

Mobile Video Recorder

User Manual

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 in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment.

This equipment should be installed and operated with a minimum distance 20 cm between the radiator and your body.

FCC Conditions

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

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

EU Conformity Statement



This product and - if applicable - the supplied accessories too are marked with "CE" and comply therefore with the applicable harmonized European standards listed under the 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**

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.

Screen

- Clean the screen with soft and dry cloth or other substitutes to wipe the interior and exterior surface. DO NOT use alkaline detergents. Protect the screen from scratches.
- DO NOT install the device in the position obstructing the driver's sight to prevent it from affecting the normal driving of the vehicle.

Battery

- DO NOT dispose of the battery into fire or a hot oven, or mechanically crush or cut the battery, which may result in an explosion.
- DO NOT expose the battery pack or battery combination to sunlight, fire, or similar overheated environment. DO NOT leave the battery in an extremely high temperature surrounding environment or subject the battery to extremely low air pressure, which may result in an explosion or the leakage of flammable liquid or gas.

Data

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

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Chapter 1 Product Introduction

1.1 Introduction

Adopting embedded Linux operating system, mobile video recorder (hereinafter referred to as recorder or device) provides powerful monitoring functions. It can both work alone as a recorder and cooperate with other devices to build a comprehensive video security system. The recorder is widely applied to the video security projects of public transportation, school bus, etc.

1.2 Key Feature

- User-friendly GUI providing easy and flexible operations.
- 3G/4G and Wi-Fi functions provide flexible data transmission solutions.
- Supports event detection. Information collection interfaces can collect driving information such as left/right turn, braking, reversing, etc.
- Specialized aviation connectors ensuring signal stability.
- Ignition startup and delay shutdown.
- Battery protection avoids vehicle from running out of battery.
- Wide-range power input.
- Power-off protection avoids key data from loss.
- Tensile aluminum chassis with no fan design well adaptable to working environment.
- Software-based firewall supported.
- GNSS (Global Navigation Satellite System) module precisely positioning the vehicle via the satellite and recording the location information in the stream.
- Supports license plate recognition, face picture capture, and face picture comparison.

Chapter 2 Start up Device

2.1 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.

Note

Refer to the user manual of client software for the activation via client software.

2.1.1 Default Information

Device default IP address and user name are as follows.

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

2.1.2 Activate via Local Menu

You can activate the recorder via the local menu when it's connected to an external monitor.

Steps

1. Enter **Password**.
2. Confirm the password.

Note

We highly recommend you to create a strong password of your own choosing (using a minimum of 8 characters, including at least three kinds of following categories: 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.

3. Select **OK**.

2.1.3 Activate via SADP

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

Before You Start

- Get the SADP software from the official website, and install it according to the prompts.

- Ensure your computer and the device are in the same network segment.

Steps

1. Run the SADP software.
2. Check the device status from the device list, and select the inactive device.

Note

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

3. Enter **Password**.

Note

We highly recommend you to create a strong password of your own choosing (using a minimum of 8 characters, including at least three kinds of following categories: 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. Confirm the password.
5. Click **Activate**.

2.1.4 Activate via Web Browser

You can activate the device via web browser.

Before You Start

Ensure your device and computer are in the same network segment.

Steps

1. Visit device IP address via web browser.
2. Enter **Password**.

Note

We highly recommend you to create a strong password of your own choosing (using a minimum of 8 characters, including at least three kinds of following categories: 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.

3. Confirm password.
4. Click **OK**.

2.2 Access Device via Web Browser

Get access to the recorder via web browser.

Steps

1. Open the web browser, enter the IP address of the recorder, and then press Enter.
2. Enter **User Name** and **Password** and click **Login**.
3. Install the plug-in before viewing the live video and managing the camera. Please follow the installation prompts to install the plug-in.
4. Optional: Click **Logout** in top right corner to log out of the recorder.

Chapter 3 Basic Operation

You can perform the basic operations after an IP camera has been connected to the recorder.

Note

All the operations from Chapter 3 to Chapter 12 are done via the web browser.

3.1 Manage IP Camera

After connecting IP camera(s) or mobile positioning system(s) to the device, if no image is displayed on the live view interface, follow the instructions below to manage IP camera(s) or mobile positioning system(s). If image can be displayed normally on the live view interface, ignore this section.

Note

The section is only available for the device supporting IP cameras or mobile positioning systems.

3.1.1 Activate IP Camera

Before adding an IP camera, activate it by setting a password.

Steps

1. Go to **Configuration** → **System** → **Camera Management** → **IP Camera**.
 2. Select an inactive IP camera.
-

Note

We highly recommend you to create a strong password of your own choosing (using a minimum of 8 characters, including at least three kinds of following categories: 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.

3. Click **Activate**.
4. Check **Use Admin Password**, or enter **Password** and confirm it.
5. Click **OK**.

3.1.2 Add IP Camera

You can add the activated IP cameras.

Before You Start

Make sure the device and the camera to add are in the same network segment.

Steps

1. Go to **Configuration** → **System** → **Camera Management** → **IP Camera**.
2. Optional: If the device and the camera are in different network segments, modify IP camera address.
 - 1) Check the IP camera and click **Modify**.
 - 2) Enter the required information.
 - 3) Click **OK**.
3. Add IP camera.
 1. For the camera with the same password of the device: Check the camera.
 2. Click **Quickly Add** to add it automatically.

—

 1. For the camera with different password of the device: Click **Add**.
 2. Enter IP camera information.
 3. Click **OK**.

—

IP Camera Address	10.10.97.5
Protocol	▼
Management Port	80
User Name	admin
Password	••••••
Confirm	••••••
Transfer Protocol	Auto ▼

OK Cancel

Figure 3-1 Add IP Camera

Note

- Select the protocol supported by the camera.
 - If no protocol is supported, click **Custom Protocol** to configure the main stream and sub-stream. Then select the configured custom protocol to add the IP camera.
-

Result

The status of the successfully added camera is online.

3.1.3 Edit IP Camera

You can visit, edit, or delete the added IP cameras.

Before You Start

If the device contains only one NIC, you can visit the added IP camera directly. If the device contains dual NICs, you need to enable virtual host function before visiting the added IP camera. Go to **Configuration** → **Network** → **Advanced Settings** → **Other**, and check **Enable Virtual Host**.

Steps

1. Go to **Configuration** → **System** → **Camera Management** → **IP Camera**.
2. You can visit, edit, or delete the added IP cameras.
 - Click the address of the added IP camera to get access to the camera according to the prompt.
 - When the IP addresses conflict, you can edit the IP camera information.
 1. Check the IP camera to be edited.
 2. Click **Modify**, and edit the camera information.
 3. Click **OK**.
 - Check IP camera(s) and click **Delete** to delete the added IP camera(s).

3.2 Record and Capture

To record the videos of the connected cameras, or capture the license plate pictures if you enable license plate recognition, you need to install a storage media and format it, and configure the recording schedule, or configure the FTP server to upload the pictures.

3.2.1 Format Storage Media

A newly installed storage media must be initialized before it can be used.

Before You Start

Install a storage media.

Steps

1. Go to **Configuration** → **Storage** → **Storage Management** → **HDD Management**.
2. Check the storage media and click **Format**.

Result

After format, the storage media status should be **Normal**.

3.2.2 Configure FTP

Configure FTP parameters if you want to upload the captured license plate pictures to the FTP

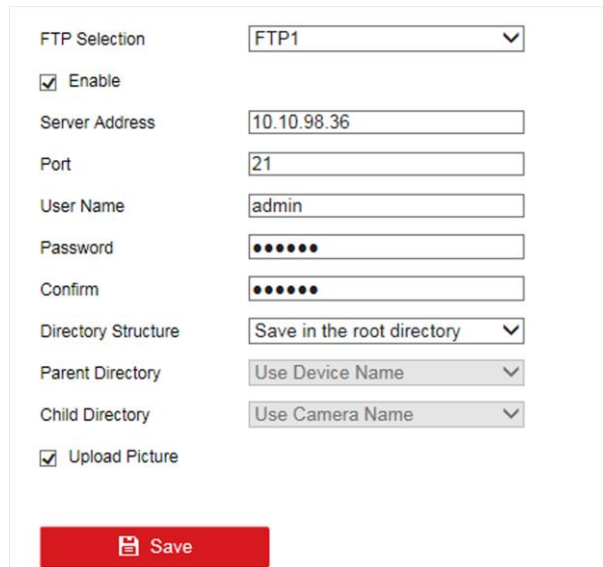
server.

Before You Start

Configure the FTP server, and ensure the device can communicate normally with the server

Steps

1. Go to **Configuration** → **Network** → **Advanced Settings** → **FTP**.



FTP Selection	FTP1
<input checked="" type="checkbox"/> Enable	
Server Address	10.10.98.36
Port	21
User Name	admin
Password	•••••
Confirm	•••••
Directory Structure	Save in the root directory
Parent Directory	Use Device Name
Child Directory	Use Camera Name
<input checked="" type="checkbox"/> Upload Picture	
Save	

Figure 3-2 Configure FTP

2. Check **Enable**.
3. Configure the FTP parameters.
 - 1) Enter **Server Address** and **Port**.
 - 2) Enter **User Name** and **Password**, and confirm the password.
 - 3) Select **Directory Structure**, **Parent Directory**, or **Child Directory**.

Note

If multiple directories are needed, you can customize the directory name.

4. Optional: Check **Upload Picture** to upload the captured license plate pictures to the FTP server.
5. Click **Save**.

3.2.3 Configure Continuous Recording

The device is configured with all-day continuous recording by default.

Before You Start

Install and format the storage media.

Steps

1. Go to **Configuration** → **Storage** → **Schedule Settings**.

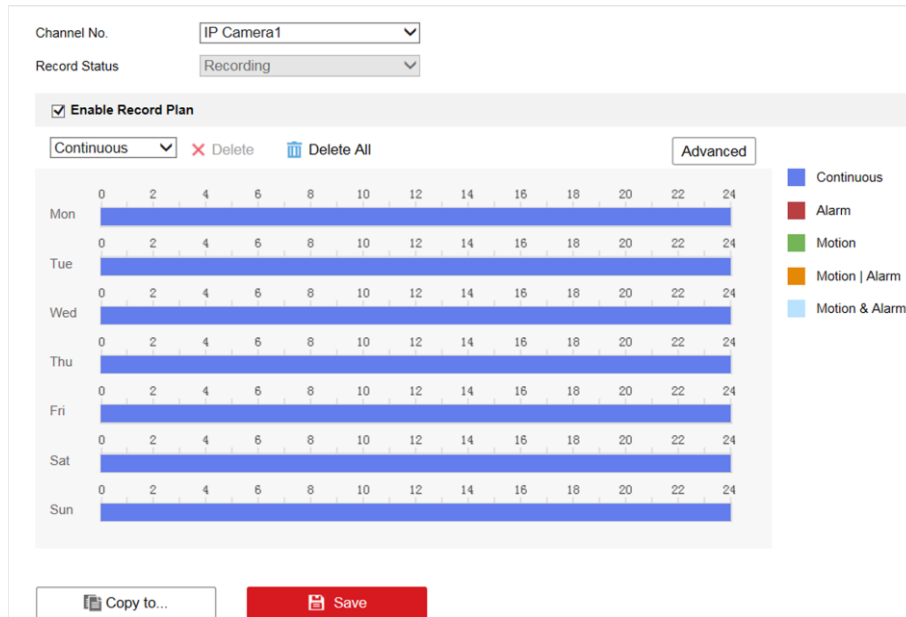


Figure 3-3 Configure Continuous Recording

2. Select **Channel No.**
3. Check **Enable Record Plan.**
4. Select recording type as **Continuous.**
5. Optional: Click **Advanced** to configure pre-record, post-record, and expired time.

