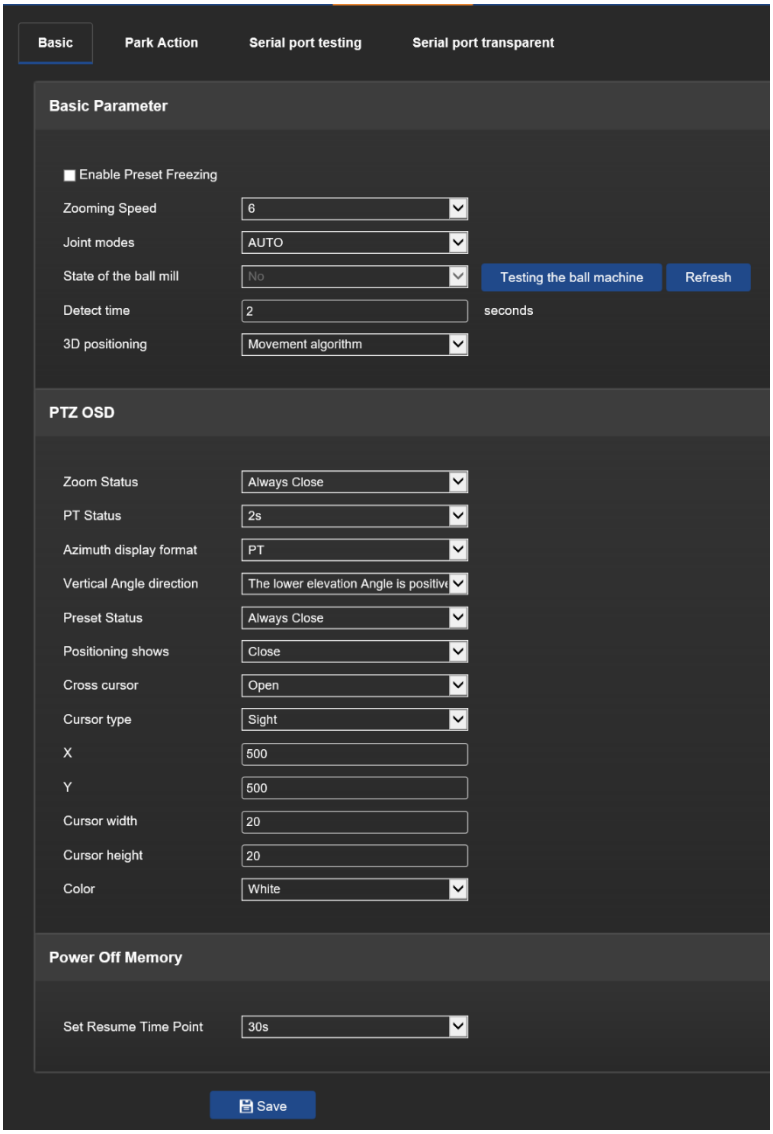


Figure 3-48 Basic Settings

Basic Parameters:

- **Enable Preset Freeze:**
  When enabled, the video will freeze momentarily while moving to a preset position.
- **Zoom Speed:**
  Sets the zoom speed of the device. A higher value results in faster zooming, while a lower value slows it down.
- **Dome Camera Status / Detection Interval:**
  When the integration mode is set to Auto, the device checks the PTZ status at intervals defined by the detection time setting.
- **Detect time**
- **3D positioning:** camera module algorithm, PTZ algorithm

PZT OSD

- **Zoom Status:** Set the OSD duration of zooming status as 2 seconds, 5 seconds, 10seconds, 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).
- **Azimuth display format:** PT, Direction
- **Vertical Angle direction:** The lower elevation Angle is positive, the upper elevation Angle is positive.
- **Positioning shows:** Close, GPS, Beidou, GPS + Beidou, Glonass + GPS
- **Cross cursor:** Open, Close
  The crosshair can be turned on or off. Its type, position (X/Y coordinates), size (height and width), and colour are all adjustable

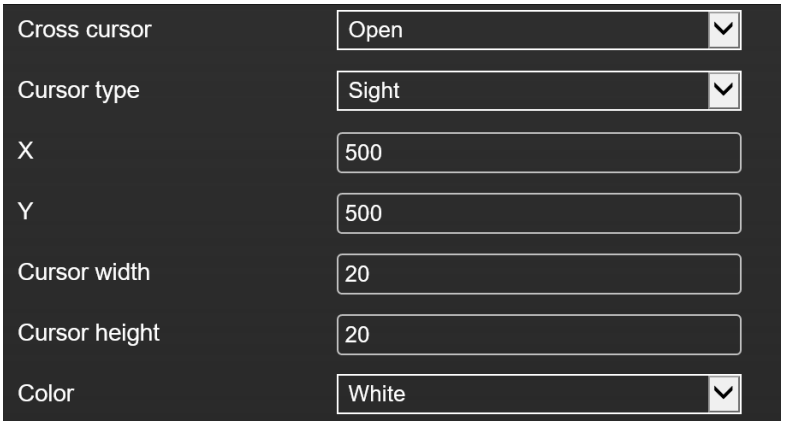


Figure 3-49 Cross cursor

- **Position Display Format:** Set the position display format as PT or Direction and the position parameter displays in corresponding format.
- **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 camera can resume its previous PTZ status or actions after it restarted from a power- off. You can

set the time point to which the camera 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.

Click Save to save the settings.

