Network Traffic Camera

Operation Manual

Initiatives on the Use of Video Products

Thank you for choosing Hikvision products.

Technology affects every aspect of our life. As a high-tech company, we are increasingly aware of the role technology plays in improving business efficiency and quality of life, but at the same time, the potential harm of its improper usage. For example, video products are capable of recording real, complete and clear images. This provides a high value in retrospect and preserving real-time facts. However, it may also result in the infringement of a third party's legitimate rights and interests if improper distribution, use and/or processing of video data takes place. With the philosophy of "Technology for the Good", Hikvision requests that every end user of video technology and video products shall comply with all the applicable laws and regulations, as well as ethical customs, aiming to jointly create a better community.

Please read the following initiatives carefully:

- Everyone has a reasonable expectation of privacy, and the installation of video products should not be in conflict with this reasonable expectation. Therefore, a warning notice shall be given in a reasonable and effective manner and clarify the monitoring range, when installing video products in public areas. For non-public areas, a third party's rights and interests shall be evaluated when installing video products, including but not limited to, installing video products only after obtaining the consent of the stakeholders, and not installing highly-invisible video products.
- The purpose of video products is to record real activities within a specific time and space and under specific conditions. Therefore, every user shall first reasonably define his/her own rights in such specific scope, in order to avoid infringing on a third party's portraits, privacy or other legitimate rights.
- During the use of video products, video image data derived from real scenes will continue to be generated, including a large amount of biological data (such as facial images), and the data could be further applied or reprocessed. Video products themselves could not distinguish good from bad regarding how to use the data based solely on the images captured by the video products. The result of data usage depends on the method and purpose of use of the data controllers. Therefore, data controllers shall not only comply with all the applicable laws and regulations and other normative requirements, but also respect international norms, social morality, good morals, common practices and other non-mandatory requirements, and respect individual privacy, portrait and other rights and interests.
- The rights, values and other demands of various stakeholders should always be considered when processing video data that is continuously generated by video products. In this regard, product security and data security are extremely crucial. Therefore, every end user and data controller, shall undertake all reasonable and necessary measures to ensure data security and avoid data leakage, improper disclosure and improper use, including but not limited to, setting up access

control, selecting a suitable network environment (the Internet or Intranet) where video products are connected, establishing and constantly optimizing network security.

- Video products have made great contributions to the improvement of social security around the world, and we believe that these products will also play an active role in more aspects of social life. Any abuse of video products in violation of human rights or leading to criminal activities are contrary to the original intent of technological innovation and product development. Therefore, each user shall establish an evaluation and tracking mechanism of their product application to ensure that every product is used in a proper and reasonable manner and with good faith.

Legal Information

About this Manual

The Manual includes instructions for using and managing the Product. Pictures, charts, images and all other information hereinafter are for description and explanation only. The information contained in the Manual is subject to change, without notice, due to firmware updates or other reasons. Please find the latest version of this Manual at the Hikvision website (***https:// www.hikvision.com/***).

Please use this Manual with the guidance and assistance of professionals trained in supporting the Product.

Trademarks

HIKVISION and other Hikvision's trademarks and logos are the properties of Hikvision in various jurisdictions.

Other trademarks and logos mentioned are the properties of their respective owners.

Disclaimer

TO THE MAXIMUM EXTENT PERMITTED BY APPLICABLE LAW, THIS MANUAL AND THE PRODUCT DESCRIBED, WITH ITS HARDWARE, SOFTWARE AND FIRMWARE, ARE PROVIDED "AS IS" AND "WITH ALL FAULTS AND ERRORS". HIKVISION MAKES NO WARRANTIES, EXPRESS OR IMPLIED, INCLUDING WITHOUT LIMITATION, MERCHANTABILITY, SATISFACTORY QUALITY, OR FITNESS FOR A PARTICULAR PURPOSE. THE USE OF THE PRODUCT BY YOU IS AT YOUR OWN RISK. IN NO EVENT WILL HIKVISION BE LIABLE TO YOU FOR ANY SPECIAL, CONSEQUENTIAL, INCIDENTAL, OR INDIRECT DAMAGES, INCLUDING, AMONG OTHERS, DAMAGES FOR LOSS OF BUSINESS PROFITS, BUSINESS INTERRUPTION, OR LOSS OF DATA, CORRUPTION OF SYSTEMS, OR LOSS OF DOCUMENTATION, WHETHER BASED ON BREACH OF CONTRACT, TORT (INCLUDING NEGLIGENCE), PRODUCT LIABILITY, OR OTHERWISE, IN CONNECTION WITH THE USE OF THE PRODUCT, EVEN IF HIKVISION HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES OR LOSS.

YOU ACKNOWLEDGE THAT THE NATURE OF THE INTERNET PROVIDES FOR INHERENT SECURITY RISKS, AND HIKVISION SHALL NOT TAKE ANY RESPONSIBILITIES FOR ABNORMAL OPERATION, PRIVACY LEAKAGE OR OTHER DAMAGES RESULTING FROM CYBER-ATTACK, HACKER ATTACK, VIRUS INFECTION, OR OTHER INTERNET SECURITY RISKS; HOWEVER, HIKVISION WILL PROVIDE TIMELY TECHNICAL SUPPORT IF REQUIRED.

YOU AGREE TO USE THIS PRODUCT IN COMPLIANCE WITH ALL APPLICABLE LAWS, AND YOU ARE SOLELY RESPONSIBLE FOR ENSURING THAT YOUR USE CONFORMS TO THE APPLICABLE LAW. ESPECIALLY, YOU ARE RESPONSIBLE, FOR USING THIS PRODUCT IN A MANNER THAT DOES NOT INFRINGE ON THE RIGHTS OF THIRD PARTIES, INCLUDING WITHOUT LIMITATION, RIGHTS OF PUBLICITY, INTELLECTUAL PROPERTY RIGHTS, OR DATA PROTECTION AND OTHER PRIVACY RIGHTS. YOU SHALL NOT USE THIS PRODUCT FOR ANY PROHIBITED END-USES, INCLUDING THE

DEVELOPMENT OR PRODUCTION OF WEAPONS OF MASS DESTRUCTION, THE DEVELOPMENT OR PRODUCTION OF CHEMICAL OR BIOLOGICAL WEAPONS, ANY ACTIVITIES IN THE CONTEXT RELATED TO ANY NUCLEAR EXPLOSIVE OR UNSAFE NUCLEAR FUEL-CYCLE, OR IN SUPPORT OF HUMAN RIGHTS ABUSES.
IN THE EVENT OF ANY CONFLICTS BETWEEN THIS MANUAL AND THE APPLICABLE LAW, THE LATTER PREVAILS.

Regulatory Information

FCC Information

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

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

FCC Conditions

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

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

EU Conformity Statement

CE	This product and - if applicable - the supplied accessories too are marked with "CE" and comply therefore with the applicable harmonized European standards listed under the EMC Directive 2014/30/EU, the LVD Directive 2014/35/EU, the RoHS Directive 2011/65/EU.
	2012/19/EU (WEEE directive): Products marked with this symbol cannot be disposed of as unsorted municipal waste in the European Union. For proper recycling, return this product to your local supplier upon the purchase of equivalent new equipment, or dispose of it at designated collection points. For more information see: ***www.recyclethis.info***
	2006/66/EC (battery directive): This product contains a battery that cannot be disposed of as unsorted municipal waste in the European Union. See the product documentation for specific battery information. The battery is marked with this symbol, which may include lettering to indicate cadmium (Cd), lead (Pb), or mercury (Hg). For proper recycling, return the battery to your supplier or to a designated collection point. For more information see: ***www.recyclethis.info***

Industry Canada ICES-003 Compliance

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

Symbol Conventions

The symbols that may be found in this document are defined as follows.

Symbol	Description
⚠ Danger	Indicates a hazardous situation which, if not avoided, will or could result in death or serious injury.
⚠ Caution	Indicates a potentially hazardous situation which, if not avoided, could result in equipment damage, data loss, performance degradation, or unexpected results.
📖 Note	Provides additional information to emphasize or supplement important points of the main text.

Safety Instruction

Regulatory Information

This is a class A product and may cause radio interference in which case the user may be required to take adequate measures.

Laws and Regulations

Use of the product must be in strict compliance with the local laws and regulations. Please shut down the device in prohibited area.

Power Supply

- Use of the product must be in strict compliance with the local electrical safety regulations.
- Use the power adapter provided by qualified manufacturer. Refer to the product specification for detailed power requirements.
- It is recommended to provide independent power adapter for each device as adapter overload may cause over-heating or a fire hazard.
- Make sure that the power has been disconnected before you wire, install, or disassemble the device in the authorized way according to the description in the manual.
- To avoid electric shock, DO NOT directly touch exposed contacts and components once the device is powered up.
- DO NOT use damaged power supply devices (e.g., cable, power adapter, etc.) to avoid electric shock, fire hazard, and explosion.
- DO NOT directly cut the power supply to shut down the device. Please shut down the device normally and then unplug the power cord to avoid data loss.
- The socket-outlet shall be installed near the equipment and shall be easily accessible.
- Make sure the power supply has been disconnected if the power adapter is idle.
- Connect to earth before connecting to the power supply.

Transportation, Use, and Storage

- To avoid heat accumulation, good ventilation is required for a proper operating environment.
- Store the device in dry, well-ventilated, corrosive-gas-free, no direct sunlight, and no heating source environment.
- Avoid fire, water, and explosive environment when using the device.
- Install the device in such a way that lightning strikes can be avoided. Provide a surge suppressor at the inlet opening of the equipment under special conditions such as the mountain top, iron tower, and forest.
- Keep the device away from magnetic interference.
- Avoid device installation on vibratory surfaces or places. Failure to comply with this may cause device damage.
- DO NOT touch the heat dissipation component to avoid burns.

- DO NOT expose the device to extremely hot, cold, or humidity environments. For temperature and humidity requirements, see device specification.
- No naked flame sources, such as lighted candles, should be placed on the equipment.
- DO NOT touch the sharp edges or corners.
- To prevent possible hearing damage, DO NOT listen at high volume levels for long periods.

