

LINOVISION

# Network Cameras Module

## User Manual

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## Safety Instruction

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

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

Icon	Description
	<b>Statement</b>
	<b>Cautions</b> Follow these precautions to prevent potential injury or material damage.
	<b>Warnings</b> Follow these safeguards to prevent serious injury or death.



#### **Warnings:**

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



#### **Cautions :**

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

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

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# 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. User can access to video browsing and configuration through a browser or client software. The built-in optical 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.

## 1.2 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

# Chapter 2 Network Connection



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

## Before you start

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

## 2.1 Wiring over the LAN



- You shall acknowledge that the use of the product with Internet access might be under network security risks. For avoidance of any network attacks and information leakage, strengthen your own protection. If the product does not work properly, contact with your dealer or the nearest service center.
- To ensure the network security of the network camera, we recommend you to have the network camera assessed and maintained timely. You can contact us if you need such 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 the Figure 2-2 to set the network camera over the LAN via a switch or a router.

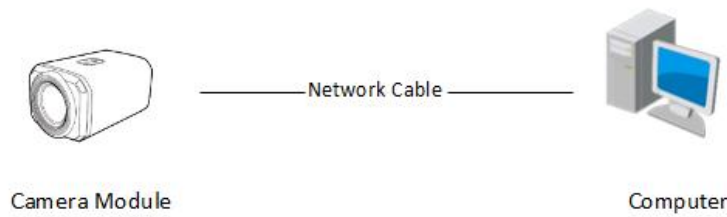


Figure 2-1 Connecting Directly

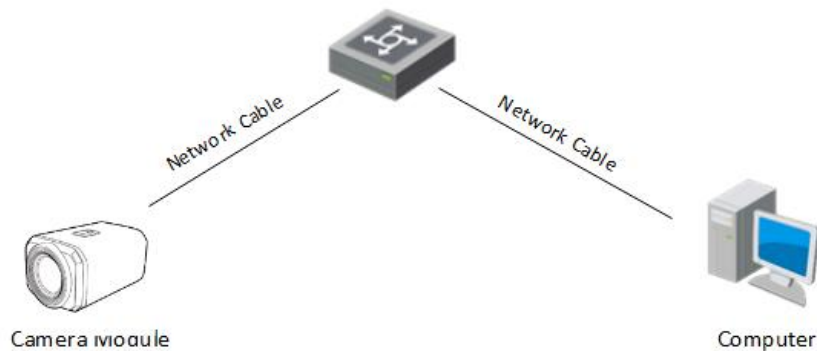


Figure 2-2 Connecting via a Switch or a Router

## 2.2 Activating the Camera

### Purpose:

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

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

In order to protect your personal privacy and corporate data, and avoid cybersecurity issues, setting 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

### 2.2.1 Activation via IPSearch Software

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

#### Steps:

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



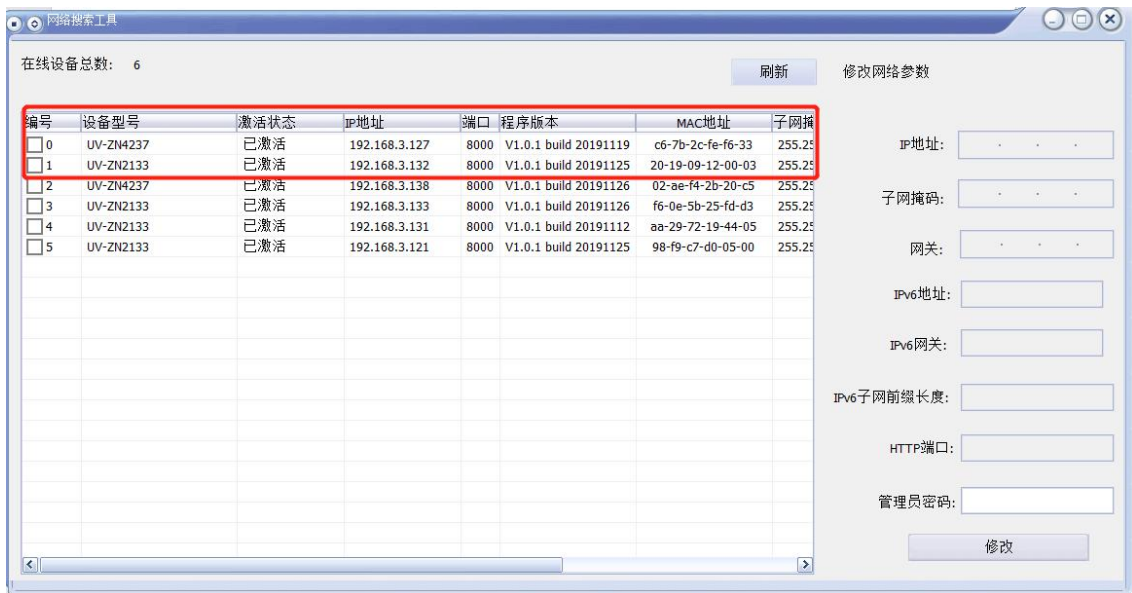


Figure 2-3 IPSearch Interface

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

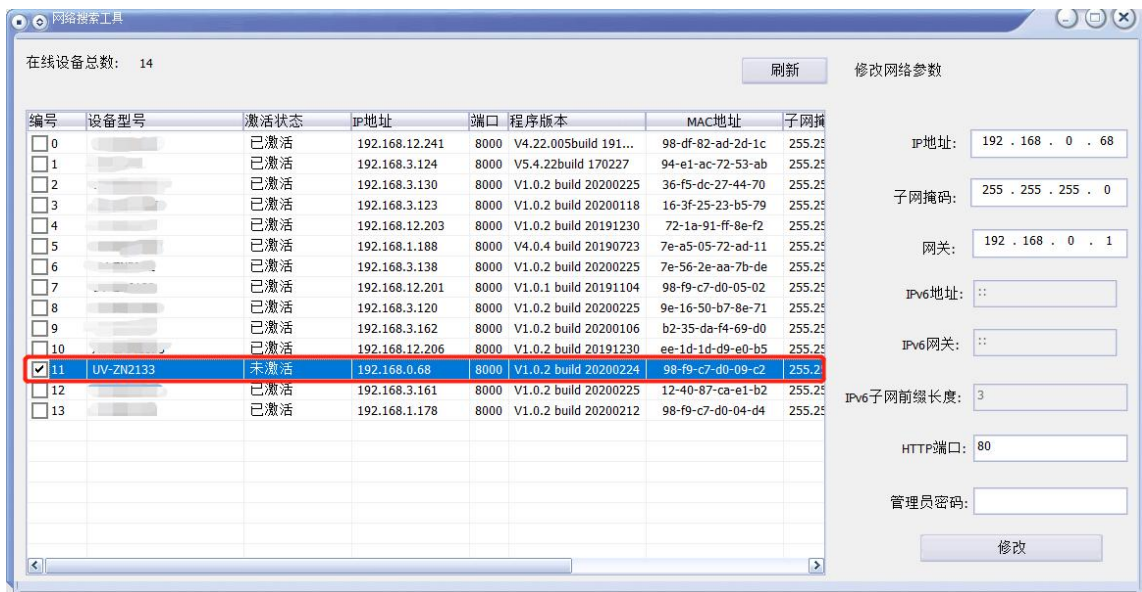


Figure 2-4 Device Active

## 2.2.2 Accessing by Web Browsers

### Steps:

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

First Login

User Name

Password

8 to 16, can only use numbers, lowercase letters, uppercase letters, special characters, combination of two or more

Confirm

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 Login

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

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

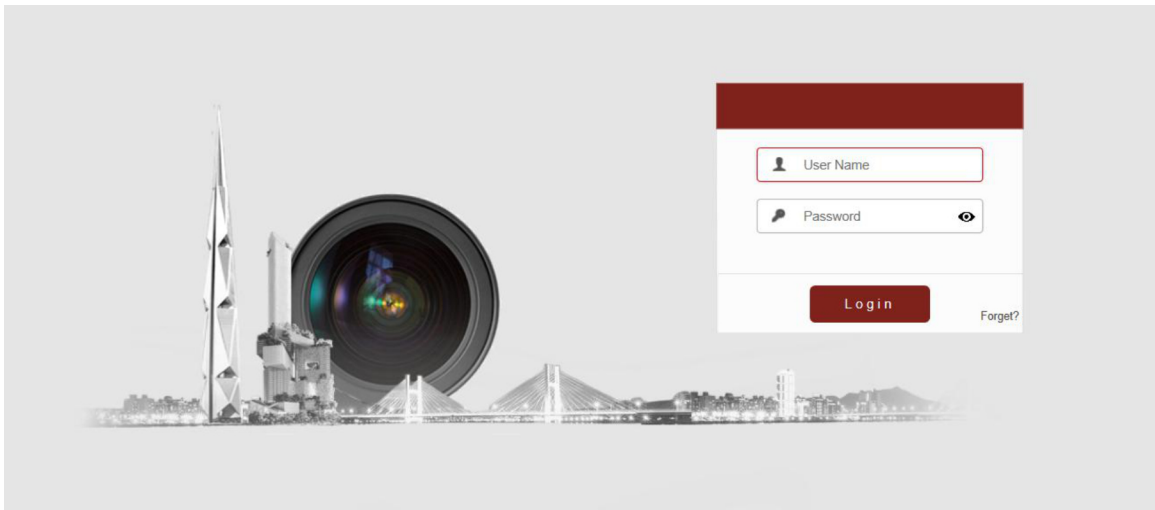


Figure 2-5Login

**Note:**

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

## 2.3.2 Logout

click "Logout" to log out

## 2.4 Starting Live operation

### 2.4.1 Live Operation

In the live view window as shown in Figure 2-3,click  on the toolbar to start the live view of the network.

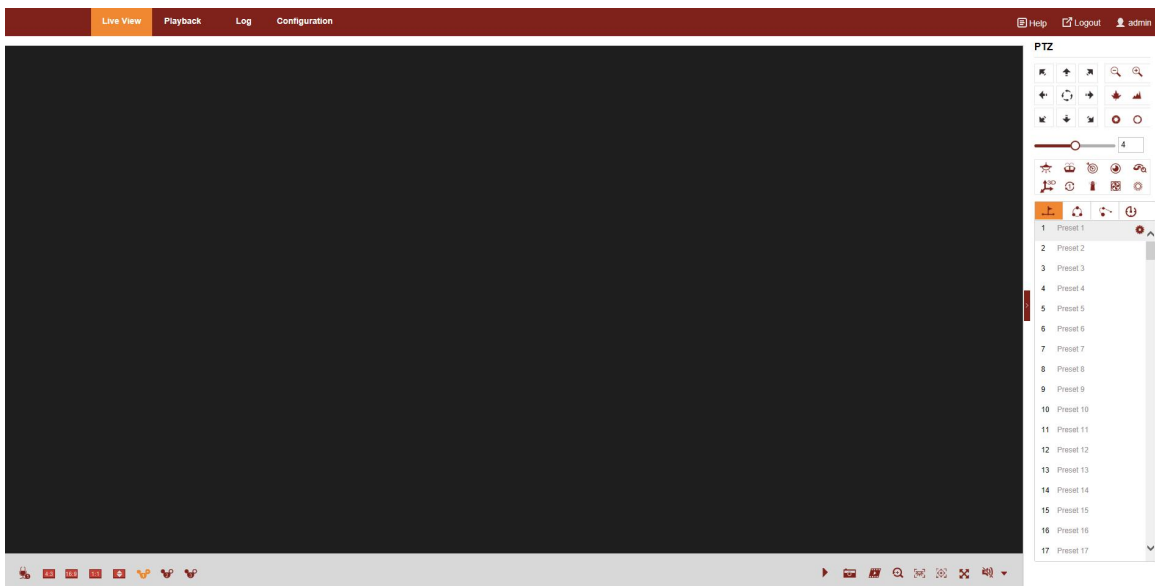






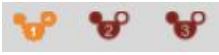















Figure 2-6Start Live view

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 main stream is with a relatively high resolution and needs more bandwidth. The default setting of stream type is .
	<p style="text-align: center;"><b>Steps:</b></p> <ol style="list-style-type: none"> <li>1. Click  and it appears . Click  to enable two-way audio when the icon turns into .</li> <li>2. Click the icon again to stop two-way audio.</li> </ol>
	Start/stop Live view.
	Manually capture the pictures.
	Manually start/stop recording.
	<p><b>Steps:</b></p> <ol style="list-style-type: none"> <li>1. Click the button to enable Digital Zoom function.</li> <li>2. Draw a rectangle on the image as the target area, and the area will be zoomed in.</li> <li>3. After viewing, you can click any place of the picture to get back to normal picture.</li> </ol>
	Click the button to enter the regional exposure operation mode. Draw a rectangle on the image as target exposure region.
	<ol style="list-style-type: none"> <li>1. Click the button to enter the regional focus operation mode.</li> <li>2. Draw a rectangle on the image as the target focus region.</li> </ol>
	Preview into full screen mode, press space bar or Esc to exit full screen mode.