3.3.2. Park Actions

- Enter the Park Action settings interface:
  Configuration > PTZ > Park Action

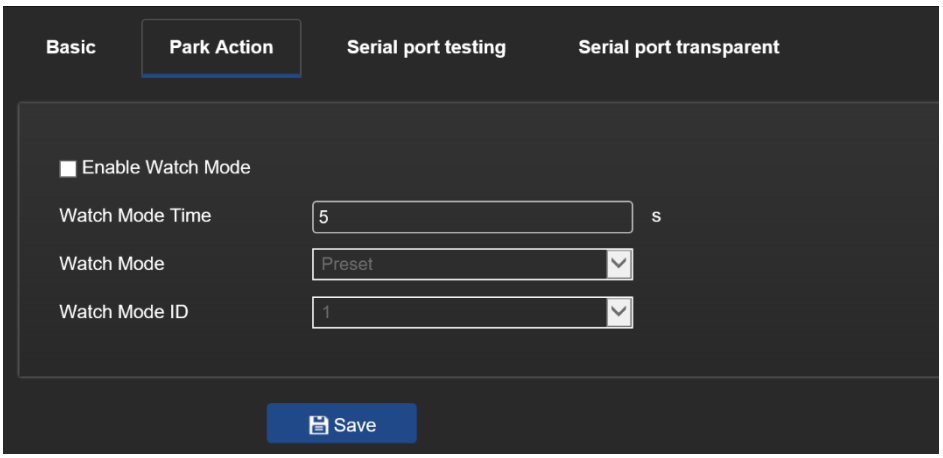
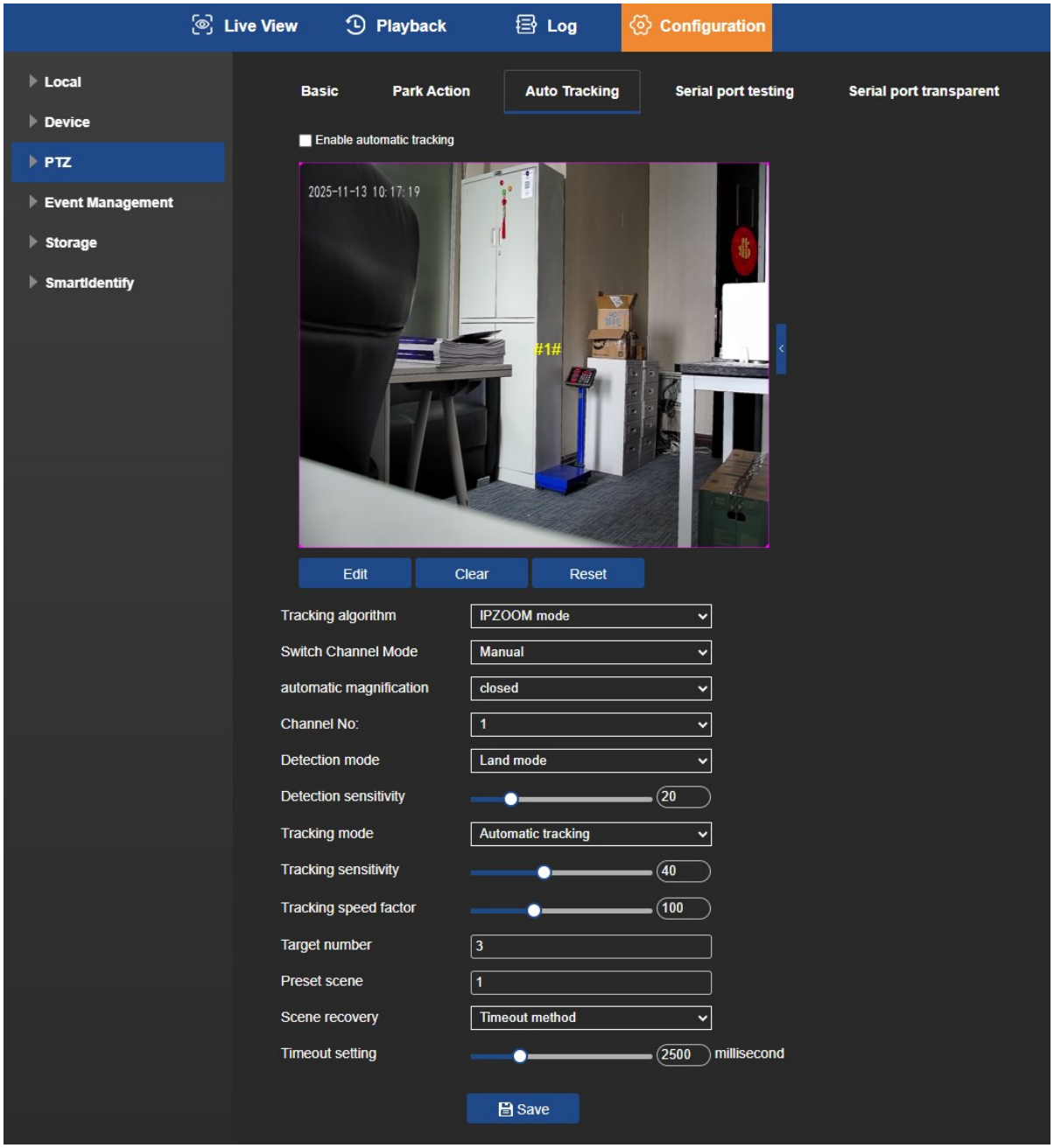


Figure 3-50 Set the Park Action

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

3.3.3. Auto Tracking

Click 'Configuration' > 'PTZ' > 'Auto Tracking' button to enter the device parameter interface, as shown in below.



Step 1: Check ‘Enable automatic tracking’ to enable the device tracking function.

Step 2: Setting of tracking detection area

- Add Drawing: Click ***Edit*** Drawing, click the left mouse button to draw quadrilateral detection endpoints, and then click the right mouse button to finish drawing the area after the first and last points are connected.
- Stop Drawing: Click ***Stop*** Drawing to end the region drawing.
- Clear All: Click ***Clear*** to clear all the regions drawn.
- Tracking Algorithm: you can choose ***IPZOOM*** mode and ***Pan tilt*** mode, IPZOOM mode sends pan/tilt speed to control PTU movement directly; Pan tilt mode sends the coordinates of the target in the image, and the PTU moves according to the coordinates converted by itself;
- Detection Mode: users can choose ***Land*** mode and ***Surface*** mode;
- Detection sensitivity: 1~100 values can be set;
- Tracking mode: ***Automatic tracking*** and ***Manual tracking*** can be selected; automatic tracking carries out tracking movement according to the objects recognised by the algorithm; manual tracking directly and manually frames a certain object for tracking movement;

- Tracking sensitivity: 1~100 values can be set;
- Tracking speed scale factor: 100~200 values can be set;
- Target Number: the upper limit of the number of targets detected by the algorithm, 1-~10 values can be set;
- Preset scene: after tracking is finished, the PTZ position returns to the preset orientation; 1~255 values can be set;
- Timeout setting: optional timeout mode and preset return feedback mode; after tracking is finished, return to the preset position, timeout mode needs to wait for the end of the timeout period for the next target detection, preset position return does not need to wait for the time, it will immediately execute the next target detection;

Step 3: After the setting is finished, click Save.

3.4. Event Management

3.4.1. Basic Event Configuration

3.4.1.1. 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.