Maintenance

- If smoke, odor, or noise arises from the device, immediately turn off the power, unplug the power cable, and contact the service center.
- If the device cannot work properly, contact the store you purchased it or the nearest service center. DO NOT disassemble or modify the device in the unauthorized way (For the problems caused by unauthorized modification or maintenance, the company shall not take any responsibility).
- Keep all packaging after unpacking them for future use. In case of any failure occurred, you need to return the device to the factory with the original packaging. Transportation without the original packaging may result in damage to the device and the company shall not take any responsibility.

Network

- Please enforce the protection for the personal information and the data security as the device may be confronted with the network security problems when it is connected to the Internet. Contact us if network security risks occur.
- Please understand that you have the responsibility to configure all the passwords and other security settings about the device, and keep your user name and password.

Lens

- DO NOT touch the lens with fingers directly in case the acidic sweat of the fingers erodes the surface coating of the lens.
- DO NOT aim the lens at the strong light such as sun or incandescent lamp. The strong light can cause fatal damage to the device.

Data

DO NOT disconnect the power during formatting, uploading, and downloading. Or files may be damaged.

Contents

Chapter 1 Activation and Login

1.1 Activation

For the first-time access, you need to activate the device by setting an admin password. No operation is allowed before activation. The device supports multiple activation methods, such as activation via SADP software, web browser, and iVMS-4200 Client.

[i] **Note**

Refer to the user manual of iVMS-4200 Client for the activation via client software.

1.1.1 Default Information

The device default information is shown as below.

- Default IP address: 192.168.1.64
- Default user name: admin

1.1.2 Activate via SADP

SADP is a tool to detect, activate, and modify the IP address of the device over the LAN.

Before You Start

- Get the SADP software from the supplied disk or the official website (***http://www.hikvision.com/***), and install it according to the prompts.
- The device and the computer that runs the SADP tool should belong to the same network segment.

The following steps show how to activate one device and modify its IP address. For batch activation and IP address modification, refer to *User Manual of SADP* for details.

Steps

1. Run the SADP software and search the online devices.
2. Find and select your device in online device list.
3. Enter a new password (admin password) and confirm the password.

⚠ **Caution**

STRONG PASSWORD RECOMMENDED-We highly recommend you create a strong password of your own choosing (using a minimum of 8 characters, including upper case letters, lower case letters, numbers, and special characters) in order to increase the security of your product. And we recommend you reset your password regularly, especially in the high security system, resetting the password monthly or weekly can better protect your product.

4. Click **Activate** to start activation.

Figure 1-1 Activate via SADP

Status of the device becomes **Active** after successful activation.

5. Modify IP address of the device.

   1) Select the device.

   2) Change the device IP address to the same network segment as your computer by either modifying the IP address manually or checking **Enable DHCP** (Dynamic Host Configuration Protocol).

   3) Enter the admin password and click **Modify** to activate your IP address modification.

1.1.3 Activate via Web Browser

Use web browser to activate the device. For the device with the DHCP enabled by default, use SADP software or client software to activate the device.

Before You Start

Ensure the device and the computer connect to the same LAN.

Steps

1. Change the IP address of your computer to the same network segment as the device.

2. Open the web browser, and enter the default IP address of the device to enter the activation interface.

3. Create and confirm the admin password.

⚠ **Caution**

STRONG PASSWORD RECOMMENDED-We highly recommend you create a strong password of your own choosing (using a minimum of 8 characters, including upper case letters, lower case letters, numbers, and special characters) in order to increase the security of your product. And we recommend you reset your password regularly, especially in the high security system, resetting the password monthly or weekly can better protect your product.

4. Click **OK** to complete activation.
5. Go to the network settings interface to modify IP address of the device.

1.2 Login

You can log in to the device via web browser for further operations such as live view and local configuration.

Before You Start
Connect the device to the network directly, or via a switch or a router.

Steps
1. Open the web browser, and enter the IP address of the device to enter the login interface.
2. Enter **User Name** and **Password**.
3. Click **Login**.
4. Download and install appropriate plug-in for your web browser. Follow the installation prompts to install the plug-in.
5. Reopen the web browser after the installation of the plug-in and repeat steps 1 to 3 to login.
6. **Optional:** Click **Logout** on the upper right corner of the interface to log out of the device.

Chapter 2 Live View and Local Configuration

2.1 Live View

2.1.1 Start/Stop Live View

Click ▶ to start live view. Click ■ to stop live view.

2.1.2 Select Image Display Mode

Click ▦▾ to select an image display mode.

2.1.3 Select Window Division Mode

Click ▣▾ to select a window division mode.

2.1.4 Select Stream Type

Click ⇄▾ to select the stream type. It is recommended to select the main stream to get the high-quality image when the network condition is good, and select the sub-stream to get the fluent image when the network condition is not good enough. The third stream is custom.

> **ⓘ Note**
>
> The third stream varies with different models. The actual device prevails.

2.1.5 Capture Picture Manually

You can capture pictures manually on the live view image and save them to the computer.

Steps
1. Click 📷 to capture a picture.
2. **Optional:** Click **Configuration → Local → Live View Parameters** and select **Image Format**.
3. **Optional:** Click **Configuration → Local** to view the saving path of snapshots in live view.

2.1.6 Record Manually

You can record videos manually on the live view image and save them to the computer.

Steps

1. Click ▶ to start live view.
2. Click ⏺ to start recording.
3. Click ◉ to stop recording.
4. **Optional:** Click **Configuration → Local** to view the saving path of record files.

2.1.7 Start/Stop Two-Way Audio

The device supports two-way audio with terminals, such as computers.

Before You Start
The device is equipped with an audio input interface and audio output interface, which support connecting with the corresponding devices, such as microphones and loudspeakers.

Steps

⎙**Note**
The function varies with different models. The actual device prevails.

1. Select a window to start two-way audio.
2. Click ▶ to start live view.
3. Click 🎤 to start two-way audio.

   When speaking at the PC end, you can hear the voice at the device end and vice versa.
4. Click 🎤 to stop two-way audio.

2.1.8 Enable/Disable Audio

Enable the audio if necessary after connecting an audio input device under the audio & video stream. Click 🔇▾ to enable and adjust it. Click again to disable this function.

2.1.9 Enable Digital Zoom

You can enable digital zoom to zoom in a certain part of the live view image.

Steps

1. Click ▶ to start live view.
2. Click 🔍 to enable digital zoom.
3. Place the cursor on the live view image position which needs to be zoomed in. Drag the mouse rightwards and downwards to draw an area.

   The area will be zoomed in.
4. Click any position of the image to restore to normal image.
5. Click 🔍 to disable digital zoom.

2.1.10 Enable Regional Focus

Steps

1. Click ![icon] .

2. Drag the cursor from the upper left corner to the lower right corner to select the area that needs to be focused.

Result

The selected area is focused.

2.1.11 Enable Regional Exposure

Enable regional exposure to expose partial area of the live view image.

Steps

![Note icon] **Note**

The function varies with different models. The actual device prevails.

1. Click ![icon] .

2. Click ![icon] to enable regional exposure.

3. Drag the cursor to select an area.

   The selected area will be exposed.

4. Click ![icon] to disable regional exposure.

5. **Optional:** You can also do the following operations.

   ![icon]   To display the drawn regional area.

   ![icon]   To hide the drawn regional area.

2.1.12 Select Video Mode

Set the video mode when adjusting the device focus during construction.

Click ![icon] and select ![icon] when the device is running normally.

2.2 PTZ Operation

Click **Live View**. Click ![icon] and click ![icon] to show the PTZ control panel.

Note

- The PTZ supports power-off memory. When the device is suddenly cut off power or restarted normally, it can automatically return to the position before the power cut or reboot.
- The PTZ function varies with different models. The actual device prevails.
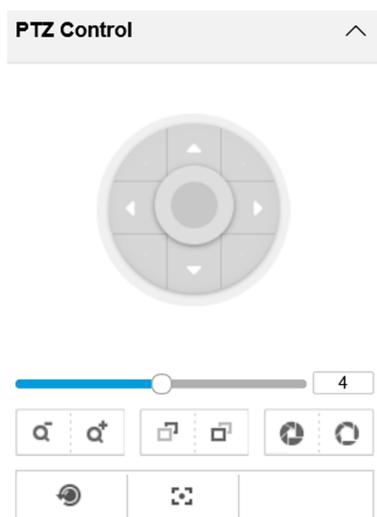- Other unmentioned buttons are reserved buttons.

Figure 2-1 Control Panel

Table 2-1 Button Description

Button	Description
(PTZ speed slider — 4)	Adjust the PTZ speed.
⊖⁺ / ⊖⁻	Zoom + and Zoom - • Hold ⊖⁺ to zoom out the scene. • Hold ⊖⁻ to zoom in the scene.
⊡⁺ / ⊡⁻	Focus + and Focus - • Hold ⊡⁺ under the manual focus mode to make near objects become clear and distant objects become vague. • Hold ⊡⁻ to make distant objects become clear and near objects become vague.
○ / ◑	Iris + and Iris − • Hold ○ to increase the iris diameter when in a dark environment. • Hold ◑ to decrease the iris diameter when in a bright environment.

Button	Description
⊚	Lens Initialization It is applicable to devices with motorized lenses. You can use this function when overcoming image blurs caused by overtime zooming or focusing.
⌐⌐	Auxiliary Focus It is applicable to devices with motorized lenses. Use this function to focus the lens automatically and make images become clear.

2.3 Local Configuration

Go to **Configuration → Local** to set the live view parameters and change the saving paths of videos, captured pictures, scene pictures, etc.

ⁱNote

The parameters vary with different models. The actual device prevails.

Live View Parameters

Protocol Type	● TCP	○ UDP	○ HTTP	○ HTTPS
Stream Type	● Main Stream	○ Sub-Stream		
Live View Performance	○ Shortest Delay	● Balanced	○ Fluency	
Decoding Type	● Software Decoding	○ Hardware Decoding		
Rules Information	● Enable	○ Disable		
Feature Information	○ Enable	● Disable		
Image Size	● Auto-fill	○ 4:3	○ 16:9	
Image Format	● JPEG	○ BMP		

Record File Settings

Record File Size	○ 256M	● 512M	○ 1G
Save record files to	D:\		Browse
Save downloaded files to	D:\		Browse

Picture and Clip Settings

Save snapshots in live view to	D:\	Browse
Save downloaded pictures to	D:\	Browse
Save scene picture to	D:\	Browse
Save snapshots when playback to	D:\	Browse
Save clips to	D:\	Browse

Figure 2-2 Local Configuration

Protocol Type

Select the network transmission protocol according to the actual needs.