## 2.4.2 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.

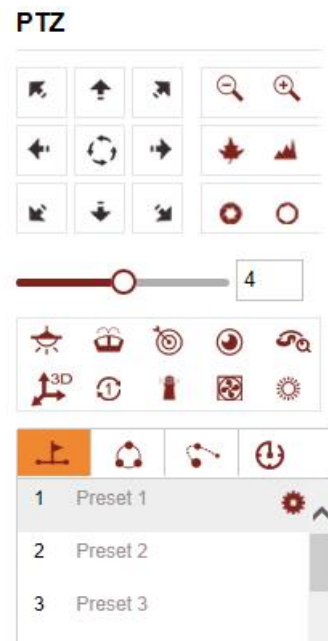
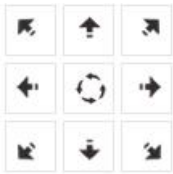













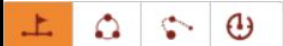


Figure 2–8PTZ Control Panel

Table 2–2 Descriptions of PTZ Control Panel

Button	Name	Description
	PTZ Control Panel	<p>Hold and press the directional button to pan/tilt the camera.</p> <p>Click , then the camera keeps panning when the icon turns into . Click the icon again to stop the camera.</p>
	Zoom out/in	<p>Click , then the lens zooms in.</p> <p>Click , then the lens zooms out.</p>
	Focus near/far	<p>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.</p>
	Iris close/open	<p>When the image is too dark, click  to enlarge the iris. When the image is too bright, click  to stop down the iris.</p>
	Auxiliary Functions	<p>Light, Wiper, Auxiliary Focus, Lens Initialization, Manual Tracking, 3D Positioning, One-touch Patrol, One-touch Park, Defog, Heater</p>
	Speed Adjustment	Adjust speed of pan/tilt movements.
	Preset	Refer to <b>Setting/Calling a Preset</b> for detailed information of setting preset.
	Patrol	Refer to <b>Setting/Calling a Patrol</b> for detailed information of setting patrol.

	Pattern	Refer to <b>Setting/Calling a Pattern</b> for detailed information of setting pattern.
--	---------	--

## 2.4.3 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 2–9Setting a Preset

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

### ● 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.



## 2.4.4 Setting/Call a Cruise

### Purpose:

A Cruise is a memorized series of preset function. 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 a Patrol:

#### Steps:

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

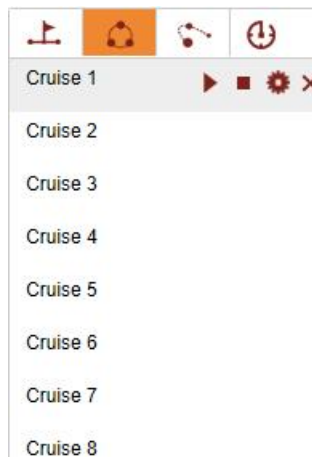




Figure 2-10

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.

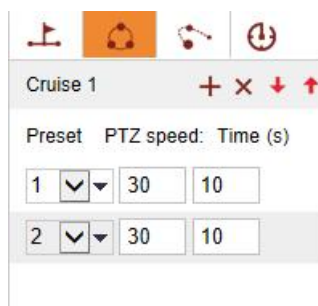


Figure 2-11 Adding Presets

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

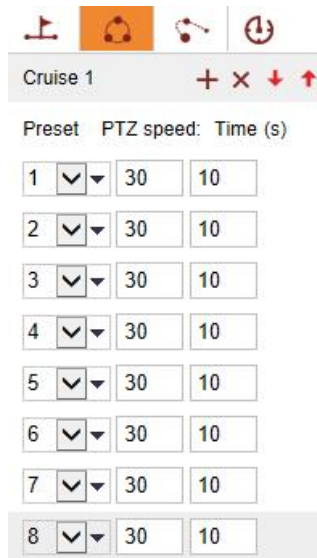



Figure 2-12 Configure Presets

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.

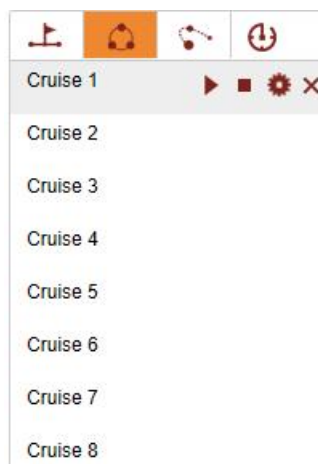


Figure 2-13 Call Cruise

## 2.4.5 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:







1. In the PTZ control panel, click  to enter the pattern settings interface, as shown in Figure 2-14.



Figure 2-14 Patterns Settings Interface

2. Click  to start the pattern.
3. Click  to stop 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.


## 2.4.6 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.

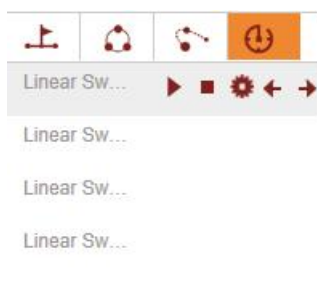






Figure 2-15 Linear Sweep Settings Interface

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;

## 2.5 Playback

### Purpose:

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

### Play Back Video Files

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

### Steps:

1. Click **Playback** on the menu bar to enter playback interface.

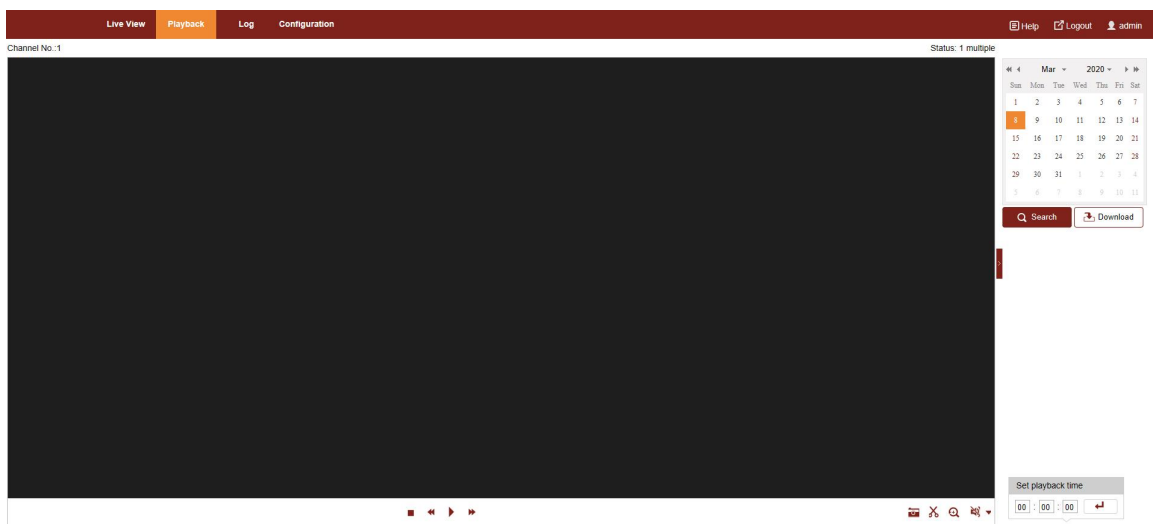


Figure 2-16 Playback Interface

2. Select the date and click **Search**.

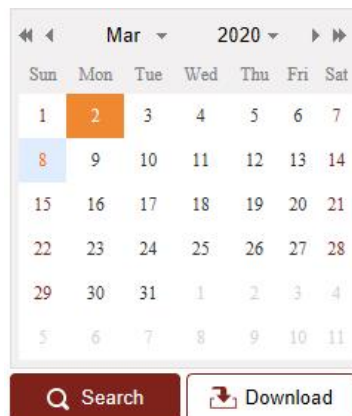











Figure 2-17 Search Video

3. Click **Download** on the menu bar to enter record download interface, choose the clip you 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		Volume up/down
	Speed down		Enable/Disable digital zoom
	Speed up		

# Chapter 3 Local Parameters

## 3.1 Configuring Local Parameters

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

### Steps:

1. Enter the Local Configuration interface:

**Configuration > Local**

The screenshot shows the 'Local' configuration page. The top navigation bar includes 'Live View', 'Playback', 'Log', and 'Configuration'. The left sidebar lists 'Local', 'Device', 'PTZ', 'Event', and 'Storage'. The main content area is titled 'Live View Parameters' and includes settings for Protocol (TCP selected), Rules (Disabled selected), Watermarks (Disabled selected), and Play Performance (Balanced selected). Below this is the 'Record File Settings' section with options for Record File Size (512M selected) and fields for saving and downloading record files. The 'Picture Settings' section has fields for saving snapshots in live view and when paused. The 'Clip Settings' section has a field for saving clips. A 'Save' button is at the bottom.

Figure3–1Local configuration

2. Configure the following settings:

- **Live View Parameters:** Set the Protocol, Play Performance, Rules, Display POS Information and Image Format.
  - ◆ **Protocol:** TCP,UDP,MULTICAST and HTTP are selectable.
  - ◆ **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.
  - ◆ **Save record files to:** Set the saving path for the manually recorded video files.
  - ◆ **Save downloaded files to:** Set the saving path for the downloaded video files in

- **Playback** interface.
- **Picture and Clip Settings:** Set the saving paths of the captured pictures and clipped video files.
  - ◆ **Save snapshots in live view to:** Set the saving path of the manually captured pictures in **Live View** interface.
  - ◆ **Save snapshots when playback to:** Set the saving path of the captured pictures in **Playback** interface.
  - ◆ **Save clip 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.

**Live View Parameters**

Protocol     UDP     TCP     MULTICAST     HTTP

Rules         Enable     Disabled

Watermarks     Enable     Disabled

Play Performance     Balanced     Shortest Delay

---

**Record File Settings**

Record File Size     256M     512M     1G

Save record files to           

Download record files to           

---

**Picture Settings**

Save snapshots in live...           

Save snapshots when...           

---

**Clip Settings**

Save clips to           

---

Figure3-2 Live View Parameters



## 3.2 Configuring Device Setting

### Steps:

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

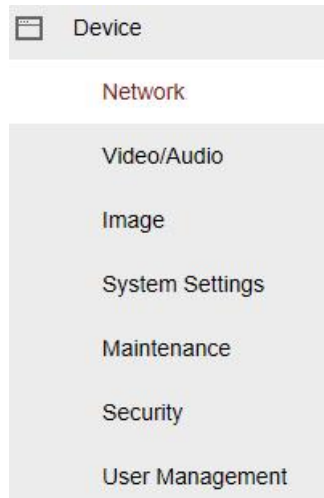


Figure 3-3 Device Setting

### 3.2.1 Configuring Network Settings

#### 3.2.1.1 Configuring TCP/IP Settings

##### Purpose:

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

##### Steps:

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

TCP/IP	DDNS	Port	NAT	SNMP	FTP
<b>Lan</b>					
NIC Type	automatic				
DHCP Enabled	<input type="checkbox"/> OFF				
IPv4 Address	192.168.0.68				
IPv4 Subnet Mask	255.255.255.0				
IPv4 Default Gateway	192.168.0.1				
IPv6 Mode	manual				
IPv6 Address	::				
IPv6 Subnet Mask	3				
IPv6 Default Gateway	::				
Mac Address	98:f9:c7:d0:05:19				
MTU	1500				
IPv4 multicast address	239.0.0.0				
IPv6 multicast address	ff02::1				
<b>DNS Server</b>					
Preferred DNS Server	114.114.114.114				
Alternate DNS Server	8.8.8.8				
<b>Save</b>					

Figure 3-4 TCP/IP Settings

- Configure the NIC settings, including the **IPv4(IPv6) Address**, **IPv4(IPv6) Subnet Mask** and **IPv4(IPv6) Default Gateway**.
- Click **Save** to save the above settings.. **Notes:**
  - If the DHCP server is available, you can check  **DHCP** to automatically obtain an IP address and other network settings from that server.
  - The valid value range of Maximum Transmission Unit (MTU) is 1280 to 1500.
  - The Multicast sends a stream to the multicast group address and allows multiple clients to acquire the stream at the same time by requesting a copy from the multicast group address. Before utilizing this function, you have to enable the Multicast function of your router and configure the gateway of the network camera.
  - If the DNS server settings are required for some applications (e.g., sending email), you should properly configure the **Preferred DNS Server** and **Alternate DNS server**.