1. Enter the motion detection setting interface:

   Configuration > Event > Basic Event > Motion Detection

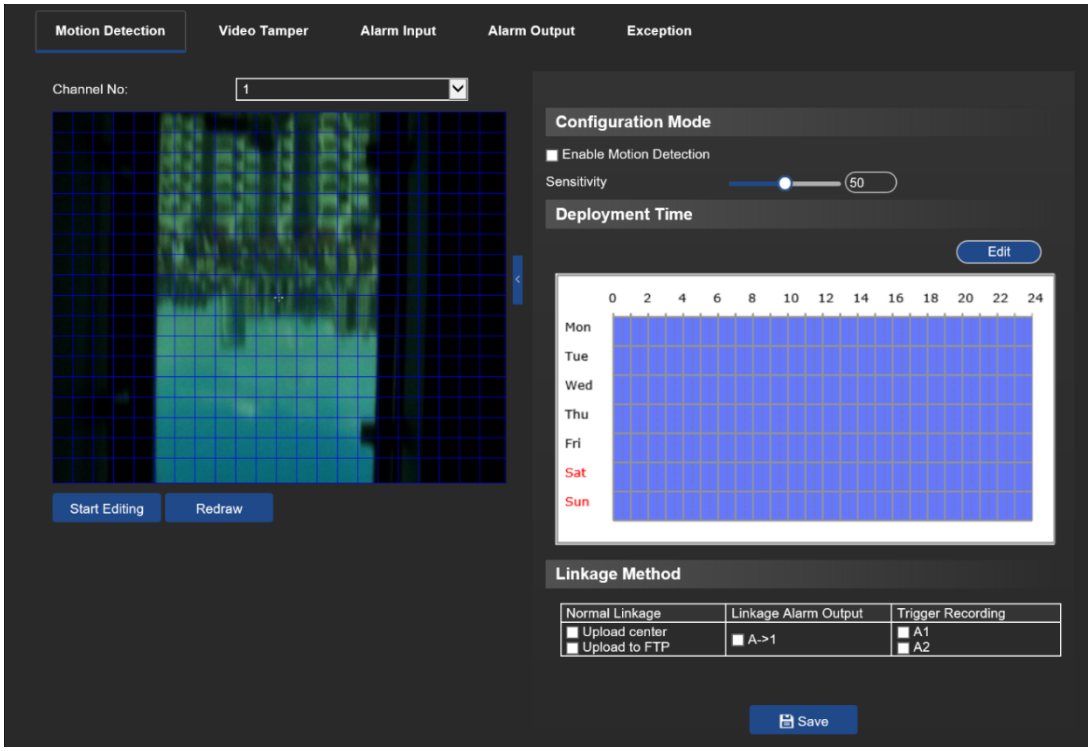


Figure 3-51 Motion Detection

2. Check the checkbox of the **Enable Motion Detection** to enable this function.
3. You can check the **Enable Motion Detection in PTZ Control** checkbox and when the PTU is performing PTZ action, motion detection can also trigger alarm.

4. Move the slider 

to set the sensitivity of the detection.

5. Click 

and drag the mouse onto the live video image to draw a motion detection area.

6. Click 

to finish drawing.

7. Set the **Alarm Schedule** for motion detection.

Steps:

(1) Click 

tab to enter the Deployment schedule setting interface.

(2) Select the timeline for a certain day.

(3) After you set the scheduled task, you can click 

and copy the task to other days(optional).

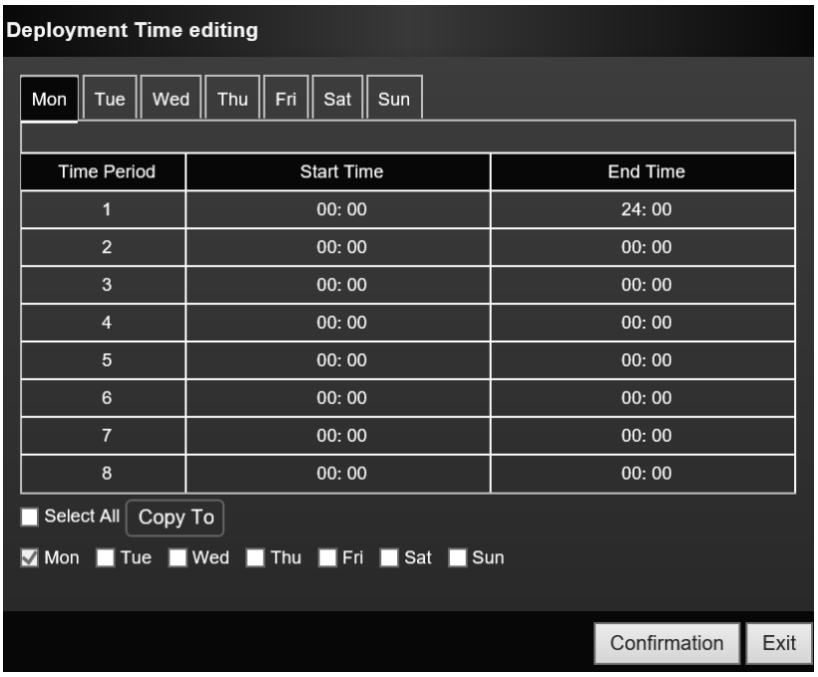


Figure 3-52 Deployment Time Setting

8. Set the Alarm Actions for motion detection

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

Check the checkbox to select the linkage method. Send Email, Upload Center, Upload to FTP, Trigger Alarm Output, and Trigger Recording are selectable.

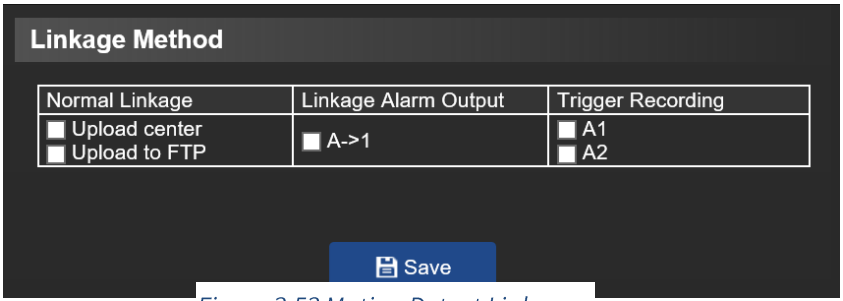


Figure 3-53 Motion Detect Linkage

3.4.1.2. Video Tamper

Purpose:

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

Steps:

1. Enter the Video Tampering settings interface:

   Configuration > Event > Basic Event > Video Tamper

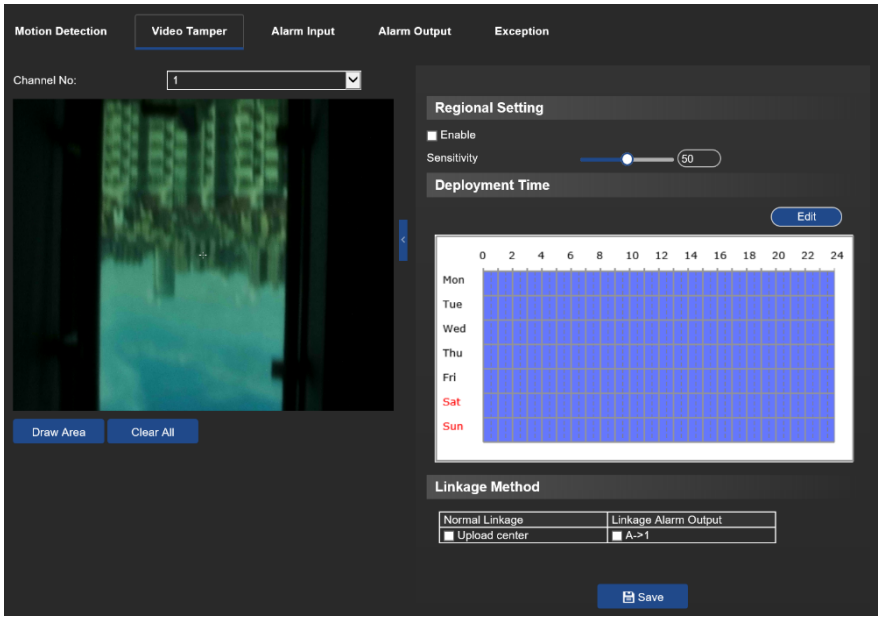


Figure 3-54 Tamper Alarm

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 Edit tab to enter the Deployment schedule setting interface. The Deployment schedule configuration is the same as the setting of the Deployment schedule for mobile detection.
6. Select the linkage method taken for tampering.
7. Click Save to save the settings.