TCP

Ensures complete delivery of streaming data and better video quality, yet the real-time transmission will be affected.

UDP

Provides real-time audio and video streams.

HTTP

Gets streams from the device by a third party client.

HTTPS

Gets streams in https format.

Stream Type

Main Stream

Select it to get the high-quality image when the network condition is good.

Sub-Stream

Select it to get the fluent image when the network condition is not good enough.

Live View Performance

Shortest Delay

The video is real-time, but its fluency may be affected.

Balanced

Balanced mode considers both the real time and fluency of the video.

Fluency

When the network condition is good, the video is fluent.

Decoding Type

Software Decoding

Decode via software. It takes up more CPU resources but provides images with better quality when it compares to the hardware decoding.

Hardware Decoding

Decode via GPU. It takes up less CPU resources but provides images with worse quality when it compares to the software decoding.

Rules Information

If you enable the rule information, tracking frames will be displayed on the live view interface when there are vehicles passing.

Feature Information

Enable it to display feature information of the target in the live view image.

Image Size

The display ratio of live view.

Image Format

The saving format of manually captured images.

Record File Size

Select the packed size of the manually recorded video files. After the selection, the max. record file size is the value you selected.

Save record files to

Set the saving path for the manually recorded video files.

Save downloaded files to

Set the saving path for the download files.

Save snapshots in live view to

Set the saving path for the manually captured pictures in live view mode.

Save downloaded pictures to

Set the saving path for the downloaded pictures.

Save scene picture to

Set the saving path of the captured pictures in **Live View → Real-Time Capture** .

Save snapshots when playback to

Set the saving path for the manually captured pictures in playback mode.

Save clips to

Set the saving path for the clips.

Chapter 3 Playback

You can search, play back, and download videos that stored on the storage card.

Steps

1. Click **Playback**.
2. Select a channel.
3. Select a date.
4. Click **Search**.
5. Click ▶ to start playback.
6. **Optional:** You can also do the following operations.

Set playback time	• Drag the time bar to the target time and click ▶ to play the video. • Click the current time point showed above the time bar and enter the target time point in the popup window. Click **OK** and click ▶ to play the video.
Capture image	Click 📷 to capture an image.
Clip record	Click ✂ / ✂ to start/stop clipping the record.
Play back in single frame	Click � once to play back the video in one frame.
Download record	a. Click 📥 . b. Select the start time and end time. c. Click **Search**. d. Check record files that need to be downloaded. e. Click **Download**.
Stop playback	Click ■ to stop playback.
Slow forward	Click ≪ to slow down the playback.
Fast forward	Click ≫ to speed up the playback.
Digital zoom	Click 🔍 to enable digital zoom. Click 🔍 to disable digital zoom.
Adjust volume	Click 🔈 to enable volume.

Chapter 4 Record and Capture

4.1 Set Storage Path

4.1.1 Set Storage Card

If you want to store the files to the storage card, make sure you insert and format the storage card in advance.

Before You Start
Insert the storage card to the device.

Steps
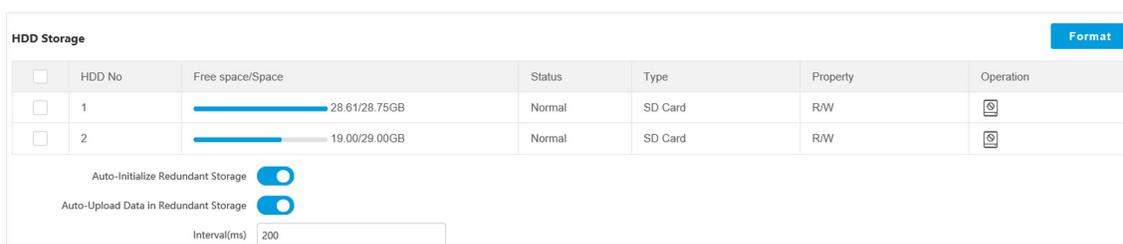1. Go to **Configuration → Storage → Storage Management → HDD Management → HDD Storage** .

Figure 4-1 Set Storage Card

2. Format the storage card in two ways.
   - Check the storage card, and click **Format** to format it manually.

   > **Note**
   >
   > For the newly installed storage card, you need to format it manually before using it normally.

   - If you want to format the storage card automatically when the card is abnormal, enable **Auto-Initialize Redundant Storage**.
3. **Optional:** If the device has been connected to the platform, and you want to upload the storage card information automatically, enable **Auto-Upload Data in Redundant Storage** and set the interval.
4. Click **Save**.

4.1.2 Set FTP

Set FTP parameters if you want to upload the captured pictures to the FTP server.

Before You Start
Set the FTP server, and ensure the device can communicate normally with the server.

Steps

1. Go to **Configuration → Network → Data Connection → FTP** .

Figure 4-2 Set FTP

2. Check **Enable FTP**.
3. Select **Number of Enabled FTP**.

> **Note**
>
> You can only enable one FTP if the device does not support the violation capture, or you should set different uploaded data for each FTP respectively.

Example

If you select FTP 1 as **Upload Checkpoint Data**, FTP 2 will be selected as **Upload Violation Data** by default.

4. Set FTP Parameters.
   1) Select **Sever Address Type** and enter corresponding information.
   2) Enter **Port**.
   3) Enter **User Name**, **Password**, and confirm the password.
   4) Select **Protocol Type**.
   5) Select **Directory Structure**.

> **Note**
>
> You can customize the directory structure according to your needs.

5. **Optional:** Enable upload functions.

> **Note**
>
> Supported functions vary with different models. The actual device prevails.

Not Upload Plate Close-up

The close-up pictures of a license plate will not be uploaded.

Upload Face Picture

Upload face close-up pictures to the FTP server.

Upload Target Picture

Upload the matted pictures of the target detection area to the FTP server.

Upload Additional Information to FTP

Add related information when uploading data to the FTP server.

6. Select **Path/Picture Name Encoding Mode**.

GB2312

Chinese characters encoding.

UTF-8

UNICODE encoding.

7. **Optional:** Click **FTP Test** to check the FTP server.

8. Set naming rules and separators according to the actual needs.

9. **Optional:** Edit **OSD information** which can be uploaded to the FTP server with the pictures to make it convenient to view and distinguish the data.

10. Click **Save**.

4.1.3 Set SDK Listening

The SDK listening can be used to receive the uploaded information and pictures of the device arming alarm.

Before You Start
The listening service has been enabled for the SDK listening, and the network communication with the device is normal.

Steps
1. Go to **Configuration → Network → Data Connection → Alarm Upload** .

IP Address/Domain	0.0.0.0
Port	7200
Enable Picture Uploading Listening	⬤
Protocol Type	⦿ License Plate Upload Protocol ◯ Mixed Target Upload Protocol
Upload Binary Image	⬤
Cloud Storage	⚙ Disabled

Figure 4-3 Set SDK Listening

2. Set **IP Address/Domain** and **Port** if you need to upload the alarm information and pictures.

3. **Optional:** Enable the picture uploading listening if you need to upload image information.

4. Select **Protocol Type**.

☐**Note**

Supported functions vary with different models. The actual device prevails.

License Plate Upload Protocol

Uploads arming alarm images of the license plate. You can enable **Upload Binary Image** if you need to upload images which are full of black or white pixel points. Enable **Output Binary Image in BMP Format** if you want to output images in this format.

Mixed Target Upload Protocol

Uploads images of multiple targets such as humans and vehicles. You can enable the body property to recognize clothes, bags, and other properties.

5. **Optional:** If you want to save the alarm information and pictures to the cloud storage, click ⚙ to set **Cloud Storage**. Refer to **_Set Cloud Storage_** for details.
6. Click **Save**.

4.1.4 Set Arm Host

The device can upload the captured pictures via the arm host.

Steps

📖**Note**

For level 1 arm, the pictures can be uploaded normally. If uploading failed, the device will upload again. For level 2 arm, the pictures will be uploaded once. No more upload if uploading failed. For level 3 arm, pictures will not be uploaded.

1. Go to **Configuration → Network → Data Connection → Upload Arm** .

Figure 4-4 Set Arm Host

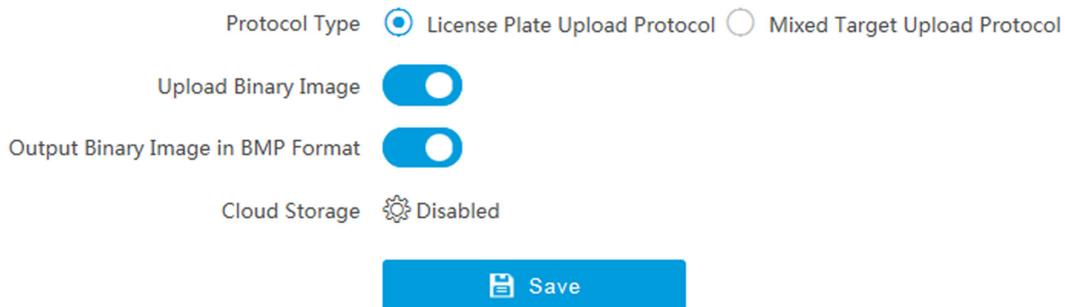2. Select **Protocol Type**.

📖**Note**

Supported functions vary with different models. The actual device prevails.

License Plate Upload Protocol

Uploads arming alarm images of the license plate. You can enable **Upload Binary Image** if you need to upload binary images full of black or white pixel points. Enable **Output Binary Image in BMP Format** if you want to output images in this format.

Mixed Target Upload Protocol

Uploads images of multiple targets such as humans and vehicles. You can enable the body property to recognize clothes, bags, and other properties.

3. **Optional:** If you want to save the alarm information and pictures to the cloud storage, click ⚙ to set **Cloud Storage**. Refer to ***Set Cloud Storage*** for details.

4. Click **Save**.

4.1.5 Set ISAPI Listening

ISAPI listening and SDK listening are mutually exclusive protocols. If you enable the picture uploading listening, the device will transmit images via the SDK listening. If not, the device will upload images via ISAPI protocol after the ISAPI parameters are set.

Before You Start
The listening service has been enabled for the ISAPI host, and the network communication with the device is normal.