### 3.2.1.2. DDNS

#### Purpose:

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

#### Before you start:


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


#### 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  to save the settings.

Enable DDNS	<input type="checkbox"/> OFF
DDNS Type	PeanutHull 
Server Address	hphwebservice.oray.net
Domain Name	<input type="text"/>
Username	<input type="text"/>
Port	6060
Password	<input type="text"/>
Confirm	<input type="text"/>

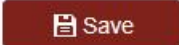


Figure 3-5 DDNS Settings

- 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. Configuring Port Settings

#### Purpose:

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

**Steps:**

1. Enter the Port settings interface:

**Configuration > Device > Network > Port**


HTTP Port	<input type="text" value="80"/>
HTTPS Port	<input type="text" value="443"/>
RTSP Port	<input type="text" value="554"/>
SDK Port	<input type="text" value="3721"/>



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.
- **RTSP Port:** The default port number is 554.
- **HTTPS Port:** The default port number is 443.
- **Server Port:** The default port number is 8000.

3. Click  to save the settings.

### 3.2.1.4. SNMP

#### Configuring SNMP Settings

**Purpose:**

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

**Before you start:**

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

**Note:**

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

**Steps:**

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

**SNMP v1/v2**

Enable SNMPv1  OFF

Enable SNMP v2c  OFF

Read SNMP Community public

Write SNMP Community private

Trap Address 192.168.0.100

Trap Port 162

Trap Community public

**SNMP v3**

Enable SNMPv3  OFF

Read UserName public

Security Level no\_auth,no\_priv

Write UserName private

Security Level no\_auth,no\_priv

**SNMP Other Settings**

SNMP Port 181


Save

Figure 3–7SNMP Settings

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

**Note:**

The configuration of the SNMP software should be the same as the settings you configure here.

4. Click  to save and finish the settings

### 3.2.1.5. FTP

#### Configuring FTP Settings

**Purpose:**

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

**Steps:**

1. Enter the FTP settings interface:

## 2. Configuration > Device > Network > SNMP > FTP

TCP/IP DDNS Port NAT SNMP **FTP** Email QoS 802.1x Multicast CloudPic

FTP Enabled  OFF

Server Address ::

Port 21

Anonymous login

Username

Password

Confirm

Directory Structure root directory

Test FTP Save

Figure 3–8 FTP Settings

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

**Note:**

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

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

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

- ◆ **Root directory:** The files will be saved in the root of FTP server.

- ◆ **First-class directory:** The files will be saved in a folder in FTP server. The name of folder can be 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.

4. Click  to save the settings.
5. You can click **Test** to confirm the configuration.

**Note:**

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

### 3.2.1.6. Configuring Email Settings

**Purpose:**

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

**Before you start:**

Configure the DNS Server settings under **Configuration > Network > Basic Settings > TCP/IP**

before using the Email function.

**Steps:**

1. Enter the Email settings interface:

**Configuration>Device > Network> Email**

Sender		
Sender	<input type="text"/>	
Sender's Address	<input type="text"/>	
SMTP Server	<input type="text"/>	
SMTP Port	<input type="text" value="25"/>	
E-mail Encryption	<input type="text" value="None"/>	
<input type="checkbox"/> Attached Image		
Username	<input type="text"/>	
Password	<input type="text"/>	
Confirm	<input type="text"/>	

Receiver		
No.	Receiver	Receiver's Address
1	<input type="text"/>	<input type="text"/>
2	<input type="text"/>	<input type="text"/>

Figure 3–9Email Settings

2. Configure the following settings:

- **Sender:** The name of the email sender.
- **Sender's Address:** The email address of the sender.
- **SMTP Server:** The SMTP Server IP address or host name (e.g., smtp.263xmail.com).
- **SMTP Port:** The SMTP port. The default TCP/IP port for SMTP is 25.
- **E-mail encryption: None, SSL, and TLS are selectable. When you select SSL or TLS and disable STARTTLS, e-mail will be sent after encrypted by SSL or TLS. The SMTP port should be set as 465 for this encryption method. When you select SSL or TLS and enable STARTTLS, emails will be sent after encrypted by STARTTLS, and the SMTP port should be set as 25.**
- **Attached Image:** Check the checkbox of Attached Image if you want to send emails with attached alarm images.
- **Interval:** The interval refers to the time between two actions of sending attached pictures.
- **Authentication (optional):** If your email server requires authentication, check this checkbox to use authentication to log in to this server and enter the login user name and password.
- **Receiver:** Select the receiver to which the email is sent. Up to 2 receivers can be configured.  
**Receiver:** The name of the user to be notified.  
**Receiver's Address:** The email address of user to be notified. (Optional: click **Test** to make sure that the email server can send email out.)

3. Click  to save the settings.

### 3.2.1.7. Configuring QoS Settings

**Purpose:**

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

**Steps:**

1. Enter the QoS settings interface:



Figure 3–10QoS Settings

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

The valid DSCP value ranges from 0 to 63. The higher the DSCP value is, the higher the priority is.

3. Click  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.

### 3.2.1.8. Configuring 802.1X Settings

**Purpose:**

The camera supports IEEE 802.1X standard.

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

**Steps:**

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

**Configuration > Device > Network > 802.1X**




Figure 3–11802.1X 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 user name and password for 802.1X in the server.

Input the user name and password to access the server.



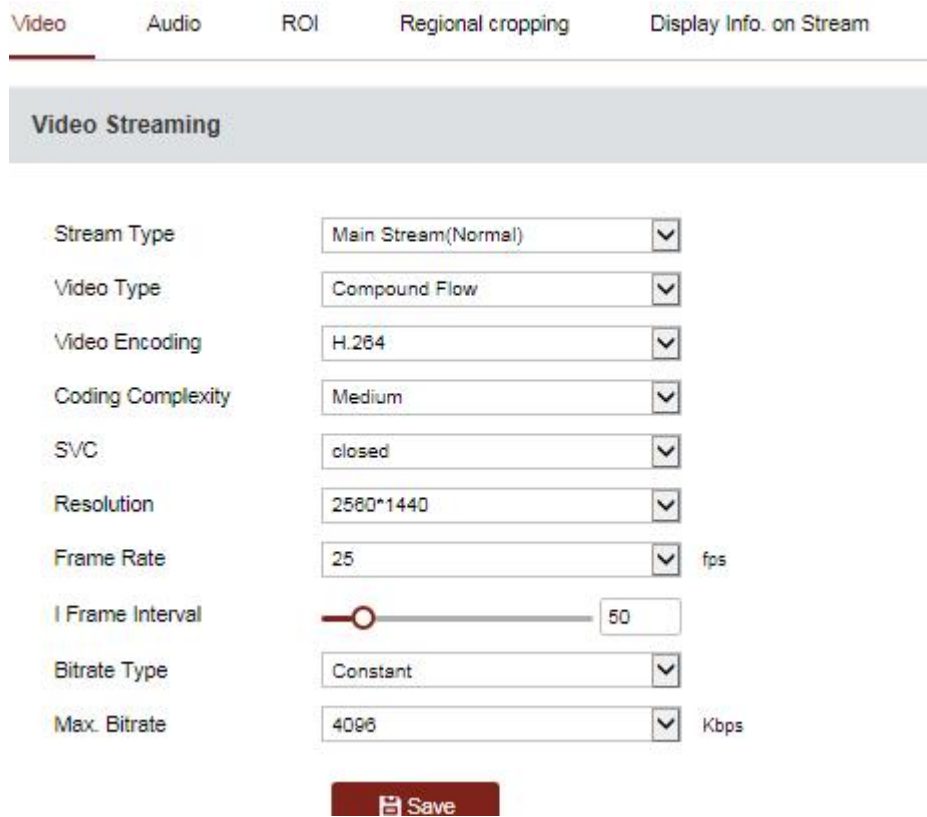
5. Set the EAPOL version. The EAPOL version must be identical with that of the router or the switch.
6. Configure the 802.1X settings, including user name and password.
7. Click  to finish the settings.
8. After the configuration, connect the camera to the protected network.

## 3.2.2 Configuring Video and Audio Settings

### 3.2.2.1. Configuring Video Settings

Steps:

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



The screenshot shows the 'Video Streaming' configuration page. At the top, there are five tabs: 'Video' (selected), 'Audio', 'ROI', 'Regional cropping', and 'Display Info. on Stream'. Below the tabs is a grey header bar with the text 'Video Streaming'. The main content area contains a list of settings, each with a label on the left and a control on the right. The settings are: 'Stream Type' with a dropdown menu showing 'Main Stream(Normal)'; 'Video Type' with a dropdown menu showing 'Compound Flow'; 'Video Encoding' with a dropdown menu showing 'H.264'; 'Coding Complexity' with a dropdown menu showing 'Medium'; 'SVC' with a dropdown menu showing 'closed'; 'Resolution' with a dropdown menu showing '2560\*1440'; 'Frame Rate' with a dropdown menu showing '25' and 'fps' to its right; 'I Frame Interval' with a slider control and a text box showing '50'; 'Bitrate Type' with a dropdown menu showing 'Constant'; and 'Max. Bitrate' with a dropdown menu showing '4096' and 'Kbps' to its right. At the bottom center of the form is a red 'Save' button with a floppy disk icon.

Figure3-12Configure Video Settings

Select the **Stream Type** of the camera to Main Stream (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 signal will be recorded only when the **Video Type** is **Video & Audio**.

- **Resolution:**

Select the resolution of the video output.

- **Bitrate Type:**

Select the bitrate type to constant or variable.

- **Video Quality:**

When bitrate type is selected as **Variable**, 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. Configuring Audio Settings

**Steps:**

1. Enter the Audio settings interface

**Configuration > Device > Video/Audio > Audio**

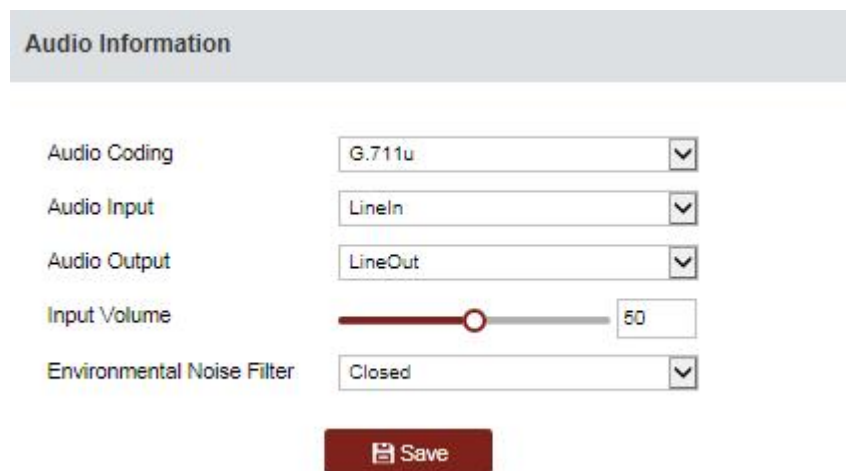


Figure 3–13 Audio Settings

1. Configure the following settings.

- **Audio Encoding:** G.722.1, G.711ulaw, G.711alaw, MP2L2, G.726 and PCM are selectable.

- **Audio Input:** When an intercom is connected to the camera, you need to set this option to **LineIn**. When a microphone is connected to the camera, you need to set this option to **MicIn**.

- **AudioStream 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.
- **SamplingRate:** When the Audio Encoding is selected as MP2L2 or PCM, you can configure the SamplingRate 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  to save the settings.