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 device starts to record at 9:59:55.

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 device records until 11:00:05.

Expired Time

The record can be deleted automatically after the configured expired time. If you enter **0**, the record will not be deleted. The record will be overwritten automatically if overwritten recording is enabled.

6. Configure recording schedule. Refer to "Configure Arming Schedule" for details.
7. Optional: Click **Copy to** to copy upper settings to other channel(s).
8. Click **Save.**

3.2.4 Configure Event Triggered Recording

Trigger recording when an event is triggered.

Before You Start

- Install and format the storage media.
- Configure event parameters. Refer to "Events and Alarms" for details.

Steps

1. Go to **Configuration** → **Storage** → **Schedule Settings**.

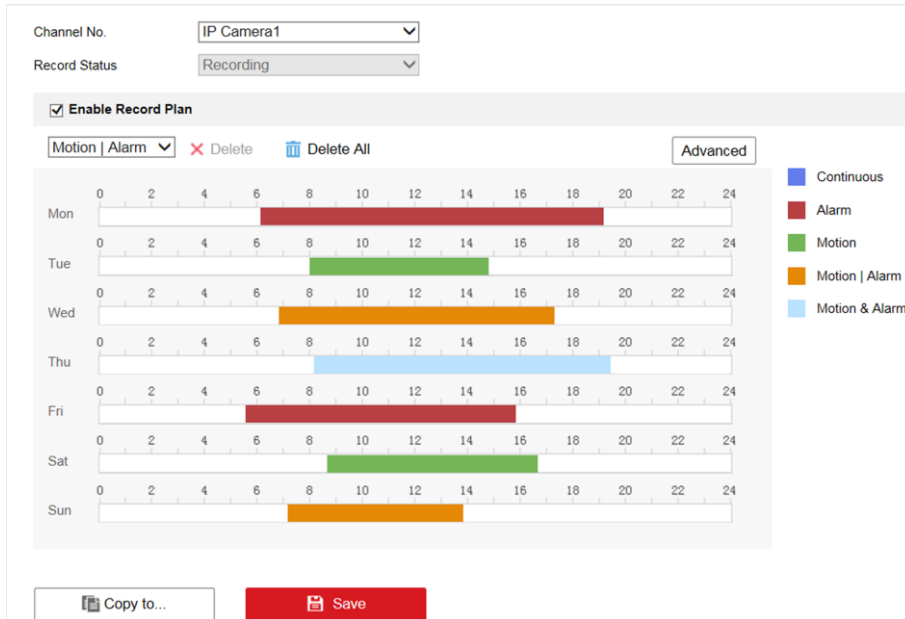


Figure 3-4 Configure Event Triggered Recording

2. Select **Channel No.**
3. Check **Enable Record Plan**.
4. Select recording type as **Alarm**, **Motion**, **Motion | Alarm**, or **Motion & Alarm**.

Motion | Alarm

Trigger recording when either motion detection or alarm input is detected.

Alarm

Trigger recording when alarm input is detected.

Motion

Trigger recording when motion detection is detected.

Motion & Alarm

Trigger recording when both motion detection and alarm input are detected.

5. Optional: Click **Advanced** to configure pre-record, post-record, and expired time.

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 device starts to record at 9:59:55.

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 device records until 11:00:05.

Expired Time

The record can be deleted automatically after the configured expired time. If you enter **0**, the record will not be deleted. The record will be overwritten automatically if overwritten recording is enabled.

6. Configure recording schedule. Refer to "Configure Arming Schedule" for details.

7. Optional: Click **Copy to** to copy upper settings to other channel(s).

8. Click **Save**.

3.2.5 Configure Redundant Recording

Enabling redundant recording, which means saving the record files not only in the R/W HDD but also in the redundant HDD, will effectively enhance the data safety and reliability.

Before You Start

- Install and format at least two HDDs.
- Configure the recording schedule.

Steps

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

2. Optional: Check an HDD, and click **Format** to format it.

3. Check an HDD, and select **Property** as **Redundancy**.

4. Click **Set** to save the settings.

5. Enable redundant record.

1) Go to **Configuration** → **Storage** → **Schedule Settings** → **Record Schedule**.

2) Select **Channel No**.

3) Click **Advanced**.

4) Check **Redundant Record**.

5) Click **OK**.

6) Optional: Click **Copy to** to copy the same settings to other channels.

7) Click **Save**.

3.2.6 Configure Disaster Storage

The device will save videos in both storage media and mobile fireproof storage box to ensure data

security.

Before You Start

- Connect a mobile fireproof storage box to the device.
- Configure the recording schedule.

Steps



The function is only available for the device supporting mobile fireproof storage box.

1. Go to **Configuration** → **Vehicle** → **Storage For Calamity**.
2. Check **Enable**.
3. Check **Redundant Channel**.
4. Click **Save**.



Result

The device will save the videos of the selected channels in both storage media and mobile fireproof storage box.

3.3 Playback





Play videos saved in storage media.











Steps

1. Go to **Playback**.
2. Select a channel in the channel list.
3. Select playback type.
 - To search all the videos, click **Ordinary Search**, and select the date.
 - To search event videos, click **Event Search**, and set the search conditions.
4. Click **Search**.
5. Set the playback time.
 - Drag the time bar to the target time.
 - Enter the time point in **Set Playback Time** and click .
6. Click  to start playback.



Refer to the table below for the icon description.

	Pause playback.		Single frame playback.
	Select the window division mode. Multiple channels can be played back simultaneously.		Stop playback of one channel.


	Fast forward.		Slow forward.
	Stop playback of all the channels.		Capture a picture.  Note For picture saving path, refer to Save snapshots when playback to in Configuration → Local .
	Turn on audio.		Playback in full screen.
	Reverse playback.		Enable digital zoom. 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. Then the area will be zoomed in. Click any position of the image to restore to normal image.
	Download videos.		

3.4 Backup

3.4.1 Back up Video

Download videos to a local path.

Steps

1. Go to **Playback**.
2. Click .
3. Set search conditions.
4. Click **Search**.
5. Check videos to download and click **Download**.



Note

For the video saving path, refer to **Save downloaded files to** in **Configuration** → **Local**.

3.4.2 Back up Clipped Video

Clip videos and save them to a local path.

Steps

1. Go to **Playback**.
2. Start playback.
3. Click  to start clipping.
4. Click  to stop clipping.

Note

For clipped video saving path, refer to **Save clips to** in **Configuration** → **Local**.

3.4.3 Back up Picture

Back up pictures to a local path.

Steps

1. Go to **Picture**.
2. Set search conditions.
3. Click **Search**.
4. Check pictures to download.
5. Click **Download**.

Note

For picture saving path, refer to **Save downloaded files to** in **Configuration** → **Local**.

Chapter 4 Network

4.1 Network Connection

4.1.1 Dial

Set the dialing parameters if you want to connect the device to the network via dialing.

Before You Start

Install SIM card and connect 3G/4G antenna to your device.

Steps

1. Go to **Configuration** → **Network** → **Basic Settings** → **3G/4G**.
2. Check **Enable**.
3. Click **Dial Parameters**.
4. Select **Network Mode**.

Automatic

The device will automatically switch to the strongest network.

Auto-Search and Auto-Switch

Network priority: 4G > 3G > 2G. The device will automatically connect network of high priority.

3G

The device only connects 3G network.

4G

The device only connects 4G network.

5. Set dial parameters.
 - To connect the device to private network, enter **Access Number**, **User Name**, **Password**, and **APN**.
 - To connect the device to general network, you do not need to set dial parameters.

The screenshot shows a configuration window for wireless dial-up. At the top, 'Modules Choise' is set to 'Module1'. Below it, the 'Enable' checkbox is checked. A tabbed interface shows 'Wireless Dial-up Status' selected, with 'Dial Parameters' highlighted in red. The main configuration area includes: 'Dial Mode' (Automatic), 'Network Mode' (Automatic), 'Access Number' (111111), 'User Name' (empty), 'Password' (masked with dots), 'APN' (empty), 'MTU' (1500), and 'Verification Protocol' (Automatic). A blue link 'The default load' is present. Below this, there is a second set of fields for 'User Name', 'Password', 'APN', and 'Verification Protocol'. A red 'Save' button is at the bottom.

Figure 4-1 Set Dial Parameters

 **Note**

Contact the network operator to obtain the private network dial parameters.

6. Optional: For the special private network needing two sets of dialing parameters, click **The default load** to set the other set of dialing parameters.
7. Click **Save**.
8. Optional: Click **Wireless Dial-up Status** to view dialing status.

4.1.2 Connect to Wi-Fi

Set Wi-Fi parameters if you want to connect the device to the network via Wi-Fi.

Steps

1. Go to **Configuration** → **Network** → **Basic Settings** → **TCP/IP**.
2. Click **WLAN 1**.
3. Set WLAN parameters.
 - Check **DHCP** to get the IPv4 parameters automatically. You can use SADP to get the device IP address.

Note

If you want to enable DHCP, the network that the device is connected to should support DHCP (Dynamic Host Configuration Protocol).

- Uncheck **DHCP**, and edit the IPv4 parameters.
- 4. Click **Save**.
- 5. Go to **Configuration** → **Network** → **Advanced Settings** → **Wi-Fi** to set Wi-Fi parameters.
 - 1) Click **Wi-Fi Configuration**.
 - 2) Check **Enable Wi-Fi**.
 - 3) Click **Search** to search available Wi-Fi.
 - 4) Select a Wi-Fi in **Wireless List**.
The related information will be matched automatically.
 - 5) Select **Network Mode** as **Managed**.
 - 6) Enter the Wi-Fi key.
- 6. Click **Save**.
- 7. Optional: Go to **Configuration** → **Network** → **Advanced Settings** → **Wi-Fi** and click **Wi-Fi Status** to view Wi-Fi status.

Result

After the Wi-Fi is connected, you can get access to the device via the WLAN IP address in **Configuration** → **Network** → **Basic Settings** → **TCP/IP**.

4.1.3 Configure Local Network

When the device is connected to the network via network cables, and the IP address needs to be edited to get access to the network or connect the IP cameras, set the LAN parameters.