Steps
1. Go to **Configuration → Network → Data Connection → ISAPIListen** .
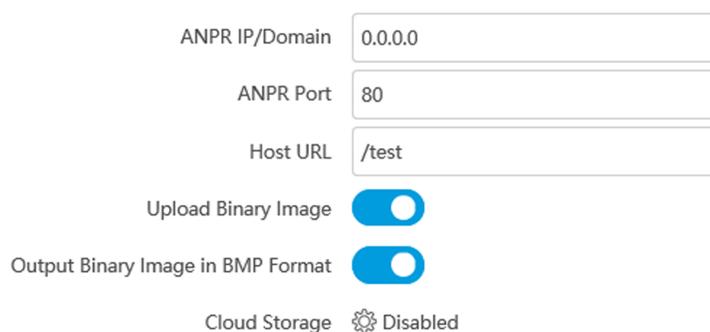
ANPR IP/Domain	0.0.0.0
ANPR Port	80
Host URL	/test
Upload Binary Image	🔵
Output Binary Image in BMP Format	🔵
Cloud Storage	⚙ Disabled

Figure 4-5 Set ISAPI Listening

2. Set **ANPR IP/Domain**, **ANPR Port**, and **Host URL**.

3. **Optional:** Enable **Upload Binary Image** if you need to upload images which are full of black or white pixel points.

⬒**Note**

Enable **Output Binary Image in BMP Format** if you want to output images in this format.

4. **Optional:** If you want to save the alarm information and pictures to the cloud storage, click ⚙ to set **Cloud Storage**. Refer to ***Set Cloud Storage*** for details.

5. Click **Save**.

4.1.6 Set Cloud Storage

Cloud storage is a kind of network storage. It can be used as the extended storage to save the captured pictures.

Before You Start
- Arrange the cloud storage server.
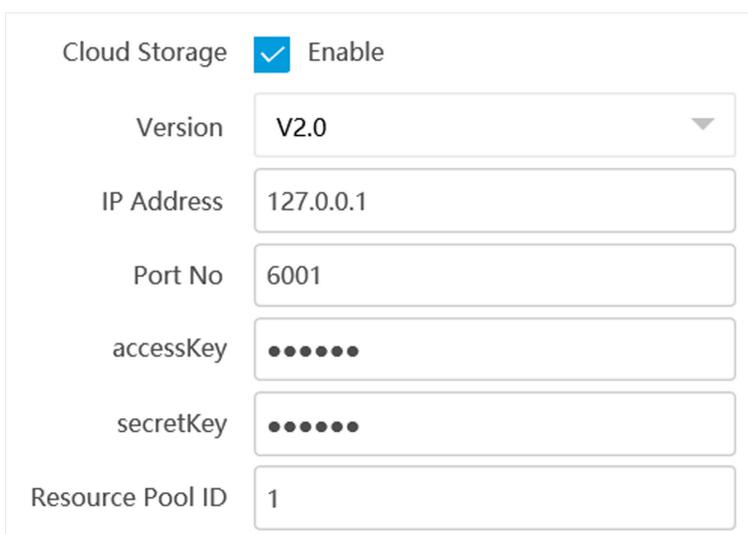- You have enabled level 1 arming in **Live View → Real-Time Capture** .

[i]**Note**

The real-time capture should be used with dedicated platform.

Steps
1. Go to **Configuration → Storage → Storage Management → Cloud Storage** .

Figure 4-6 Set Cloud Storage

2. Check **Enable**.
3. Select **Version**.

    V1.0 a. Enter **IP Address** and **Port No.**
            b. Enter **User Name** and **Password**.
            c. Enter **Cloud Storage ID** and **Violation Cloud Storage ID** according to the server storage area No.

    V2.0 a. Enter **IP Address** and **Port No.**
            b. Enter **accessKey** and **secretKey**.
            c. Enter **Resource Pool ID** according to the server storage area No. of uploading pictures.

4. Click **Save**.

4.2 Set Quota

Set the video and picture ratio in the storage.

Before You Start
Install the storage card.

Steps
1. Go to **Configuration → Storage → Storage Management → HDD Quota** .
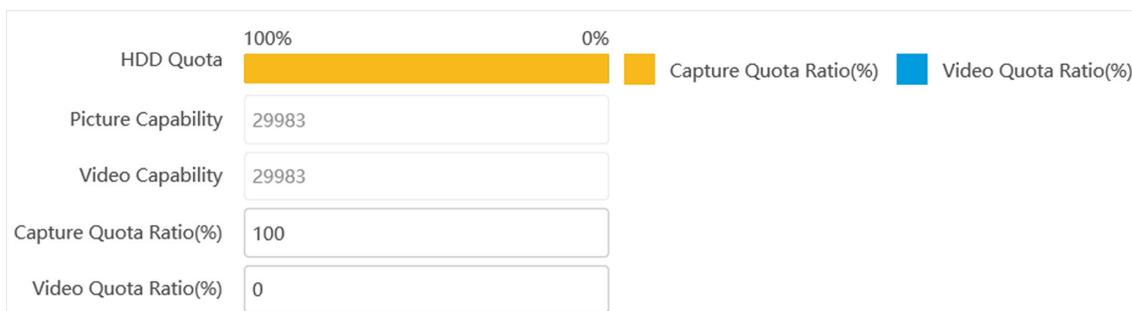
Figure 4-7 Set Quota

2. Set **Capture Quota Ratio** and **Video Quota Ratio** according to the actual needs.

[i]**Note**

The percentage sum of the capture and video quota ratio should be 100 %.

3. Click **Save**.

What to do next
Format the storage card after the settings.

4.3 Set Record Schedule

Set record schedule to record video automatically during configured time periods.

Before You Start
Install the storage card.

Steps
1. Go to **Configuration → Storage → Schedule Settings → Record Schedule** .
2. **Optional:** Enable the recording overwriting.

When the storage is full, the earliest videos will be overwritten.
3. Enable the record schedule.
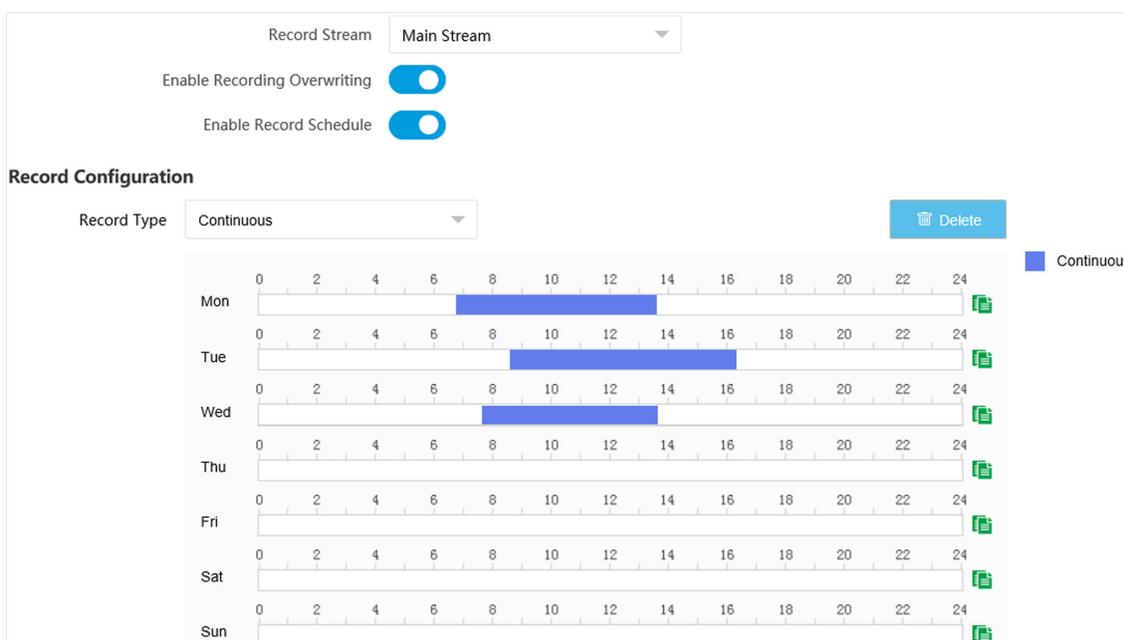
Figure 4-8 Set Record Schedule

4. Select **Record Type**.

5. Drag the cursor on the time bar to set a recording time.

ⓘNote

Up to 8 time periods can be set on a time bar.

6. Adjust the recording time.
- Click a set recording period and enter the start time and end time in the pop-up window.
- Drag two ends of the set recording period bar to adjust the length.
- Drag the whole set recording period bar and relocate it.

7. Optional: Delete recording periods.
- Click a set recording period and click **Delete** in the pop-up window.
- Click a set recording period and click **Delete** on the record configuration interface.

8. Optional: Click 📋 to copy set recordings to other days.

9. Click **Save**.

Result

The device will only record at the set periods.

Chapter 5 Encoding and Display

5.1 Set Video Encoding Parameters

Set video encoding parameters to adjust the live view and recording effect.

- When the network signal is good and the speed is fast, you can set high resolution and bitrate to raise the image quality.
- When the network signal is bad and the speed is slow, you can set low resolution, bitrate, and frame rate to guarantee the image fluency.
- When the network signal is bad, but the resolution should be guaranteed, you can set low bitrate and frame rate to guarantee the image fluency.
- Main stream stands for the best stream performance the device supports. It usually offers the best resolution and frame rate the device can do. But high resolution and frame rate usually means larger storage space and higher bandwidth requirements in transmission. Sub-stream usually offers comparatively low resolution options, which consumes less bandwidth and storage space. Third stream is offered for customized usage.

Steps

⌐i⌐Note

The supported parameters vary with different models. The actual device prevails.

1. Go to **Configuration → Video → Video Encoding → Video Encoding** .
2. Set the parameters for different streams.

Stream Type

Video stream and video & audio stream are selectable.

Bitrate

Select relatively large bitrate if you need good image quality and effect, but more storage spaces will be consumed. Select relatively small bitrate if storage requirement is in priority.

Frame Rate

It 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.

Resolution

The higher the resolution is, the clearer the image will be. Meanwhile, the network bandwidth requirement is higher.

SVC

Scalable Video Coding (SVC) is an extension of the H.264/AVC and H.265 standard. Enable the function and the device will automatically extract frames from the original video when the network bandwidth is insufficient.

Bitrate Type

Select the bitrate type to constant or variable.