### 3.2.2.3. Configuring ROI Settings

**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**

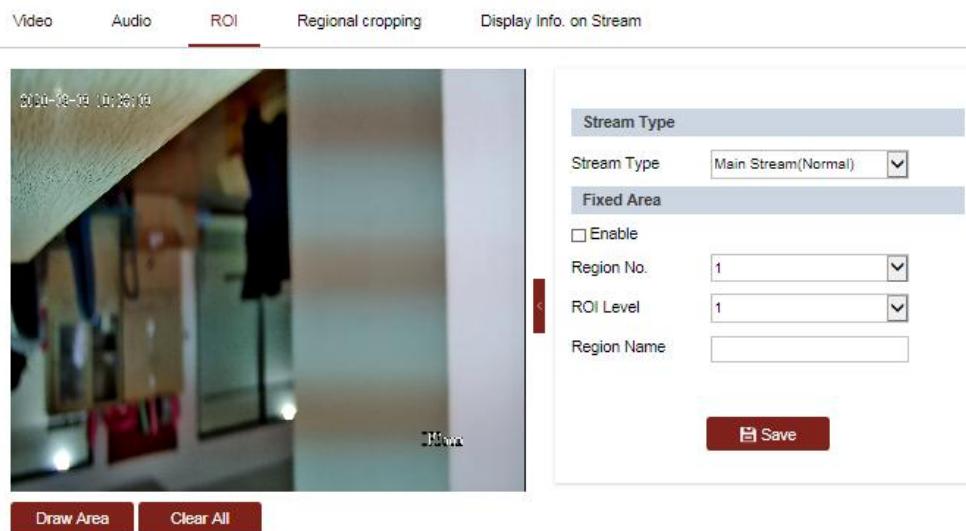
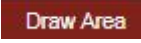


Figure 3-14Region Setting

2. Select a stream type. You can set the ROI function for Main Stream(Normal), Sub-stream or Third Stream.
3. Click  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 the **RegionNo.** 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. Configuring Regional cropping

1. Enter the regional cropping settings interface:

**Configuration>Device >Video/Audio >Regional Cropping**

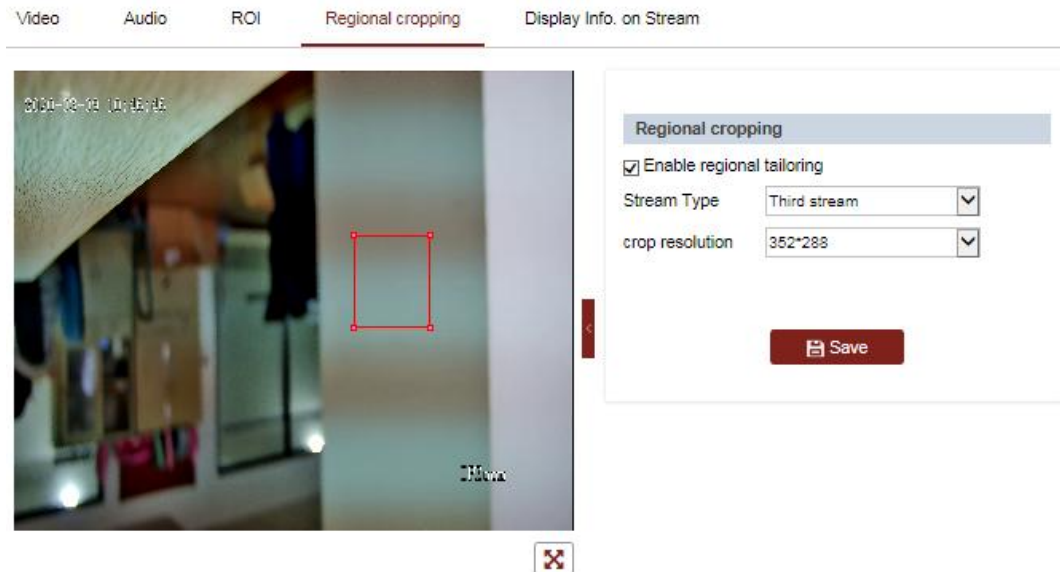


Figure 3–15Regional Cropping Setting

2. Click “Enable regional tailoring”, drag the block to the desired area.
3. Click **Save** to save the settings.

### 3.2.2.5. DisplayInfo. 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 Configuring 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 **DisplaySettings** 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 DisplaySettings 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 speed dome.

### 3.2.4.1. Image Adjustment

**Steps:**

Enter the DisplaySettings interface:

**Configuration >Device>Image>Display Settings**

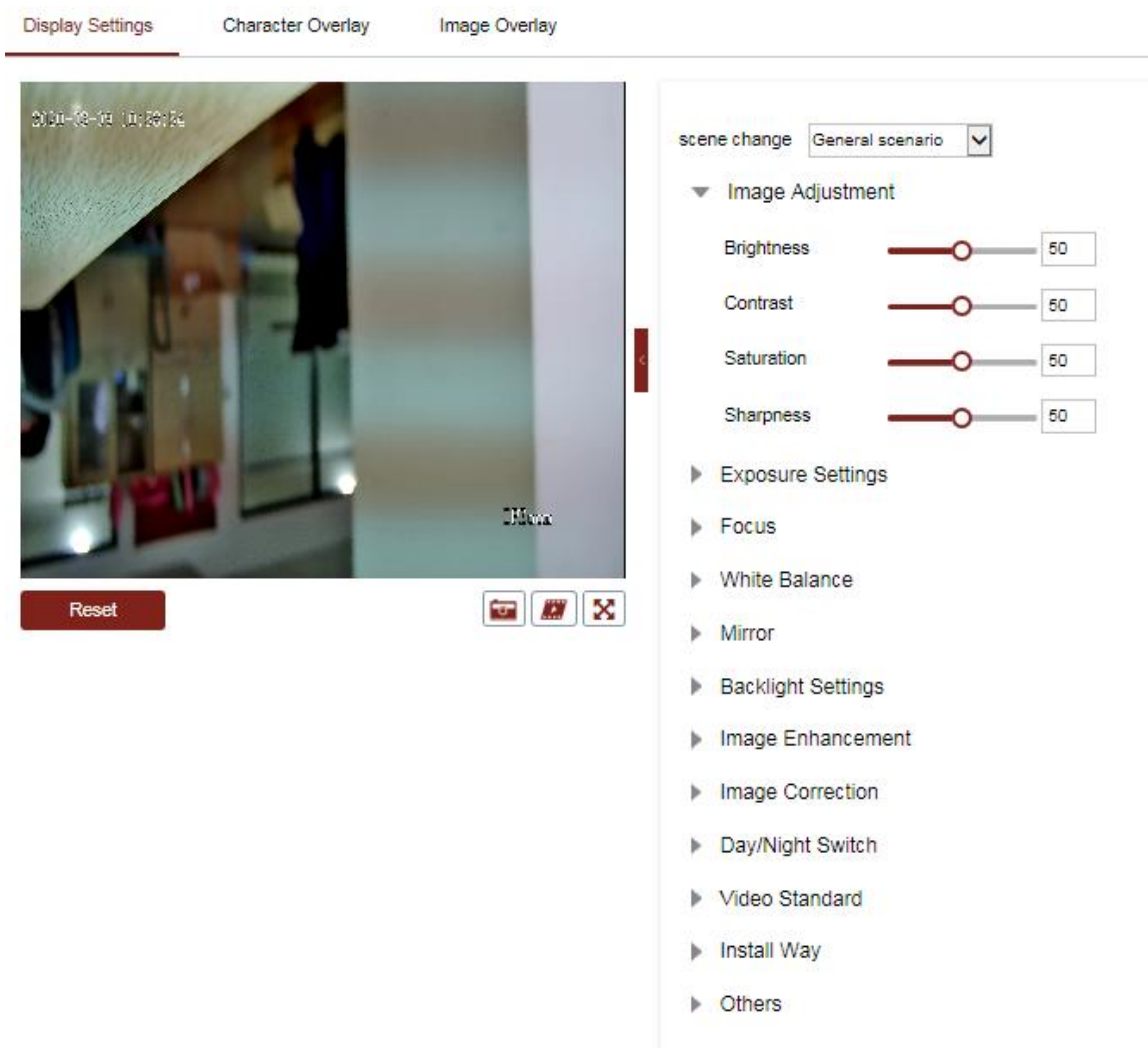


Figure 3-15 Display Setting

#### Brightness

This feature is used to adjust brightness of the image.

- **Contrast**

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

- **Saturation**  
This feature is used to adjust color saturation of the image.
- **Sharpness**  
Sharpness function enhances the detail of the image by sharpening the edges in the image.

## ExposureSettings

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

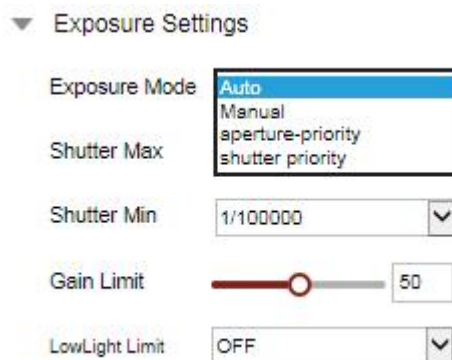


Figure 3-16 Exposure Setting

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

---

Exposure Mode	Shutter Priority
Exposure Level	2
Max. Iris Limit	100
Min. Iris Limit	0
Shutter	1/30
Limit Gain	94
Slow Shutter	OFF

Figure 3-17 Shutter

---

## FocusSettings

- **FocusMode**

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

- ◆ **Auto:**

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

- ◆ **Semi-auto:**

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

- ◆ **Manual:**

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

- **Min. FocusDistance**

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

## Day/NightSwitch

- **Day/NightSwitch Mode**

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

**Note:**

This function varies depending on the models of speed dome.

- ◆ **Auto:**

In **Auto** mode, the day mode and night mode can switch automatically according to the light condition of environment. The switching sensitivity can be set to 1, 2, 3,4,5,6,7

- ◆ **Day:**

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

- ◆ **Night:**

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

- ◆ **Scheduled-Switch:**

In **Scheduled-Switch** mode, you can set the start and end time for day mode.

The rest is the time for night mode.

## BacklightSettings

- **BLC (Back Light Compensation)**

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

- **WDR (Wide DynamicRange)**

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

You can enable or disable the WDR function as shown in Figure 6-33.



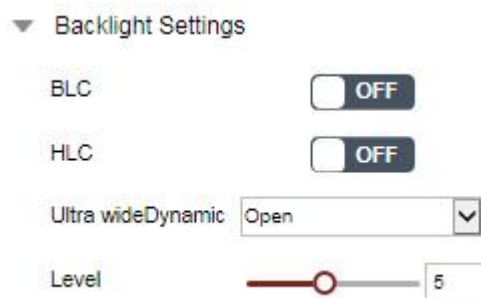


Figure 3–18WDR

- **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.

## WhiteBalance

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

- **Auto**

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

- **Manual White Balance:**

In **MWB** mode, you can adjust the color temperature manually to meet your own demand as shown in Figure 3–19.

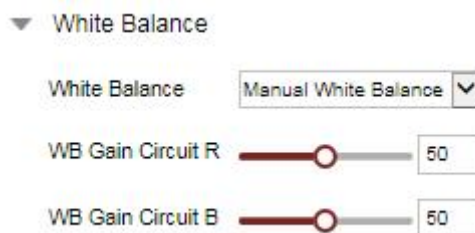


Figure 3–19Manual White Balance

- **Outdoor**

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

- **Indoor**

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

- **Fluorescent Lamp**

---

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

- **Sodium Lamp**

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

- **ATW**

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

## Image Enhancement

**Note:**

The functions vary depending on different camera models.

- **3D Digital Noise Reduction**

You can set **Digital Noise Reduction** function to **Normal** and adjust the **Noise Reduction Level** as shown in Figure 3-20. The level ranges from 0 to 100.

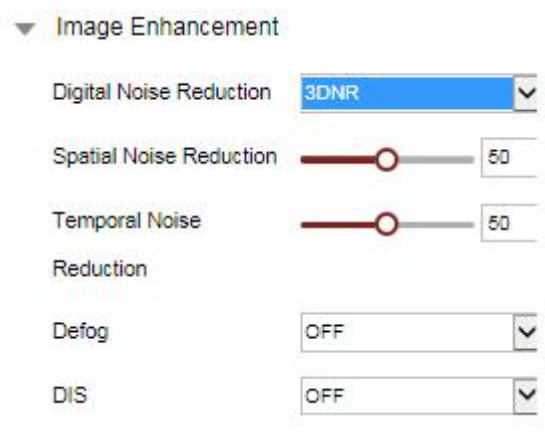


Figure 3-20 3D Digital Noise Reduction

- **Defog Mode**

- **EIS (Electronic Image Stabilization)**

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

- **OIS (Optical Image Stabilization)**



Figure 3-21 Defog Mode, EIS, OIS setting

---

### 3.2.4.2. Configuring OSD Settings

**Purpose:**

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

**Note:**

This function varies according to different camera models.