Steps

1. Go to **Configuration** → **Network** → **Basic Settings** → **TCP/IP**.
2. Click **Lan**.

The screenshot shows a configuration window for a LAN interface. At the top, there are two tabs: 'Lan' (selected) and 'Wlan1'. Below the tabs, the configuration is organized into sections:

- Lan Choice:** A dropdown menu set to 'Debug Interface'.
- NIC Type:** A dropdown menu set to 'Auto'.
- IPv4 Address:** A text input field containing '10.10.97.170'.
- IPv4 Subnet Mask:** A text input field containing '255.255.255.0'.
- IPv4 Default Gateway:** A text input field containing '10.10.97.254'.
- MAC Address:** A text input field containing '44:47:cc:e1:51:fa'.
- MTU:** A text input field containing '1500'.

Below these fields is a section titled 'DNS Server' with two text input fields: 'Preferred DNS Server' and 'Alternate DNS Server', both containing '0.0.0.0'.

Next is a section titled 'Network Share' with a checked checkbox labeled 'Enable Network Share'.

At the bottom of the form is a red button with a save icon and the text 'Save'.

Figure 4-2 Configure Local Network

3. Select LAN interface.
 - Select **Debug Interface** to debug the device.
 - Select **Rear Interface** to connect to IP cameras.
4. Enter **IPv4 Address**, **IPv4 Subnet Mask**, and **IPv4 Default Gateway**.
5. Optional: To access the device via extranet, configure DNS server IP address.
6. Click **Save**.

4.1.4 Configure Port

Go to **Configuration** → **Network** → **Basic Settings** → **Port** to set the following parameters.

HTTP Port

To access the device via web browser.

RTSP Port

To get stream.

Server Port

To access the device via client software.

4.1.5 Configure DDNS

If the external network is a dynamic IP address, you can use the Dynamic Domain Name Server

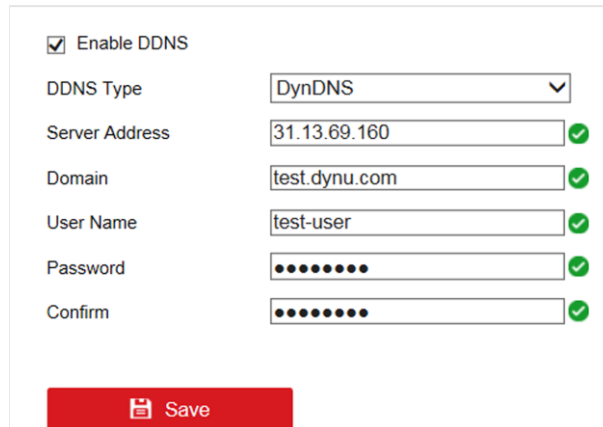
(DDNS) for network access.

Before You Start

- Register your device on the DDNS server.
- Configure local network IP address, subnet mask, gateway, and DNS server.
- Create port mapping.

Steps

1. Go to **Configuration** → **Network** → **Basic Settings** → **DDNS**.



<input checked="" type="checkbox"/> Enable DDNS	
DDNS Type	DynDNS
Server Address	31.13.69.160 ✓
Domain	test.dynu.com ✓
User Name	test-user ✓
Password	•••••••• ✓
Confirm	•••••••• ✓
<input type="button" value="Save"/>	

Figure 4-3 Configure DDNS

2. Select **DDNS Type**.
3. Enter server information.
4. Click **Save**.

What to do next

Open the web browser and enter the server address to visit it.

4.2 Platform Connection

4.2.1 Connect to ISUP Platform

ISUP (EHome) is a platform access protocol. The device can be remotely accessed via ISUP 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** → **Advanced Settings** → **Platform Access**.
2. Check **Enable**.
3. Select **Platform Access Mode** as **Ehome Platform**.

Enable

Platform Access Mode: Ehome Platform

Platform Version: v5.0

Server Address Type: IP Address

Server Address: 0.0.0.0

Server Port: 7660

Device ID: 123456789

Access Key: ●●●●●●

Register Status: Offline

Platform Status		
Server Type	IP Address	Port
Alarm Server	0.0.0.0	0
Picture Server	0.0.0.0	0
NTP Server	0.0.0.0	0
Backup Server	0.0.0.0	0

Save

Figure 4-4 Connect to ISUP Platform

4. Select **Platform Version**.
5. Select **Server Address Type**.
 - When the server is in extranet, and the IP address is dynamic, you can select **Domain Name**.
 - When the server IP address is static, you can select **IP Address**.
6. Enter the parameters below.

Server Address

Enter the static IP address of ISUP platform.

Server Port

The default value is 7660.

Device ID

The ID of the device registered on the ISUP platform. If you leave it empty, you can log in to the platform with the serial No.

7. Optional: Enter **Access Key** if you select **v5.0**.
8. Click **Save**.
9. View platform 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.

4.2.2 Connect to Guarding Vision

The device can be remotely accessed via Guarding Vision.

Before You Start

- Connect your device to the network.
- Configure IP address, subnet mask, gateway, and DNS server of LAN.

Steps

1. Go to **Configuration** → **Network** → **Advanced Settings** → **Platform Access**.
 2. Check **Enable**.
 3. Select **Platform Access Mode** as **Guarding Vision**.
 4. Enter a customized **Security Code**. You need to enter the security code when adding the device in Guarding Vision.
-

Caution

Valid security code range [6-12]. You are recommended to use an 8-bit or above combination of numbers, lowercase, and uppercase for the code.

5. Click **Save**.
 6. Get Guarding Vision application from the following ways.
 - For computer user: Visit ***dev.guardingvision.com***.
 - For mobile phone user: Download Guarding Vision in App Store (iOS system) or Google Play^(TM) (Android system).
 7. Register an account and add the device to Guarding Vision.
-

Note

Refer to the user manual of Guarding Vision for details.

4.3 Network Sharing

4.3.1 Share Network via Wi-Fi AP

The recorder can work as a wireless router. Other devices can access network via the recorder.

Steps



Wi-Fi AP and Wi-Fi cannot be enabled at the same time. Enabling one will disable the other automatically.

1. Go to **Configuration** → **Network** → **Advanced Settings** → **Wi-Fi AP**.
 2. Check **Enable Wi-Fi AP**, **Enable AP Broadcast**, and **Enable WLAN HotSpot** according to your needs.
 3. Configure the hotspot parameters.
 - 1) Enter **SSID** (hotspot name).
 - 2) Select **Security Mode**.
 - 3) Enter **IP Address** and **SubNet Mask**.
-



The IP address should be in different network segment with that of TCP/IP address.

4. Optional: Check **Enable DHCP** and enter **Start IP Address** and **End IP Address**.
5. Click **Save**.

Result

When the recorder connects to the network via dialing, the connected peripheral device can get access to the network either.

4.3.2 Share Network via Cable

Connect a peripheral device to your recorder with a network cable. The peripheral device can access the network after the recorder is successfully dialed to the network.

Before You Start

Configure the IP address, gateway, etc. of the peripheral device.

Steps

1. Go to **Configuration** → **Network** → **Basic Settings** → **TCP/IP**.
 2. Click **Lan**.
 3. Check **Enable Network Share**.
 4. Configure the network parameters for the peripheral device.
-

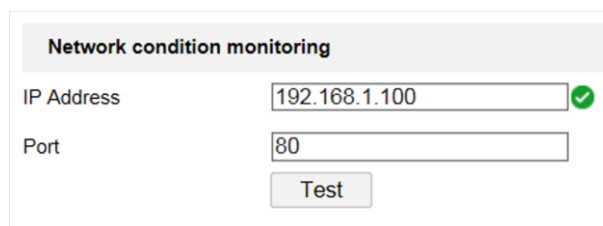
- 1) Configure its IP address in the same network segment with your recorder.
 - 2) Configure its network gateway as the recorder IP address.
5. Click **Save**.

4.4 Network Test

You can test the network communication conditions between the device and platform or other terminals via network test.

Steps

1. Go to **Configuration** → **Network** → **Advanced Settings** → **Other**.
2. Enter **IP Address** and **Port** for **Network condition monitoring**.



The screenshot shows a configuration window titled "Network condition monitoring". It contains two input fields: "IP Address" with the value "192.168.1.100" and a green checkmark icon to its right, and "Port" with the value "80". Below the "Port" field is a "Test" button.

Figure 4-5 Network Test

3. Click **Test**.

Result

The test result will pop up.




Chapter 5 Live View and Configuration

5.1 Live View

5.1.1 Start/Stop Live View

Start/stop the live view of cameras.

Steps

1. Go to **Live View**.
2. Click  to select the window division mode and select a window.
3. Double click a camera in the camera list to display its live image in selected window. Or click  to start the live view of all cameras.
4. Stop live view.
 - Double click the camera again to stop its live view.
 - Click  to stop the live view of all cameras.


5.1.2 Select Window Division Mode

Live view window division modes are selectable.

Window Division Mode

Click  to select live view window division mode.

Paging

Click  to turn to previous/next page.

5.1.3 Select Live View Stream

The device supports main stream and sub-stream. Main stream is used for continuous recording and sub-stream is used for network transmission.


Click  to select live view stream.

5.1.4 Manual Capture

Capture live view pictures and save them to your computer.

Steps



1. Go to **Live View**.
2. Start live view of a camera.

3. Click .
4. View captured pictures.
 - Enter the path popped up in the lower right corner of the interface.
 - Go to **Configuration** → **Local** for the saving path of snapshots in live view.

5.1.5 Manual Recording

Record videos in live view and save them to your computer.

Steps

1. Go to **Live View**.
2. Start live view of a camera.
3. Click  to start recording.
4. Click  to stop recording.
5. Go to the set saving path to view recorded videos.
 - Enter the path popped up in the lower right corner of the interface.
 - Go to **Configuration** → **Local** for the saving path of record files.


5.1.6 Start/Stop Two-Way Audio

You can start real-time two-way audio between your computer and the recorder.

Before You Start

Connect the audio input and output devices to the recorder and computer.

Steps


1. Start the live view of a camera.
2. Click .

Result

- At computer end, you can hear the audio from recorder.
- At recorder end, you can hear the audio from computer.

5.1.7 Set Live View Volume

Turn on audio and adjust audio volume.

Click  to turn on audio.

Drag the slider to adjust volume.

5.1.8 Full-Screen Live View

Display the live view image in full screen.

Start the live view and click  to display the live view image in full screen.

Press **Esc** to exit from the full-screen mode.

5.1.9 Channel-Zero

Channel-zero, known as virtual channel, can show the videos from all channels of the recorder, reducing the bandwidth while simultaneously previewing from multichannel.

Steps

1. Go to **Configuration** → **Video/Audio** → **Channel-zero**.
2. Check **Enable Channel-zero Encoding**.
3. Select **Max. Bitrate** and **Max. Frame Rate**.
4. Click **Save**.
5. Go to **Live View**.
6. Double click **Channel-zero** in the camera list to start live view of channel-zero.