Video Quality

When bitrate type is variable, 6 levels of video quality are selectable. The higher the video quality is, the higher requirements of the network bandwidth.

Profile

When you select H.264 or H.265 as video encoding, you can set the profile. Selectable profiles vary according to device models.

I Frame Interval

It refers to the number of frames between two key frames. The larger the I frame interval is, the smaller the stream fluctuation is, but the image quality is not that good.

Video Encoding

The device supports multiple video encoding types, such as H.264, H.265, and MJPEG. Supported encoding types for different stream types may differ. H.265 is a new encoding technology. Compared with H.264, it reduces the transmission bitrate under the same resolution, frame rate, and image quality.

3. Click **Save**.

5.2 Set Image Parameters

You can adjust the image parameters to get clear image.

Steps

□ⅈ **Note**

The supported parameters may vary with different models. The actual device prevails.

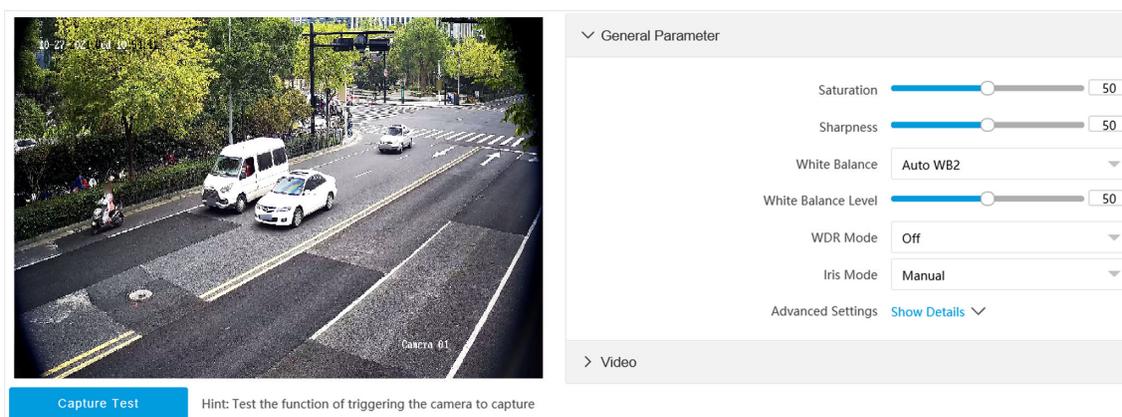1. Go to **Configuration → Video → Camera Parameter → Camera Parameter** .

Figure 5-1 Set Image Parameters

2. Set the camera parameters.

> 📖**Note**
>
> The supported parameters vary with different models. The actual device prevails.

General Parameter

Enable Dual-Shutter

Set the stream type after enabling it.

Saturation

It refers to the colorfulness of the image color.

Sharpness

It refers to the edge contrast of the image.

White Balance

It is the white rendition function of the device used to adjust the color temperature according to the environment.

Iris Mode

Select the iris mode as manual or auto.

Brightness Enhancement at Night

The scene brightness will be enhanced at night automatically.

Light Compensation on License Plate

Check it. The plate brightness compensation can be realized, and various light supplement conditions can be adapted via setting license plate expectant brightness and supplement light correction coefficient. The higher the sensitivity is, the easier this function can be enabled.

Enable Gamma Correction

The higher the gamma correction value is, the stronger the correction strength is.

Black and White Mode at Night

When ICR is in night mode, you can check it to keep the video in black and white mode.

Enable Light Compensation Correction

The higher the value is, the stronger the light compensation is.

Video

Brightness

It refers to the brightness the image.

Contrast

It refers to the contrast of the image. Set it to adjust the levels and permeability of the image.

Shutter Speed

If the shutter speed is quick, the details of the moving objects can be displayed better. If the shutter speed is slow, the outline of the moving objects will be fuzzy and trailing will appear.

Gain

It refers to the upper limit value of limiting image signal amplification. It is recommended to set a high gain if the illumination is not enough, and set a low gain if the illumination is enough.

Hue Range

Select the range to adapt to the display.

3D DNR

Digital Noise Reduction (DNR) reduces the noise in the video stream.

In **Normal Mode**, the higher the **3D DNR Level** is, the stronger the noise will be reduced. But if it is too high, the image may become fuzzy.

In **Expert Mode**, set **Spatial Intensity** and **Time Intensity**. If the space domain intensity is too high, the outline of the image may become fuzzy and the details may lose. If the time domain intensity is too high, trailing may appear.

2D DNR

The higher the **2D DNR Level** is, the stronger the noise will be reduced. But if it is too high, the image may become fuzzy.

Video Standard

Select the video standard according to the actual power supply frequency.

Power Synchronization

The street lights and traffic lights will cause image flashing in live view. Check it, and set **Phase Position** and **Signal Frequency** to overcome the image flashing in live view.

3. **Optional:** Click **Capture Test** to check the image.

5.3 Set ICR

ICR adopts mechanical IR filter to filter IR in the day to guarantee the image effect, and to remove the IR filter at night to guarantee full-spectrum rays can get through the device.

Steps
1. Go to **Configuration → Capture → Capture Images → ICR** .
2. Select **ICR Mode**.

Auto Switch	Switches to ICR mode automatically at night or in dark light conditions.
Manual Switch	Select **Day-night Mode** to switch to the day or night manually.
Schedule Switch	Set **Day-night Mode**, **Start Time**, and **End Time** to switch to ICR mode only during the set time period.

3. Click **Save**.

5.4 Set ROI

ROI (Region of Interest) encoding helps to assign more encoding resources to the region of interest, thus to increase the quality of the ROI whereas the background information is less focused.

Before You Start
Please check the video encoding type. ROI is supported when the video encoding type is H.264 or H.265.

Steps
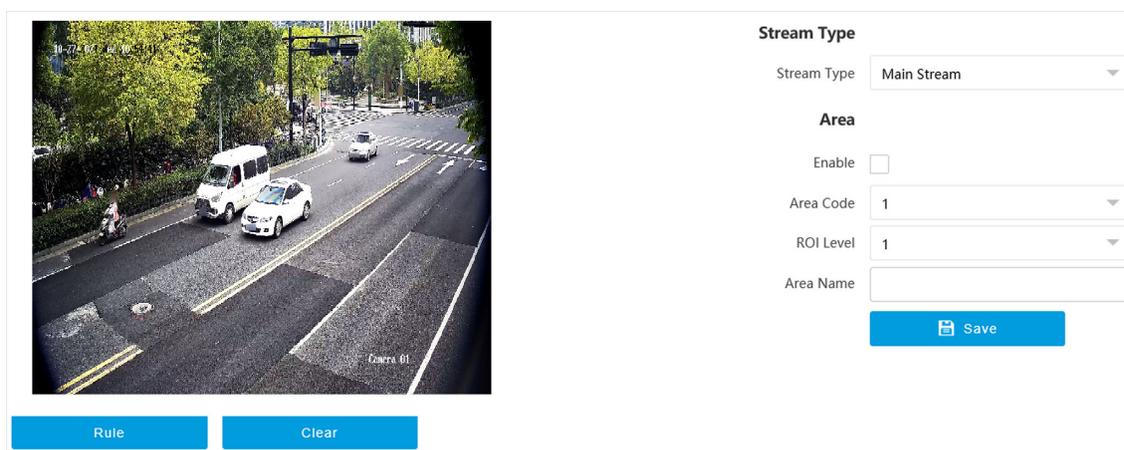**1.** Go to **Configuration → Video → Video Encoding → ROI** .

Figure 5-2 Set ROI

2. Select **Stream Type**.
3. Set ROI region.

1) Check **Enable**.

2) Select **Area Code**.

3) Click **Rule**.

4) Drag the mouse on the live view image to draw a fixed area.

5) Select the fixed area that needs to be adjusted and drag the mouse to adjust its position.

4. Select **ROI Level** and enter **Area Name**.

⃞**i**⃞**Note**

The higher the ROI level is, the clearer the image of the detected area is.

5. Click **Save**.

6. **Optional:** Select other area codes and repeat the steps above if you need to draw multiple fixed areas.

5.5 Set Privacy Mask

The privacy mask can be used to protect personal privacy by concealing parts of the image from view or recording with a masked area.

Steps

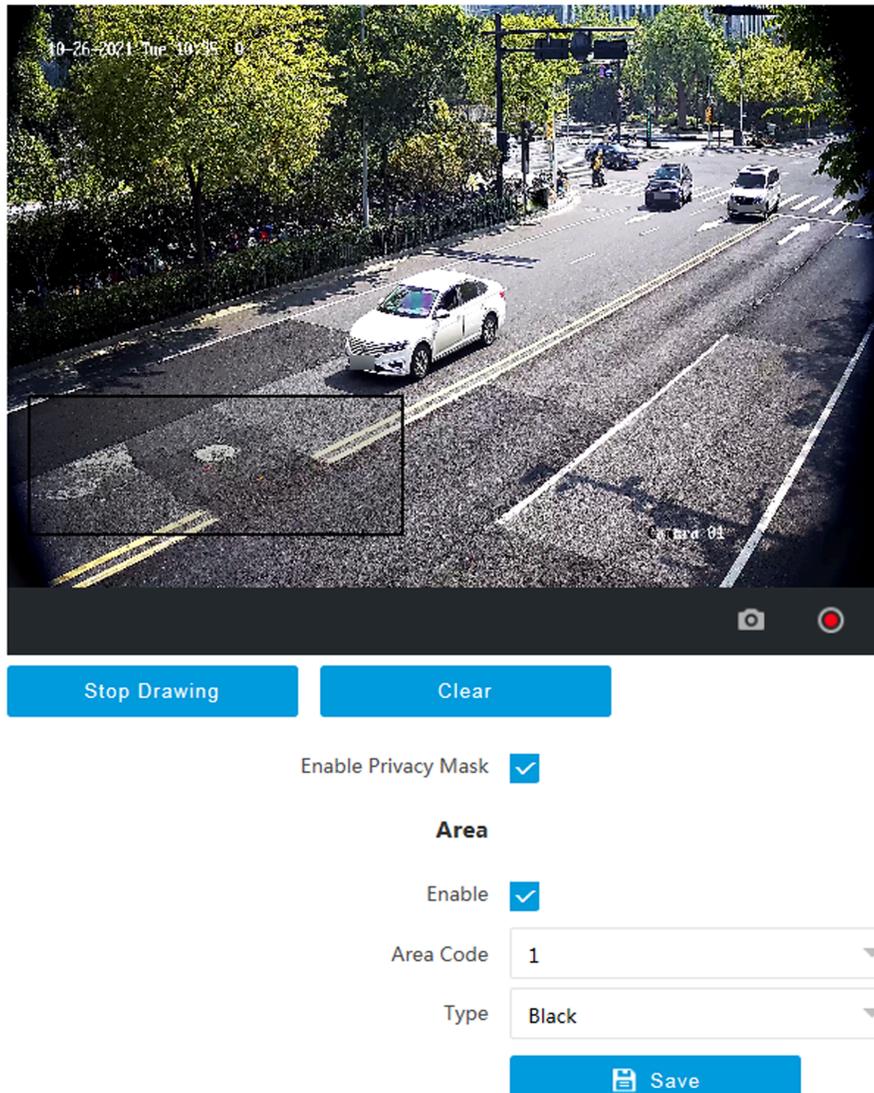1. Go to **Configuration → Video → Video Encoding → Privacy Mask** .