3.4.1.3. Alarm Input

Steps:

1. Enter the Alarm Input settings interface:

   Configuration > Event > Basic Event > Alarm Input

2. Choose the Alarm Input No. and Alarm Type. The alarm type can be NO (Normally Open) and NC (Normally Closed).

3. Edit the name in "*Alarm Name*" to set a name for the alarm input (optional).

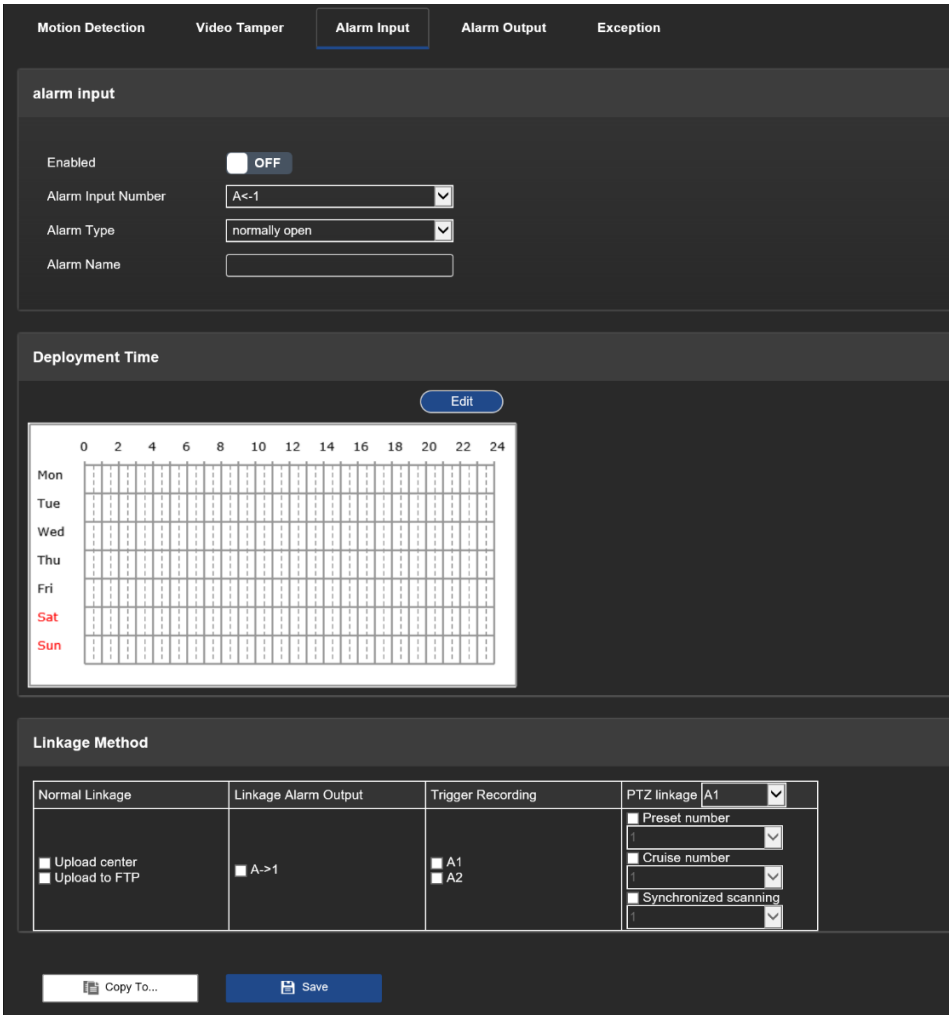


Figure 3-55 Alarm Input Settings

4. Click Edit tab to enter the schedule setting interface. The Deployment schedule configuration is the same as the setting of the Deployment schedule for mobile detection.
5. Select the linkage method taken for tampering.
6. You can copy your settings to other alarm inputs.
7. Click Save to save the settings.

3.4.1.4. Alarm Output

Steps:

1. Enter the Alarm Output settings interface:

   Configuration > Event > Basic Event > Alarm Output

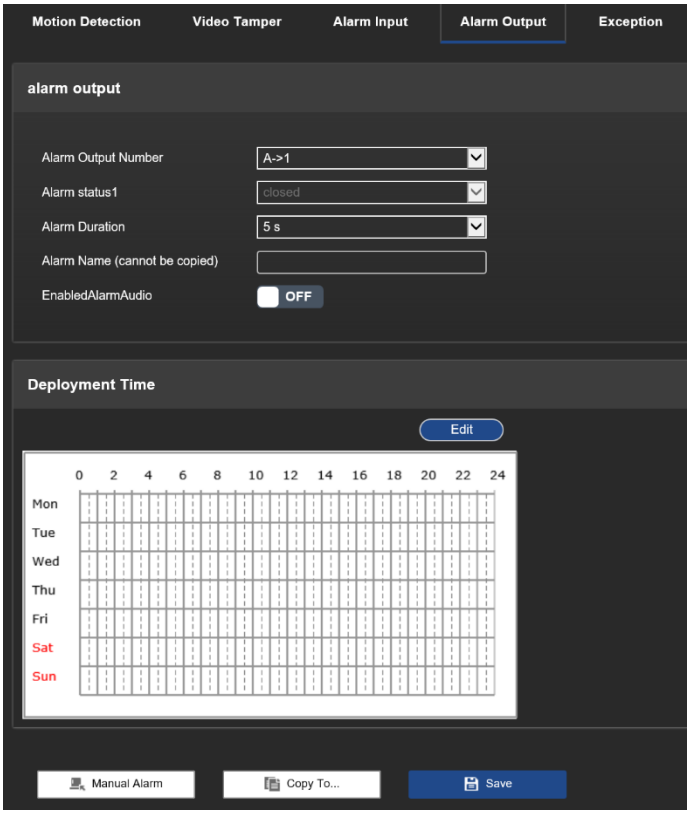


Figure 3-56 Alarm Input Settings

2. Select one alarm output channel in the **Alarm Output** dropdown list.
3. Set a name in "*Alarm Name*" for the alarm output
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 **Edit** tab to enter the Deployment schedule setting interface.
   The time schedule configuration is the same as the settings of the Deployment schedule for motion detection. You can copy the settings to other alarm outputs.
6. Click **Save** to save the settings.

3.4.1.5. Exception

Steps:

1. Enter the Exception Alarm settings interface:
   Configuration > Event > Basic Event > Exception

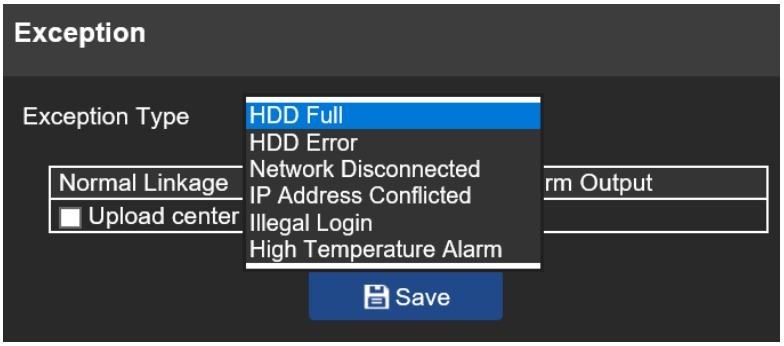


Figure 3-57 Exception

2. Types of Abnormal Events Include: HDD Full, HDD Error, Network Disconnected, IP Address Conflicted, Illegal

Login, High Temperature Alarm

3. When the device encounters any of the above conditions and the alarm linkage has been configured, an abnormal event alarm will be triggered automatically. Standard Linkage Actions: Email notifications and uploads to the central management system. Linked Alarm Output: Select the corresponding alarm output channel to be triggered.