5.2 PTZ Operation

Configure PTZ parameters and control PTZ.

5.2.1 Configure PTZ

Follow the steps to set PTZ parameters. The configuration of the PTZ parameters should be done before you control the PTZ camera.

Before You Start

Connect the RS-485 cables of the PTZ camera to EXT.DEV interface of the device.

Steps

1. Go to **Configuration** → **System** → **System Settings** → **Serial Configuration**.
2. Select **COM** as **EXT.DEV**.
3. Configure parameters such as **Baud Rate**, **Data Bit**, etc.

Note

All the parameters should be exactly the same with those of the PTZ camera.











4. Click **Save**.

5.2.2 PTZ Control Panel

Go to **Live View**. Control PTZ camera via PTZ control panel.

Note

PTZ control panels may vary with recorder models.

Icon	Description	Icon	Description
	Direction buttons.		Auto-scan button.
	Zoom -.		Zoom +.
	Focus +.		Focus -.
	Iris +.		Iris -.
	Turn on/off light.		Start/stop wiper.

5.3 Local Configuration

Go to **Configuration** → **Local** to configure the parameters of live view, record files, pictures, and clips.

Live View Parameters

Stream Type Main Stream Sub Stream

Play Performance Shortest Delay Auto

Rules Enable Disable

Image Size Auto-fill 4:3 16:9

Auto Start Live View Yes No

Image Format JPEG BMP

Record File Settings

Record File Size 256M 512M 1G

Save record files to

Save downloaded files to

Picture and Clip Settings

Save snapshots in live view to

Save snapshots when playback to

Save clips to

Figure 5-1 Local Configuration

Stream Type

Select **Main Stream** if you want to view the HD image for default live view. Select **Sub Stream** if you want to view the BD image for default live view.

Play Performance

Shortest Delay: The device ensures real-time capacity in priority.

Auto: The device will automatically adjust the live view stream to balance real-time capacity and fluency.

Rules

If you enable the function, after the connected camera has been set motion detection alarm and enabled VCA function, the rule information will be displayed on the live view image (e.g., marked with a green rectangle).

Image Size

Select the image aspect ratio.

Auto Start Live View

Select **Yes** if you want to enable live view automatically after login.

Image Format

Select the captured picture format in live view.

Record File Size

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

Save record files to

Set the saving path for the manually recorded video files. You can click **Browse** to change the saving path.

Save downloaded files to

Set the saving path for the downloaded video files. You can click **Browse** to change the saving path.

Save snapshots in live view to

Set the saving path for the manually captured pictures in live view mode. You can click **Browse** to change the saving path.

Save snapshots when playback to

Set the saving path for the manually captured pictures in playback mode. You can click **Browse** to change the saving path.

Save clips to

Set the saving path for the clipped video files in playback mode. You can click **Browse** to change the saving path.

Chapter 6 Mobile Device Features

6.1 Timed Shutdown

The device will automatically start up/shut down according to the schedule.

Before You Start

Wire power cord. For details, refer to Quick Start Guide.

Steps

1. Go to **Configuration** → **Vehicle** → **Startup**.
2. Optional: Select **Low voltage protection**.

Note

- Select **Battery** or **UPS** according to the power supply mode. If you select **OFF**, low voltage protection is disabled.
- When the device power voltage is lower than the system threshold, the device will shut down automatically, no matter what type of startup/shutdown mode you selected.

3. Select **Auto Work Type** as **Auto Working**.
4. Set the shutdown schedule. Refer to "Configure Arming Schedule" for details.

Note

Up to 2 time periods can be set for each day and each of the time periods cannot be overlapped.

5. Click **Save**.

6.2 Delayed Shutdown

You can set the shutdown delay time (Vehicle Ignition Startup and Shutdown) for the device.

Before You Start

Wire power cord. For details, refer to Quick Start Guide.

Steps

1. Go to **Configuration** → **Vehicle** → **Startup**.
2. Optional: Select **Low voltage protection**.

Note

- Select **Battery** or **UPS** according to the power supply mode. If you select **OFF**, low voltage

protection is disabled.

- When the device power voltage is lower than the system threshold, the device will shut down automatically, no matter what type of startup/shutdown mode you selected.
-

3. Select **Auto Work Type** as **Halt Delay**.
4. Select **Delay Time**.
5. Click **Save**.

6.3 Configure Satellite Positioning

The built-in GNSS module supports GPS (Global Positioning System), enabling device positioning and speed limit alarm.

Before You Start

Install the positioning antenna.

Steps

1. Go to **Configuration** → **Vehicle** → **Position Settings**.
2. Click **Location Configuration**.

The screenshot shows the 'Location Configuration' settings page. At the top, there are two tabs: 'Location Configuration' (active) and 'Location Status'. The settings are as follows:

- Position Module: Built-in (dropdown)
- Locating Module: GPS (dropdown)
- Satellite Time Sync: Enable
- Speed Units: Kilometers Per Hour, Miles Per Hour
- Speed Limit of Alarm: 100 (input field)
- Blind Replacement (day): 2 (input field)
- GPS Upload Interval (Se...): 10 (input field)
- Display OSD on:
 - IP Camera: Select All, D1, D2, D3, D4
 - Normal Linkage
 - Audible Warning
 - Notify Surveillance Center
 - Trigger Alarm Output
 - A->1
 - A->2

Figure 6-1 Configure Satellite Positioning

3. Select **Position Module**.

Built-in

Obtain data from the satellite positioning module built in the device.

Intelligent Display Terminal

Obtain data from display terminal.

4. Select **Locating Module**.

Note

- The combination mode means the positioning module will be selected automatically. For example, if **GPS/BDS** is selected, GPS or BDS will be selected automatically.
 - The positioning module varies with models. The actual interface prevails.
-

5. Optional: Check **Enable** of **Satellite Time Sync** to synchronize the device time with satellite time.
6. Configure the speed limit.
 - 1) Select **Speed Units**.
 - 2) Enter **Speed Limit of Alarm**.
If the vehicle speed exceeds the set value, the device will alarm.
7. Enter **Blind Replacement** and **GPS Upload Interval**.

Blind Replacement

In the area without network signal, after the signal restores, the positioning information from the start time without network signal to the current time will be uploaded. For example, if you enter **3**, after the network signal restores, the data from 3 days ago to now will be uploaded.

GPS Upload Interval

The positioning information will be uploaded according to the set interval.

8. Check the channel(s) you want the positioning information to be displayed.
The positioning information will be displayed in the live view and playback images of the selected channel(s).
9. Configure the linkage actions.
 - If you want the overspeed vehicle to trigger the speed alarm, check **Trigger Alarm Output** and check the alarm output.
 - If you want the overspeed vehicle to trigger the device to beep, check **Audible Warning**.
10. Click **Save**.
11. Optional: Click **Location Status** to view the positioning information.

6.4 Configure G-Sensor Alarm

G-Sensor detects and records acceleration information in 3-axial (X, Y, Z) directions.

Before You Start

Connect a G-sensor to the device.

Steps

1. Go to **Configuration** → **Vehicle** → **G-Sensor**.

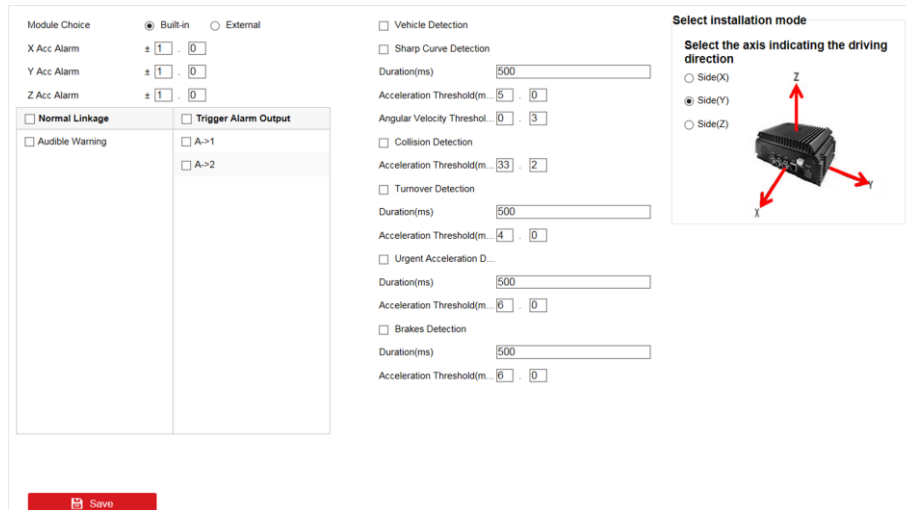


Figure 6-2 Configure G-Sensor

2. Select module according to actual situation.

External

The G-sensor is connected to the device via RS-232/RS-485 interface.

Built-in

The G-sensor is a built-in module of the device.

3. Set the limit value for acceleration alarm in X, Y, and Z directions.

Note

X, Y, and Z represent the directions of acceleration and the unit of alarm value is G ($G=9.8 \text{ m/s}^2$).

During driving, the device will alarm when acceleration of any direction exceeds the set value.

4. Optional: Set vehicle detection if you want to detect sharp curve, collision, turnover, etc. and trigger alarm when these behaviors are detected.

1) Check **Vehicle Detection**.

2) Check the detection(s) according to the actual needs.

3) Enter duration and threshold for the detection(s).

When the vehicle moving exceeds the set threshold, and the detected behavior duration exceeds the set duration, alarm and record will be triggered.

5. Select the axis indicating the driving direction according to the diagram.

6. Check the linkage actions for acceleration alarm, including **Audible Warning** and **Trigger Alarm Output**.

7. Click **Save**.

6.5 Configure Sensor-In

Sensor-in detects and records the driving information of the vehicle, including pedal braking,

turning left/right, reversing, etc.

Before You Start

Connect the sensor-in interface to vehicle corresponding interface. For details, refer to Quick Start Guide.

Steps

1. Go to **Configuration** → **Vehicle** → **Sensor-In**.
2. Check **Enable**.

Note

If sensor-in is disabled, you can configure it via alarm input. For example, for the recorder with 4-ch alarm inputs, according to the sequence of the parameters on the interface, braking corresponds to No. 5 alarm input (A<-5), turning left corresponds to No. 6 alarm input (A<-6), and so on. Refer to "Configure Alarm Input" for details.

3. Select **Trigger Level** and **Pop Channel** according to actual situation.
The image of selected channel will be displayed in full screen when sensor-in is triggered.
4. Click **Save**.

Chapter 7 Camera Management

7.1 Configure Encoding Parameters

Configure encoding parameters to adjust live view image and video parameters.

Go to **Configuration** → **Video/Audio** → **Video**.

- In good network situation, you can set high resolution and bitrate to improve image quality.
- In bad network situation, you can set low resolution, bitrate, and frame rate to get fluent image.
- In bad network situation, if you want to guarantee the resolution, you can set low bitrate and frame rate to get fluent image.