Figure 5-3 Set Privacy Mask

2. Check **Enable Privacy Mask**.

3. Enable the privacy mask area(s).
    1) Check **Enable**.
    2) Select **Area Code**.
    3) Select **Type**.

4. Draw the privacy mask area.
    1) Click **Draw Area**.
    2) In the live view image, drag the mouse to draw the privacy mask area of the selected area code.
    3) Click **Stop Drawing**.
    4) **Optional:** Click **Clear** to clear all the drawn areas.

5. **Optional:** Repeat step 3 and 4 to draw more privacy mask areas.

⧉**Note**

Up to four privacy mask areas are supported.
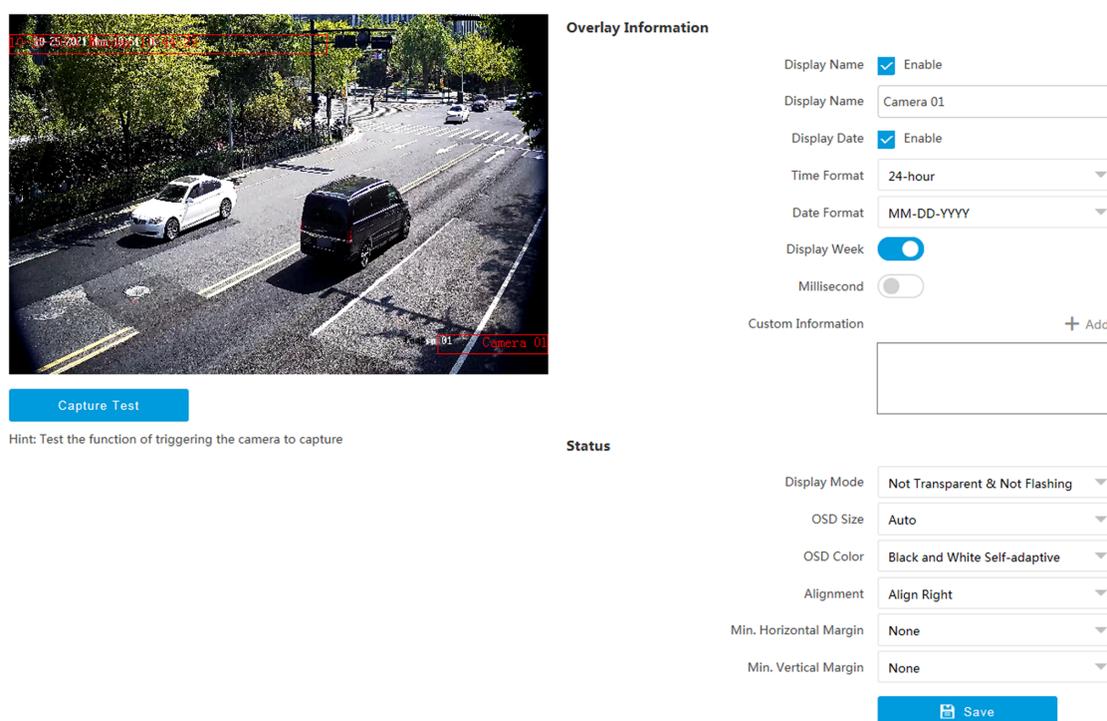
6. Click **Save**.

5.6 Set OSD

You can customize OSD information on the live view.

Steps

1. Go to **Configuration → Video → Text Overlay on Video → Text Overlay on Video** .

⧉**Note**

The supported functions vary with different models. The actual device prevails.

Figure 5-4 Set OSD

2. Set display contents.
   1) Check **Display Name**.
   2) Enter **Display Name**.
   3) Check **Display Date**, and set the time and date format.
   4) Enable **Display Week** or **Millisecond** according to your needs.
3. **Optional:** Click **Add** and enter information if you want to add custom information.

ⓘNote

Up to 6 items of custom information can be added.

---

4. Set display properties (font, color, etc.).

5. Select **Alignment**.

ⓘNote

If you select **Align Left** or **Align Right**, set **Min. Horizontal Margin** and **Min. Vertical Margin**.

---

6. Drag the red frames on the live view image to adjust their positions.

7. Click **Save**.

Result

The set OSD will be displayed in live view image and recorded videos.

Chapter 6 Network Configuration

6.1 Set IP Address

IP address must be properly configured before you operate the device over network. IPv4 and IPv6 are both supported. Both versions can be configured simultaneously without conflicting to each other.

Steps

📖**Note**

The supported parameters vary with different models. The actual device prevails.

1. Go to **Configuration → Network → Network Parameters → Network Interface** .
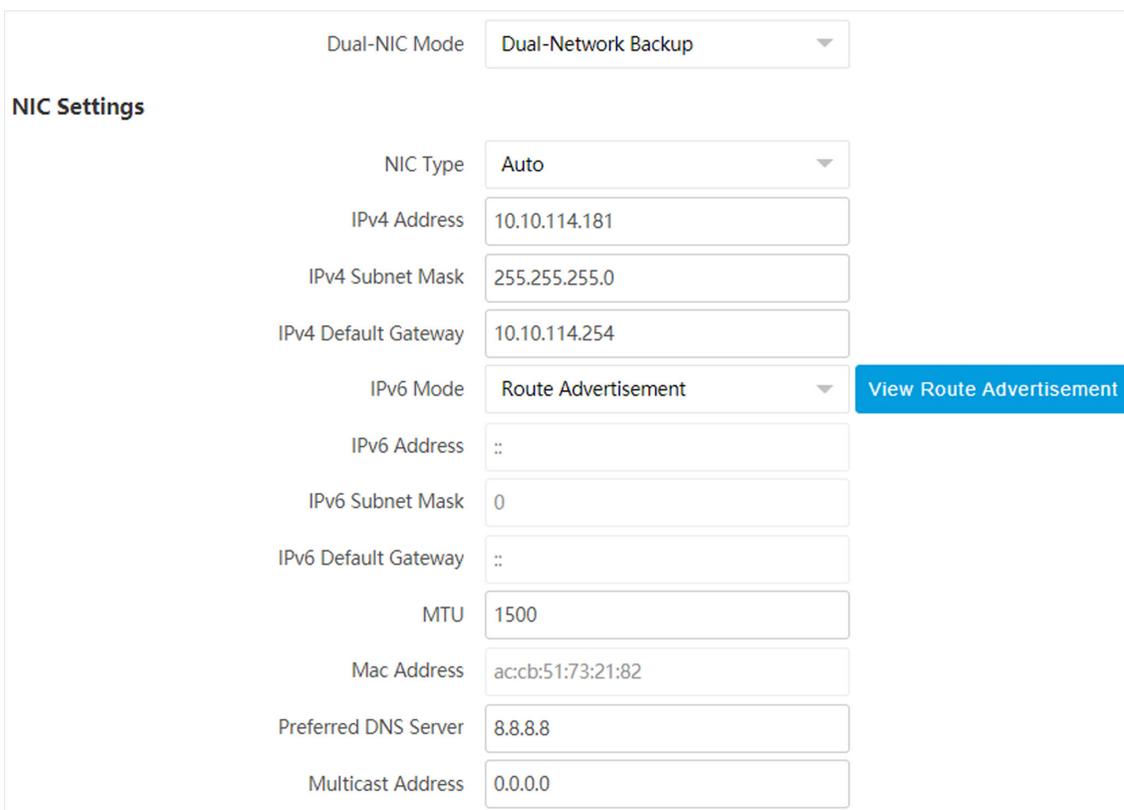
Figure 6-1 Set IP Address

2. Select **Dual-NIC Mode**.

Dual-Network Backup

Select it when the two network interfaces are connected to two network cables respectively. When one network interface fails, the other network interface will be switched automatically without influencing the data transmission.

Multi-Network Isolation

Select it when different LANs are connected. Set the IP addresses of different network segments.

☐ⁱ Note

The dual-NIC mode varies with different models. The actual device prevails.

---

3. Set network parameters.

NIC Type

Select a NIC (Network Interface Card) type according to your network condition.

IPv4

Two modes are available.

DHCP

The device automatically gets the IP parameters from the network if you check **DHCP**. The device IP address is changed after enabling the function. You can use SADP to get the device IP address.

☐ⁱ Note

The network that the device is connected to should support DHCP (Dynamic Host Configuration Protocol).

Manual

You can set the device IP parameters manually. Enter **IPv4 Address**, **IPv4 Subnet Mask**, and **IPv4 Default Gateway**.

IPv6

Three IPv6 modes are available.

Route Advertisement

The IPv6 address is generated by combining the route advertisement and the device Mac address.

☐ⁱ Note

Route advertisement mode requires the support from the router that the device is connected to.

DHCP

The IPv6 address is assigned by the server, router, or gateway.

Manual

Enter **IPv6 Address**, **IPv6 Subnet Mask**, and **IPv6 Gateway**. Consult the network administrator for required information.

MTU

It stands for maximum transmission unit. It is the size of the largest protocol data unit that can be communicated in a single network layer transaction.

The valid value range of MTU is 1280 to 1500.

Multicast

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

Router

Enter **Route Address** and **Subnet Mask** if the device is connected to a router.