**Steps:**

1. Enter the OSD settings interface:  
**Configuration > Device > Image > Character Overlay**
2. Select from the dropdown list to set the Time Format, Date Format, Display Mode, OSD Size , Font Color.
3. You can use the mouse to drag the text frame OSD position.

Basic Setting

OSD Size: Auto

Font Color: Default Color

Display Name: IPZoom

Display Date

Date Format: YYYY-MM-DD

Time Format: 24-hour

Display week

Custom

Save



Figure 3–22 Character Overlay Setting

### 3.2.4.3. Image Overlay

**Steps:**

1. Enter the OSD settings interface:

## Configuration > Device > Image > Image Overlay

2. Click  for uploading pictures and select the pictures. After the upload is successful, you will see a red box in the video screen.
3. Click “**Enable ImageOverlay**” to enable image overlay; You can use the mouse to drag the image to desired position
4. Click  to save the settings.

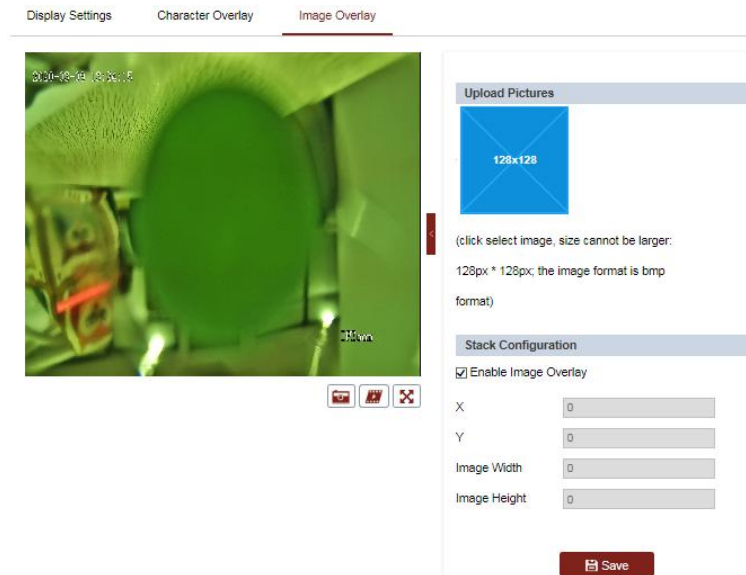


Figure 3–23 Character Overlay Setting


## 3.2.4 Configuring System Settings

### 3.2.7.1 System Settings

Enter the Device Information interface:

**Configuration > Device > System Settings > Device Information**

Device Information	Time Setting	RS-232	RS-485
Device Name	ZOOM CAMERA		
Model	UV-ZN4237		
Serial No.	180401321001055		
Software Version	V1.0.2 build20200302		
SMD Algorithm	V1.0.648 build190619		
Face Algorithm	V0.12695761.0 build171105		
Audio Algorithm	V2.1.14 build191202		
Web Version	V1.0.2 build200118		
Dome Version	/		
Build Time	2020-03-02 12:05:56		
Startup Time	2020-03-09 09:56:28		



### 3.2.7.2. Time Settings

**Purpose:**

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

Enter the Time Settings interface:

**Configuration > Device > System Settings > Time Settings**

**Configuring Time Synchronization Manually**

**Steps:**

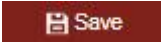
1. Check the **Manual Time Sync** radio button.
2. Click  to save the settings.

Figure 3–25 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 locates.

### 3.2.7.3. Configuring RS-232

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

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

**Note:**

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


**Steps:**

1. Enter RS-232 Port setting interface:  
**Configuration > Device > System Settings > RS-232**

Device Information	Time Setting	RS-232	RS-485
RS232			
Baud Rate	9600		
Data Bit	8		
Stop Bit	1		
Parity	None		
Flow Ctrl	None		
Usage			

Save

Figure 3-26 RS-232 Settings

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

### 3.2.7.4. RS485

**Purpose:**

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

**Note:**

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

**Steps:**

1. Enter RS-485Port Setting interface:  
**Configuration>Device >System Settings >RS-485**

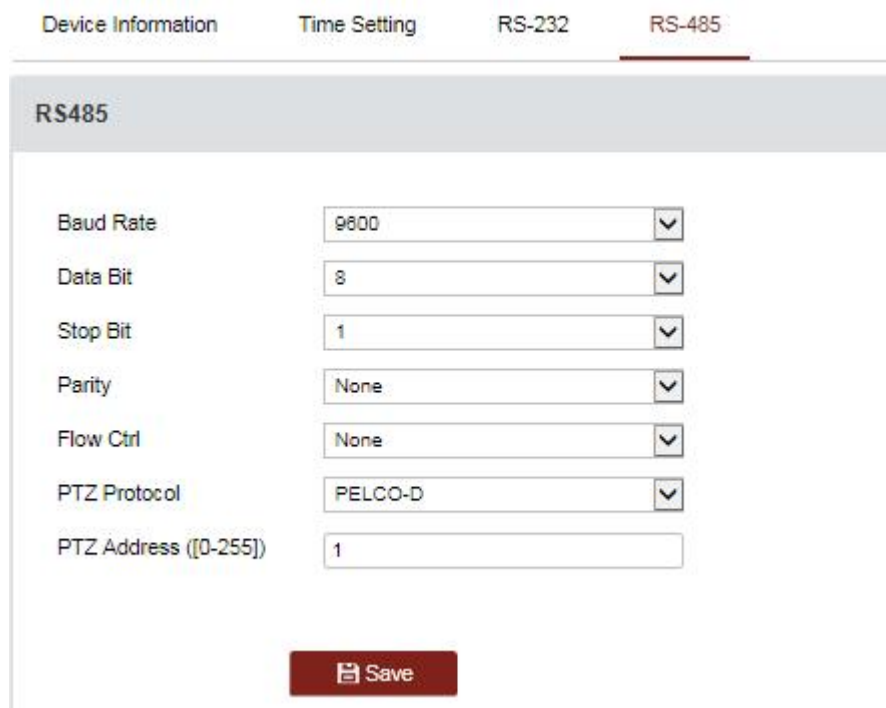


Figure 3-27RS-485Settings

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

**Note:**

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

## 3.2.5 Maintenance

Enter the Maintenance interface: **Configuration>Device>Maintenance**



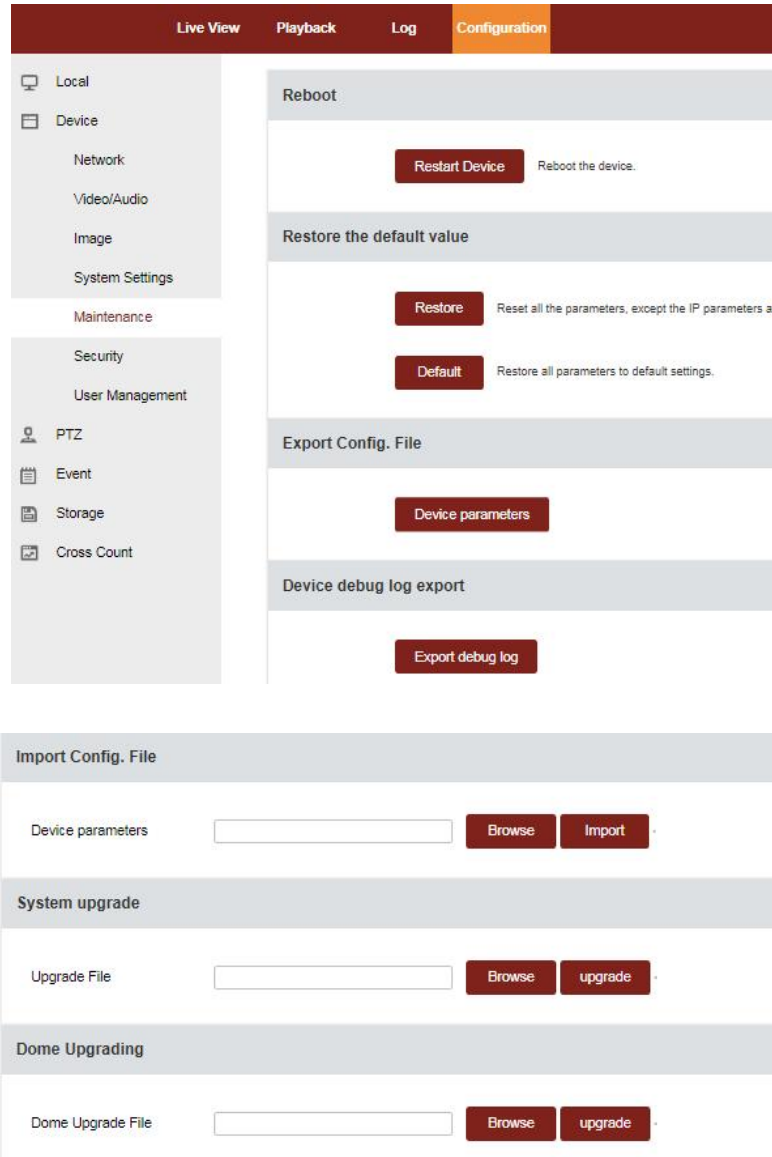


Figure 3-28system maintain

4. Click **Restart Device** to reboot the network camera.

● **RestoringDefaultValue**

**Steps:**

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

● **Exporting Configuration File**

**Steps:**

- ◆ Enter the Maintenance interface:  
**Configuration >Device >Maintenance**

---

Click **Device Parameters** and set the encryption password to export the current configuration file.

- ◆ Set the saving path to save the configuration file in local storage.
- ◆ Click **Diagnose Information** to download the log and system information.

- **Importing Configuration 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.

- **Upgrading the System**

**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.

## 3.2.6 Security Service

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

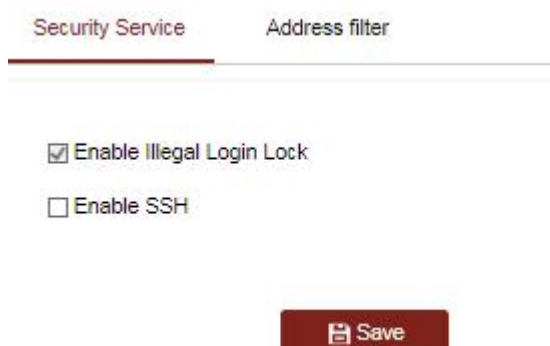


Figure 3–29 Security Service

Security Service Address filter

---

Enable address filter

Address filter type:  ▼

**IP Address Filter** Add Modify Delete Delete...

No.	IP

**Mac address filtering** Add Modify Delete Delete...

No.	MAC address

Save

Figure 3–30 Security Service

1. Enter the Security Service interface:  
**Configuration>Device >Security >Address Filter**
1. Check the checkbox of **Enable IP Address Filter**.
2. Select the type of IP Address Filter in the dropdown list, Forbidden and Allowed are selectable.
3. Set the IP Address Filter list.
  - **Add an IP Address**  
**Steps:**
    - (1) Click **Add** to add an IP.
    - (2) Input the IP Address.
    - (3) Click **OK** to finish adding.
  - **Modify an IP Address**  
**Steps:**

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

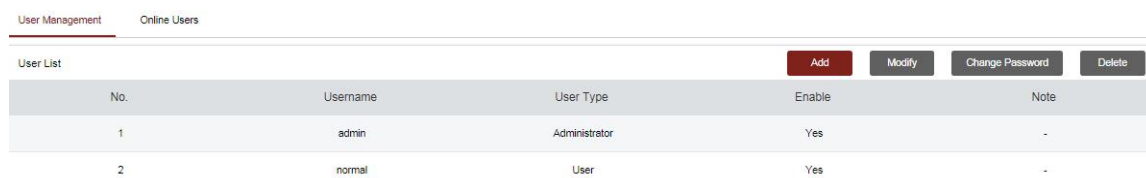
    - (1) Modify the IP address in the text field.
    - (2) Click **OK** to finish modifying.
  - **Delete an IP Address**  
 Click an IP address from filter list and click **Delete**.
  - **Delete all IP Addresses**  
 Click **Clear** to delete all the IP addresses.
4. Click Save to save the settings.

## 3.2.7 Users Management

### 3.2.7.1 Users List

Enter the User Management interface:

**Configuration > Device > User Management**



The screenshot shows the 'User Management' interface. At the top, there are tabs for 'User Management' and 'Online Users'. Below the tabs, there is a 'User List' section with a table and four action buttons: 'Add', 'Modify', 'Change Password', and 'Delete'. The table has columns for 'No.', 'Username', 'User Type', 'Enable', and 'Note'. There are two rows of data: one for an 'admin' user (Administrator) and one for a 'normal' user (User).