Stream Type

Main Stream is used for HD storage and live view. **Sub Stream** is used for BD storage and live view when the network bandwidth is insufficient.

Video Type

If you want to record both video and audio, select **Video&Audio**. If you just want to record video, select **Video Stream**.

Resolution

The higher the resolution, the clearer the image, and the higher the requirement of network bandwidth.

Bitrate Type

You can select **Variable** or **Constant**.

Video Quality

If the bitrate is variable, you can select video quality according to your needs. The higher the video quality, the higher the requirement of network bandwidth.

Frame Rate

The higher the frame rate, the higher the requirement of network bandwidth, and the higher the needed storage capacity.

Max. Bitrate

If the bitrate is variable, enter the max. bitrate. The bitrate will change automatically below the max. value.

Video Encoding

Select **H.265** (only supported by some models) or **H.264** according to the actual needs.

7.2 Configure Audio Parameters

You can configure the audio encoding format.

Before You Start

The device supports embedded audio or peripheral audio device has been connected.

Steps

1. Go to **Configuration** → **Video/Audio** → **Audio**.
2. Select **Intercom Audio Coding**.



The selected encoding format should be the same with that of the embedded audio or peripheral audio device.

3. Click **Save**.

7.3 Configure Image Parameters

You can adjust the image parameters to get clear image.

Steps

1. Go to **Configuration** → **Image** → **Display Settings**.
2. Select **Channel No**.
3. Set image parameters.

Day/Night Switch

Auto-Switch

In auto mode, the day mode and night mode can switch automatically according to the light condition of environment.

Scheduled Switch

In scheduled mode, you can set the time schedule for day/night/day and night. For example, click **Day** and set the start and end time for the day mode. Then the time out of the schedule is for the night mode.

Brightness

It refers to the max. brightness of the image.

Contrast

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

Saturation

It refers to the colorfulness of the image color.

Sharpness

It refers to the edge contrast of the image.

Exposure Time

Select the exposure time according to the brightness of the environment. Select relatively long time in the environment with dim light, and select relatively short time in the environment with sufficient light.

Mirror Type

When the visual angle of the live view image deviates with that of the actual covered area, you can set the mirror type to adjust the image to the normal visual angle.



Note

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

4. Optional: When the image color is imbalanced, or the lens cannot be controlled, click **Default** to improve the image.

7.4 Set OSD Parameters

You can customize OSD information on the live view.

Steps

1. Go to **Configuration** → **Image** → **OSD Settings**.
2. Select **Channel No.**
3. Select **Display Mode** and **OSD Size**.
4. Set the display content.
 - Check **Display Name**, and enter **Camera Name**.
 - Check **Display Date**, and select **Date Format**.
 - Check **Display Week**.
5. Select **Time Format**.
6. Optional: To display text on the screen, check the text No. and enter the text.
7. Drag the red frames on live view image to adjust the OSD positions.
8. Click **Save**.

Result

The set content will be displayed on the live view image and recorded videos.

7.5 Configure 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** → **Image** → **Privacy Mask**.

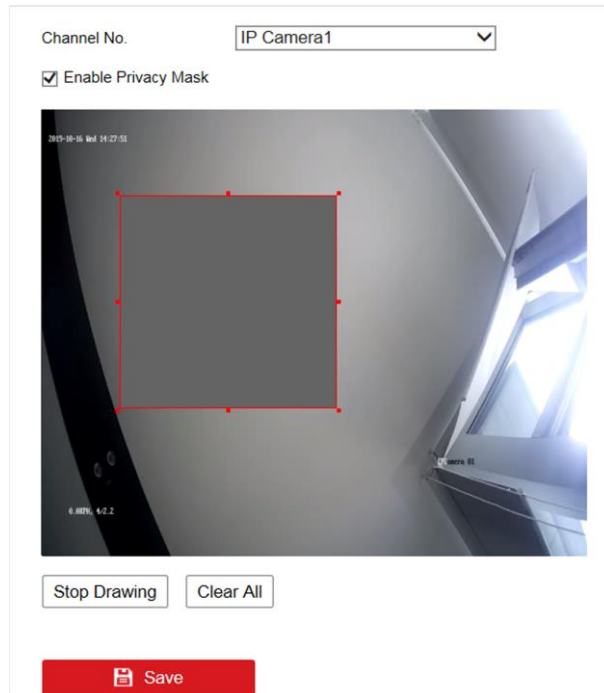


Figure 7-1 Configure Privacy Mask

2. Select **Channel No.**
3. Check **Enable Privacy Mask.**
4. Draw detection area.
 - 1) Click **Draw Area.**
 - 2) In live view image, drag to draw the privacy mask area.
 - 3) Click **Stop Drawing.**

 **Note**

Up to four privacy mask areas are supported for each channel.

5. Optional: Click **Clear All** to clear all the drawn areas.
6. Click **Save.**

Result

The image of drawn area will be shielded in the live view.

Chapter 8 Event Detection

Event detection is to analyze driver's behavior, including smoking, fatigue driving, phone call, etc. The device will trigger warning when these behaviors are detected.

Note

Event detection is only supported by some models. The actual device prevails.

8.1 Configuration

8.1.1 Configure Smart Driving Behavior

One recorder supports analyzing the smart device driving behavior of one channel once.

Calibrate Camera Position

Calibrate network camera position before enabling driving behavior detection.

Before You Start

Add the network camera to your device.

Steps

1. Go to **Configuration** → **VCA** → **Driving Behaviors** → **IPC Position Calibration**.
2. Select **Channel No.**
3. Adjust the network camera position to make the driver face image appear in the red frame, and the safety belt image appear above the yellow line.

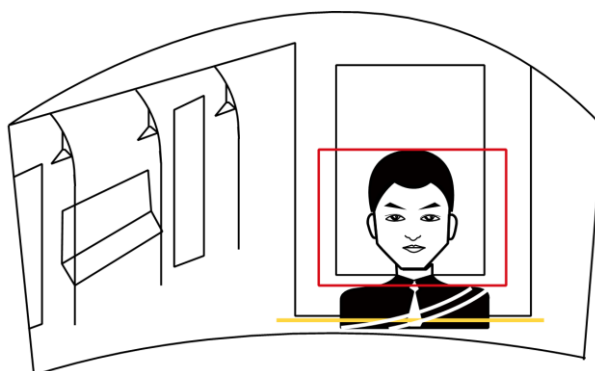


Figure 8-1 Calibrate Camera Position

Configure Event Detection

Set the event detection parameters according to actual situation to lower false detection rate.

Steps

1. Go to **Configuration** → **VCA** → **Driving Behaviors** → **Driving Behaviors**.
2. Select **Channel No.**
3. Check **Enable**.
4. Check behaviors to analyze and configure their parameters.

Distraction Prompt Detection

When the device detects that the driver is not concentrating on driving, the device will alarm to prompt the driver.

Fatigue Driving (Closing Eyes) Detection

When the device detects that the driver is too tired to close his or her eyes, the device will alarm.

Fatigue Driving (Yawn) Detection

When the device detects that the driver is too tired to yawn, the device will alarm.

Phone Call Detection

When the device detects that the driver is using the mobile phone, the device will alarm.

Smoking Detection

When the device detects that the driver is smoking, the device will alarm.

Seatbelt Unbuckled Detection

When the device detects that the driver's seatbelt is not buckled, the device will alarm.

Driver Exception Detection

When the device detects that there are some exceptions with the driver, the device will alarm.

IR Interrupted Sunglasses Detection

When the device detects that the driver is wearing IR interrupted sunglasses, the device will alarm.

Alarm Triggering Time

Device will alarm when the corresponding driving behavior lasts for the set time.

Confidence

Available for phone call detection and smoking detection. The higher the value is, the lower the false detection rate. You are recommended to use the default value.

Stop Detections in Low Speed

The feature is valid when GPS positioning succeeded. When the vehicle speed is lower than the set value, all the event detection will stop.

Enable Voice Alarm

When it is checked, device will send out voice alarm when a checked behavior is detected.

Note

One recorder supports analyzing driving behavior for one channel once. Enabling the event detection will disable event detection of other channels.

5. Click **Advanced** to set the advanced parameters.
6. Click **Save**.

Result

If the recorder has been connected with a mobile intercom, when a concerned driving behavior is detected, the connected intercom will automatically send out audio broadcast to remind the driver.

8.1.2 Connect Smart Terminal

For the recorder supporting network camera, when the recorder and a smart terminal connect to the same network camera, and the smart terminal is added to the recorder, the recorder will receive event detection from the smart terminal.

Before You Start


Add the same network camera to both smart terminal and recorder.

Steps


1. Go to **Configuration** → **Vehicle** → **Smart Terminal Access**.
2. Check **Enable**.
3. Enter smart terminal information.
4. Click **Save**.

8.2 View Videos and Pictures of Driving Behavior

Play back Videos

1. Go to **Playback**.
2. Select the channel.
3. Click **Event Search**, and select **Main Type** as **Driver's Exceptional Behavior**.
4. Set other search conditions.
5. Click **Search**.
6. Select the event in the list, and click  to play back the video.

Download Videos

1. Go to **Playback**.
2. Click .

3. Select **Channel No.**
4. Select **Search Type** as **Event Search**.
5. Select **Main Type** as **Driver's Exceptional Behavior**.
6. Set other search conditions, and click **Search**.
7. Check the video(s) to be downloaded, and click **Download** to save to the local path.

View and Download Pictures

1. Go to **Picture**.
2. Select **Channel No.**
3. Select **File Type** as **Driver's Exceptional Behavior**.
4. Set other search conditions, and click **Search**.
5. Click **Live View** to view the picture.
6. Check the picture(s) to be downloaded, and click **Download** to save to the local path.

8.3 Link Driving Behavior Alarm

The device can trigger specific linkage method when the configured driving behavior is detected.

Before You Start

At least one of the following requirements should be met:

- The device supports smart event detection, and the driving behavior parameters have been configured.
- The device supports connecting smart terminal, and the smart terminal has been connected and parameters have been configured.

Steps

1. Go to **Configuration** → **Event** → **Basic Event** → **Driving Behaviors**.
2. Select **Channel No.** and **Driving Behaviors**.

Note

- If the device supports smart event detection, the selected channel should be the one enabled smart event detection.
 - If the device supports smart terminal connection, the selected channel should be the one connected to the smart terminal.
-

3. Check **Enable**.
4. Configure arming schedule. For detailed steps, refer to "Configure Arming Schedule".
5. Configure linkage method. For detailed steps, refer to "Configure Linkage Actions".
6. Click **Save**.

Chapter 9 Smart Configuration

You can enable license plate recognition and face picture comparison.

Note

The channel to enable the license plate recognition cannot be the same with the channel to enable face picture comparison.