DNS

It stands for domain name server. It is required if you need to visit the device with domain name. And it is also required for some applications (e.g., sending email). Set **Preferred DNS Address** properly if needed.

4. Click **Save**.

6.2 Connect to ISUP Platform

ISUP (EHome) is a platform access protocol. The device can be remotely accessed via this platform.

Before You Start
- Create the device ID on ISUP platform.
- Ensure the device can communicate with the platform normally.

Steps
1. Go to **Configuration → Network → Data Connection → ISUP** .

Figure 6-2 Connect to ISUP Platform

2. Check **Enable**.

3. Select **Protocol Version**.

4. Select **Address Type**.

5. Enter **Sever IP Address**, **Server Port**, and **Device ID**.

> **Note**
>
> You need to enter **Key** if you select **Protocol Version** as **v5.0**.

6. Enable **Upload Binary Image** if you need to upload images which are full of black or white pixel points.

> **Note**
>
> Enable **Output Binary Image in BMP Format** if you want to output images in this format.

7. Click **Save**.

8. **Optional:** View **Register Status**.

> **Note**
>
> When the registration status shows online, you can add or manage the device via the platform software. Refer to its corresponding manual for details.

6.3 Set DDNS

You can use the Dynamic DNS (DDNS) for network access. The dynamic IP address of the device can be mapped to a domain name resolution server to realize the network access via domain name.

Before You Start

- Register the domain name on the DDNS server.
- Set the LAN IP address, subnet mask, gateway, and DNS server parameters. Refer to "Set IP Address" for details.
- Complete port mapping. The default ports are 80, 8000, and 554.

Steps

1. Go to **Configuration → Network → Network Parameters → DDNS** .

Figure 6-3 Set DDNS

2. Check **Enable DDNS**.

3. Enter the server address and other information.

4. Click **Save**.

5. Access the device.

By Browsers	Enter the domain name in the browser address bar to access the device.
By Client Software	Add domain name to the client software. Refer to the client software manual for specific adding methods.

6.4 Set SNMP

You can set the SNMP network management protocol to get the alarm event and exception messages in network transmission.

Before You Start

Download the SNMP software and manage to receive the device information via SNMP port.

Steps

1. Go to **Configuration → Network → Network Parameters → SNMP** .

2. Check **Enable SNMPv1/Enable SNMP v2c/Enable SNMPv3**.

ⓘ**Note**

- The SNMP version you select should be the same as that of the SNMP software.
- Use different versions according to the security levels required. SNMP v1 is not secure and SNMP v2 requires password for access. SNMP v3 provides encryption and if you use the third version, HTTPS protocol must be enabled.

---

3. Set the SNMP parameters.

4. Click **Save**.

6.5 Set IEEE 802.1X

IEEE 802.1X is a port-based network access control. It enhances the security level of the LAN/WLAN. When devices connect to the network with IEEE 802.1X standard, the authentication is needed.

Steps

1. Go to **Configuration → Network → Network Parameters → 802.1X** .
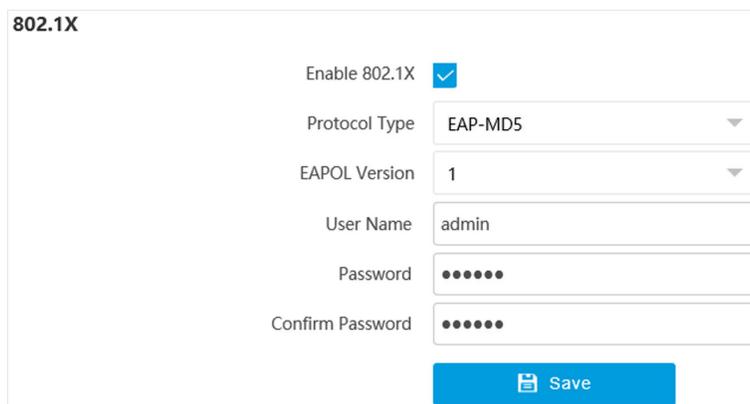
Figure 6-4 Set IEEE 802.1X

2. Check **Enable 802.1X**.

3. Select **Protocol Type** and **EAPOL Version**.

Protocol Type

The authentication server must be configured. Register a user name and password for 802.1X in the server in advance. Enter the user name and password for authentication.

EAPOL Version

The EAPOL version must be identical with that of the router or the switch.

4. Enter **User Name** and **Password** registered in the server.

5. Confirm the password.

6. Click **Save**.

6.6 Set Port

The device port can be modified when the device cannot access the network due to port conflicts.

Go to **Configuration → Network → Network Parameters → Port** for port settings.

Figure 6-5 Set Port

HTTP Port

　It refers to the port through which the browser accesses the device. For example, when the **HTTP Port** is modified to 81, you need to enter ***http://192.168.1.64:81*** in the browser for login.

HTTPS Port

　Set the HTTPS for accessing the browser. Certificate is required when accessing.

RTSP Port

　It refers to the port of real-time streaming protocol.

Server Port

　It refers to the port through which the client adds the device.

SADP Port

　It refers to the port through which the SADP software searches the device.

Note

- After editing the port, access to the device via new port.
- Reboot the device to take the new settings into effect.
- The supported ports vary with different models. The actual device prevails.

Chapter 7 Serial Port Configuration

7.1 Set RS-485

Set RS-485 parameters if the device needs to be connected to other peripheral devices controlled by RS-485 serial port.

Before You Start
The corresponding device has been connected via the RS-485 serial port.

Steps

[i]**Note**

The number of available RS-485 serial port varies with different models.

1. Go to **Configuration → System → System Settings → Serial Port → RS-485** .

No.	Baud Rate	Data Bit	Stop Bit	Parity	Flow Control	Work Mode
1	38400 bps	8	1	None	None	Application Trigger
2	115200 bps	8	1	None	None	Application Trigger
3	115200 bps	8	1	None	None	Application Trigger

Figure 7-1 Set RS-485

2. Set **Baud Rate**, **Data Bit**, **Stop Bit**, etc.

[i]**Note**

The parameters should be same with those of the connected device.

3. Set **Work Mode**.

Application Trigger

Select it when the signal trigger devices (such as radar) are connected to the RS-485 serial port of the device.

Transparent Channel

Select it when the other peripheral devices are connected to the RS-485 serial port of the device for communication transmission.

4. Click **Save**.

7.2 Set RS-232

Set RS-232 parameters if you need to debug the device via RS-232 serial port.

Before You Start
The debugging device has been connected via the RS-232 serial port.

Steps

1. Go to **Configuration → System → System Settings → Serial Port → RS-232** .

2. Click **Advanced Settings**.

Figure 7-2 Set RS-232

3. Set **Baud Rate**, **Data Bit**, **Stop Bit**, etc.

ⓘ **Note**

The parameters should be same with those of the connected device.

4. Select **Work Mode**.

Console

Select it when you need to debug the device via RS-232 serial port.

Transparent Channel

Select it, and the network command can be transmitted to RS-232 control command via the RS-232 serial port.

Narrow Bandwidth Transmission

Reserved.

5. Click **Save**.

Chapter 8 Exception Alarm

Set exception alarm when the network is disconnected, the IP address is conflicted, etc.

Steps

ⓘ**Note**

The supported exception types vary with different models. The actual device prevails.

1. Go to **Configuration → Event → Alarm Linkage → Exception Event** .

2. Select the exception type(s) and the linkage method.

3. Click **Save**.

Chapter 9 Safety Management

9.1 Manage User

The administrator can add, modify, or delete other accounts, and grant different permissions to different user levels.

Steps

1. Go to **Configuration → System → User Management → User List** .
2. Select **Password Level**.

   The password level of the added user should conform to the selected level.
3. Add a user.
   1) Click **Add**.
   2) Enter **User Name** and select **Type**.
   3) Enter **Admin Password**, **New Password**, and confirm the password.

   ⚠️**Caution**

   To increase security of using the device on the network, please change the password of your account regularly. Changing the password every 3 months is recommended. If the device is used in high-risk environment, it is recommended that the password should be changed every month or week.

   ---
   4) Assign remote permission to users based on needs.

      User

      Users can be assigned permission of viewing live video and changing their own passwords, but no permission for other operations.

      Operator

      Operators can be assigned all permission except for operations on the administrator and creating accounts.
   5) Click **OK**.
4. **Optional:** You can do the following operations.

Change the password and permission	Click ✎ to change the password and permission.
Delete the user	Click 🗑 to delete the user.

9.2 Set IP Address Filtering

You can set the IP addresses allowable and not allowable to access the device.

Steps

1. Go to **Configuration → System → Security → Security Settings** .
2. Check **Enable IP Address Filtering**.

3. Set **Filtering Mode**.

> **Blocklist Mode**
>
>> The added IP addresses are not allowed to access the device.
>
> **Allowlist Mode**
>
>> The added IP addresses are allowed to access the device.

4. Click **Add**, enter the IP address, and click **OK**.

---

[i]**Note**

The IP address only refers to the IPv4 address.

---

5. **Optional:** Edit, delete, or clear the added IP addresses.

6. Click **Save**.

9.3 Enable User Lock

To raise the data security, you are recommended to lock the current IP address.

Steps

1. Go to **Configuration → System → Security → Security Service → Software** .

2. Check **Enable User Lock**.

3. Click **Save**.

Result

When the times you entered incorrect passwords have reached the limit, the current IP address will be locked automatically.

9.4 Set HTTPS

9.4.1 Create and Install Self-signed Certificate

HTTPS is a network protocol that enables encrypted transmission and identity authentication, which improves the security of remote access.

Steps

1. Go to **Configuration → Network → Network Parameters → HTTPS** .

2. Select **Create Self-signed Certificate**.

3. Click **Create**.

4. Follow the prompt to enter **Country/Region**, **Hostname/IP**, **Validity**, and other parameters.

5. Click **OK**.

Result

The device will install the self-signed certificate by default.

9.4.2 Install Authorized Certificate

If the demand for external access security is high, you can create and install authorized certificate via HTTPS protocol to ensure the data transmission security.

Steps
1. Go to **Configuration → Network → Network Parameters → HTTPS** .
2. Select **Create certificate request first and continue the installation**.
3. Click **Create**.
4. Follow the prompt to enter **Country/Region**, **Hostname/IP**, **Validity**, and other parameters.
5. Click **Download** to download the certificate request and submit it to the trusted authority for signature.
6. Import certificate to the device.
   - Select **Signed certificate is available, start the installation directly**. Click **Browse** and **Install** to import the certificate to the device.
   - Select **Create the certificate request first and continue the installation**. Click **Browse** and **Install** to import the certificate to the device.
7. Click **Save**.