No.	Username	User Type	Enable	Note
1	admin	Administrator	Yes	-
2	normal	User	Yes	-

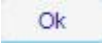
Figure 3–31 User Information

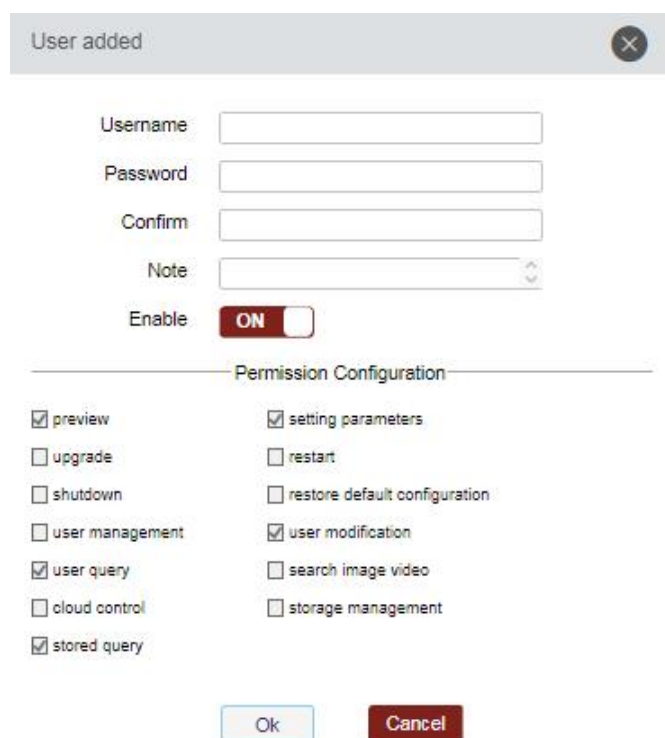
The **admin** user has access to create, modify or delete other accounts, and grant different permission to different user levels. We highly recommend administrator to manage the device accounts and user permissions properly. Up to 5 user accounts can be created.

- **Add a User**

**Steps:**

Click  to add a user.

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



The 'User added' dialog box contains the following fields and options:

- Username:
- Password:
- Confirm:
- Note:
- Enable:  ON

**Permission Configuration**

<input checked="" type="checkbox"/> preview	<input checked="" type="checkbox"/> setting parameters
<input type="checkbox"/> upgrade	<input type="checkbox"/> restart
<input type="checkbox"/> shutdown	<input type="checkbox"/> restore default configuration
<input type="checkbox"/> user management	<input checked="" type="checkbox"/> user modification
<input checked="" type="checkbox"/> user query	<input type="checkbox"/> search image video
<input type="checkbox"/> cloud control	<input type="checkbox"/> storage management
<input checked="" type="checkbox"/> stored query	



Buttons:  

Figure 3–32 Add a User

- **Modify a User**

**Steps:**

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

The screenshot shows a dialog box titled "Edit user". It has a close button in the top right corner. Below the title bar, there is a "Username" field containing the text "admin" and a "Note" field. A horizontal line separates the input fields from the "Permission Configuration" section. This section contains a grid of 12 checkboxes, all of which are checked. The checkboxes are arranged in two columns: the left column includes "preview", "upgrade", "shutdown", "user management", "user query", "cloud control", and "stored query"; the right column includes "setting parameters", "restart", "restore default configuration", "user modification", "search image video", and "storage management". At the bottom of the dialog, there are two buttons: "Ok" and "Cancel".

Figure 3–33 Modify a User

- **Delete a User**

**Steps:**

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

### 3.2.7.2. Online User

Enter the Online Users configuration interface:

**Configuration >Device >User Management >Online Users**

The screenshot displays the 'Online Users' configuration page. At the top, there are two tabs: 'User Management' and 'Online Users'. Below the tabs, there are four configuration items, each with a label and a text input field:

- Maximum number of protocol access: 20
- Maximum download access quantity: 2
- Maximum playback access number: 2
- Maximum preview access number: 6

Below the configuration items is a 'User List' table. The table has a 'Refresh' button in the top right corner. The table contains one row of data:

No.	Username	Service Type	IP Address	Port	Link Type	User Operation Time
1	admin	Web	192.168.0.197	62607	Protocol Access	2020-03-09 12:55:14

Figure 3-34 Online Users

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

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

## 3.3 PTZ Configuration

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

### 3.3.1 Configuring Basic PTZ Parameters

**Steps:**

1. Enter the Basic Settings interface:

**Configuration > PTZ > Basic > Basic Settings**

The screenshot shows the 'Basic Settings' interface for PTZ configuration. At the top, there are three tabs: 'Basic' (selected), 'Park Action', and 'Privacy Mask'. Below the tabs, the interface is organized into three main sections:

- Basic Parameter:**
  - Max. Tilt-angle: (0 – 90)°
  - Zooming Speed: 8
  - Joint modes: AUTO
  - State of the ball mill: No (with a 'Testing the ball machine' button next to it)
  - Detect time: 2 seconds
- PTZ OSD:**
  - Zoom Status: 2s
  - PT Status: 2s
  - Azimuth display format: PT
  - Preset Status: 2s
  - Positioning shows: Close
- Power Off Memory:**
  - Set Resume Time Point: 30s

At the bottom of the interface, there is a 'Save' button.

Figure 3–35 Basic Settings

- **Basic Parameters:**

**Max. Tilt-angle:** Set the tilt-angle of the speed dome

**Zooming Speed:** The zoom speed is adjustable from level 1 to 8

**Joint Mode:** Auto, Net, Visca

**Detect Time**

- **PZT OSD**

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

- **Power-off Memory:**

The speed dome can resume its previous PTZ status or actions after it restarted from a power-off. You can set the time point to which the dome resumes its PTZ status. You can set it to resume the status of 30 seconds, 60 seconds, 300 seconds or 600 seconds before power-off.

Click  to save the settings.

## 3.3.2 Configuring Park Actions

- Enter the Park Action settings interface:

**Configuration > PTZ > Park Action**

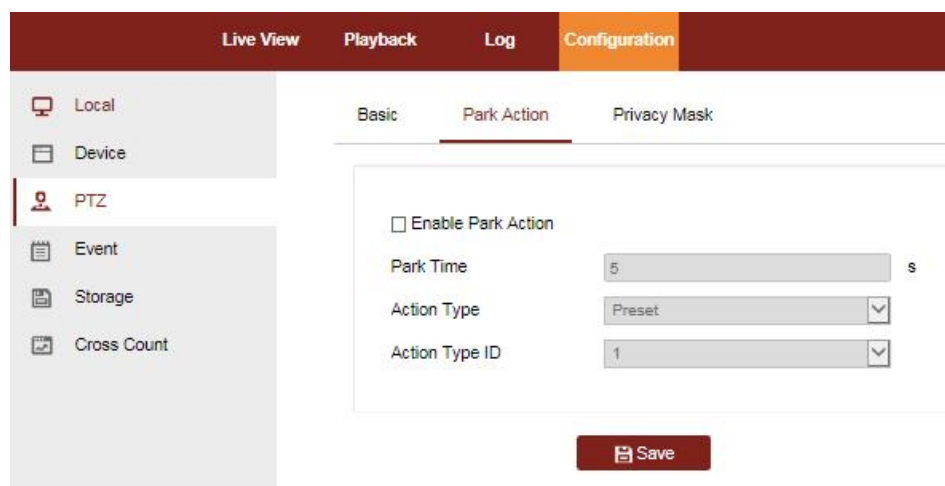




Figure 3–36Set the Park Action

- 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 TypeID from the dropdown list.

### 3.3.3 Configuring Privacy Mask

**Purpose:**

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

**Steps:**

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



Figure 3–37Draw the Privacy Mask

2. Click the PTZ control buttons to find the area you want to set the privacy mask.
3. Click **Add Drawing**; drag the mouse in the live video window to draw the area.
4. You can drag the corners of the red rectangle area to draw a polygon mask.
5. Click **Stop Drawing** to finish drawing or click **Clear All** to clear all of the areas you set without saving them.

6. Click **Add** to save the privacy mask, and it will be listed in the **PrivacyMaskList** area.
7. Modify the mask settings.
8. Check the checkbox of **Enable PrivacyMask** to enable this function.


## 3.4 Event Management

### 3.5.1 Basic Event Configuration


#### 3.4.1.1. Mobile Detection

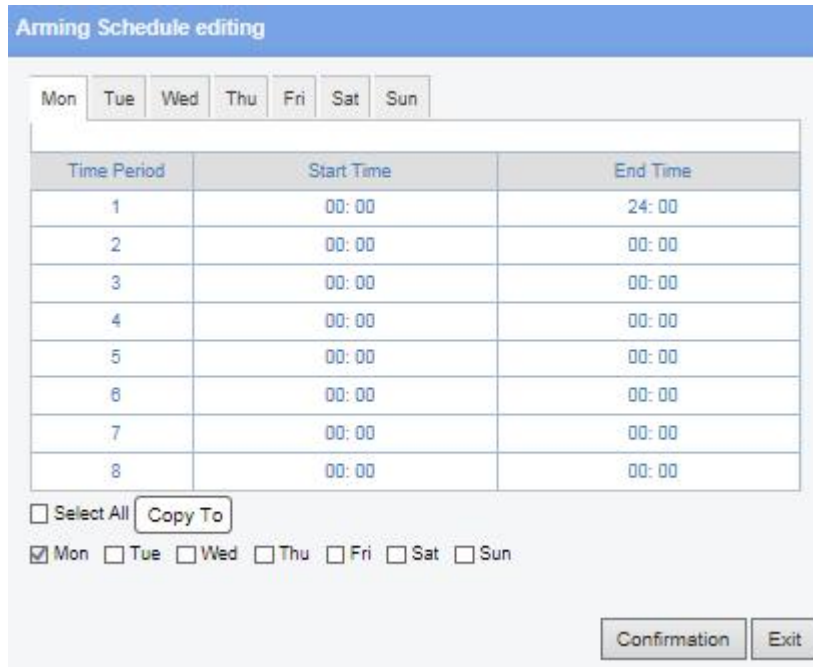
##### Purpose:

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 > Mobile Detection**
2. Check the checkbox of the **Enable Mobile Detection** to enable this function.
3. You can check the **Enable Mobile Detection in PTZ Control** checkbox and when the speed dome is performing PTZ action, motion detection can also trigger alarm.
4. Move the slider  to set the sensitivity of the detection.
5. Click **Start Editing** and drag the mouse on the live video image to draw a motion detection area.
6. Click **Stop Editing** to finish drawing.
7. Set the **Arming Schedule** for mobile detection.

##### Steps:

- (1) Click **Edit** tab to enter the arming schedule setting interface.
- (2) Select the timeline of a certain day.
- (3) After you set the scheduled task, you can click  and copy the task to other days (optional).



The interface is titled "Arming Schedule editing". It features a header with tabs for days of the week: Mon, Tue, Wed, Thu, Fri, Sat, Sun. Below this is a table with three columns: "Time Period", "Start Time", and "End Time". The table contains 8 rows, each with a time period number (1-8) and corresponding start and end times (00:00 or 24:00). Below the table, there are checkboxes for "Select All" and "Copy To", and a row of checkboxes for each day of the week. At the bottom right, there are "Confirmation" and "Exit" buttons.

Time Period	Start Time	End Time
1	00:00	24:00
2	00:00	00:00
3	00:00	00:00
4	00:00	00:00
5	00:00	00:00
6	00:00	00:00
7	00:00	00:00
8	00:00	00:00

Select All     
 Mon    Tue    Wed    Thu    Fri    Sat    Sun

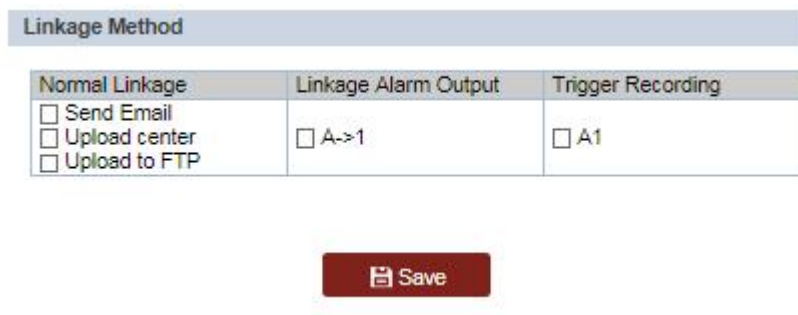
 

Figure 3–38 Mobile Detection Setting

8. Set the Alarm Actions for mobile detection.

You can specify the linkage method when an event occurs. The following contents are about how 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.