9.1 License Plate Recognition

9.1.1 Enable License Plate Recognition

You can enable license plate recognition (LPR) and set the LPR region. When a vehicle appears in the LPR region and the license plate is recognized, a picture will be captured and the license plate information will be overlaid on the captured picture.

Steps

Note

Up to two channels are supported for license plate recognition simultaneously.

1. Go to **Configuration** → **VCA** → **License Plate Recognition** → **License Plate Recognition**.
 2. Select **Channel No.**
 3. Check **Enable** to enable LPR.
 4. If the default LPR region and trigger line do not applicable to the actual scene, adjust the region or line.
 - 1) Place the cursor on the four corners of the region or the two ends of the line, hold the left button of the mouse to adjust its size.
 - 2) Select the region or line, and drag to adjust its position.
-

Note

You can lick **Clear** to clear the default region and line, and click **Reset** to generate the default region and line, and then adjust its size or position.

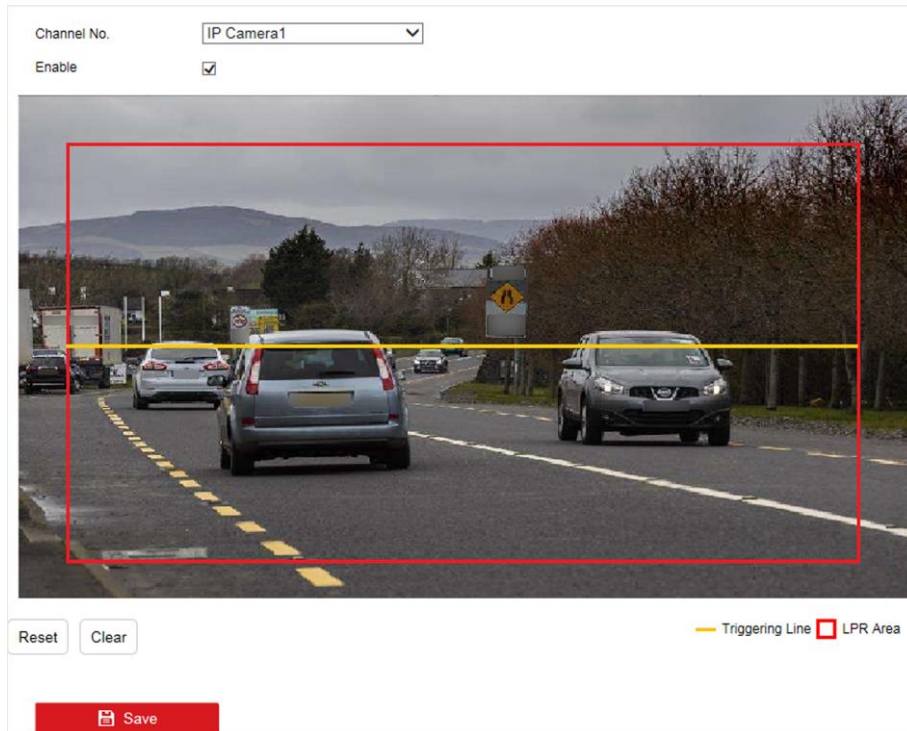


Figure 9-1 Configure License Plate Recognition Area

5. Click **Save**.

9.1.2 Configure License Plate Recognition Parameters

You can set the license plate recognition parameters such as the direction and size to recognize these features of the passing vehicle.

Steps

1. Go to **Configuration** → **VCA** → **License Plate Recognition** → **LPR Parameters**.

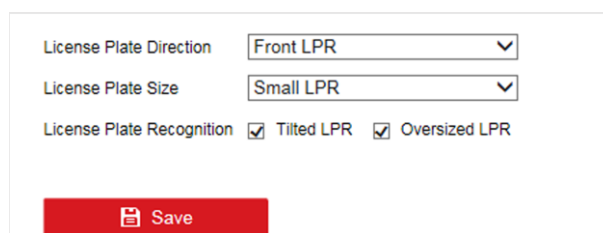


Figure 9-2 Configure License Plate Recognition Parameters

2. Set the parameters below.

License Plate Direction

You can enable the recognition of the front or rear license plate.

License Plate Size

You can enable the recognition of the small-sized or large-sized license plate.

License Plate Recognition

Tilted LPR

The tilted license plate can be recognized.

Oversized LPR

The oversized license plate can be recognized.

3. Click **Save**.

9.2 Face Picture Comparison

9.2.1 Configure Face Picture Comparison Parameters

If you want to compare the captured face pictures and the ones in the face picture library, enable face picture comparison and set the parameters.

Steps

1. Go to **Configuration** → **VCA** → **Face Contrast**.

The screenshot displays the configuration interface for Face Picture Comparison. The settings are as follows:

Parameter	Value / Status
Channel No.	IP Camera1
Enable	<input checked="" type="checkbox"/>
Similarity Threshold	3
Enable Face Attendance Check	<input checked="" type="checkbox"/>
Triggering Time (s)	1
Enable Driver Substitution Prompt	<input checked="" type="checkbox"/>
Enable Driver ID Exception	<input checked="" type="checkbox"/>
Comparison Timeout (s)	300
Pause Recognition in High Speed	<input type="checkbox"/>
High Speed (km/h)	19
Enable Audible Warning	<input type="checkbox"/>
Constant Alarm Filter Inte...	6

A red **Save** button is located at the bottom of the configuration panel.

Figure 9-3 Configure Face Picture Comparison Parameters

2. Select **Channel No.**
3. Set the parameters.

Similarity Threshold

Check **Enable** to enable driver's face picture comparison, and set the threshold. When the similarity between the captured face picture and the face picture in the face picture library exceeds the set threshold, alarm will be triggered.

Enable Face Attendance Check

Check it to detect whether the driver is at the driver's seat. Set **Triggering Time**. Then the device will detect every set time.

Enable Driver Substitution Prompt

Check it and the device will trigger alarm when the driver is changed during the running time of the device.

Enable Driver ID Exception

Check it and set **Comparison Timeout**. When the device detects that there is no driver during the set time, alarm will be triggered.

Pause Recognition in High Speed

Check it and set **High Speed**. Then the face picture comparison will disable when the vehicle speed exceeds the set value.

Enable Audio Warning

Check it to enable audio warning and set **Constant Alarm Filter Interval**. Then the device will beep every set interval when the device has detected the events above.

4. Click **Save**.

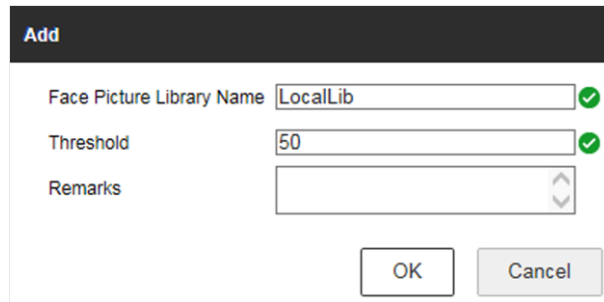
9.2.2 Configure Face Picture Library

Manage Face Picture Library

You can add, edit, or delete the face picture library locally.

Steps

1. Go to **Configuration** → **Face Picture Library**.
2. Click **+** to add a face picture library.
3. Enter **Face Picture Library Name**, **Threshold**, and **Remarks**. Click **OK**.





The screenshot shows a dialog box titled "Add" with a dark header. It contains three input fields: "Face Picture Library Name" with the text "LocalLib" and a green checkmark; "Threshold" with the value "50" and a green checkmark; and "Remarks" which is an empty text area with a scroll arrow. At the bottom, there are two buttons: "OK" and "Cancel".

Figure 9-4 Add Face Picture Library

Note

- Threshold refers to the threshold of face picture comparison alarm. After the comparison and analysis between the captured face pictures and those in the face picture library, the comparison information of the face picture which has triggered the alarm will be displayed on **Face Contrast** interface.
 - Only one face picture library can be added.
-

4. Optional: Edit or delete the face picture library.
 - Select the added face picture library, and click  to edit its name.
 - Select the added face picture library, and click  to delete it.

Add Face Picture

You can add face pictures one by one to the face picture library.

Steps

1. Go to **Configuration** → **Face Picture Library**.
2. Select the added face picture library.
3. Click **Add**.

Add

Photo

Name ✓

Gender ▼

Birthday 📅

ID Type ▼



ID No. ✓

Figure 9-5 Add Face Picture

4. Set **Name**, **Gender**, **Birthday**, **ID Type**, and **ID No**.
5. Click **Upload**, and select a face picture from the computer to add to the library.

 **Note**

- The added face picture size cannot exceed 200 KB.
- Only the face picture in the format of .jpeg can be added.

6. Click **OK**.
The added face picture information will be displayed in the list. You can click  or  to switch between the list mode and picture mode.



Face Picture Library +

LocalLib

Name Gender Modeling Status

ID Type ID No.

Start Time of Bir... End Time of Bir...

No.	Name	Gender	Birthday	ID Type	ID No.	Modeling Status
<input type="checkbox"/> 1						
<input type="checkbox"/> 2						
<input type="checkbox"/> 3						
<input type="checkbox"/> 4						
<input type="checkbox"/> 5						
<input type="checkbox"/> 6						
<input type="checkbox"/> 7						
<input type="checkbox"/> 8						
<input type="checkbox"/> 9						
<input type="checkbox"/> 10						
<input type="checkbox"/> 11						
<input type="checkbox"/> 12						
<input type="checkbox"/> 13						
<input type="checkbox"/> 14						
<input type="checkbox"/> 15						
<input type="checkbox"/> 16						
<input type="checkbox"/> 17						
<input type="checkbox"/> 18						
<input type="checkbox"/> 19						
<input type="checkbox"/> 20						

Total 220 items | 15 items(s) / Page 50 | items

Prev Page 1 2 3 4 5 Next Page Go to Page Go to

Figure 9-6 Face Picture Library

- Optional: Edit or delete the face picture information.
 - Select the added face picture information, and click **Modify** to edit the information.
 - Select the added face picture information, and click **Delete** to delete the information.

Import Face Pictures to Library in Batch



You can import face pictures from the computer to the library manually in batch.

Steps

- Go to **Configuration** → **Face Picture Library**.
- Select the added face picture library.
- Click **Import**.
- Select the file folder storing the face pictures, and click **OK**.

Note

- If the imported face pictures are named as "name_gender_ID No.jpeg", the information can be filled in automatically. Here the gender should be 0/1/2 to stand for the male/female/unknown gender respectively. E.g., Jim_0_1234567890.jpeg.
- Only the face picture in the format of .jpeg can be imported.
- Up to 30,000 face pictures can be imported to a face picture library for the device with one HDD, and up to 60,000 face pictures can be imported to a face picture library for the device with one HDDs.

-
- Check the importing information in the popup window, and click **OK**.
The imported face picture information will be displayed in the list. You can click  or  to switch between the list mode and picture mode.
 - Optional: Edit or delete the face picture information.
 - Select the imported face picture information, and click **Modify** to edit the information.
 - Select the imported face picture information, and click **Delete** to delete the information.