3.4.2. Smart Event

3.4.2.1. Area Intrusion

Purpose:

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

Steps:

1. Enter the intrusion detection interface:

   Configuration > Events > Smart Event >Area Intrusion

2. Check the **Enable** checkbox.

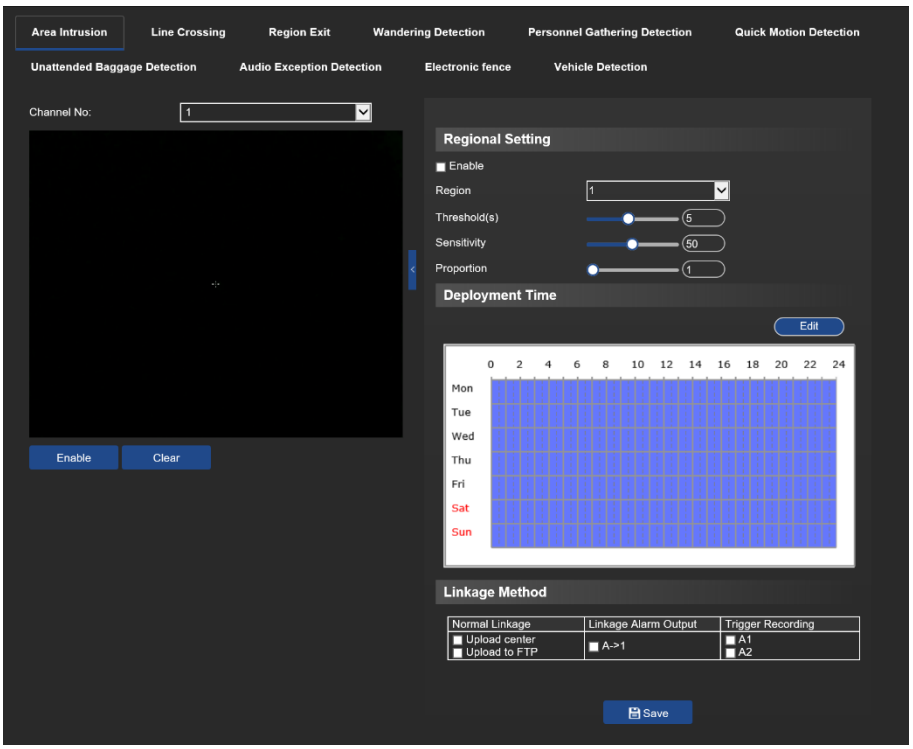


Figure 3-58 Configuring Intrusion Area

3. Select a region.

4. Draw area.

   (1) Select the Region No.in dropdown list.

   (2) Click Edit to draw a rectangle on the image as a defence region.

   (3) Click on the image to specify a corner of the rectangle, and right-click the mouse after four corners is configured.

5. Configure the parameters for each defence 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 triggerthe alarm, when the sensitivity is high, a very small object can trigger the alarm.
   - **Proportion:** indicates that the alarm message will be triggered when the area of the warning area invaded by the object reaches this percentage. The default value is 1.
6. Set the schedule configuration and linkage same as the setting for mobile detection.
7. Click Save to save the settings.

3.4.2.2. Line Crossing

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

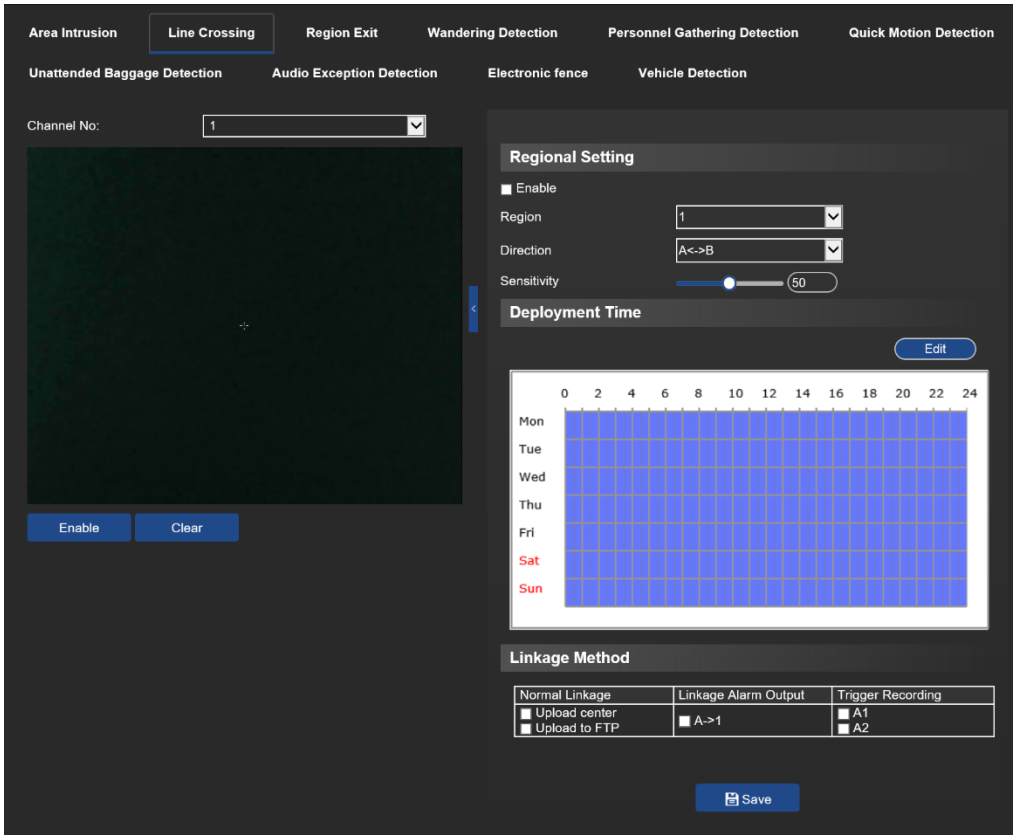


Figure 3-59 Configuring Line

2. Check the **Enable** checkbox to enable the line crossing detection function.
3. Draw area.
   1) Click Edit to draw a line on the image.
   2) 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 theline to adjust the location.

4. Configure the parameters for each defence 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.
5. Set the schedule configuration and linkage same as the setting for motion detection.
6. Click Save to save the settings.