The interface is titled "Linkage Method". It contains a table with three columns: "Normal Linkage", "Linkage Alarm Output", and "Trigger Recording". Each column has a checkbox and a label. Below the table is a red "Save" button.

Normal Linkage	Linkage Alarm Output	Trigger Recording
<input type="checkbox"/> Send Email <input type="checkbox"/> Upload center <input type="checkbox"/> Upload to FTP	<input type="checkbox"/> A->1	<input type="checkbox"/> A1

Figure 3–39 Motion Detect Linkage

### 3.4.1.2. Configuring Video Tampering Alarm

#### Purpose:

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

#### Steps:

1. Enter the Video Tampering settings interface :

**Configuration >Event >Basic Event >Video Tampering**

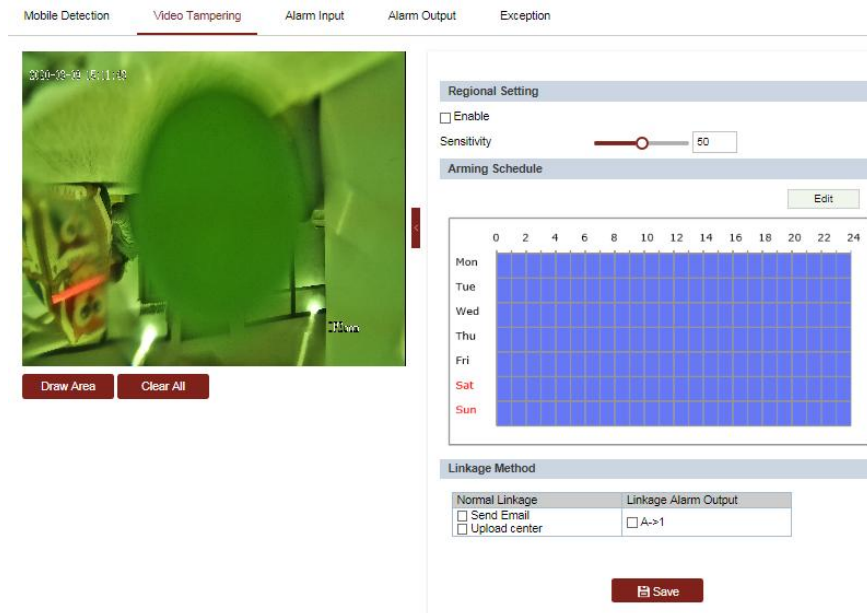


Figure 3-39 Tampering Alarm

2. Check the checkbox to enable the tampering detection.
3. Set the tampering area.
4. Set Sensitivity level. Higher level means easier to trigger.
5. Click **Edit** tab to enter the arming schedule setting interface. The arming schedule configuration is the same as the setting of the arming schedule for mobile detection.
6. Select the linkage method taken for tampering. .
7. Click **Save** to save the settings.

### 3.4.1.3. Configuring Alarm Input

**Steps:**

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

**alarm input**

Enabled  OFF

Alarm Input Number

Alarm Type

Alarm Name

---

**Arming Schedule**

	0	2	4	6	8	10	12	14	16	18	20	22	24
Mon													
Tue													
Wed													
Thu													
Fri													
Sat													
Sun													

---

**Linkage Method**

Normal Linkage	Linkage Alarm Output	Trigger Recording	PTZ linkage A1
<input type="checkbox"/> Send Email <input type="checkbox"/> Upload center <input type="checkbox"/> Upload to FTP	<input type="checkbox"/> A->1	<input type="checkbox"/> A1	<input type="checkbox"/> Preset number 1 <input type="checkbox"/> Cruise number 1 <input type="checkbox"/> Synchronized scanning 1

Figure 3–40 Alarm Input Settings

4. Click **Edit** tab to enter the schedule setting interface. The arming schedule configuration is the same as the setting of the arming 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. Configuring Alarm Output

#### Steps:

1. Enter the Alarm Output settings interface:  
**Configuration > Event > Basic Event > Alarm Output**
2. Select one alarm output channel in the **Alarm Output** dropdown list.
3. Set a name in "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 arming schedule setting interface.

The time schedule configuration is the same as the settings of the arming schedule for motion detection.

The screenshot shows the 'Alarm Output' configuration page. At the top, there are navigation tabs: Mobile Detection, Video Tampering, Alarm Input, Alarm Output (highlighted), and Exception. Below the tabs is a header 'alarm output'. The main content area has four rows of settings, each with a label and a dropdown menu: 'Alarm Output Number' (A->1), 'Alarm status1' (closed), 'Alarm Duration' (5 s), and 'Alarm Name (cannot be copied)' (empty text box). Below this is a section titled 'Arming Schedule' with an 'Edit' button. The schedule is represented by a grid with days of the week (Mon-Sun) on the y-axis and hours (0-24) on the x-axis. At the bottom of the page, there are three buttons: 'Manual Alarm', 'Copy To...', and 'Save'.

Figure 3-41 Alarm Input Settings

4. You can copy the settings to other alarm outputs.
5. Click **Save** to save the settings.

## 3.5.2 Smart Event

### 3.5.2.1 Intrusion Detection

#### Purpose:

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

#### Steps:

1. Enter the intrusion detection interface:

**Configuration >Events >Smart Event >Intrusion Detection**


2. Check the **Enable** checkbox.



Figure 3-42Configuring Intrusion Area

3. Select a region.
4. Draw area.
  - (1) Select the Region No.in dropdown list.
  - (2) Click **Edit drawing** to draw a rectangle on the image as a defense region.
  - (3) Click on the image to specify a corner of the rectangle, and right-clickthe mouse after four corners are configured.
5. Configurethe parameters for each defense region separately.



- **Threshold:**The threshold for the time of the object loitering in the region. If you set the value as 0, alarm is triggered immediately after the object entering the region.
  - **Sensitivity:**The value of the sensitivity defines the size of the object which can trigger the alarm, when the sensitivity is high, a very small object can trigger the alarm.
  - **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  to save the settings.

### 3.5.2.2. Configuring Line Crossing Detection

**Purpose:**

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

**Steps:**

1. Enter the Line Crossing Detection interface:  
**Configuration >Event>Smart Event >Line Crossing Detection**
2. Check the **Enable** checkbox to enable the line crossing detection function.

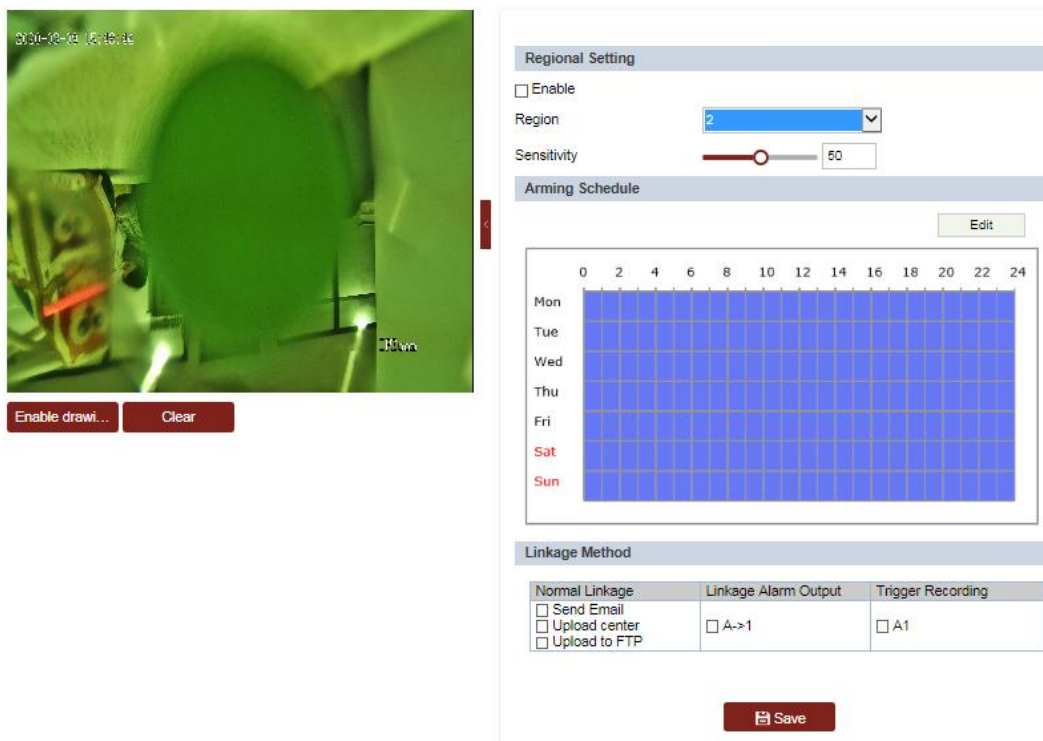


Figure 3-43 Configuring Line

3. Draw area.



- 1) Click **Enable drawi...** 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 the line to adjust the location.
4. Configure the parameters for each defense region separately.
  - **Sensitivity:** The value of the sensitivity defines the size of the object which can trigger the
5. Set the schedule configuration and linkage same as the setting for mobile detection.
6. Click **Save** to save the settings.

### 3.5.2.3. Configuring Region Entrance Detection

The function varied depending on different speed domes.

#### Purpose:

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

#### Steps:

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

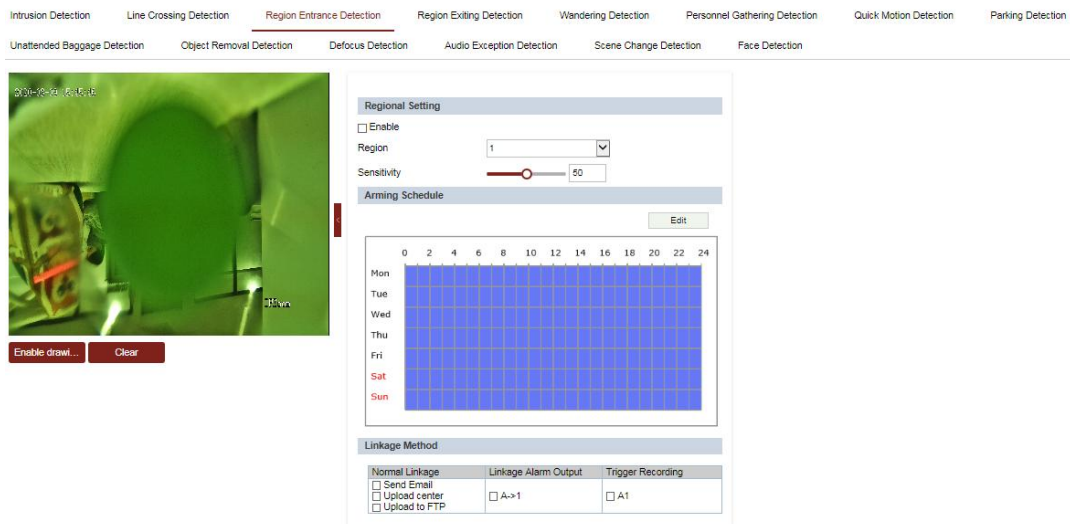



Figure 3-44. Configuring Region Entrance Detection

3. Draw area.
  - 3) Click **Enable drawi...** to draw a line on the image.

- 4) Click the line to switch to the editing mode.  
 Drag an end to the desired place to adjust the length and angle of the line. And drag the line to adjust the location.
7. Configure the parameters for each defense region separately.
  - **Sensitivity:** The value of the sensitivity defines the size of the object which can trigger the
8. Set the schedule configuration and linkage same as the setting for mobile detection.
9. Click  Save to save the settings.