Model Face Picture

For the unmodeled face picture(s), you can model it or them manually.

Before You Start

The face pictures have been added or imported in batch.

Steps

- Go to **Configuration** → **Face Picture Library**.
- Select the face picture(s) failed to model.
- Click **Model** to start modeling.
After the modeling process, the **Modeling Results** window pops up to show the number of total modeled picture(s) and the picture(s) failed to model.
- Click **OK** on the popup window.

 **Note**

Face picture comparison is disabled while modeling.

Model Face Pictures in Batch

You can model the unmodeled face pictures or all the pictures in batch.

Before You Start

The face pictures have been added or imported in batch.

Steps

1. Go to **Configuration** → **Face Picture Library**.
2. Click **Model in Batch**.

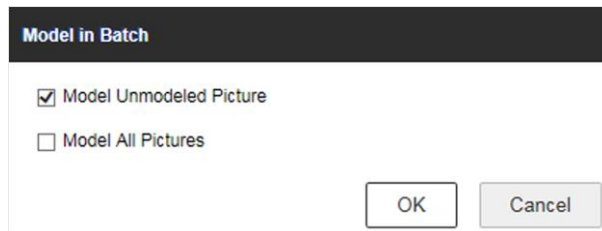


Figure 9-7 Model Face Pictures in Batch

3. Select **Model Unmodeled Picture** or **Model for All Pictures**.

After the modeling process, the **Modeling Results** window pops up to show the number of total modeled picture(s) and the picture(s) failed to model.

4. Click **OK**.

 **Note**

Face picture comparison is disabled while modeling.

Search Face Picture

You can search the face pictures in the face picture library according to the set conditions.

Before You Start

The face pictures have been added or imported in batch.

Steps

1. Go to **Configuration** → **Face Picture Library**.
2. Select the added face picture library.
3. Set the search conditions. You can search according to the name, modeling status, etc.
4. Click **Search**.

Result

The face picture information conforming to the conditions will be displayed in the list.

9.2.3 View Face Picture Comparison Result

The device supports showing the face picture comparison result in real time.

Before You Start

Set the face picture library, and enable face picture comparison.

Steps

1. Go to **Face Contrast**.
2. View the captured face picture information, such as the captured face picture, the face picture comparison similarity, the face picture in the library, etc.

Note

Only after you have enabled face picture comparison, can the information of the face picture with the highest similarity be shown.

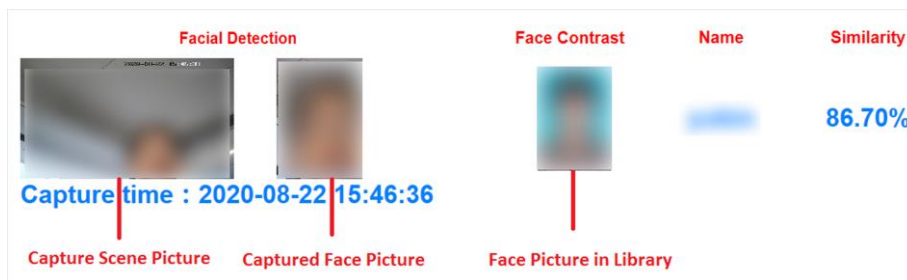


Figure 9-8 View Face Picture Comparison Result

9.3 View Captured Pictures of Smart Configuration

You can view the captured pictures of license plate recognition and face picture comparison.

Steps

1. Go to **Picture**.
2. Select **Channel No.**
3. Select **File Type** as **License Plate Recognition** or **Face Contrast**.
4. Set the start time and end time.
5. Click **Search**.
The searched pictures will be listed in the file list.
6. Select a picture and click **Live View** to view the capture picture.
7. Optional: Select picture(s) and click **Download** to save the picture(s) to the local path.

Chapter 10 Events and Alarms

10.1 Configure Motion Detection Alarm

When motion detection alarm is configured, once a motion event is detected, the device starts to record and multiple linkage actions will be triggered.

Steps

1. Go to **Configuration** → **Event** → **Basic Event** → **Motion**.
2. Select **Channel No.**
3. Check **Enable Motion Detection**.
4. Draw detection area.
 - 1) Click **Draw Area**.
 - 2) In live view area, drag to draw the detection area.
 - 3) Click **Stop Drawing**.
5. Set **Sensitivity**.
6. Configure arming schedule. For detailed steps, refer to "Configure Arming Schedule".
7. Configure linkage method. For detailed steps, refer to "Configure Linkage Actions".
8. Click **Save**.

10.2 Configure Video Loss Alarm

When the recorder cannot receive video signal from the analog cameras, the video loss alarm will be triggered. Linkage actions, including audible warning and alarm output, can be set to respond.

Steps

1. Go to **Configuration** → **Event** → **Basic Event** → **Video Loss**.
2. Select **Channel No.**
3. Check **Enable Video Loss Detection**.
4. Configure arming schedule. For detailed steps, refer to "Configure Arming Schedule".
5. Configure linkage method. For detailed steps, refer to "Configure Linkage Actions".
6. Click **Save**.

10.3 Configure Video Tampering Alarm

A tampering alarm is triggered when the camera is covered and the monitoring area cannot be viewed. Linkage actions, including audible warning, alarm output, can be set to respond.

Steps

1. Go to **Configuration** → **Event** → **Basic Event** → **Video Tampering**.

2. Select **Channel No.**
3. Check **Enable Video Tampering.**
4. Draw the video tampering area.
 - 1) Click **Draw Area.**
 - 2) In live view image, drag to draw the video tampering area.
 - 3) Click **Stop Drawing.**
5. Set **Sensitivity.**
6. Configure arming schedule. For detailed steps, refer to "Configure Arming Schedule".
7. Configure linkage method. For detailed steps, refer to "Configure Linkage Actions".
8. Click **Save.**

10.4 Configure Alarm Input

If you want the recorder to connect to peripheral alarm input devices to realize linkage alarm, set alarm input.

Before You Start

Connect an alarm device to your recorder via the alarm input cables.

Steps

1. Go to **Configuration → Event → Basic Event → Alarm Input.**

Alarm Input No. IP Address

Trigger Level Alarm Name (Cannot Copy) ✓

Alarm Type Alarm Status (Cannot Copy)

Enable Alarm Input Handling

Arming Schedule Linkage Method

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

Figure 10-1 Configure Alarm Input

2. Select **Alarm Input No.** and enter **Alarm Name.**

3. Select **Alarm Type** according to alarm device type.
4. Check **Enable Alarm Input Handling**.
5. Configure arming schedule. For detailed steps, refer to "Configure Arming Schedule".
6. Configure linkage method. For detailed steps, refer to "Configure Linkage Actions".
7. Optional: Click **Copy to** and select desired channel(s) to copy the above settings to other alarm input(s).
8. Click **Save**.

10.5 Configure Alarm Output

If you want the recorder to link with the alarm output device to alarm when events occur, set alarm output.

Before You Start

Connect an alarm device to your recorder via the alarm output cables.

Steps

1. Go to **Configuration** → **Event** → **Basic Event** → **Alarm Output**.

Alarm Output No. IP Address

Default Status Triggers Status

Delay Alarm Name (Cannot Copy) ✓

Alarm Status (Cannot Copy)

Arming Schedule

✕ Delete

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

Figure 10-2 Configure Alarm Output

2. Select **Alarm Output No.** and enter **Alarm Name**.
3. Select **Delay** to set dwell time.
Alarm output will continue for the set time.
4. Configure arming schedule. For detailed steps, refer to "Configure Arming Schedule".

5. Optional: Click **Manual Alarm** to trigger alarm manually. Click **Stop Alarm** to stop manual alarm.
6. Optional: Click **Copy to** and select desired channel(s) to copy the above settings to other alarm output(s).
7. Click **Save**.

10.6 Configure Exception Alarm

Configure alarms which are triggered by exceptions to take necessary actions in time.

Steps

1. Go to **Configuration** → **Event** → **Basic Event** → **Exception**.
2. Select **Exception Type**.
3. Configure linkage method. For detailed steps, refer to "Configure Linkage Actions".
4. Click **Save**.

10.7 Configure Arming Schedule

Steps

1. Drag in time line to draw an arming period.
2. Adjust the set arming period.
 - Click a period and adjust its length.
 - Click a period, enter start time and end time, and click **Save**.
 - Click **Delete All** to delete all periods.

Note

Up to 8 time periods can be set for each day and each of the time periods cannot be overlapped.

3. Optional: Click **Copy to** and select desired days to copy the above settings to other days.
4. Click **Save**.

10.8 Configure Linkage Actions

Check the linkage action(s) when events occur, and click **Save**.

Note

Linkage actions vary with event types.

Audible Warning

The device will trigger an audible beep when events occur.

Notify Surveillance Center

The device will send an exception or alarm signal to the remote alarm host when events occur. The alarm host refers to the computer installed with the remote client.

Full Screen Monitoring

The image of the alarm channel will pop up on the connected external monitor when events occur, and be displayed in full screen.

Trigger Alarm Output

Check the alarm output channel(s) to trigger the alarm of the connected alarm output device(s).

License Plate Recognition

When the license plate recognition is enabled, the alarm input will link with the license plate recognition.

Chapter 11 Security

11.1 Manage User Account

You can add and delete users, and modify the password and permission of users.

Steps

1. Go to **Configuration** → **System** → **User Management**.
2. Click **Add**.
3. Edit new user parameters and click **OK** to create the user.

Note

We highly recommend you to create a strong password of your own choosing (using a minimum of 8 characters, including at least three kinds of following categories: 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. Optional: Modify or delete the user information.
 - Select a user and click **Delete** to delete the user.
 - Select a user and click **Modify** to modify the user information.

11.2 Configure Security Question

If you forgot admin password, you can reset password by answering security questions. Follow the steps to set security questions.

Before You Start

Your computer and recorder must be in the same network segment.

Steps

1. Go to **Configuration** → **System** → **User Management**.
2. Click **Security Question**.
3. Enter **Admin Password**.
4. Set security questions.
5. Click **OK**.

Result

If you forgot admin password, you can visit the recorder via computer in the same network segment with your recorder and click **Forgot Password** to reset password.

11.3 Configure Allowlist

Only the trusted IP addresses on the allowlist can get access to the device.

Steps

1. Go to **Configuration** → **System** → **Security** → **Allow List**.
2. Check **Enable Allow List**.
3. Click **Add**, enter the allowed **IP Address**, and click **OK**.
4. Optional: Edit or delete the IP address.
 - Select an IP address and click **Modify** to edit the IP address.
 - Select an IP address and click **Delete** to delete the IP address.
5. Click **Save**.

11.4 Configure SSH

SSH is disabled by default for security reasons. This setting is reserved for professional maintenance personnel only.

Steps

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

Chapter 12 Maintenance

12.1 View System Information

Go to **Configuration** → **System** → **System Settings** → **Basic Information** to view the device information. You can edit **Device Name** and **Device No.**

12.2 Search Log File

You can view and export logs saved in the recorder storage media.