9.5 Set SSH

To raise network security, disable SSH service. The configuration is only used to debug the device for the professionals.

Steps
1. Go to **Configuration → System → Security → Security Service → Software** .
2. Uncheck **SSH Service**.
3. Click **Save**.

9.6 Set RTSP Authentication

You can improve network access security by setting RTSP authentication.

Steps
1. Go to **Configuration → System → Security → Security Settings** .
2. Select **RTSP Authentication**.

   digest

   The device only supports digest authentication.

   digest/basic

   The device supports digest or basic authentication.
3. Click **Save**.

9.7 Set Timeout Logout

You can improve network access security by setting timeout logout.

Steps
1. Go to **Configuration → System → Security → Security Service → Timeout Logout** .
2. Check **Enable Timeout Logout for Static Page**.
3. Set **Max. Timeout**.
4. Click **Save**.

Result

When the page static time exceeds the set time, the device will automatically log out.

9.8 Set Password Validity Period

You can improve network access security by setting password validity period.

Steps
1. Go to **Configuration → System → Security → Security Service → Password Validity Period** .
2. Select **Validity Type**.
   - Select **Permanent**. The password will be permanently valid.
   - Select **Daily** and set **Password Expiry Time**. It will prompt you that the password is expired according to the set password expiry time, and you need to set the new password.
3. Click **Save**.

Chapter 10 Maintenance

10.1 View Device Information

Basic Information and Algorithms Library Version

Go to **Configuration → System → System Settings → Basic Information** to view the basic information and algorithms library version of the device.

You can edit **Device Name** and **Device No.** The device No. is used to control the device. It is recommended to reserve the default value.

Device Status

Go to **Configuration → System → System Settings → Device Status** to view the device status.

10.2 Log

10.2.1 Enable System Log Service

The security audit logs refer to the security operation logs. You can search and analyze the security log files of the device so as to find out the illegal intrusion and troubleshoot the security events. Security audit logs can be saved on device internal storage. The log will be saved every half hour after device booting. Due to limited storage space, you are recommended to save the logs on a log server.

Steps
1. Go to **Configuration → System → Security → Security Service → Log Audit Service** .
2. Check **Enable System Log Service**.
3. Enter **IP Address** and **Port No.** of the log server.
4. Click **Save**.

Result

The device will upload the security audit logs to the log server regularly.

10.2.2 Search Log

Log helps to locate and troubleshoot problems.

Steps
1. Go to **Configuration → System → Maintenance → Log Search** .
2. Set search conditions.

3. Click **Search**.

The matched log files will be displayed on the log list.

4. Optional: Click **Export** to save the log files to your computer.

10.2.3 Search Security Audit Log

You can search and analyze the security log files of the device so as to find out the illegal intrusion and troubleshoot the security events.

Before You Start
Go to **Configuration → System → Security → Security Service → Log Audit Service** and check **Enable System Log Service**.

Steps
1. Go to **Configuration → System → Maintenance → Security Audit Log** .
2. Set search conditions.
3. Click **Search**.

The matched log files will be displayed on the log list.

4. Optional: Click **Export** to save the log files to your computer.

10.3 Upload Radar Debugging Information

You can upload the radar debugging information to the platform.

Steps

---
[i]**Note**

The function varies with different models. The actual device prevails.

---

1. Go to **Configuration → System → Maintenance → Debug** .
2. Enable **Radar Debugging Information Upload**.
3. Click **Save**.

10.4 Upgrade

Upgrade the system when you need to update the device version.

Before You Start
Prepare the upgrade file. If the upgrade file is a compressed package, it needs to be decompressed into the .dav format.

Steps
1. Go to **Configuration → System → Maintenance → Upgrade & Maintenance → Upgrade** .
2. Click **Browse** to select the upgrade file.

3. Click **Upgrade**.

4. Click **OK** in the popup window.

⌊ⁱ⌋**Note**

The upgrade process will take 1 to 10 minutes. Do not cut off the power supply.

Result

The device will reboot automatically after upgrade.

10.5 Reboot

When the device needs to be rebooted, reboot it via the software instead of cutting off the power directly.

Steps

1. Go to **Configuration → System → Maintenance → Upgrade & Maintenance → Device Maintenance** .

2. Click **Reboot**.

3. Click **OK** to reboot the device.

⌊ⁱ⌋**Note**

You can also click **Restart** on the upper right corner of the page to reboot the device.

10.6 Restore Parameters

When the device is abnormal caused by the incorrect set parameters, you can restore the parameters.

Steps

1. Go to **Configuration → System → Maintenance → Upgrade & Maintenance → Device Maintenance** .

2. Select the restoration mode.

- Click **Restore**, and select the parameters to be saved instead of being restored. Click **OK**. Then the parameters except the IP parameters, user parameters, and the saved parameters will be restored to the default settings.
- Click **Restore Factory Settings** and click **OK** to restore all the parameters to the factory settings.

3. Click **OK**.

10.7 Synchronize Time

Synchronize the device time when it is inconsistent with the actual time.

Steps

1. Go to **Configuration → System → System Settings → Time Settings** .

2. Select **Time Zone**.

3. Select **Sync Mode**.

NTP Synchronization

Select it to synchronize the device time with that of the NTP server. Set **Server IP**, **NTP Port**, and **Interval**. Click **NTP Test** to test if the connection between the device and the server is normal.

Manual Synchronization

Select it to synchronize the device time with that of the computer. Set time manually, or check **Sync. with computer time**.

Satellite Time

Select it to synchronize the device time with that of the satellite. Set **Interval**.

SDK

If the remote host has been set for the device, select it to synchronize time via the remote host.

ONVIF

Select it to synchronize time via the third-party device.

No

Select it to disable time synchronization.

All

Select it, and you can select any mode above.

☐**i****Note**

The time synchronization modes vary with different models. The actual device prevails.

4. Click **Save**.

10.8 Set DST

If the region where the device is located adopts Daylight Saving Time (DST), you can set this function.

Steps

1. Go to **Configuration → System → System Settings → DST** .

2. Check **Enable DST**.

3. Set **Start Time**, **End Time**, and **DST Bias**.

4. Click **Save**.

10.9 Debug

[i]**Note**

The debug configurations below are only provided to debug the device by the professionals.

10.9.1 Enable Information Overlay

You can overlay the algorithm POS information and positioning frames on the captured pictures or playback images.

Steps

1. Go to **Configuration → Capture → Advanced → System Service** .
2. Check the debug information according to your needs.

 Enable Algorithm POS Information Debug

  The algorithm POS information will be overlaid on the playback image when you play back the video with the dedicated tool.

 Enable Positioning Frame Debug

  The positioning frames of vehicle bodies and license plates will be overlaid on the captured pictures.

 Enable Closed Positioning Frame

  The bottom lines of the positioning frames on the captured pictures will display. The frames will be closed.

3. Click **Save**.

10.9.2 Filter Capture

Set the filter capture information. The filtered conditions will not be captured.

Steps

1. Go to **Configuration → Capture → Advanced → Vehicle Capture and Recognition Service** .
2. Check the information to be filtered according to your needs.

 Filter Checkpoint Capture of Same Vehicle

  It is used to debug the device with the same vehicle. When the same vehicle is triggered many times during a short period in the scene, the checkpoint pictures of the vehicle will not be captured.

 Enable Turning Traffic Flow Statistics

  In video analysis E-police mode, the turning traffic flow statistics will be uploaded to the connected platform.

 Filter Violation Capture of Same Vehicle

It is used to debug the device with the same vehicle. When the same vehicle is triggered many times during a short period in the scene, the violation pictures of the vehicle will not be captured.

Not Add No. After Violation Type

The No. of the captured pictures will not be added after the overlaid violation type on the pictures.

Filter Violation Capture of Motorcycle

The violation pictures of motorcycles will not be captured.

[i]**Note**

The supported filtering information varies with different models. The actual device prevails.

3. Click **Save**.

10.9.3 Set Image Format

You can enable smartJPEG which can save the storage space without influencing the resolution.

Steps
1. Go to **Configuration → Capture → Advanced → Image Service** .
2. Check **smartJPEG**.
3. Click **Save**.

10.10 Export Parameters

You can export the parameters of one device, and import them to another device to set the two devices with the same parameters.

Steps
1. Go to **Configuration → System → Maintenance → Upgrade & Maintenance → Data Export** .
2. Click **Export** after **Configuring Parameters**.
3. Set a password, and click **OK**.

[i]**Note**

The password is used for importing the configuration file of the current device to other devices.

4. Select the saving path, and enter the file name.
5. Click **Save**.

10.11 Import Configuration File

Import the configuration file of another device to the current device to set the same parameters.

Before You Start

Save the configuration file to the computer.

Steps

⚠️**Caution**

Importing configuration file is only available to the devices of the same model and same version.

1. Go to **Configuration → System → Maintenance → Upgrade & Maintenance → Advanced Settings → Data Import** .
2. Select **Importing Method**.

   🛈**Note**

   If you select **Import Part**, check the parameters to be imported.
3. Click **Browse** to select the configuration file.
4. Click **Import**.
5. Enter the password which is set when the configuration file is exported, and click **OK**.
6. Click **OK** on the popup window.

Result

The parameters will be imported, and the device will reboot.

10.12 Export Debug File

The technicians can export the debug file to troubleshoot and maintain the device.

Steps

1. Go to **Configuration → System → Maintenance → Upgrade & Maintenance → Advanced Settings → Data Export** .
2. Click **Export** after **Debug File**.
3. Select the saving path, and enter the file name.
4. Click **Save**.

10.13 Export Diagnosis Information

The technicians can export the diagnosis information to troubleshoot and maintain the device.

Steps

1. Go to **Configuration → System → Maintenance → Upgrade & Maintenance → Advanced Settings → Data Export** .
2. Click **Export** after **Diagnosis Information**.
3. Select the saving path, and enter the file name.
4. Click **Save**.

Appendix A. Communication Matrix and Device Command

Scan the QR code below to get the communication matrix of the device.

Scan the QR code below to get the device command.

See Far, Go Further

UD26001B