3.4.2.3. Region Exiting

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***

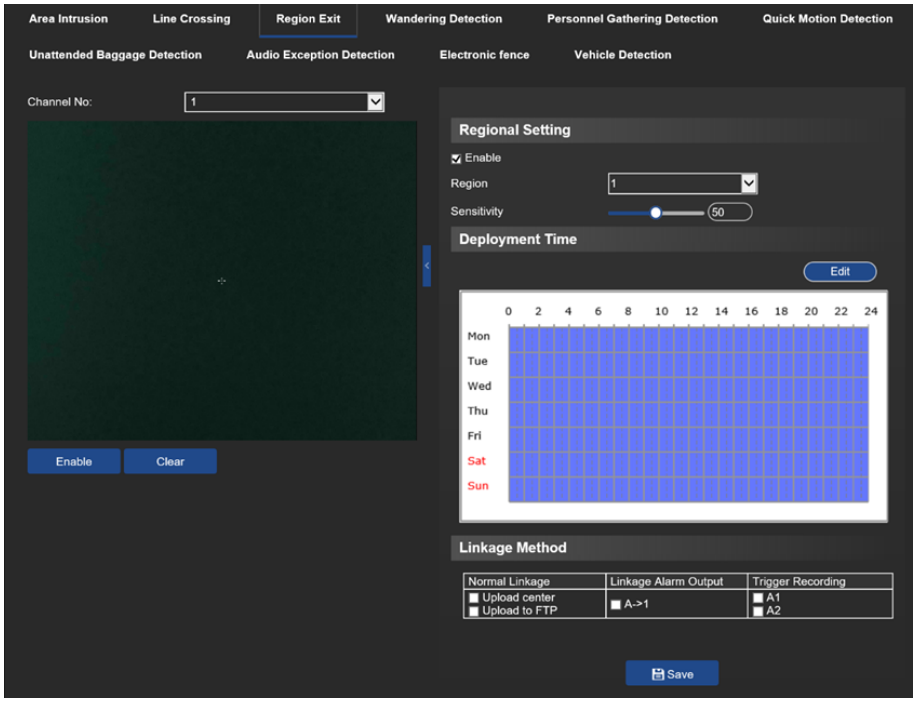


Figure 3-60 Configuring Region Exiting Detection

2. Check the checkbox of **Enable** to enable the Region Exiting Detection function.
3. Draw area.
   1) Click Edit to draw a line on the image.
   2) Click the line to switch to the editing mode.
   3) Drag an end to the desired place to adjust the length and angle of the line. And drag the line to adjust the location.
4. Configure the parameters for each defence 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.

5. Set the schedule configuration and linkage same as the setting for mobile detection.

6. Click  to save the settings.

Using same method for others smart Event:

3.4.2.4. Wandering Detection

3.4.2.5. Personnel Gathering Detection

3.4.2.6. Parking Detection

3.4.2.7. Quick Motion Detection

3.4.2.8. Unattended Baggage Detection

3.4.2.9. Electronic fence

3.4.2.10. Vehicle Detection

3.5. Storage

Before you start:

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

3.5.1. Schedule

3.5.1.1. Recording Schedule

Steps:

1. Enter the Record Schedule settings interface:

   Configuration > Storage > Schedule Settings > Record Schedule

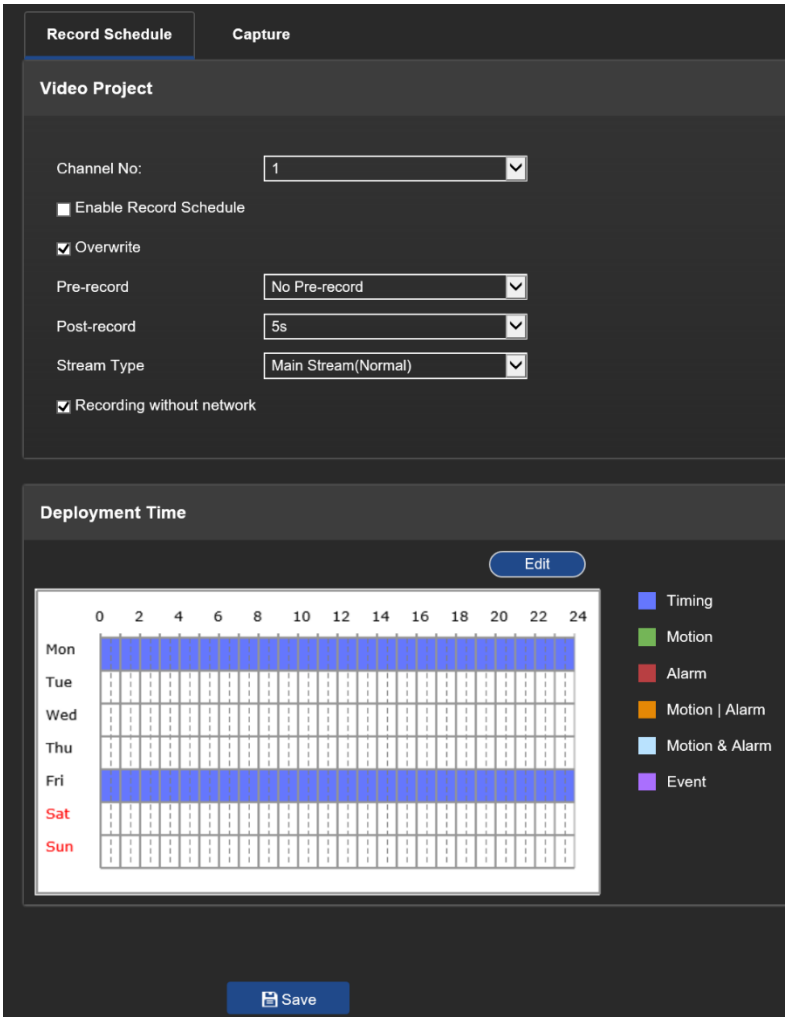


Figure 3-61 Recording Schedule Interface

- **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 ornot limited.
- **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-streamare selectable. If you select Sub-stream, you can record for a longer time with the same storage capacity.

2. Click **OK** to save the advanced setting.
3. 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.
   - **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.
   - **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.
   - **Record Triggered by Event:** If you select to record by event, the video will be recorded when any of the events is triggered.
4. Click  to save the settings.

3.5.1.2. Capture

Purpose:

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

Steps:

1. Enter the Snapshot settings interface:

   Configuration > Storage > Schedule Settings >Capture

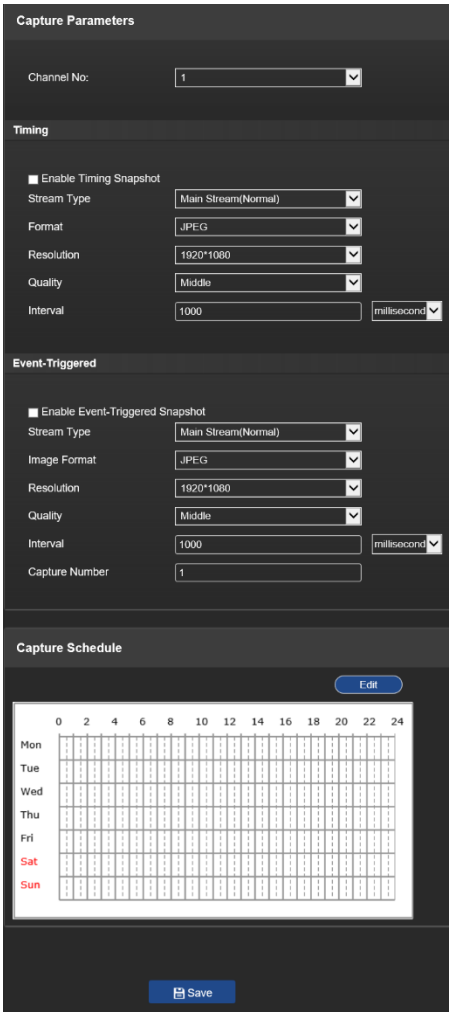


Figure 3-62 Capture Settings

2. You can select the stream type of capture.
3. 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.
4. Select the format, resolution, quality of the snapshot.
5. Set the time interval between two snapshots.
6. Set Capture Number for every capture action.
7. Set the schedule configuration same as the setting for mobile detection.
8. Click Save to save the settings.