Go to **Configuration** → **System** → **Maintenance** → **Log** to search or export logs.

12.3 Upgrade System

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

Before You Start

Save the upgrade file in computer.

Steps

1. Go to **Configuration** → **System** → **Maintenance** → **Upgrade & Maintenance** → **Upgrade**.
2. Click **Browse** and select the upgrade file.
3. Click **Upgrade** and click **OK** in the popup message box to start upgrading.

Caution

The upgrading process will last one to ten minutes. DO NOT disconnect power to the device during the process. The device will reboot automatically after upgrading.

12.4 Configure Image Partition

Configure image partition value if you want to change the reserved image storage capacity.

Before You Start

The storage media has been formatted.

Steps

1. Go to **Configuration** → **Storage** → **Advanced Settings**.
2. Enter **Image Partition**.

3. Click **Save**.

12.5 Configure Overwritten Recording

You can enable overwritten recording if you want to overwrite the former record files when the storage media is full. Or disable overwritten record if you want to stop recording when the storage media is full.

Steps

1. Go to **Configuration** → **Storage** → **Advanced Settings**.
2. Check or uncheck **Enable Overwriting** according to your needs.
3. Click **Save**.

12.6 Print Log

If you need to debug the device, you can enable printing log.

Steps

1. Go to **Configuration** → **Storage** → **Advanced Settings**.
2. Check **Enable Print Log**.
3. Click **Save**.

12.7 Enable IP Camera Plug and Play

You can enable the plug-and-play function of the connected IP camera to use the camera directly after it is connected without installing the drive.

Steps

1. Go to **Configuration** → **Storage** → **Advanced Settings**.
2. Check **IPC plug and play**.
3. Click **Save**.

12.8 Reboot

Reboot your recorder via menu instead of disconnecting power from the recorder.

Go to **Configuration** → **System** → **Maintenance** → **Upgrade & Maintenance**. Click **Reboot** and click **OK** in popup message box to start rebooting.

12.9 Restore Default Settings

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** → **Default**.
2. Select the restoration mode.

Restore Restore all parameters, except the network (including IP address, subnet mask, gateway, MTU, NIC working mode, default route, server port, etc.) and user account parameters, to the default settings.

Default Restore all parameters to the default settings.

3. Click **OK** in the popup message box.

12.10 Export Configuration File

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** → **Export**.
2. Click **Device Parameters**.
3. Select the saving path, and enter the file name.
4. Click **Save**.

12.11 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



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

1. Go to **Configuration** → **System** → **Maintenance** → **Upgrade & Maintenance** → **Import Configuration File**.
2. Click **Browse** to select the configuration file.
3. Click **Import**.
4. Click **OK** on the popup window.

Result

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

12.12 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** according to the device location.
3. Select the time synchronization mode.
 - If an NTP server is available, select **NTP** and enter NTP server information to synchronize the device time with that of the NTP server.
 - Select **Manual Time Sync.** and set time to customize the device time.
 - Select **Manual Time Sync.** and check **Sync. with computer time** to synchronize the device time with that of the computer.
4. Click **Save**.

12.13 Configure 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**.

12.14 Configure Local Output

When the operation menu cannot be displayed on the monitor due to that the main and auxiliary interfaces have switched or the output resolution does not match with the actual display, you can switch between the main and auxiliary interfaces via the web browser.

Go to **Configuration** → **System** → **System Settings** → **Menu Output**, and select **Menu Output** and **VGA Resolution**.

Note

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

12.15 Configure RS-232

Set RS-232 parameters if you need to debug the device via RS-232 serial port, or peripheral devices

have been connected.

Before You Start

Connect a peripheral device to your recorder via the RS-232 serial port.

Steps

1. Go to **Configuration** → **System** → **System Settings** → **Serial Configuration**.
2. Select **COM** port the peripheral device connects to.
3. Edit **Baud Rate, Data Bit, Stop Bit**, etc.



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

4. Select **Usage**.

Console

Select it when you need to debug the recorder via RS-232 serial port. Connect a computer to the recorder via the computer serial port. The recorder parameters can be configured by using software such as Hyper Terminal. The serial port parameters must be the same as those of the recorder when connecting to the computer serial port.

Transparent Channel

Connect a peripheral device directly to the recorder. The peripheral device will be controlled remotely by the computer via the network and the protocol of the peripheral device. If the alarm button is connected, select transparent channel.

5. Click **Save**.

12.16 Detect HDD

12.16.1 Check S.M.A.R.T. Information

The S.M.A.R.T. (Self-Monitoring, Analysis and Reporting Technology) is a monitoring system for HDD to detect and report on various indicators of reliability in the hopes of anticipating failures.

Steps

1. Go to **Configuration** → **Storage** → **Storage Management** → **HDD Detection**.
2. Click **S.M.A.R.T. Detection**.
3. Select **HDD No.**
4. Select **Self-test Type**.
5. Click **Start Self-test**.
6. View the S.M.A.R.T. information in the table.

 **Caution**

You can check **Continue to use this disk when self-evaluation is failed**. If you check it, the HDD will be used continuously even when the S.M.A.R.T. detection is abnormal. It is risky to enable the function. Check it with care.

12.16.2 Detect Bad Sector

You can detect the bad sector of HDD to check the status.

Steps

1. Go to **Configuration** → **Storage** → **Storage Management** → **HDD Detection**.
2. Click **Bad Sector Detection**.
3. Select **HDD No.**
4. Select **Test Type**.
5. Click **Start Detect**.

The system starts to detect the HDD bad sector. You can view the HDD status on the interface.

6. Optional: Click **Pause** to pause the detection. Click **Restore** to restore the detection.
7. View the HDD information including HDD capacity, block capacity, status, and number of errors.

Result

Judge whether to use the HDD any more according to the detection result. If there are too many bad sectors, change the HDD in time.

12.17 Configure Analog Camera

For the device supporting analog camera connection, you can configure the number of channels to reduce the disconnected channel information display (such as "NO VIDEO").

Steps

 **Note**

The function is only applicable to the device supporting analog cameras connection.

1. Go to **Configuration** → **System** → **Camera Management** → **Analog Camera**.
2. Select **Channel Mode**.
3. Click **Save**.

Chapter 13 Local Menu Operation

Connect a display and a mouse to the recorder, and you can operate the recorder locally.

13.1 Manage IP Camera

After connecting IP camera(s) or mobile positioning system(s) to the device, if no image is displayed on the live view interface, follow the instructions below to manage IP camera(s) or mobile positioning system(s). If image can be displayed normally on the live view interface, ignore this section.

Note

The section is only available for the device supporting IP cameras or mobile positioning systems.

13.1.1 Add IP Camera Automatically

After the IP camera is connected, the recorder can add it automatically.

Before You Start

- The recorder supports adding IP camera automatically.
- Connect the IP camera to the corresponding interface of the recorder.
- Make sure the IP camera is inactive or its password is the same as that of the recorder.

Steps

1. Go to **Menu** → **Other Settings** → **Camera Management**.
2. Check **IP PNP PORT**.
3. Click **OK**.

13.1.2 Manage IP Camera Manually

If the connected IP camera has been activated, but the password is different from that of the recorder, you can manage the IP camera manually.

Activate IP Camera

Before adding an IP camera, activate it by setting a password for it.

Before You Start

Connect the IP camera to IP camera interface on the recorder rear panel.

Steps

1. Go to **Menu** → **Other Settings** → **IPC Settings**.

2. Uncheck **Auto Add** and select **Set of Manage IP Camera**.
3. Select an inactivated IP camera.
4. Activate the selected IP camera.
 - Click **Quickly Activate**. The IP camera password will be set as same as the recorder password.
 - Click **Manually Activate**. Enter **New Password** and confirm it.

Caution

We highly recommend you to create a strong password of your own choosing (using a minimum of 8 characters, including at least three kinds of following categories: 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.

Add IP Camera

You can add IP camera manually.

Before You Start

- The network segment of the IP camera is the same with that of the recorder.
- The IP camera is activated.

Steps

1. Go to **Menu** → **Other Settings** → **IPC Settings**.
2. Uncheck **Auto Add** and select **Set of Manage IP Camera**.
3. Optional: Edit camera IP address.
 - 1) Select an IP camera and click **Edit**.
 - 2) Enter an IP address that is in the same network segment with the recorder.
 - 3) Click **OK**.
4. Add IP camera.
 - 1) Click **Manually Add**.
 - 2) Select IP channel No. for the IP camera.
 - 3) Edit the required information.

Note

Select **Inner Channel** for the camera with multiple channels.

- 4) Click **OK**.
5. Select other operations.
 - Click **Refresh** to refresh the IP camera information.
 - Click **Delete** to delete the selected IP camera.
 - Click **Edit** to edit the IP camera information.

13.2 Record and Capture

To record the videos of the connected cameras, or capture the license plate pictures if you enable license plate recognition, you need to install a storage media and format it, and configure the recording schedule, or configure the FTP server to upload the pictures.

13.2.1 Format Storage Media

A newly installed storage media must be formatted before it can be used.

Before You Start

Install the storage media.

Steps

1. Go to **Menu** → **Storage**.
2. Check the storage media to format.
3. Click **Format**.

After formatting, the storage media status should be **Normal**.

13.2.2 Configure Recording Schedule

All-day recording is on by default. Device will start and stop recording according to the configured recording schedule.

Before You Start

Install storage media and format it.

Steps

1. Go to **Menu** → **Basic Settings** → **Record**.
2. Select the camera to set recording schedule.
3. Click **Set of Schedule**.
4. Check **Enable Schedule**.
5. Select the day from the dropdown list for settings.
6. Configure all day schedule or custom schedule.
 - Check **All Day** to enable all-day recording, and then select the recording type from the dropdown list.
 - Uncheck **All Day**, customize the time period for recording, and select the recording type for each time period.

Note

Up to 8 time periods can be set for each day and each of the time periods cannot be overlapped.

7. Click **OK**.

13.3 Playback

You can search and play back the videos stored on the recorder.

Steps

1. Go to **Menu** → **Video Search**.
2. Select **Search Mode**.

General

Normal videos.

Event

Motion detection, alarm, motion | alarm, motion&alarm videos.

3. Select **Camera, Video Type, Start Time, and End Time**.
4. Click **Search**.
5. Select a video and click **Play**.

13.4 Backup

Back up the videos stored on the recorder.

Before You Start

Connect a USB storage device to your recorder.

Steps

1. Go to **Menu** → **Video Search**.
2. Select **Search Mode**.

General

Normal videos.

Event

Motion detection, alarm, motion | alarm, motion&alarm videos.

3. Select **Camera, Video Type, Start Time, and End Time**.
4. Click **Search**.
5. Select the videos and click **Export**.

Note

The number of USB interface varies with recorder models. If your recorder contains only one USB interface, you can back up videos via remote control or touchscreen.