### 3.5.2.4. Region Exiting Detection

#### Purpose

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

#### Steps:

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

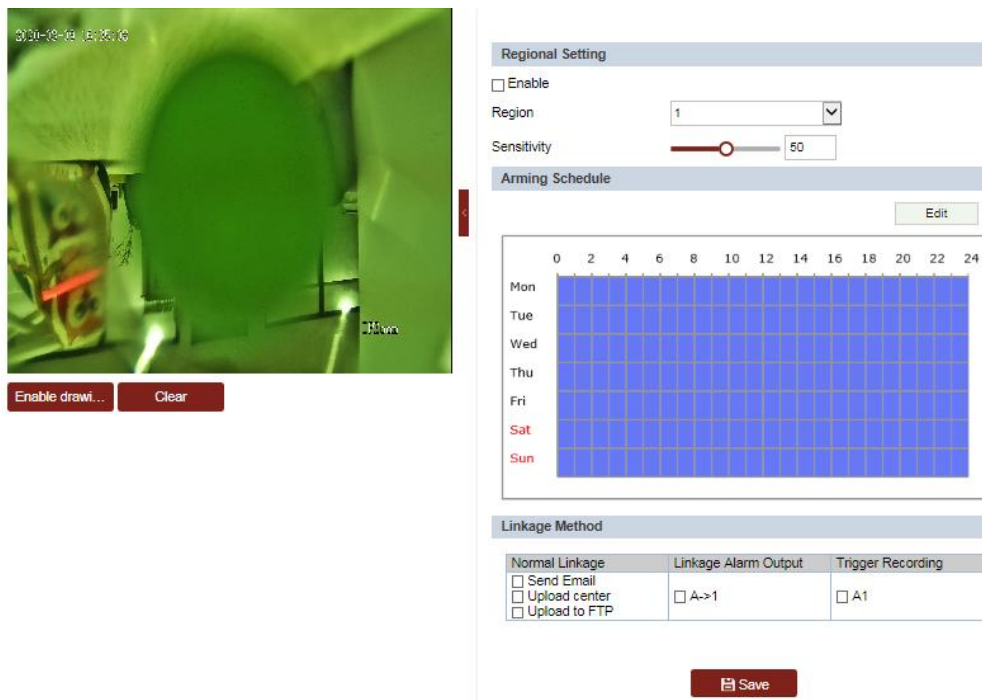



Figure 3-45 Configuring Region Exiting Detection

4. Draw area.  
 Click  to draw a line on the image.  
 Click the line to switch to the editing mode.  
 Drag an end to the desired place to adjust the length and angle of the line. And drag the line to adjust the location.
10. Configure the parameters for each defense region separately.

- 
- **Sensitivity:** The value of the sensitivity defines the size of the object which can trigger the

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

12. Click  to save the settings.

---

Using same method for other smart Event

- 3.5.2.5. Wandering Detection
- 3.5.2.6. Personnel Gathering Detection
- 3.5.2.7. Parking Detection
- 3.5.2.8. Unattended Baggage Detection
- 3.5.2.9. Object Removal Detection
- 3.5.2.10. Defocus Detection
- 3.5.2.11. Audio Exception Detection
- 3.5.2.12. Scene Change Detection
- 3.5.2.13. Face Detection

## 3.5 Storage Settings

### Before you start

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

### 3.5.1 Configuring Recording Schedule

#### 3.5.1.1. Recording Schedule

##### Steps:

(1) Enter the Record Schedule settings interface:

**Configuration > Storage > Schedule Settings > Record Schedule**

Record Schedule    Capture

Video Project

Enable Record Schedule

Overwrite

Pre-record    No Pre-record

Post-record    5s

Stream Type    Main Stream(Normal)

Broken network video

Arming Schedule

Edit

	0	2	4	6	8	10	12	14	16	18	20	22	24
Mon													
Tue													
Wed													
Thu													
Fri													
Sat													
Sun													

■ Timing  
■ Motion  
■ Alarm  
■ Motion | Alarm  
■ Motion & Alarm  
■ Event

Save

Figure 3-46 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 or not 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-stream are 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. Configuring Capture Schedule

#### Purpose:

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

#### Steps:

(1) Enter the Snapshot settings interface:

**Configuration > Storage > Schedule Settings > Capture**

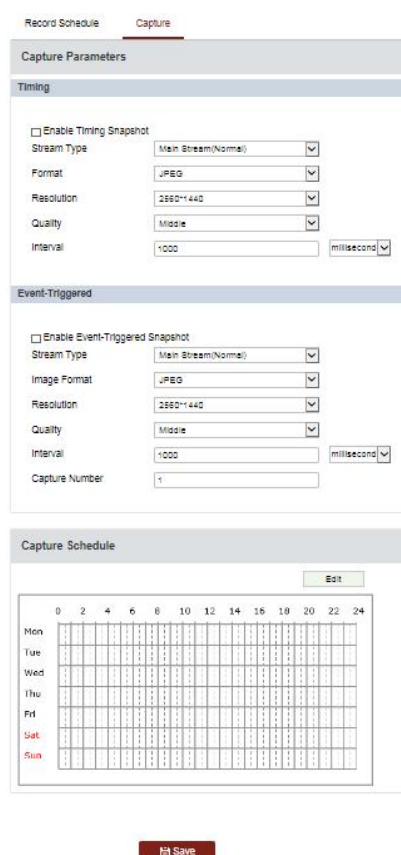
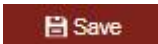


Figure 3-47 Capture Settings

(2) You can select the stream type of the capture.

- (3) Check the **Enable Timing Snapshot** checkbox to enable continuous snapshot, and configure the schedule of timing snapshot. Check the **Enable Event-triggeredSnapshot**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  to save the settings.

## 3.5.2 Storage Management

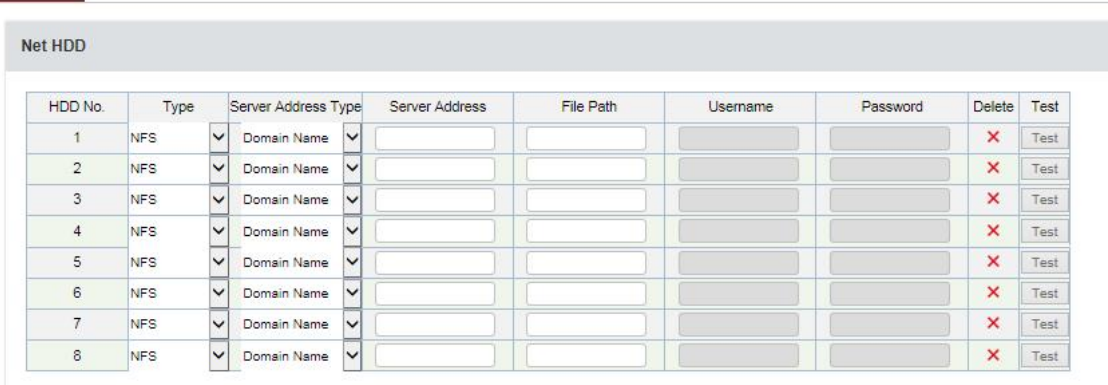
### 3.5.3.1 Configuring Net HDD

#### Before you start:

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

#### Steps:

1. **Add the network disk**
1. Enter the NAS (Network-AttachedStorage) settings interface:  
**Configuration > Storage > Storage Management > Net HDD**



The screenshot shows the 'Net HDD' configuration page. At the top, there are two tabs: 'Net HDD' (selected) and 'HDD Management'. Below the tabs is a table with 8 rows for configuring network disks. Each row has columns for HDD No., Type, Server Address Type, Server Address, File Path, Username, Password, Delete, and Test.

HDD No.	Type	Server Address Type	Server Address	File Path	Username	Password	Delete	Test
1	NFS	Domain Name	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="checkbox"/>	Test
2	NFS	Domain Name	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="checkbox"/>	Test
3	NFS	Domain Name	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="checkbox"/>	Test
4	NFS	Domain Name	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="checkbox"/>	Test
5	NFS	Domain Name	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="checkbox"/>	Test
6	NFS	Domain Name	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="checkbox"/>	Test
7	NFS	Domain Name	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="checkbox"/>	Test
8	NFS	Domain Name	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="checkbox"/>	Test

Figure 3-48 Setting Net HDD

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



### 3.5.3.2. HDDManagement

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.

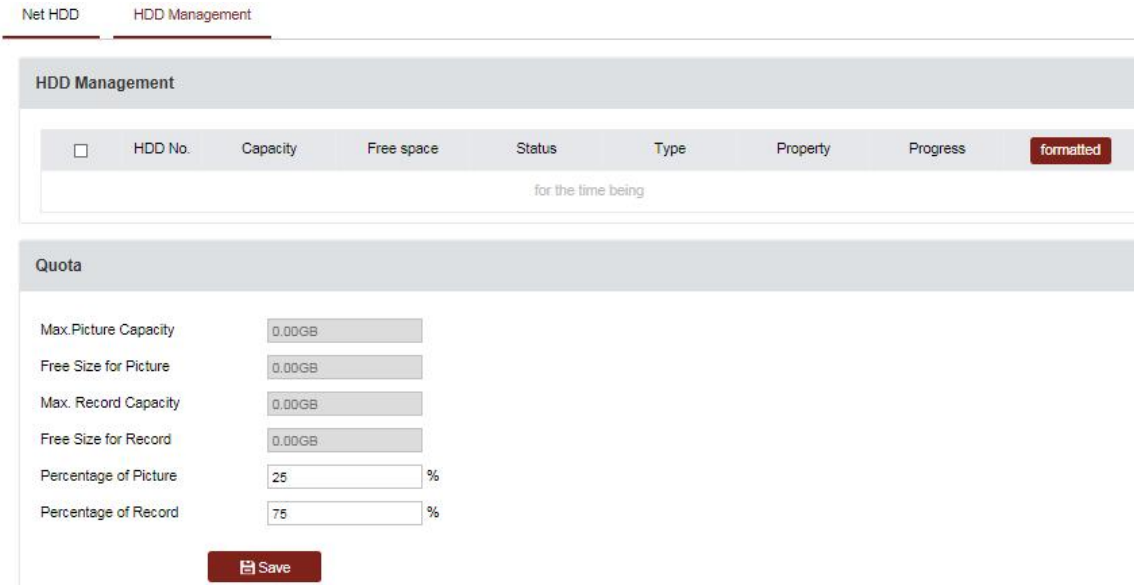


Figure 3–49Storage Management Interface

- 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

HDD Management								Set	Format
<input checked="" type="checkbox"/>	HDD No.	Capacity	Free space	Status	Type	Property	Progress		
<input checked="" type="checkbox"/>	9	20.00GB	0.00GB	Formatting	NAS	R/W			

Figure 3–49View Disk Status


### 3.5.3 Downloading snapshot

#### 3.5.3.1 Downloading snapshot

**Purpose:**

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

**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.

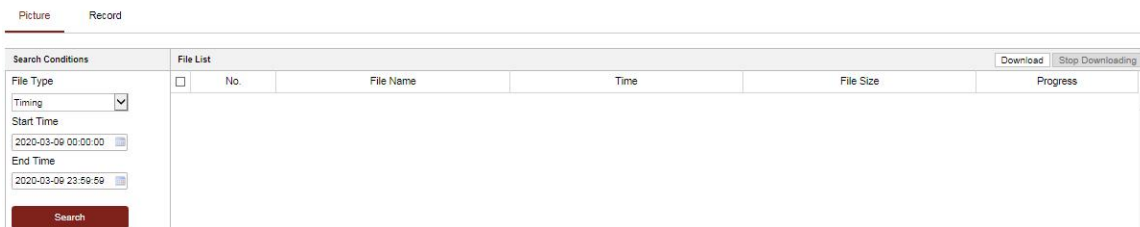



Figure 3–50 Picture Interface

#### 3.5.3.2 Downloading Video Files

**Steps:**

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

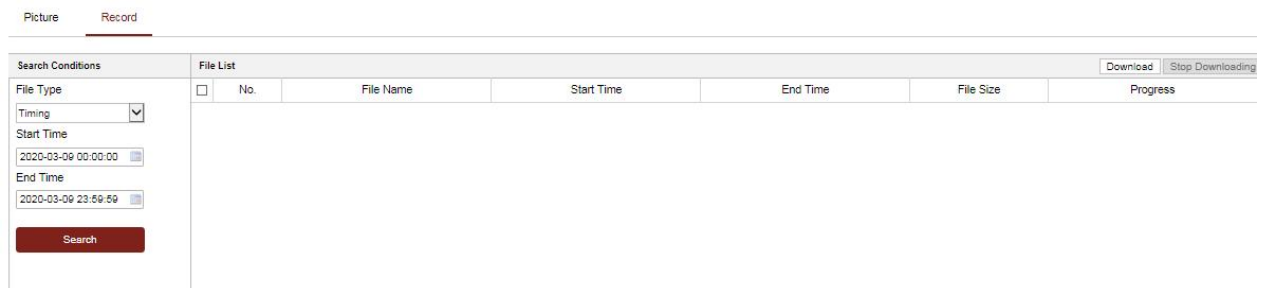



Figure 3–51 Video Downloading interface

9. Check the checkbox in front of the video files that you need to download.
10. Click  **Download** to download the video files.