3.5.2. Storage Management

3.5.2.1. Net HDD

Before you start:

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

Steps:

1. Add the network disk

1) Enter the NAS (Network-Attached Storage) settings interface:

Configuration > Storage > Storage Management > Net HDD

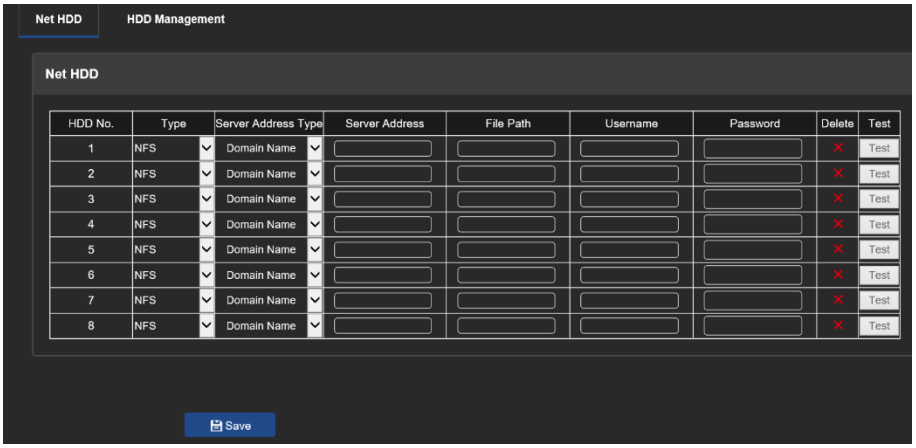


Figure 3-63 Setting Net HDD

2) Select the mounting type. NFS and SMB/CIFS are selectable. You can set the username and password to guarantee security if SMB/CIFS is selected.

3.5.2.2. HDD Management

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.

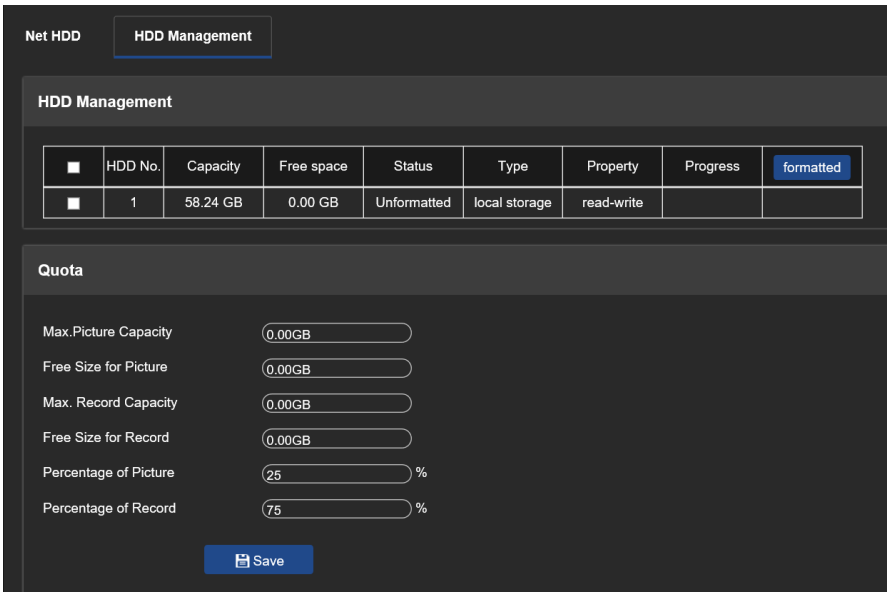


Figure 3-64 Storage Management Interface

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

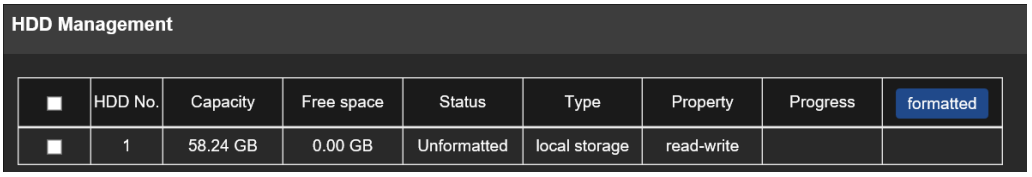


Figure 3-65 View Disk Status

3.5.3. Download Storage

3.5.3.1. Picture

Purpose:

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

Steps:

1. Click “Picture” on the menu bar to enter 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.

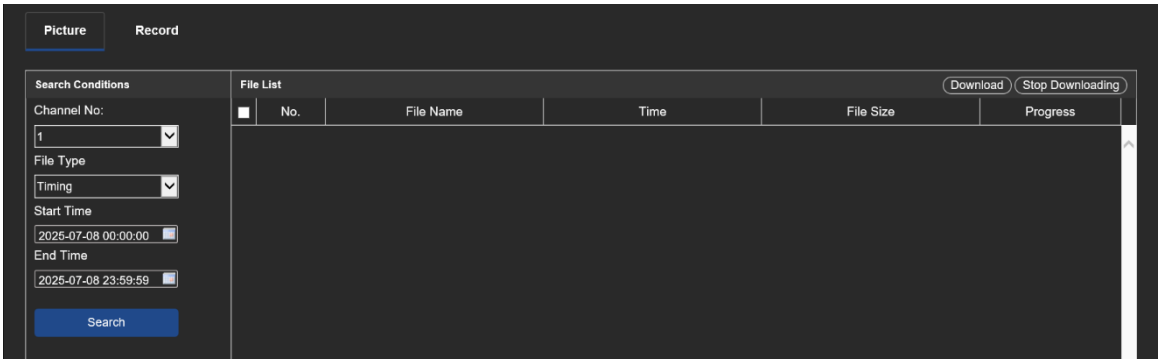


Figure 3-66 Picture Interface

3.5.3.2. Record

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.

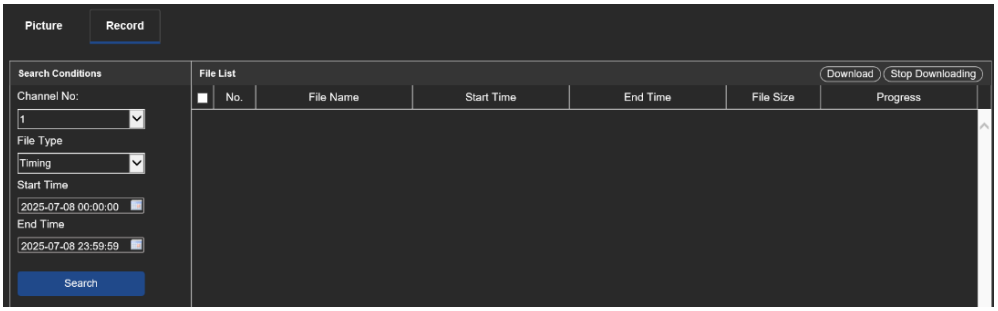


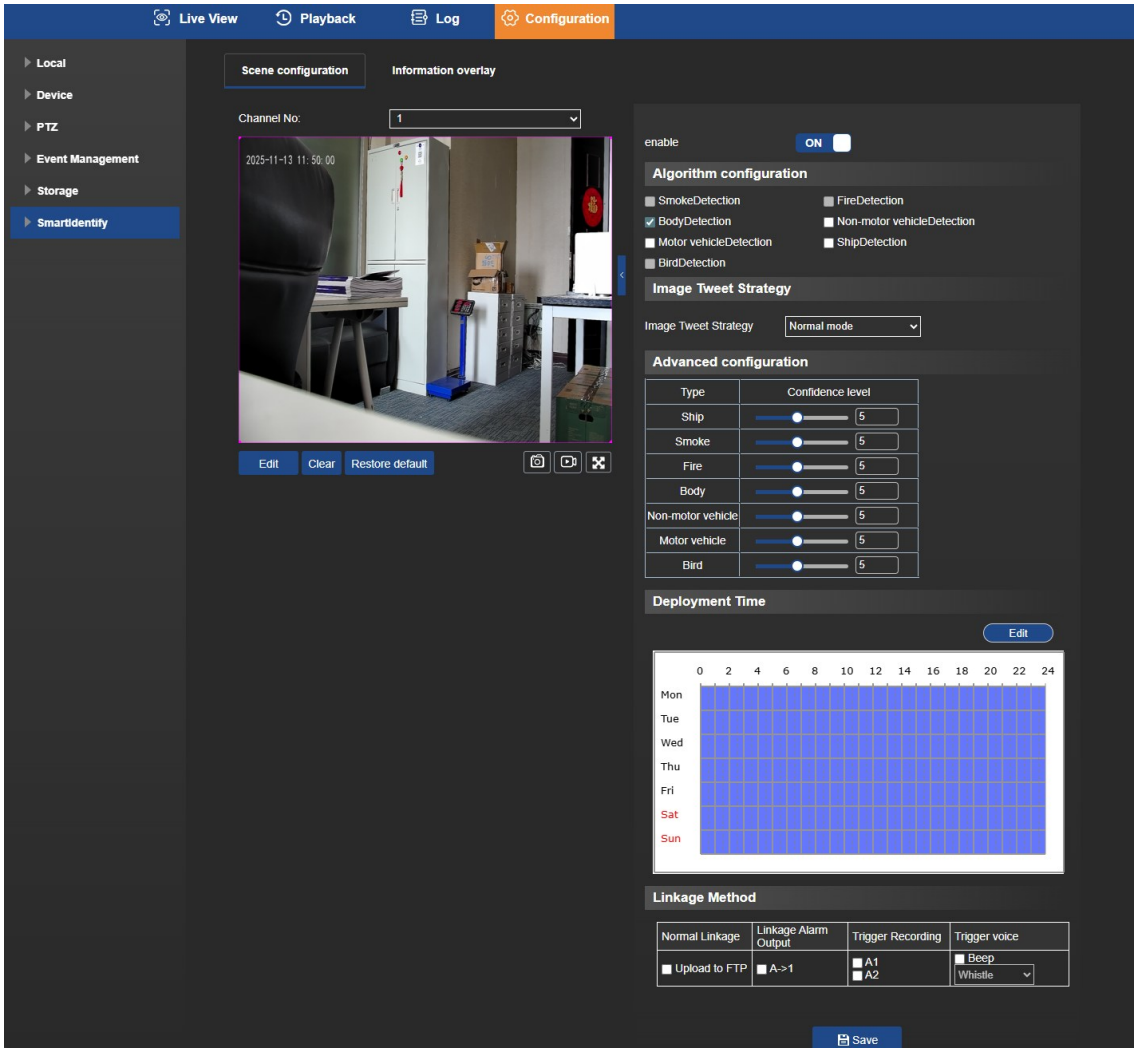
Figure 3-67 Video Downloading interface

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

3.6. SmartIdentify

3.6.1. Scene configuration

The menu through intelligent algorithms from the video screen to identify specific target objects capture, extract the target attributes, based on the results of triggering the alarm, video, tracking and other linkage actions.



Step 1: Select the video channel, Day for channel 1 and Thermal for channel 2.

Step 2: Enable this function

Step 3: Configure the type of target object to be recognised, e.g. person, car, vessel, etc. Note that due to the performance limitations of the device, it is not possible to select all options in full.

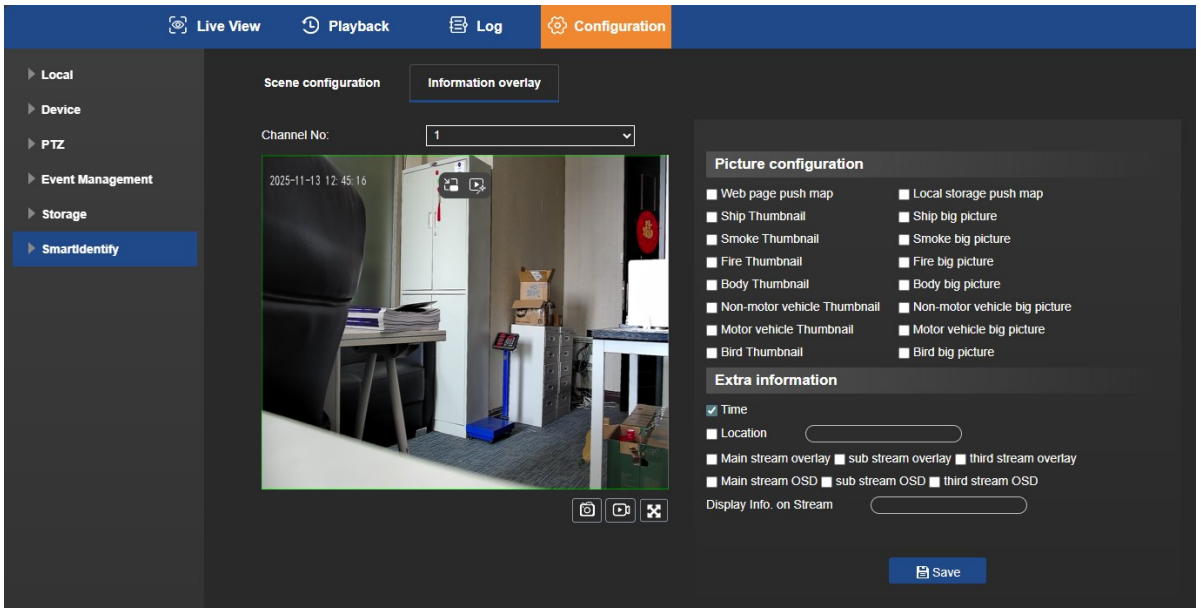
Step 4: Image Tweet Strategy, Normal mode, after detecting the disappearance of the target or the disappearance of the detection frame, a picture will be pushed; fast mode, the target will be pushed immediately, and the picture will be pushed according to the set parameters of the number of pushes and the interval between pushes.

Step 5: Advanced configuration, Confidence level, 1~10 levels can be matched, the higher the confidence level, the lower the false detection rate, the higher the target requirements to be detected.

Step 6: Set the schedule configuration and linkage same as the setting for mobile detection.

Step 7: Save the configuration.

3.6.2. Information overlay



Step 1: Select the video channel, Day for channel 1 and Thermal for channel 2.

Step 2: Picture configuration, Configure the type of image of the recognised object (thumbnail/big picture), as well as the display and saving methods (WEB page push/store to TF card).

Step 3: Extra information, Configuration of overlay characters for captured images.

Step 4: Save the configuration.